

TRANSISTOR D.A.T.A.BOOK

FALL 1970

29th EDITION

THIS D.A.T.A.B O O K VALID UNTIL SPRING 1971 EDITION

D.A.T.A. REFERENCE STANDARDS FOR INDUSTRY

New Types Added.....	941
Types With Revised Specifications	425
Types and Manufacturers Added.....	2,880
Types and Manufacturers Deleted	2,012
TOTAL TYPE NUMBERS INCLUDED IN THIS EDITION	13,994
New Manufacturers Added.....	4
(Indicated by * in Manufacturer Listing)	
Manufacturers Deleted	3
TOTAL MANUFACTURERS THIS EDITION	96

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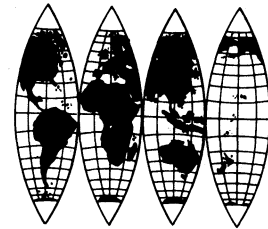
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D.A.T.A.

REFERENCE STANDARDS FOR INDUSTRY



TRANSISTOR D.A.T.A.BOOK

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29TH
EDITION

EDITORIAL PROCEDURES AND OBSERVATIONS

Purpose

This D.A.T.A.BOOK is designed to report comprehensively on what is presently being produced (throughout the free world) in this specific component field. While a D.A.T.A.BOOK such as this cannot possibly provide 100% of the answers you might need, its primary aim is that of both facilitating the selection of types suitable to your technical requirements and directing you to sources of their manufacture.

Technical Data Collection

D.A.T.A. acquires and processes the information presented in this D.A.T.A.BOOK with the cooperation of the participating manufacturers who supply us with latest changes. Manufacturers are not charged for technical listings of their products.

JEDEC Type Numbers

For 2N and 3N types, the electrical and physical characteristics data included in this D.A.T.A.BOOK are those registered with JEDEC. Indicated manufacturers' types may or may not conform exactly with the registered specifications; therefore, individual manufacturers' complete specifications should be checked to determine suitability for particular requirements.

Substitute Types

This D.A.T.A.BOOK cannot truly claim to be an interchangeability chart; however, because of the sequencing arrangement, by characteristics, in the technical data sections, types with near-identical or similar characteristics appear together, one after the other. For the engineer, this immediate source of technical comparison is superior to, and safer than, a mere listing of possible replacement type numbers.

Price and Availability

Because of the rapid change in the transistor field, back-up, delivery, and price information should be obtained direct from the manufacturers or their local offices, as included in this D.A.T.A.BOOK. See Table of Contents.

Manufacturers' Specifications

This D.A.T.A.BOOK includes currently manufactured types, with their major characteristics and their manufacturers. Every effort is made to ensure the accuracy of all entries herein; however, the publisher cannot be held responsible or guarantee against the possibility of error or omission. Only the manufacturers themselves can provide you with complete technical details.

Discontinued Transistors

Since the first edition of this D.A.T.A.BOOK in 1956, thousands of transistors have been discontinued by the manufacturers. In response to many requests from our subscribers, there is now available the annual D.A.T.A. DISCONTINUED TRANSISTOR D.A.T.A.BOOK, providing the most complete compilation of discontinued transistors, along with their characteristics, ever assembled. See order card inside front cover of this D.A.T.A.BOOK.

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HOW TO MAKE MAXIMUM USE OF THE TRANSISTOR D.A.T.A.BOOK

For maximum information in minimum time, follow the 1-2-3 Basic Procedure in the box below:

1. Find in the following nine "known-unknown" situations the one corresponding with your present need;
2. Follow the outlined steps;
3. If the answer leads to another "known-unknown" situation, repeat 1. and 2. until all possible answers are obtained.

NOTE: Each section of the D.A.T.A.BOOK is organized in a distinct sequence, as indicated at the top of each page.

1ST	<p>KNOWN: Electrical and Mechanical Requirements. UNKNOWN: Suitable Type Number(s).</p> <ol style="list-style-type: none"> a. Turn to Technical Data Section coinciding with your general requirements. b. By checking the order of listing at top of each page, you will be able to quickly locate those types most closely fitting your requirements. The drawing number referenced at end of each technical data line will be found in Outline Drawings, Section 15, in drawing number order. The Lead Code referenced at the end of a technical data line is applicable to JEDEC (TO) devices; and the Code identification will be found at the end of Section 15. c. To ascertain manufacturers of selected type numbers, see "2nd known-unknown" situation below.
2ND	<p>KNOWN: Type Number UNKNOWN: Manufacturer(s), Address, Local Offices</p> <ol style="list-style-type: none"> a. Turn to Type No. Cross Index, Section 1 (in Type Number order). b. The manufacturers (coded) are shown for each type number. c. Manufacturers' names, in code order, are listed at back of D.A.T.A.BOOK with addresses.
3RD	<p>KNOWN: Type Number UNKNOWN: Its Characteristics</p> <ol style="list-style-type: none"> a. Turn to Type No. Cross Index, Section 1 (in type number order). b. Opposite each type number is the page and line number, which is significant only for locating the technical data. Line numbers can change from issue to issue of the D.A.T.A.BOOK. c. Turn to pertinent line number in Technical Data Sections. In addition to the electrical data, the drawing number referenced at end of the technical data line will be found in Outline Drawings, Section 15, in drawing number order. The Lead Code referenced at the end of a technical data line is applicable to JEDEC (TO) devices; and the Code identification will be found at the end of Section 15.
4TH	<p>KNOWN: Type Number UNKNOWN: Equivalents or Similar Types</p> <ol style="list-style-type: none"> a. Follow through "3rd known-unknown" situation above. . . and b. Survey characteristics of types immediately above and below that line number to determine which type numbers might fill your need. c. To ascertain manufacturers of suitable type numbers, see "2nd known-unknown" situation above.
5TH	<p>KNOWN: Type Number UNKNOWN: Case, Dimensions, and Lead Configuration</p> <ol style="list-style-type: none"> a. Follow through "3rd known-unknown" situation above.
6TH	<p>KNOWN: Military Requirement UNKNOWN: Suitable Type Number(s) with MIL Specs.</p> <ol style="list-style-type: none"> a. Turn to the Technical Data Section coinciding with your general military requirements. b. By checking the order of listing at the top of each page, you will be able to quickly locate those military types (prefixed by JAN) most closely fitting the requirements. In addition to the electrical data, the drawing number referenced at end of the technical data line will be found in Outline Drawings, Section 15, in drawing number order. The Lead Code referenced at the end of a technical data line is applicable to JEDEC (TO) devices; and the Code identification will be found at the end of Section 15. c. To ascertain qualified manufacturers of type numbers under consideration, turn to Types with U.S. MIL Specs., Section 14, where types are listed in type number order, giving manufacturers (coded) and MIL Spec. number. d. The manufacturers codes are explained at back of D.A.T.A.BOOK with addresses.
7TH	<p>KNOWN: Type Number with MIL Specs. UNKNOWN: Qualified Manufacturer(s) and/or MIL Spec. Number</p> <ol style="list-style-type: none"> a. Turn to Types with U.S. Military Specification, Section 14, where opposite each type number are the qualified manufacturers (coded) and the MIL Spec. number. b. Manufacturer codes are explained at back of D.A.T.A.BOOK with addresses.
8TH	<p>KNOWN: Type Number Not Included in D.A.T.A.BOOK Type No. Cross Index. UNKNOWN: What Happened to it?</p> <ol style="list-style-type: none"> a. Consult the D.A.T.A. DISCONTINUED TRANSISTOR D.A.T.A.BOOK.

HOW UNITS OF MEASURE ARE PRESENTED IN THIS D.A.T.A.BOOK

The basic unit, for each column heading in the technical data sections, is the one most applicable in tabulating that parameter. There are exceptions, however, which require the use of space-saving "suffix indicators", as explained below.

1. Since the column heading indicates a basic unit only, a "suffix indicator" may be added to the technical data presented in the column. The "suffix indicator" modifies the basic unit in accordance with established engineering practices.

EXAMPLES:	Column Heading	Data if Based on Column Heading	Space-saving Listing Technique	Meaning
	A	0.003	3.0m	3 milliamperes
	Hz	5,000	5.0k	5 kilohertz
	Ohms	9,000,000	9.0M	9 megaohms
	Sec.	0.000007	7.0 μ	7 microseconds

See box below for prefixes and symbols

PREFIXES & SYMBOLS			Recommended by International Committee on Weights and Measures					
Indicating Powers of Ten			Adopted by National Bureau of Standards					
Power	Prefix	Symbol	Power	Prefix	Symbol	Power	Prefix	Symbol
10 ¹²	tera	T	10	deka	da	10 ⁻⁹	nano	n
10 ⁹	giga	G	10 ⁻¹	deci	d	10 ⁻¹²	pico	p
10 ⁶	mega	M	10 ⁻²	centi	c	10 ⁻¹⁵	femto	f
10 ³	kilo	k	10 ⁻³	milli	m	10 ⁻¹⁸	atto	a
10 ²	hecto	h	10 ⁻⁶	micro	μ			

HOW TYPE NUMBERS ARE SEQUENCED

Type numbers are listed in numeric-alphabetic sequence; i.e. type numbers beginning with a number (decimal, fraction, or whole) precede type numbers beginning with a letter.

EXPLANATION AND EXAMPLES	
1. Decimals and fractions precede whole numbers. An equivalent decimal precedes the fraction when the remainder of type number is identical.	.25Z15D 1/4Z15D 3/4M12Z 1T3
2. Zeros are ignored in sequencing except when the zero is the only basis for distinguishing one type number from another. In this case the type number containing the zero is listed first.	0112 112 0113 00115 AP01 AP1 APO2
3. Number and/or letter groupings preceding hyphens or slashes are the controlling factors in sequencing. The hyphens and slashes themselves precede any identically positioned letters also having the same beginning number/letter groupings.	66-0706 66M1 70/10 70A9
4. Identical type numbers representing devices with different characteristics are listed in order of manufacturer letter code.	TD6 GESY TD6 GIC
5. A military prefix (JAN) is ignored in the numeric-alphabetic sequencing of type numbers. A military type number directly follows its equivalent JEDEC type number provided that the sequencing data are identical.	2N645 JAN 2N645

1. TYPE No. CROSS INDEX

IN TYPE NUMBER SEQUENCE

TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
1N4378	Δ TII	207-87	2N59B	♦ ETC	57-84	2N132A	♦ CNS	52-81	2N185	♦ CNS	54-58	2N243	♦ CNS	
JAN1N4378	none	207-88	2N59C	♦ CNS	57-95		♦ ETC			♦ ETC		(cont.)	♦ CNS	
2AC132	PHIC	202-79		♦ ETC		2N133	♦ CNS	52-44	2N186	♦ ETC	52-78	2N244	♦ ETC	105-104
2AC187	MINA	202-80	2N60	♦ CNS	57-85	2N133A	♦ CNS	52-77	2N186A	♦ ETC	58-18	2N249	♦ ETC	60-99
2AC188	MINA	202-81	2N60A	♦ CNS	57-86	2N135	♦ CNS	52-92		♦ ETC	52-82	2N250	♦ ETC	126-62
2ACY17	MINA	202-82	2N60B	♦ CNS	57-87	2N136	♦ CNS	52-97	2N187	♦ ETC	58-27	2N250	♦ ETC	
2ACY18	MULB	202-83		♦ ETC		2N137	♦ CNS	52-99	2N187A	♦ ETC	52-86	2N250A	♦ ETC	127-24
2ACY19	MULB	202-84	2N60C	♦ CNS	57-88	2N138	♦ CNS	54-57		♦ ETC	58-44	2N251	♦ ETC	126-63
2AD139	PHIC	202-85	2N61	♦ CNS	57-79	2N139	♦ CNS	49-47	2N188	♦ ETC	58-44	2N251A	♦ ETC	127-25
2AD140	PHIN	202-86	2N61A	♦ CNS	57-80	2N140	♦ ETC	51-71	2N188A	♦ ETC	58-17	2N251A	♦ ETC	
2AD149	MULB	202-87	2N61B	♦ CNS	57-81	2N141/13	♦ KSC	122-99	CNS	♦ ETC	58-28	2N252	♦ ETC	49-29
	BELI		2N61C	♦ CNS	57-82	2N142/13	♦ KSC	132-2	2N189	♦ ETC	58-45	2N253	♦ ETC	62-35
	MULB		2N63	♦ CNS	52-72	2N143/13	♦ KSC	122-100	2N190	♦ ETC	58-45	2N254	♦ ETC	122-106
	PHIN		2N64	♦ CNS	52-74	2N144/13	♦ KSC	132-8	2N191	♦ ETC	58-45	2N255	♦ ETC	122-107
	RADF		2N65	♦ CNS	54-20	2N145	♦ CNS	62-31	CNS	♦ ETC	58-56	2N255A	♦ ETC	122-108
	PHIC		2N66	♦ CNS	54-20	2N146	♦ ETC	62-32	2N192	♦ ETC	63-28	2N256	♦ ETC	122-109
2AT329	ANOVA	202-90	2N67	♦ CNS	62-13	2N147	♦ ETC	62-33	2N193	♦ ETC	63-101	2N257	♦ ETC	124-75
2AT331	ANOVA	202-91	2N68/13	♦ KSC	122-82	2N155	♦ CNS	122-101	2N194	♦ ETC	63-96	2N257B	♦ ETC	124-76
2BC119	SGSI	202-92	2N77	♦ ETC	49-45	2N156	♦ ETC	122-102	2N194A	♦ ETC	63-100	2N257G	♦ ETC	124-77
2BC138	SGSI	202-93	2N78	♦ ETC	62-50	2N158	♦ ETC	122-103	2N194A	♦ ETC	63-95	2N257W	♦ ETC	124-78
2BC139	SGSI	202-94	2N78A	♦ ETC	62-30	JAN2N158	♦ KSC	122-96	2N206	♦ ETC	55-3	2N263	♦ ETC	80-63
2BC142	SGSI	202-95	2N78A	♦ ETC	62-30	2N158A	♦ KSC	122-104	2N207	♦ ETC	62-18	2N264	♦ ETC	79-48
2BC143	SGSI	202-96	2N78A	♦ ETC	62-30		♦ ETC		2N207A	♦ ETC	54-59	2N265	♦ ETC	51-11
2BC144	SGSI	202-97	2N78A	♦ ETC	62-30	2N160	♦ CNS	80-31	2N207B	♦ ETC	49-48	2N268	♦ ETC	124-79
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2BC222	SGSI	202-99	2N95	♦ ETC	132-1	2N161	♦ ETC	80-37	2N212	♦ ETC	49-13	2N269	♦ ETC	53-42
2BC286	SGSI	202-100	2N96	♦ ETC	62-22	2N161A	♦ ETC	80-38	2N213	♦ ETC	60-9	2N270	♦ ETC	59-91
2BC288	SGSI	202-101	2N97	♦ ETC	121-44	2N162	♦ ETC	80-45	2N213A	♦ ETC	60-7	2N271	♦ ETC	54-45
2BD124	PHIN	202-102	2N98	♦ ETC	132-7	2N162A	♦ ETC	80-46	2N214	♦ ETC	60-8	2N271A	♦ ETC	54-46
2BDY20	MULB	202-103	2N99	♦ ETC	62-12	2N163	♦ ETC	80-40	2N214A	♦ ETC	60-3	2N272	♦ ETC	54-100
	PHIN		2N100/13	♦ ETC	54-110	2N163A	♦ ETC	80-41	2N215	♦ ETC	60-4	2N273	♦ ETC	55-20
2BDY38	MULB	202-104	2N101/13	♦ ETC	52-75	2N164	♦ ETC	62-38	2N216	♦ ETC	63-97	2N274	♦ ETC	51-89
	PHIN		2N102/13	♦ ETC	49-72	2N164A	♦ ETC	62-71	2N217	♦ ETC	63-98	2N277	♦ ETC	130-2
2C111	SGSI	211-24	2N103	♦ ETC	49-63	2N165	♦ ETC	62-39	CNS	♦ ETC	49-2	2N277	♦ ETC	
2C415	SGSI	96-18	2N104	♦ ETC	57-38	2N166	♦ ETC	62-3	2N218	♦ ETC	63-20	2N278	♦ ETC	130-3
2C425	SGSI	100-99	2N105	♦ ETC	54-40	2N167	♦ ETC	62-51	2N219	♦ ETC	123-94	2N279	♦ ETC	54-3
2C444	SGSI	211-25	2N106	♦ ETC	54-41	CNS	♦ ETC		2N220	♦ ETC	123-95	2N280	♦ ETC	54-4
2CY30	TIIB	68-85	2N107	♦ ETC	54-42	2N167A	♦ ETC	62-54	2N220	♦ ETC	123-96	2N281	♦ ETC	54-6
2CY31	TIIB	68-86	2N108	♦ ETC	54-43	2N168	♦ ETC	62-28	2N221	♦ ETC	123-97	2N282	♦ ETC	202-107
2CY32	TIIB	68-89	2N109	♦ ETC	54-44	2N168A	♦ ETC	62-43	2N222	♦ ETC	123-98	2N283	♦ ETC	54-12
2CY33	TIIB	68-90	2N110	♦ ETC	54-47	2N169	♦ ETC	62-26	2N223	♦ ETC	123-98	2N284	♦ ETC	54-7
2CY34	TIIB	68-90	2N111	♦ ETC	80-30	2N169A	♦ ETC	62-27	2N223A	♦ ETC	123-98	2N284A	♦ ETC	54-8
2CY38	TIIB	68-94	2N112	♦ ETC	80-23	CNS	♦ ETC		2N234A	♦ ETC	54-99	2N285A	♦ ETC	125-76
2CY39	TIIB	75-51	2N113	♦ ETC	80-36	2N170	♦ ETC	62-2	CNS	♦ ETC	54-60	2N285B	♦ ETC	125-77
2G101	TIIB	53-18	2N114	♦ ETC	80-24	2N172	♦ ETC	62-34	2N231	♦ ETC	49-33	2N291	♦ ETC	57-73
2G102	TIIB	53-21	2N115	♦ ETC	80-44	2N173	♦ ETC	129-108	2N233	♦ ETC	49-19	2N292	♦ ETC	62-40
2G103	TIIB	56-99	2N116	♦ ETC	80-44	2N174	♦ ETC	129-109	2N233A	♦ ETC	52-87	2N292A	♦ ETC	62-73
2G104	TIIB	198-27	2N117	♦ ETC	80-25	CNS	♦ ETC		2N234A	♦ ETC	58-54	2N293	♦ ETC	62-44
2G106	TIIB	56-100	2N118	♦ ETC	80-43	2N174A	♦ ETC		CNS	♦ ETC	122-105	2N296	♦ ETC	122-110
2G110	TIIB	197-25	2N119	♦ ETC	56-1	2N175	♦ ETC	49-12	2N235A	♦ ETC	105-103			
2G210	TIIB	56-80	2N120	♦ ETC	183-3	2N176	♦ ETC	127-22	CNS	♦ ETC				
2G220	TIIB	191-87	2N121	♦ ETC	62-9	2N177	♦ ETC		2N235B	♦ ETC				
2G221	TIIB	60-85	2N122	♦ ETC	62-24	2N178	♦ ETC		CNS	♦ ETC				
2G222	TIIB	127-19	2N123	♦ ETC	62-25	2N178A	♦ ETC		2N236A	♦ ETC				
2G240	TIIB	127-21	2N124	♦ ETC	49-21	2N180	♦ ETC		CNS	♦ ETC				
2H1254	EMLS	123-39	2N125	♦ ETC	49-24	2N181	♦ ETC		2N236B	♦ ETC				
2H1255	EMLS	69-28	2N126	♦ ETC	49-24	2N182	♦ ETC		2N237	♦ ETC				
2H1255	EMLS	185-90	2N127	♦ ETC	49-21	2N183	♦ ETC		2N238	♦ ETC				
2H1256	EMLS	69-32	2N128	♦ ETC	49-21	2N184	♦ ETC		2N240	♦ ETC				
2H1256	EMLS	187-90	2N129	♦ ETC	49-24		♦ ETC		2N240	♦ ETC				
2H1257	EMLS	69-29	2N130A	♦ ETC	52-73		♦ ETC		JAN2N240	♦ ETC				
2H1257	EMLS	185-88	2N131	♦ ETC	52-43		♦ ETC		2N241	♦ ETC				
2H1258	EMLS	187-91	2N132	♦ ETC	52-76		♦ ETC		2N241A	♦ ETC				
2H1259	EMLS	69-34		♦ ETC	52-45		♦ ETC		CNS	♦ ETC				
2N2X	TIIF	202-108		♦ ETC			♦ ETC		2N242	♦ ETC				
2N34	CNS	54-98		♦ ETC			♦ ETC		2N243	♦ ETC				
2N34A	♦ ETC			♦ ETC			♦ ETC		cont.next col.					
2N35	♦ ETC			♦ ETC			♦ ETC							
2N36	♦ ETC			♦ ETC			♦ ETC							
2N37	♦ ETC			♦ ETC			♦ ETC							
2N38	♦ ETC			♦ ETC			♦ ETC							
2N43	♦ ETC			♦ ETC			♦ ETC							
2N43A	♦ ETC			♦ ETC			♦ ETC							
2N44A	♦ ETC			♦ ETC			♦ ETC							
JAN2N43A	♦ ETC			♦ ETC			♦ ETC							
2N44	♦ ETC			♦ ETC			♦ ETC							
2N45A	♦ ETC			♦ ETC			♦ ETC							
2N59	♦ ETC			♦ ETC			♦ ETC							
2N59A	♦ ETC			♦ ETC			♦ ETC							

1. TYPE No. CROSS INDEX

IN TYPE NUMBER SEQUENCE

TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
2N297	CNS	124-81	2N330A	CNS	73-85	2N344	CNS	49-15	2N389	(cont.)		2N413	(cont.)	
2N297A	♦ ETC ♦ KSC	123-99	CRY ♦ SOD	SCA SSI		♦ SPR CNS	SSI CNS	49-16	♦ SIL ♦ SPC	♦ SEN ♦ SOD		2N413A	♦ GIC ♦ ITC	55-72
JAN2N297A	♦ SOD ♦ KSC ♦ MOTA	124-82	2N331	CNS ♦ MOTA	60-83	♦ SPR CNS	SSI CNS	49-17	♦ TEC ♦ SEN	♦ SSI ♦ TIB	161-66	2N413A	♦ ETC ♦ GIC	57-65
2N301	♦ DEL ♦ KSC ♦ MOTA	126-69	JAN2N331	♦ MOTA	58-5	2N346	♦ SPR CNS	127-26	JAN2N389	♦ SIL ♦ SPC	161-34	2N414	♦ ETC ♦ GIC ♦ ITC ♦ RCA	56-20
2N301A	♦ DEL ♦ KSC ♦ SOD	126-70	2N332	♦ MOTA	80-42	2N350	♦ MOTA CNS	127-27	2N389A	♦ SEN ♦ SOD	129-27	2N414A	♦ ETC ♦ ITC	59-6
2N302	♦ ETC ♦ CNS	56-18	2N332A	♦ MOTA	101-33	2N350A	♦ MOTA CNS	127-27	2N392	♦ SEN ♦ SPC	49-25	2N414B	♦ ETC ♦ ITC	59-7
2N303	♦ ETC ♦ CNS	56-52	2N333	♦ MOTA	80-47	2N351	♦ MOTA CNS	127-28	JAN2N393	♦ SEN ♦ SPC	189-16	2N414C	♦ ETC ♦ ITC	56-33
2N306	♦ ETC ♦ CNS	63-99	2N333A	♦ MOTA	80-26	2N351A	♦ MOTA CNS	127-29	JAN2N393	♦ SEN ♦ SPC	49-50	2N415	♦ ETC ♦ ITC	56-34
2N307	♦ ETC ♦ MOTA	124-83	JAN2N333	♦ MOTA	80-26	2N356A	♦ MOTA CNS	182-22	2N394	♦ SEN ♦ SPC	55-100	2N415A	♦ ETC ♦ ITC	57-66
2N307A	♦ ETC ♦ MOTA	124-84	2N333A	♦ MOTA	101-34	2N357	♦ MOTA CNS	183-1	2N394A	♦ SEN ♦ SPC	56-19	2N416	♦ ETC ♦ ITC	56-4
2N308	♦ ETC ♦ CNS	49-30	JAN2N333A	♦ MOTA	101-27	2N357A	♦ MOTA CNS	183-21	2N395	♦ SEN ♦ SPC	58-102	JAN2N416	♦ ETC ♦ ITC	57-70
2N309	♦ ETC ♦ CNS	49-31	2N334	♦ MOTA	80-49	2N358	♦ MOTA CNS	177-106	2N396	♦ SEN ♦ SPC	182-95	2N417	♦ ETC ♦ ITC	56-53
2N310	♦ ETC ♦ CNS	49-32	2N334A	♦ MOTA	101-35	2N358A	♦ MOTA CNS	63-10	JAN2N396A	♦ SEN ♦ SPC	183-40	JAN2N417	♦ ETC ♦ ITC	123-103
2N311	♦ ETC ♦ CNS	54-61	2N335	♦ MOTA	80-54	JAN2N358A	♦ MOTA CNS	177-107	2N396A	♦ SEN ♦ SPC	58-106	2N418	♦ ETC ♦ ITC	199-14
2N312	♦ ETC ♦ CNS	63-7	2N335A	♦ MOTA	101-36	2N359	♦ MOTA CNS	63-11	2N397	♦ SEN ♦ SPC	183-4	2N419	♦ ETC ♦ ITC	123-104
2N315	♦ ETC ♦ CNS	56-2	JAN2N335	♦ MOTA	80-27	2N360	♦ MOTA CNS	177-108	JAN2N397A	♦ SEN ♦ SPC	58-107	2N420	♦ ETC ♦ ITC	123-105
2N315A	♦ ETC ♦ CNS	183-9	2N335A	♦ MOTA	101-36	2N361	♦ MOTA CNS	57-61	2N397	♦ SEN ♦ SPC	59-18	2N420A	♦ ETC ♦ ITC	199-15
2N316	♦ ETC ♦ CNS	183-10	JAN2N335A	♦ MOTA	101-28	2N362	♦ MOTA CNS	57-52	2N398	♦ SEN ♦ SPC	184-18	2N422	♦ ETC ♦ ITC	123-106
2N316A	♦ ETC ♦ CNS	56-46	2N335B	♦ MOTA	101-37	2N363	♦ MOTA CNS	63-26	JAN2N398A	♦ SEN ♦ SPC	59-18	JAN2N422	♦ ETC ♦ ITC	55-9
2N317	♦ ETC ♦ CNS	184-21	2N336	♦ MOTA	80-56	2N364	♦ MOTA CNS	63-29	2N398	♦ SEN ♦ SPC	184-18	2N424	♦ ETC ♦ ITC	161-47
2N317A	♦ ETC ♦ CNS	185-7	JAN2N336	♦ MOTA	80-28	2N365	♦ MOTA CNS	63-38	JAN2N398A	♦ SEN ♦ SPC	59-18	JAN2N424	♦ ETC ♦ ITC	161-67
2N319	♦ ETC ♦ CNS	185-8	2N336A	♦ MOTA	101-38	2N366	♦ MOTA CNS	54-95	2N398A	♦ SEN ♦ SPC	55-21	2N424A	♦ ETC ♦ ITC	161-35
2N320	♦ ETC ♦ CNS	59-52	JAN2N336A	♦ MOTA	101-29	2N367	♦ MOTA CNS	54-97	2N399	♦ SEN ♦ SPC	55-21	2N425	♦ ETC ♦ ITC	57-63
2N320A	♦ ETC ♦ CNS	59-57	2N337	♦ MOTA	79-49	2N368	♦ MOTA CNS	55-50	JAN2N399A	♦ SEN ♦ SPC	54-105	2N425A	♦ ETC ♦ ITC	182-91
2N321	♦ ETC ♦ CNS	59-59	JAN2N337	♦ MOTA	79-50	2N369	♦ MOTA CNS	51-52	2N400	♦ SEN ♦ SPC	60-14	JAN2N425	♦ ETC ♦ ITC	55-73
2N322	♦ ETC ♦ CNS	58-29	2N337A	♦ MOTA	101-41	2N370	♦ MOTA CNS	51-53	2N401	♦ SEN ♦ SPC	123-100	2N426	♦ ETC ♦ ITC	181-98
2N323	♦ ETC ♦ CNS	58-57	2N338	♦ MOTA	79-56	2N371	♦ MOTA CNS	127-30	2N402	♦ SEN ♦ SPC	123-101	2N427	♦ ETC ♦ ITC	57-64
2N324	♦ ETC ♦ CNS	58-70	JAN2N338	♦ MOTA	79-57	2N372	♦ MOTA CNS	63-61	2N403	♦ SEN ♦ SPC	123-102	JAN2N427	♦ ETC ♦ ITC	179-80
2N326	♦ ETC ♦ CNS	132-12	2N338A	♦ MOTA	101-46	2N373	♦ MOTA CNS	183-23	2N404	♦ SEN ♦ SPC	56-50	2N428	♦ ETC ♦ ITC	55-81
JAN2N326	♦ ETC ♦ CNS	132-9	2N339	♦ MOTA	109-101	2N374	♦ MOTA CNS	183-24	JAN2N404A	♦ SEN ♦ SPC	184-23	2N428A	♦ ETC ♦ ITC	182-15
2N327A	♦ ETC ♦ CNS	67-46	JAN2N339	♦ MOTA	110-16	2N375	♦ MOTA CNS	126-18	2N404A	♦ SEN ♦ SPC	55-101	2N429	♦ ETC ♦ ITC	57-68
2N327B	♦ ETC ♦ CNS	73-95	2N339A	♦ MOTA	110-16	2N376	♦ MOTA CNS	126-19	2N405	♦ SEN ♦ SPC	55-102	2N430	♦ ETC ♦ ITC	184-16
2N328A	♦ ETC ♦ CNS	67-52	2N340	♦ MOTA	109-102	2N377A	♦ MOTA CNS	63-62	2N406	♦ SEN ♦ SPC	182-92	JAN2N430	♦ ETC ♦ ITC	56-5
JAN2N328A	♦ ETC ♦ CNS	73-77	2N340A	♦ MOTA	110-17	2N378	♦ MOTA CNS	183-24	2N407	♦ SEN ♦ SPC	55-103	JAN2N430A	♦ ETC ♦ ITC	183-5
2N328B	♦ ETC ♦ CNS	73-98	2N341	♦ MOTA	109-103	2N379	♦ MOTA CNS	126-19	2N408	♦ SEN ♦ SPC	54-108	2N431	♦ ETC ♦ ITC	183-6
2N329A	♦ ETC ♦ CNS	73-67	JAN2N341	♦ MOTA	105-109	2N380	♦ MOTA CNS	126-20	2N409	♦ SEN ♦ SPC	54-109	2N432	♦ ETC ♦ ITC	56-5
JAN2N329A	♦ ETC ♦ CNS	73-78	2N342	♦ MOTA	109-104	2N381	♦ MOTA CNS	126-20	2N410	♦ SEN ♦ SPC	54-109	2N433	♦ ETC ♦ ITC	183-7
2N329B	♦ ETC ♦ CNS	73-104	JAN2N342	♦ MOTA	109-108	2N382	♦ MOTA CNS	63-61	2N411	♦ SEN ♦ SPC	54-109	2N434	♦ ETC ♦ ITC	182-33
2N329C	♦ ETC ♦ CNS	73-104	2N342A	♦ MOTA	109-105	2N383	♦ MOTA CNS	183-23	2N412	♦ SEN ♦ SPC	54-109	2N435	♦ ETC ♦ ITC	55-99
			JAN2N342A	♦ MOTA	109-109	2N384	♦ MOTA CNS	63-62	2N413	♦ SEN ♦ SPC	54-109	2N436	♦ ETC ♦ ITC	62-77
			2N342B	♦ MOTA	110-1	JAN2N384	♦ MOTA CNS	63-63	2N414	♦ SEN ♦ SPC	54-109	2N437	♦ ETC ♦ ITC	56-23
			JAN2N343	♦ MOTA	109-106	2N385A	♦ MOTA CNS	63-65	2N415	♦ SEN ♦ SPC	54-109	2N438	♦ ETC ♦ ITC	63-72
			2N343A	♦ MOTA	109-110	2N386	♦ MOTA CNS	63-82	2N416	♦ SEN ♦ SPC	54-109	2N438A	♦ ETC ♦ ITC	183-68
			JAN2N343A	♦ MOTA	78-64	2N387	♦ MOTA CNS	183-46	2N417	♦ SEN ♦ SPC	54-109	2N439	♦ ETC ♦ ITC	63-73
			2N343B	♦ MOTA	142-2	2N388	♦ MOTA CNS	63-50	2N418	♦ SEN ♦ SPC	54-109	2N440	♦ ETC ♦ ITC	63-73
			JAN2N343B	♦ MOTA	110-2	JAN2N388	♦ MOTA CNS	190-55	2N419	♦ SEN ♦ SPC	54-109	2N440A	♦ ETC ♦ ITC	130-4
			2N343C	♦ MOTA	110-2	2N388A	♦ MOTA CNS	63-50	2N420	♦ SEN ♦ SPC	54-109	2N441	♦ ETC ♦ ITC	130-5
			JAN2N343C	♦ MOTA	142-2	2N389	♦ MOTA CNS	183-48	2N421	♦ SEN ♦ SPC	54-109	2N442	♦ ETC ♦ ITC	130-5
			2N343D	♦ MOTA	110-2	cont.next col.			2N422	♦ SEN ♦ SPC	54-109	2N443	♦ ETC ♦ ITC	130-6
			JAN2N343D	♦ MOTA	110-2				2N423	♦ SEN ♦ SPC	54-109	cont.next page		

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2N443 (cont.)	CNS ETC MULB		2N470 (cont.)	CNS SCA TII		2N492A	ΔGESY SSI TII	208-82	2N507	CNS NJS	62-10	2N528 (cont.)	MISI MST NPC	
2N444	ΔGIC ETC	62-65	2N471	ΔTEC ETC SSI	83-3	JAN2N492A	GESY TII	208-83	2N508	ΔGESY CNS GIC MOTA	58-78	JAN2N528	PHIN TIIF GESY MOTA	59-41
2N444A	CNS ETC	63-16	2N471A	ΔTEC ETC SSI	83-4	2N492B	ΔGESY TII TIIB	208-84	2N508A	ΔGESY CNS ETC MOTA	58-103	2N526A	ΔMOTA ETC	59-74
2N445	ΔGIC ETC	62-66	2N472	ΔTEC ETC SSI	83-5	2N492C	ΔGESY SSI TII	208-85	2N511	ΔTII CNS ETC SOD	130-10	2N527	ΔGESY ETC ESMF ITC	59-75
2N445A	ΔGIC ETC	63-22	2N472A	ΔTEC ETC SSI	83-6	2N493	ΔGESY CNS SSI TII	208-86	2N511A	ΔTII CNS ETC SOD	130-11	2N527A	ΔMOTA ETC	59-76
2N446	ΔGIC ETC	62-74	2N472A	ΔTEC ETC SSI	83-6	2N493A	ΔGESY CNS SSI TII	208-87	2N511B	ΔTII CNS ETC SOD	130-11	2N529	CNS NJS	55-74
2N446A	ΔGIC ETC	63-51	2N473	ΔTEC ETC SSI	83-7	JAN2N493A	GESY TII	208-88	2N512	ΔTII CNS ETC SOD	130-13	2N530	ETC CNS	55-85
2N447	ΔGIC ETC	62-79	2N473	ΔTEC ETC SSI	83-7	2N493B	ΔGESY CNS SSI TII	208-89	2N512A	ΔTII CNS ETC SOD	130-14	2N531	ETC CNS	55-96
2N447A	ΔGIC ETC	63-71	2N474	ΔTEC ETC SSI	83-8	2N494	ΔGESY CNS SSI TII	208-90	2N512B	ΔTII CNS ETC SOD	130-15	2N532	ETC CNS	55-104
2N447B	ETC GIC	177-99	2N474A	ΔTEC ETC SSI	83-9	2N494A	ΔGESY CNS SSI SOIF	208-91	2N513	ETC CNS SOD	130-16	2N533	ETC CNS	55-110
2N448	CNS ETC	62-41	2N475	ΔTEC ETC SSI	83-10	JAN2N494A	GESY TII	208-92	2N513A	ETC CNS SOD	130-17	2N533A	ETC CNS	52-49
2N449	CNS ETC	62-45	2N475A	ΔTEC ETC SSI	83-11	2N494B	ΔGESY CNS SSI SOIF	208-93	2N513B	ETC CNS SOD	130-18	2N535	ETC CNS	52-50
2N450	CNS ITC	56-37	2N476	ΔTEC ETC SSI	83-16	2N494C	ΔGESY CNS SSI SOIF	208-94	2N514	ETC CNS SOD	130-19	2N535A	ETC CNS	52-51
2N456	CNS KSC SOD	126-7 180-53	2N477	ΔTEC ETC SSI	83-17	2N495	CNS SPR SSI	65-98	2N514A	ETC CNS SOD	130-20	2N535B	ETC CNS	52-52
2N456A	ΔTII CNS DEL KSC MOTA	127-33	2N478	ΔTEC ETC SSI	83-18	2N496	IDC SPR SSI	65-92	2N514B	ETC CNS SOD	130-21	2N536	ETC CNS	59-79
2N456B	ΔTII CNS DEL KSC	127-34	2N478A	ΔTEC ETC SSI	83-18	2N497	ΔTII CNS ETC FSC ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	143-64	2N515	ETC CNS SOD	130-19	JAN2N537	none	123-78
JAN2N456B	none CNS IDC	130-7	2N479	ΔTEC ETC SSI	83-19	2N497A	ΔTII CNS ETC FSC ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	144-36	2N516	ETC CNS SOD	130-20	2N538	ΔSOD KSC	123-79
2N457	ETC KSC SOD	126-8 180-54	2N480	ΔTEC ETC SSI	83-20	2N498	ΔTII CNS ETC FSC ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	143-65	2N517	ETC CNS SOD	130-21	2N538A	ΔSOD KSC	123-80
2N457A	ΔTII CNS DEL KSC MOTA	127-35	2N480A	ΔTEC ETC SSI	83-13	2N499	ETC MOTA SSI SPR	49-41	2N518	ETC CNS SOD	130-19	2N539	ETC CNS	123-76
2N457B	ΔTII CNS DEL KSC	127-36	2N481	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	55-82	JAN2N499A	MOTA SSI SPR	49-105	2N519	ΔGIC ETC ITC	58-58	JAN2N539A	ΔSOD KSC	123-81
JAN2N457B	none CNS IDC	130-8	2N482	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	55-95	2N499A	ETC MOTA SSI SPR	50-54	2N519A	CNS GIC MST	54-103	JAN2N539AM	KSC SOD	123-77
2N458	ETC KSC SOD	126-9	2N483	CNS GIC ITC	56-14	JAN2N499B	MOTA SSI SPR	50-55	2N520	ΔGIC ETC ITC	55-83	JAN2N539M	KSC SOD	123-83
2N458A	ΔTII CNS DEL KSC MOTA	127-37	2N484	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	56-38	2N499B	ETC MOTA SSI SPR	50-55	2N520A	ΔGIC ETC ITC	55-84	2N540	ΔSOD KSC	123-84
2N458B	ΔTII CNS DEL KSC	127-38	2N485	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	56-24	JAN2N499C	MOTA SSI SPR	50-55	2N521	ΔGIC ETC ITC	56-28	2N540A	ΔSOD KSC	123-85
JAN2N458B	none CNS IDC	130-9	2N486	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	56-48	2N499C	ETC MOTA SSI SPR	50-55	2N521A	ΔGIC ETC ITC	56-29	2N541	ΔTEC ETC SSI	83-32
2N459	ETC KSC SOD	183-14	2N487	CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	52-100	JAN2N499D	ETC MOTA SSI SPR	50-55	2N522	ΔGIC ETC ITC	56-29	2N542	ΔTEC ETC SSI	83-33
2N459A	ETC KSC SOD	183-14	2N488	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-68	2N499D	ETC MOTA SSI SPR	50-55	2N522A	ΔGIC ETC ITC	56-54	2N542A	ΔTEC ETC SSI	83-14
2N460	ETC KSC SOD	183-14	2N489	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-69	JAN2N499E	ETC MOTA SSI SPR	50-55	2N523	ΔGIC ETC ITC	55-83	2N543	ΔTEC ETC SSI	83-34
2N461	ETC KSC SOD	183-14	2N489A	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-69	2N500	ETC MOTA SSI SPR	50-55	2N523A	ΔGIC ETC ITC	55-83	2N543A	ΔTEC ETC SSI	83-15
2N461A	ETC KSC SOD	183-14	2N489B	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-70	2N501	ETC MOTA SSI SPR	50-55	2N524	ΔGIC ETC ITC	55-83	2N544	ΔTEC ETC SSI	83-15
2N461B	ETC KSC SOD	183-14	2N489C	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-70	2N501A	ETC MOTA SSI SPR	50-55	2N524A	ΔGIC ETC ITC	55-83	2N545	ΔTEC ETC SSI	103-50
2N463	ETC KSC SOD	123-107 179-103	2N490	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-71	2N501B	ETC MOTA SSI SPR	50-55	2N525	ΔGIC ETC ITC	55-83	JAN2N545	TEC	103-51 177-102
JAN2N463	none CNS IDC	124-85	2N490A	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-72	2N502	ETC MOTA SSI SPR	50-55	2N525A	ΔGIC ETC ITC	55-83	2N546	ΔTEC ETC SSI	103-52
2N464	ETC KSC SOD	124-85	2N490B	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-73	JAN2N501A	MOTA SSI SPR	50-55	2N526	ΔGIC ETC ITC	55-83	2N546A	ΔTEC ETC SSI	177-103
JAN2N464	none CNS IDC	124-85	2N490C	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-73	2N502A	ETC MOTA SSI SPR	50-55	2N527	ΔGIC ETC ITC	55-83	2N547	ΔTEC ETC SSI	103-81
2N465	ETC KSC SOD	54-98 57-51	JAN2N490A	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-74	2N502B	ETC MOTA SSI SPR	50-55	2N528	ΔGIC ETC ITC	55-83	2N548	ΔTEC ETC SSI	103-82
JAN2N465	none CNS IDC	54-98 57-51	2N490B	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-75	2N503	ETC MOTA SSI SPR	50-55	2N529	ΔGIC ETC ITC	55-83	2N549	ΔTEC ETC SSI	103-83
2N466	ETC KSC SOD	54-98 57-51	2N490C	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-76	JAN2N502A	MOTA SSI SPR	50-55	2N530	ΔGIC ETC ITC	55-83	2N550	ΔTEC ETC SSI	103-84
JAN2N466M	none CNS IDC	54-98 57-51	2N491	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-77	2N502B	ETC MOTA SSI SPR	50-55	2N531	ΔGIC ETC ITC	55-83	2N551	ΔTEC ETC SSI	103-78
2N467	ETC KSC SOD	54-101 57-53	2N491A	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-78	JAN2N502B	MOTA SSI SPR	50-55	2N532	ΔGIC ETC ITC	55-83	2N552	ΔTEC ETC SSI	103-79
JAN2N467	none CNS IDC	54-101 57-53	JAN2N491A	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-79	2N503	ETC MOTA SSI SPR	50-55	2N533	ΔGIC ETC ITC	55-83	2N553	ΔTEC ETC SSI	103-79
2N469	ETC KSC SOD	207-69 207-70	2N491B	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-80	2N504	ETC MOTA SSI SPR	50-55	2N534	ΔGIC ETC ITC	55-83	2N554	ΔTEC ETC SSI	103-79
2N469A	ETC KSC SOD	207-69 207-70	2N492	ΔGESY CNS ITC PHIN SES RAYN SSI TADI TIIF VALG GESY	208-81	JAN2N502B	MOTA SSI SPR	50-55	2N535	ΔGIC ETC ITC	55-83	2N555	ΔTEC ETC SSI	103-79
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2N554	◆DEL CNS ◆ETC	◆MOTA 127-40	JAN2N600	GIC 81-45	2N601	GIC 81-41	2N651	(cont.)	2N678A	◆SOD 121-76	2N705	(cont.)	CNS 198-6							
2N555	◆MOTA CNS ◆ETC KSC	127-41	2N602	SSI 53-66	2N603	SSI 53-87	2N651A	◆MOTA 58-31	2N678B	◆SOD 121-77	JAN2N705	◆MOTA CNS TIIF	PHIN SSI TIIF							
2N556	◆MOTA CNS ◆ETC KSC	62-60	2N604	SSI 53-67	2N604A	SSI 53-95	JAN2N651A	◆MOTA 58-32	2N678C	◆SOD 121-78	2N705A	◆SOD CNS ◆ETC	MOTA 54-65							
2N557	◆MOTA CNS ◆ETC KSC	62-61	JAN2N604	none	2N609	none	2N652	◆MOTA 58-46	2N679	CNS 63-30	2N706	◆SOD CNS ◆ETC	TIIF CNS EMLS							
2N558	◆MOTA CNS ◆ETC KSC	62-62	2N604A	SSI 53-68	2N609	SSI 57-96	2N652A	◆MOTA 58-47	2N680	◆ETC 182-23	JAN2N695	◆SOD CNS ◆ETC	ESMF FEB GIC							
JAN2N559	◆MOTA CNS ◆ETC KSC	56-101	2N610	◆ETC CNS	2N611	◆ETC CNS	2N653	◆MOTA 58-48	2N696	◆FSC 177-67	2N706A	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N560	◆MOTA CNS ◆ETC KSC	201-58	2N611	◆ETC CNS	2N612	◆ETC CNS	JAN2N652A	◆MOTA 58-48	2N696A	◆FSC 104-53	JAN2N706	◆MOTA CNS ◆ETC	ESMF FEB GIC							
JAN2N560	◆MOTA CNS ◆ETC KSC	101-50	2N612	◆ETC CNS	2N613	◆ETC CNS	2N653	◆MOTA 58-49	2N697	◆FSC 188-29	2N706B	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N561	◆MOTA CNS ◆ETC KSC	189-31	2N613	◆ETC CNS	2N614	◆ETC CNS	2N654	◆MOTA 58-51	2N697A	◆FSC 104-58	2N706C	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N562	◆MOTA CNS ◆ETC KSC	101-7	2N614	◆ETC CNS	2N615	◆ETC CNS	2N655	◆MOTA 58-59	2N697B	◆FSC 189-92	2N706D	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N563	◆MOTA CNS ◆ETC KSC	177-50	2N615	◆ETC CNS	2N616	◆ETC CNS	2N656	◆MOTA 58-79	2N697C	◆FSC 106-88	2N706E	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N564	◆MOTA CNS ◆ETC KSC	125-78	2N616	◆ETC CNS	2N617	◆ETC CNS	2N656A	◆MOTA 143-66	2N697D	◆FSC 188-29	2N706F	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N565	◆MOTA CNS ◆ETC KSC	55-10	2N617	◆ETC CNS	2N618	◆ETC CNS	2N657	◆MOTA 143-67	2N697E	◆FSC 104-58	2N706G	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N566	◆MOTA CNS ◆ETC KSC	55-11	2N618	◆ETC CNS	2N619	◆ETC CNS	2N658	◆MOTA 106-67	2N697F	◆FSC 189-92	2N706H	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N567	◆MOTA CNS ◆ETC KSC	55-23	2N619	◆ETC CNS	2N620	◆ETC CNS	2N659	◆MOTA 144-38	2N697G	◆FSC 189-92	2N706I	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N568	◆MOTA CNS ◆ETC KSC	55-24	2N620	◆ETC CNS	2N621	◆ETC CNS	2N660	◆MOTA 143-67	2N697H	◆FSC 104-42	2N706J	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N569	◆MOTA CNS ◆ETC KSC	62-11	2N621	◆ETC CNS	2N622	◆ETC CNS	2N661	◆MOTA 59-26	2N697I	◆FSC 190-40	2N706K	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N570	◆MOTA CNS ◆ETC KSC	55-51	2N622	◆ETC CNS	2N623	◆ETC CNS	2N662	◆MOTA 59-28	2N697J	◆FSC 107-8	2N706L	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N571	◆MOTA CNS ◆ETC KSC	55-60	2N623	◆ETC CNS	2N624	◆ETC CNS	2N663	◆MOTA 59-30	2N697K	◆FSC 189-91	2N706M	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N572	◆MOTA CNS ◆ETC KSC	55-61	2N624	◆ETC CNS	2N625	◆ETC CNS	2N664	◆MOTA 106-68	2N697L	◆FSC 106-89	2N706N	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N573	◆MOTA CNS ◆ETC KSC	55-86	2N625	◆ETC CNS	2N626	◆ETC CNS	2N665	◆MOTA 144-39	2N697M	◆FSC 104-42	2N706O	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N574	◆MOTA CNS ◆ETC KSC	55-87	2N626	◆ETC CNS	2N627	◆ETC CNS	2N666	◆MOTA 59-26	2N697N	◆FSC 190-40	2N706P	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N575	◆MOTA CNS ◆ETC KSC	57-104	2N627	◆ETC CNS	2N628	◆ETC CNS	2N667	◆MOTA 59-28	2N697O	◆FSC 107-8	2N706Q	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N576	◆MOTA CNS ◆ETC KSC	130-109	2N628	◆ETC CNS	2N629	◆ETC CNS	2N668	◆MOTA 59-30	2N697P	◆FSC 189-91	2N706R	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N577	◆MOTA CNS ◆ETC KSC	130-110	2N629	◆ETC CNS	2N630	◆ETC CNS	2N669	◆MOTA 59-26	2N697Q	◆FSC 104-42	2N706S	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N578	◆MOTA CNS ◆ETC KSC	131-1	2N630	◆ETC CNS	2N631	◆ETC CNS	2N670	◆MOTA 59-28	2N697R	◆FSC 190-40	2N706T	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N579	◆MOTA CNS ◆ETC KSC	131-2	2N631	◆ETC CNS	2N632	◆ETC CNS	2N671	◆MOTA 59-28	2N697S	◆FSC 107-8	2N706U	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N580	◆MOTA CNS ◆ETC KSC	131-3	2N632	◆ETC CNS	2N633	◆ETC CNS	2N672	◆MOTA 59-27	2N697T	◆FSC 189-91	2N706V	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N581	◆MOTA CNS ◆ETC KSC	131-4	2N633	◆ETC CNS	2N634	◆ETC CNS	2N673	◆MOTA 59-27	2N697U	◆FSC 106-89	2N706W	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N582	◆MOTA CNS ◆ETC KSC	131-5	2N634	◆ETC CNS	2N635	◆ETC CNS	2N674	◆MOTA 59-26	2N697V	◆FSC 104-42	2N706X	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N583	◆MOTA CNS ◆ETC KSC	63-109	2N635	◆ETC CNS	2N636	◆ETC CNS	2N675	◆MOTA 106-68	2N697W	◆FSC 190-40	2N706Y	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N584	◆MOTA CNS ◆ETC KSC	183-50	2N636	◆ETC CNS	2N637	◆ETC CNS	2N676	◆MOTA 144-39	2N697X	◆FSC 107-8	2N706Z	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N585	◆MOTA CNS ◆ETC KSC	63-110	2N637	◆ETC CNS	2N638	◆ETC CNS	2N677	◆MOTA 59-26	2N697Y	◆FSC 189-91	2N707	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N586	◆MOTA CNS ◆ETC KSC	183-49	2N638	◆ETC CNS	2N639	◆ETC CNS	2N678	◆MOTA 106-68	2N697Z	◆FSC 106-89	2N707A	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N587	◆MOTA CNS ◆ETC KSC	53-46	2N639	◆ETC CNS	2N640	◆ETC CNS	2N679	◆MOTA 144-39	2N698	◆FSC 104-42	2N707B	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N588	◆MOTA CNS ◆ETC KSC	183-6	2N640	◆ETC CNS	2N641	◆ETC CNS	2N680	◆MOTA 59-26	2N698A	◆FSC 190-40	2N707C	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N589	◆MOTA CNS ◆ETC KSC	183-6	2N641	◆ETC CNS	2N642	◆ETC CNS	2N681	◆MOTA 106-68	2N698B	◆FSC 107-8	2N707D	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N590	◆MOTA CNS ◆ETC KSC	53-55	2N642	◆ETC CNS	2N643	◆ETC CNS	2N682	◆MOTA 144-39	2N698C	◆FSC 189-91	2N707E	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N591	◆MOTA CNS ◆ETC KSC	183-41	2N643	◆ETC CNS	2N644	◆ETC CNS	2N683	◆MOTA 59-26	2N698D	◆FSC 106-89	2N707F	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N592	◆MOTA CNS ◆ETC KSC	53-73	2N644	◆ETC CNS	2N645	◆ETC CNS	2N684	◆MOTA 106-68	2N698E	◆FSC 104-42	2N707G	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N593	◆MOTA CNS ◆ETC KSC	184-48	2N645	◆ETC CNS	2N646	◆ETC CNS	2N685	◆MOTA 59-26	2N698F	◆FSC 190-40	2N707H	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N594	◆MOTA CNS ◆ETC KSC	56-30	2N646	◆ETC CNS	2N647	◆ETC CNS	2N686	◆MOTA 144-39	2N698G	◆FSC 107-8	2N707I	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N595	◆MOTA CNS ◆ETC KSC	183-51	2N647	◆ETC CNS	2N648	◆ETC CNS	2N687	◆MOTA 59-26	2N698H	◆FSC 189-91	2N707J	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N596	◆MOTA CNS ◆ETC KSC	56-59	2N648	◆ETC CNS	2N649	◆ETC CNS	2N688	◆MOTA 106-68	2N698I	◆FSC 106-89	2N707K	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N597	◆MOTA CNS ◆ETC KSC	184-72	2N649	◆ETC CNS	2N650	◆ETC CNS	2N689	◆MOTA 144-39	2N698J	◆FSC 104-42	2N707L	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N598	◆MOTA CNS ◆ETC KSC	56-59	2N650	◆ETC CNS	2N651	◆ETC CNS	2N690	◆MOTA 59-26	2N698K	◆FSC 190-40	2N707M	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N599	◆MOTA CNS ◆ETC KSC	184-72	2N651	◆ETC CNS	2N652	◆ETC CNS	2N691	◆MOTA 106-68	2N698L	◆FSC 107-8	2N707N	◆MOTA CNS ◆ETC	ESMF FEB GIC							
2N600	◆MOTA CNS ◆ETC KSC	56-59	2N652	◆ETC CNS	2N653	◆ETC CNS	2N692	◆MOTA 59-26	2N698M	◆FSC 189-91	2N707O	◆MOTA CNS ◆ETC	ESMF FEB GIC							

1. TYPE No. CROSS INDEX

IN TYPE NUMBER SEQUENCE

TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	
2N711A	♦ΔTII ♦MOTA ♦SES	56-81 193-5	2N727 (cont.)	FERB SCA TADI TIIF		2N753 (cont.)	♦TES VALG		2N834 (cont.)	CNS ETC	200-48	2N871 (cont.)	TEC ♦TII	TADI ♦TES TIIF ♦TRW CNS SES TEC	99-86
2N711B	♦ΔTII ♦MOTA ♦SES	56-82 193-6	2N730	♦ΔTII CNS ITC RAYN TADI TES TIIF	101-44 184-82	2N754	CNS ♦ETC SCA CNS	100-39 89-80	2N834/46	♦ESMF ♦FSC HSC ♦ITT RAYN SGSI		2N909	ETC SGSI	♦ΔFSC ♦ETC ♦RAYN SES SSI TADI TEC ♦TII ♦TRW FSC TES TII	102-16
2N715	♦MOTA SCA	101-106	2N731	♦ΔTII CNS ITC MOTA RAYN TADI TES	101-51 184-100	2N755	ETC SCA CNS	89-81	2N834/46	CNS RAYN SGSI TES	100-67 198-90 99-6 200-49	2N910	♦EMLS ♦MOTA SCA SGSI TADI TES	♦TES ♦TRW FSC TES TII	101-90
2N716	SCA	101-107	2N731	♦ΔTII CNS ITC MOTA RAYN TADI TES	101-51 184-100	2N756	ETC SCA CNS	101-52	2N834A	ITT SCA		2N911	♦ΔFSC CNS EMLS ♦ETC ♦RAYN SES SSI TADI TEC ♦TII ♦TRW FSC TES TII	101-61	
2N717	♦ΔFSC CNS ETC ITC MST SES TADI ♦TES TIIF	100-1 190-58	2N734	♦ETC TADI	101-8	2N757	ETC MST SSI	101-53	2N835	♦ΔMOTA ETC ♦GIC HSC RAYN SGSI SES	94-6 200-4	JAN2N910	RAYN	♦TES TII	101-90
2N717A	VALG EMLS	110-13 193-84	2N734	♦ETC TADI	101-8	2N757A	ETC	102-21	2N835/46	ETC ♦GIC HSC RAYN SGSI SES	100-68 197-43 54-68 177-10	2N911	♦ΔFSC CNS EMLS ♦ETC ♦RAYN SES SSI TADI TEC ♦TII ♦TRW FSC TES TII	101-61	
2N718	♦ΔFSC CNS ETC HSC ♦ITT MOTA MST RAYN SGSI TADI TES TIIF ♦TRW	100-3 190-84	2N735	♦ETC MOTA SOD ♦TEC	101-9	JAN2N757A	none	101-86	2N837	ΔSES	56-105 89-82	JAN2N911	RAYN	♦TES TII	101-62
2N718A	♦ΔFSC CNS ETC HSC MOTA RAYN SGSI TADI TES TIIF ♦TRW	101-81	2N735A	♦SOD CNS MISI	101-84	2N758A	ETC SOD	102-22	2N838	♦ΔMOTA ♦ΔTEC	56-105 89-82	JAN2N911	RAYN	♦TES TII	101-62
2N719	♦ΔFSC CNS ETC ITC RAYN SES TADI ♦TES TIIF	101-43	2N736	LTTF SCA ♦TEC	101-10	2N758B	CNS SOD	101-55	2N839	♦ΔMOTA ♦ΔTEC	56-105 89-82	JAN2N911	RAYN	♦TES TII	101-62
2N719A	♦ΔFSC CNS ETC SCA SGSI TADI TIIF	101-43	2N736A	♦ETC LTTF ♦SOD	102-17	2N759A	ETC SOD TADI	102-23	2N840	♦ETC ♦MOTA SCA	89-83	2N912	♦ΔFSC CNS EMLS ♦ETC SCA SGSI SSI TADI TEC ♦TII ♦TRW FSC TES TII	101-104	
2N720	♦ΔFSC CNS ETC MST SCA SGSI TADI TES TIIF	99-85	2N736B	♦SOD CNS	102-18	JAN2N759A	none	101-87	2N841	♦ΔTEC ♦MOTA SCA	90-2	2N913	SCA	EMLS SSI	98-62
2N720A	♦ΔFSC EMLS GIC ITC MOTA SCA SGSI TADI TES TIIF ♦TRW	102-1	2N737	♦SOD CNS MISI	101-11	2N759B	none	101-57	2N841/46	SCA	90-3	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
JAN2N720A	♦ΔFSC CNS ETC MST SCA SGSI TADI TES TIIF ♦TRW	101-83	2N739	♦ETC MOTA SOD TIIF	101-12	2N760	CNS ETC ITT	101-58	2N842	♦ΔTEC SCA	89-84	JAN2N912	RAYN	♦TES TII	101-45
2N721	♦ΔFSC CNS ETC MOTA SCA SGSI TADI TIIF	74-50	2N739A	♦SOD CNS	101-85	2N760A	BNT ITT SCA SOD TADI	102-24	2N843	♦ΔTEC SCA	90-4	2N913	SCA	EMLS SSI	98-62
2N721A	♦RAYN TADI	74-51	2N740	♦ETC MOTA SOD TIIF	101-13	JAN2N760A	RAYN	101-88	2N844	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
2N722	♦ΔFSC CNS ETC ITT NPC RAYN SGSI TADI ♦TEC TIIF	74-60	2N740A	♦SOD CNS	102-19	2N760B	ETC	101-59	2N845	♦ΔTEC SCA	90-29	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
2N722A	♦RAYN TADI	74-79	2N741	♦ΔMOTA SSI	57-16	JAN2N760B	RAYN	101-59	2N845A	♦ΔTEC SCA	90-29	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
2N726	ETC SCA TADI	69-71	2N741A	♦ΔMOTA SSI	57-17	2N760B	ETC	101-59	2N846A	♦ΔTEC SCA	90-29	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
2N727	cont.next col.		2N742	SCA TADI ETC	101-14	2N761	ETC	102-25	2N847	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N742A	ETC	101-15	2N762	ETC	102-26	2N848	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N743	♦ΔTII CNS	93-92 199-3	2N762	MOTA	102-26	2N849	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N743A	BELI EMLS CNS ESMF ♦FSC GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC TIIF	99-4 200-16 93-93 199-1	2N768	ETC	49-53	2N850	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N744	♦ΔTII EMLS ETC GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC TIIF	99-4 200-16 93-93 199-1	2N769	ETC	49-54	2N851	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			JAN2N744	FSC TII	92-95 197-17	2N779	ETC	201-47	2N852	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N744A	RAYN SCA CNS SCA BELI EMLS	99-5 200-17 102-76 201-16	2N779A	ETC	198-33	2N853	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N752	ETC	102-76	2N779A	ETC	198-33	2N854	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N780	ETC	199-108	2N855	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	54-67	2N856	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	177-70	2N857	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-17	2N858	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-82	2N859	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N860	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N861	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N862	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N863	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N864	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N865	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N866	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N867	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N868	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N869	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N870	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N871	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N871	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	193-85	2N871	♦ΔTEC SCA	90-28	2N914	♦ΔFSC BELI EMLS CNS ESMF ♦ETC ITC MISI MULB ♦NPC NTLB PHIN RAYN SGSI TADI TEC TFKG TIIF	99-2 200-14	
			2N753	CNS ESMF FERR GIC ITT MOTA MULB PHIN RAYN SGSI TADI TEC	201-16	2N782	ETC	92-18	2N871	♦ΔTEC SCA	90-28	2N914			

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2N919	ETC	CNS MULB 193-95	2N941 (cont.)	CRY SSI	209-65	2N985 (cont.)	MOTA SSI	197-68	JAN2N1018D	SEN WESY	170-104	2N1040	ETC	122-54
2N920	ETC	CNS MULB 193-96	SCA	TADI		2N986	SES	207-71	2N1018E	WESY	170-105	ESMF	KSC	
2N921	ETC	CNS MULB 198-90	2N942	SOD SSI	68-2	JAN2N986	none	207-72	2N1018F	SEN SSI	180-36	MISI	MOTA	
2N922	ETC	CNS MULB 98-91	CRY	TADI	209-66	2N987	APX	52-67	2N1018G	SEN SSI	170-106	NPC	SOD	
2N923	SCA	CRY SOD 65-67	2N943	SOD SSI	67-65	JAN2N987	MULB PHIC	52-53	2N1017	SEN SSI	180-37	2N1040-1	TEK	122-32
2N924	CRY SOD	CNS SSI 65-68	SCA	TADI	209-67	2N988	APX	92-102	ETC	CNS	57-71	2N1040-2	KSC	122-33
2N925	SCA	CRY SOD 65-69	2N944	SOD SSI	67-66	2N989	SCA	92-103	2N1018	ITC	57-72	2N1041	SOD	122-35
2N926	CRY SOD	CNS SSI 65-70	CRY	TADI	209-68	2N990	APX PHIC	51-1	ETC	CNS	127-49	2N1041-1	ESMF	122-55
2N927	SCA	CRY SOD 65-71	2N945	SOD SSI	67-67	2N991	PHIC	51-2	2N1021	DEL	127-50	2N1041-2	KSC	122-34
2N928	SCA	CRY SOD 65-72	CRY	TADI	209-69	2N992	PHIC	50-110	CNS	KSC	127-51	JAN2N1041	TEK	61-1
2N929	ETC	ETC ESMF 89-85	2N946	SOD SSI	67-68	2N993	APX PHIC	51-3	ETC	SOD	127-50	2N1041-1	KSC	122-34
	ETC	FSC FERB 89-85	CNS	TADI	209-70	2N994	SES	57-105	2N1021A	DEL	127-50	2N1041-2	SOD	122-35
	ETC	ITC MEHK 89-85	ETC	TADI	97-51	2N995	AKER	177-26	CNS	DEL	130-22	2N1042	KSC	122-36
	ETC	MISI MOTA 89-85	2N947	SGSI	97-51	2N995A	MOTA SSI	72-56	2N1022	DEL	127-51	JAN2N1042	TEK	180-60
	ETC	MULB PHIN 89-85	2N948	SSSI	102-52	2N996	SCA SSI	191-31	CNS	DEL	127-51	2N1042-1	KSC	122-56
	ETC	NTLB PHIN 89-85	2N949	EML	88-21	2N997	TADI	72-81	2N1022A	DEL	127-52	2N1042-2	SOD	122-37
	ETC	RAYN SES 89-85	2N950	RAYN SSI	88-21	2N998	CNS SSI	193-31	2N1023	DEL	130-23	2N1043	KSC	122-38
	ETC	SOD TADI 89-85	2N951	TES	56-108	2N999	SCA SSI	101-16	2N1024	DEL	53-107	JAN2N1043	TEK	180-61
	ETC	TIF VALG 89-85	2N952	TADI	197-105	2N1000	RAYN SSI	63-64	JAN2N1024A	DEL	67-69	2N1043-1	KSC	122-57
JAN2N929	ITC	ITC MEHK 90-25	2N953	TADI	56-107	2N1001	TES	183-30	2N1025	DEL	67-71	2N1043-2	KSC	122-42
2N929/46	SCA	SCA SOD 99-77	2N954	TADI	197-108	2N1002	TES	125-79	CNS	DEL	67-91	2N1044	TEK	122-43
2N929A	SCA	SCA SOD 101-47	2N955	TADI	56-108	2N1003	TES	57-45	2N1026	DEL	73-96	2N1044-1	KSC	122-44
	ETC	MEHK 101-47	2N956	TADI	197-107	2N1004	TES	57-46	JAN2N1026M	DEL	67-92	2N1045	TEK	180-63
	ETC	MISI MOTA 101-47	JAN2N962	TADI	56-109	2N1005	TES	57-47	2N1027	DEL	67-108	JAN2N1045	KSC	122-59
	ETC	MULB PHIN 101-47	2N963	TADI	56-91	2N1006	TES	57-47	2N1028	DEL	68-1	2N1045-1	KSC	122-49
	ETC	NTLB PHIN 101-47	2N964	TADI	196-98	2N1007	TES	57-44	2N1029	DEL	68-1	2N1045-2	KSC	122-50
	ETC	RAYN SES 101-47	2N965	TADI	56-110	JAN2N1008B	TES	62-1	2N1030	DEL	68-1	2N1046	SOD	126-71
	ETC	SOD TADI 101-47	2N966	TADI	197-109	2N1010	TES	124-86	2N1029A	DEL	121-79	CNS	ETC	
	ETC	TIF VALG 101-47	JAN2N964	TADI	57-1	2N1011	TES	124-87	2N1029B	DEL	121-80	JAN2N1046	TII	123-47
	ETC	ITC MEHK 101-47	2N964A	TADI	57-2	CNS	TES	124-87	2N1029C	DEL	121-81	2N1046A	ETC	126-72
	ETC	MISI MOTA 101-47	2N965	TADI	57-3	ETC	TES	124-87	2N1031	DEL	127-53	2N1046B	ETC	126-73
	ETC	MULB PHIN 101-47	2N966	TADI	57-4	JAN2N1011	TES	198-21	2N1031A	DEL	127-54	2N1047	ETC	156-55
	ETC	NTLB PHIN 101-47	2N967	TADI	198-2	2N1012	TES	63-31	2N1031B	DEL	127-55	CNS	ETC	
	ETC	RAYN SES 101-47	2N968	TADI	56-92	CNS	TES	198-21	2N1031C	DEL	127-56	2N1047A	ETC	156-56
	ETC	SOD TADI 101-47	2N969	TADI	196-99	2N1015A	TES	170-91	2N1032	DEL	127-57	2N1047B	ETC	156-57
	ETC	TIF VALG 101-47	2N970	TADI	57-5	2N1015B	TES	180-25	2N1032A	DEL	127-58	JAN2N1047A	ETC	156-48
JAN2N930	ITC	ITC MEHK 91-40	2N971	TADI	57-6	2N1015C	TES	180-26	CNS	DEL	127-59	2N1047B	ETC	156-57
2N930A/46	SCA	SCA SOD 99-78	2N972	TADI	198-12	2N1015D	TES	180-27	2N1032B	DEL	127-60	2N1048	ETC	156-58
2N930A	SCA	SCA SOD 101-48	2N973	TADI	57-7	2N1015E	TES	170-92	2N1032C	DEL	127-60	2N1048A	ETC	156-59
	ETC	MEHK 101-48	2N974	TADI	57-8	2N1015F	TES	170-93	2N1034	DEL	67-47	2N1048B	ETC	156-60
	ETC	MISI MOTA 101-48	2N975	TADI	198-19	2N1016	TES	180-27	2N1035	DEL	67-53	2N1049	ETC	156-61
	ETC	MULB PHIN 101-48	2N976	TADI	57-8	2N1016A	TES	170-94	2N1036	DEL	67-56	2N1049A	ETC	156-62
	ETC	NTLB PHIN 101-48	2N977	TADI	57-9	2N1016B	TES	180-28	2N1037	DEL	67-54	JAN2N1048A	ETC	156-49
	ETC	RAYN SES 101-48	2N978	TADI	198-13	2N1016C	TES	170-95	2N1038	DEL	67-54	2N1048B	ETC	156-60
	ETC	SOD TADI 101-48	2N979	TADI	57-10	2N1016D	TES	180-29	2N1038A	DEL	122-52	2N1049	ETC	156-61
	ETC	TIF VALG 101-48	2N980	TADI	198-14	2N1016E	TES	180-29	2N1038B	DEL	122-28	2N1049A	ETC	156-62
2N935	SCA	CRY SSI 73-83	2N981	TADI	57-11	2N1016F	TES	170-96	2N1039	DEL	122-29	JAN2N1049A	ETC	156-50
2N936	SCA	CRY SSI 73-84	2N982	TADI	198-15	2N1016G	TES	180-30	2N1039-1	DEL	60-110	2N1049B	ETC	156-63
2N937	SCA	CRY SSI 73-86	2N983	TADI	57-12	2N1016H	TES	170-97	2N1039-2	DEL	122-30	2N1050	ETC	156-64
2N938	SCA	CRY SSI 67-84	2N984	TADI	198-16	2N1016I	TES	180-31	2N1039-2	DEL	122-31	2N1050A	ETC	156-65
2N939	SCA	CRY SSI 67-89	2N985	TADI	57-13	2N1016J	TES	170-98						
2N940	SCA	CRY SSI 67-90						170-99						
2N941	SCA	CRY SSI 68-4						180-32						

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JAN2N1050A	♦ SPC		2N1111B	ETC	49-39	(cont.)	♦ ETC		♦ ETC	SOD			SSI	
2N1050B	♦ SIL		2N1114	CNS	63-74	♦ ETC	CNS		2N1164	♦ ΔMOTA	127-79	2N1197	EMLS	71-104
2N1051	♦ ΔTII	156-51	ETC	MST		2N1137A	♦ ASOD	126-26	CNS	♦ ETC		JAN2N1197	none	71-79
JAN2N1051	♦ SEN		2N1115	ETC	56-7	CNS	♦ ETC		2N1164A	♦ ΔMOTA	127-80	2N1198	CNS	62-42
2N1052	♦ SPC		2N1116	♦ ΔTEC	103-93	♦ IDC	KSC		CNS	♦ ETC		2N1199	♦ ETC	80-86
2N1053	♦ SPC		ETC	MST		2N1137B	♦ ASOD	126-27	2N1165	♦ ΔMOTA	127-81	2N1200	♦ ΔSOD	123-86
2N1054	♦ SPC		♦ SCA	♦ SEN		2N1138	KSC		CNS	♦ ETC		2N1203	♦ KSC	
2N1055	♦ SPC		♦ SSI	SPC		CNS	♦ ETC		JAN2N1165	MOTA	127-82	2N1204	♦ KSC	123-87
2N1056	♦ SPC		♦ UNI	UNI		2N1138A	♦ ASOD	124-11	2N1165A	♦ ΔMOTA	127-83	♦ MOTA	59-24	
2N1057	♦ SPC		♦ CRY	CRY		CNS	♦ ETC		CNS	♦ ETC		2N1204A	♦ MOTA	198-34
2N1058	♦ SPC		♦ SPR	SPR		2N1138B	♦ ASOD	124-13	2N1166	♦ ΔMOTA	127-84	2N1205	ETC	195-63
2N1059	♦ SPC		♦ TADI	TADI		2N1139	♦ ΔTEC	102-27	♦ ETC	SOD		2N1206	ETC	80-62
2N1060	♦ SPC		♦ TADI	TADI		CNS	♦ ETC		2N1166A	♦ ΔMOTA	127-85	2N1207	ETC	110-19
2N1061	♦ SPC		♦ TADI	TADI		2N1140	CNS		♦ ETC	SOD		2N1208	♦ ETC	110-20
2N1062	♦ SPC		♦ TADI	TADI		2N1141	♦ ΔTII	60-98	2N1167	♦ ΔMOTA	127-86	2N1209	♦ ETC	161-48
2N1063	♦ SPC		♦ TADI	TADI		♦ MOTA	TIIB		CNS	♦ ETC		CNS	ESMF	
2N1064	♦ SPC		♦ TADI	TADI		2N1141A	♦ ΔTII	60-95	2N1167A	♦ ΔMOTA	127-87	♦ ETC	PPC	
2N1065	♦ SPC		♦ TADI	TADI		MOTA	TIIF		CNS	♦ ETC		♦ SEN	♦ SIL	
2N1066	♦ SPC		♦ TADI	TADI		2N1142	♦ ΔTII	60-97	2N1168	♦ ΔDEL	129-28	♦ SOD	SPC	
2N1067	♦ SPC		♦ TADI	TADI		♦ MOTA	TIIB		CNS	♦ ETC		SSI	UNI	
2N1068	♦ SPC		♦ TADI	TADI		2N1142A	♦ ΔTII	60-91	2N1169	CNS		2N1209	♦ ΔTEC	161-49
2N1069	♦ SPC		♦ TADI	TADI		MOTA	TIIF		CNS	♦ ETC		CNS	ESMF	
2N1070	♦ SPC		♦ TADI	TADI		2N1143	♦ ΔTII	60-92	2N1170	CNS		ETC	PPC	
2N1071	♦ SPC		♦ TADI	TADI		♦ MOTA	TIIB		CNS	♦ ETC		♦ SEN	♦ SIL	
2N1072	♦ SPC		♦ TADI	TADI		2N1143A	♦ ΔTII	60-94	2N1171	♦ ETC		2N1210	♦ ΔTEC	159-76
2N1073	♦ SPC		♦ TADI	TADI		MOTA	TIIF		CNS	♦ ETC		CNS	♦ ETC	
2N1073A	♦ SPC		♦ TADI	TADI		2N1144	ETC		2N1172	CNS		2N1211	♦ ΔTEC	159-77
2N1074	♦ SPC		♦ TADI	TADI		2N1145	ETC		JAN2N1173	none		2N1212	♦ ETC	
2N1075	♦ SPC		♦ TADI	TADI		2N1146	ETC		2N1174	none		CNS	♦ ETC	
2N1076	♦ SPC		♦ TADI	TADI		♦ ETC	CNS		2N1175	♦ ΔGESY		♦ SEN	♦ SIL	
2N1077	♦ SPC		♦ TADI	TADI		2N1146A	CNS		♦ ETC	♦ MOTA		2N1213	♦ ETC	
2N1078	♦ SPC		♦ TADI	TADI		♦ ETC	KSC		2N1176	♦ ETC		♦ SOD	SPC	
2N1079	♦ SPC		♦ TADI	TADI		2N1146B	♦ ETC		♦ ETC	♦ MOTA		2N1214	♦ ETC	
2N1080	♦ SPC		♦ TADI	TADI		KSC	MOTA		2N1177	♦ ETC		CNS	PPC	
2N1081	♦ SPC		♦ TADI	TADI		2N1147	♦ ETC		2N1178	♦ ETC		♦ SIL	SOD	
2N1082	♦ SPC		♦ TADI	TADI		♦ MOTA	TIIB		2N1179	♦ ETC		2N1215	♦ ETC	
2N1083	♦ SPC		♦ TADI	TADI		2N1147A	♦ ETC		2N1180	♦ ETC		2N1216	♦ ETC	
2N1084	♦ SPC		♦ TADI	TADI		♦ ETC	CNS		2N1181	♦ ETC		2N1217	♦ ETC	
2N1085	♦ SPC		♦ TADI	TADI		2N1147B	♦ ETC		2N1182	♦ ETC		2N1218	♦ ETC	
2N1086	♦ SPC		♦ TADI	TADI		♦ ETC	CNS		2N1183	♦ ETC		2N1219	♦ ETC	
2N1087	♦ SPC		♦ TADI	TADI		2N1147C	♦ ETC		JAN2N1183	♦ ΔRCA		2N1220	♦ ΔSOD	
2N1088	♦ SPC		♦ TADI	TADI		♦ ETC	CNS		2N1184	♦ ΔRCA		CNS	♦ CRY	
2N1089	♦ SPC		♦ TADI	TADI		2N1148	♦ ETC		2N1185	♦ ΔRCA		2N1221	♦ ΔSOD	
2N1090	♦ SPC		♦ TADI	TADI		2N1149	♦ ETC		2N1186	♦ ΔRCA		2N1222	♦ ΔSOD	
2N1091	♦ SPC		♦ TADI	TADI		CNS	♦ ETC		2N1187	♦ ΔRCA		2N1223	♦ ΔSOD	
2N1092	♦ SPC		♦ TADI	TADI		2N1150	♦ ETC		JAN2N1183A	KSC		CNS	♦ CRY	
2N1093	♦ SPC		♦ TADI	TADI		CNS	♦ ETC		2N1183B	♦ ΔRCA		2N1224	♦ ΔSOD	
2N1094	♦ SPC		♦ TADI	TADI		2N1151	♦ ETC		2N1184	♦ ΔRCA		2N1225	♦ ΔSOD	
2N1095	♦ SPC		♦ TADI	TADI		♦ ETC	CNS		2N1185	♦ ΔRCA		2N1226	♦ ΔSOD	
2N1096	♦ SPC		♦ TADI	TADI		2N1152	♦ ETC		2N1186	♦ ΔRCA		2N1227	♦ ΔSOD	
2N1097	♦ SPC		♦ TADI	TADI		CNS	♦ ETC		2N1187	♦ ΔRCA		2N1228	♦ ΔSOD	
2N1098	♦ SPC		♦ TADI	TADI		2N1153	♦ ETC		2N1188	♦ ΔRCA		2N1229	♦ ΔSOD	
2N1099	♦ SPC		♦ TADI	TADI		CNS	♦ ETC		JAN2N1184	♦ ΔRCA		2N1230	♦ ΔSOD	
2N1100	♦ SPC		♦ TADI	TADI		2N1154	♦ ETC		2N1189	♦ ΔRCA		2N1231	♦ ΔSOD	
2N1101	♦ SPC		♦ TADI	TADI		2N1155	♦ ETC		2N1190	♦ ΔRCA		2N1232	♦ ΔSOD	
2N1102	♦ SPC		♦ TADI	TADI		2N1156	♦ ETC		2N1191	♦ ΔRCA		2N1233	♦ ΔSOD	
2N1103	♦ SPC		♦ TADI	TADI		2N1157	♦ ETC		2N1192	♦ ΔRCA		2N1234	♦ ΔSOD	
2N1104	♦ SPC		♦ TADI	TADI		2N1158	♦ ETC		2N1193	♦ ΔRCA				
2N1105	♦ SPC		♦ TADI	TADI		JAN2N1157A	SOD	131-8	2N1194	♦ ΔMOTA	58-73			
2N1106	♦ SPC		♦ TADI	TADI		2N1158	CNS	50-18	2N1195	♦ ETC				
2N1107	♦ SPC		♦ TADI	TADI		2N1159	CNS	51-7	JAN2N1195	MOTA	60-33			
2N1108	♦ SPC		♦ TADI	TADI		2N1160	CNS	126-28						
2N1109	♦ SPC		♦ TADI	TADI		2N1161	CNS	180-10						
2N1110	♦ SPC		♦ TADI	TADI		2N1162	CNS	126-29						
2N1111	♦ SPC		♦ TADI	TADI		2N1163	CNS	180-11						
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2N1234 (cont.)	♦ ETC SSI SOD		2N1302 (cont.)	GIC MST IDC MULB		2N1311	♦ CNS	62-90	2N1371	♦ ΔTII CNS GESY ITC	59-97	2N1413	♦ ΔGESY ITC	58-90
JAN2N1234	♦ SOD	73-79		♦ PHC NTRADF		2N1312	♦ CNS	62-91		♦ ETC GIC MST		2N1414	♦ ΔGESY ITC	58-93
2N1235	♦ SSI TEC	161-51		♦ PHIN		2N1313	♦ GIC	57-98	2N1372	♦ ΔTII CNS GESY ITC	59-98	2N1415	♦ ΔGESY ITC	58-94
2N1247	♦ ΔTEC	78-6		♦ SSI THIB		2N1314		126-30		♦ ETC GIC MST		2N1416	♦ ΔGESY ITC	58-94
2N1248	♦ CNS	78-7	JAN2N1302	♦ VALG GIC TII	63-33	2N1316	♦ ΔITC	59-14	2N1373	♦ ΔTII CNS GESY ITC	59-99	2N1417	♦ ΔTES ITC	60-10
2N1249	♦ ETC	78-8		♦ RCA		2N1317	♦ ΔITC	183-108		♦ ETC GIC MST		2N1418	♦ ΔTES ITC	80-71
2N1250	♦ CNS	161-52	2N1303	♦ ΔTII CNS GESY IDC	54-69	2N1318	♦ ΔITC	59-15	2N1374	♦ ΔTII CNS GESY ITC	59-100	2N1419	♦ ΔTES ITC	80-72
	♦ SEN SOD			♦ IDC MST NJS		2N1320	♦ ETC	123-1		♦ ETC GIC MST		2N1420	♦ ΔTES ITC	104-4
2N1251	♦ ETC	63-15		♦ MULB NTLB		2N1321	♦ KSC	132-19	2N1375	♦ ΔTII CNS GESY ITC	59-101		♦ ΔTES ITC	
2N1252	♦ ΔFSC	104-54		♦ PHC NTRADF		2N1322	♦ KSC	123-2		♦ ETC GIC MST		2N1421	♦ ΔTES ITC	
	♦ GIC SCA SOD	190-56	JAN2N1303	♦ PHIN	55-88	2N1323	♦ KSC	132-20	2N1376	♦ ΔTII CNS GESY ITC	59-102	2N1422	♦ ΔTES ITC	
				♦ RCA		2N1324	♦ KSC	123-3		♦ ETC GIC MST		2N1423	♦ ΔTES ITC	
2N1253	♦ ΔFSC	104-59		♦ VALG TII		2N1325	♦ KSC	132-21	2N1377	♦ ΔTII CNS GESY ITC	59-103	2N1424	♦ ΔTES ITC	
	♦ GIC SCA SOD	193-64	2N1304	♦ ΔTII CNS ESMF	63-53	2N1326	♦ KSC	123-4		♦ ETC GIC MST		2N1425	♦ ΔTES ITC	
				♦ IDC MST NJS	183-1	2N1327	♦ KSC	132-22	2N1378	♦ ΔTII CNS GESY ITC	59-104	2N1426	♦ ΔTES ITC	
2N1254	♦ EML SSI	186-26		♦ MULB NTLB		2N1328	♦ KSC	122-84		♦ ETC GIC MST		2N1427	♦ ΔTES ITC	
				♦ PHC NTRADF		2N1329	♦ KSC	132-23	2N1379	♦ ΔTII CNS GESY ITC	59-105	2N1428	♦ ΔTES ITC	
2N1255	♦ EML SSI	75-59		♦ PHIN		2N1330	♦ KSC	132-24	2N1380	♦ ΔTII CNS GESY ITC	59-106	2N1429	♦ ΔTES ITC	
		189-22	JAN2N1304	♦ VALG TII	63-54	2N1331	♦ KSC	132-25		♦ ETC GIC MST		2N1430	♦ ΔTES ITC	
2N1256	♦ EML SSI	75-58		♦ RCA		2N1332	♦ KSC	132-26	2N1381	♦ ΔTII CNS GESY ITC	59-107	2N1431	♦ ΔTES ITC	
		186-27	2N1305	♦ ΔTII CNS ESMF	54-70	2N1333	♦ KSC	132-27		♦ ETC GIC MST		2N1432	♦ ΔTES ITC	
2N1257	♦ EML SSI	75-60		♦ IDC MST NJS		2N1334	♦ KSC	132-28	2N1382	♦ ΔTII CNS GESY ITC	59-108	2N1433	♦ ΔTES ITC	
		189-23		♦ MULB NTLB		2N1335	♦ ΔTRW	107-91		♦ ETC GIC MST		2N1434	♦ ΔTES ITC	
2N1258	♦ EML SSI	75-61		♦ PHC NTRADF					2N1383	♦ ΔTII CNS GESY ITC	59-109	2N1435	♦ ΔTES ITC	
		189-24	JAN2N1305	♦ PHIN	56-8	2N1336	♦ SSI	107-92		♦ ETC GIC MST		2N1436	♦ ΔTES ITC	
2N1259	♦ EML SSI	75-58		♦ VALG TII		2N1337	♦ SSI	107-93	2N1384	♦ ΔTII CNS GESY ITC	59-110	2N1437	♦ ΔTES ITC	
		187-93		♦ RCA		2N1338	♦ SSI	107-94		♦ ETC GIC MST		2N1438	♦ ΔTES ITC	
2N1260	♦ SSI	161-36		♦ THIB		2N1339	♦ SSI	107-95	2N1385	♦ ΔTII CNS GESY ITC	59-111	2N1439	♦ ΔTES ITC	
2N1261	♦ ΔSOD	123-88	JAN2N1306	♦ VALG GIC TII	63-76	2N1340	♦ SSI	107-96		♦ ETC GIC MST		2N1440	♦ ΔTES ITC	
2N1262	♦ ΔSOD	123-89		♦ RCA		2N1341	♦ SSI	107-97	2N1386	♦ ΔTII CNS GESY ITC	59-112	2N1441	♦ ΔTES ITC	
2N1263	♦ ΔSOD	123-90	2N1306	♦ ΔTII CNS ESMF	63-75	2N1342	♦ SSI	107-98		♦ ETC GIC MST		2N1442	♦ ΔTES ITC	
2N1265	♦ CNS	52-83		♦ IDC MST NJS	183-65	2N1343	♦ SSI	55-105	2N1387	♦ ΔTII CNS GESY ITC	59-113	2N1443	♦ ΔTES ITC	
2N1265/5	♦ ETC	49-73		♦ MULB NTLB		2N1344	♦ SSI	56-21		♦ ETC GIC MST		2N1444	♦ ΔTES ITC	
2N1266	♦ ETC	51-57		♦ PHC NTRADF		2N1345	♦ SSI	183-31	2N1388	♦ ΔTII CNS GESY ITC	59-114	2N1445	♦ ΔTES ITC	
2N1267	♦ ETC	78-39		♦ PHIN		2N1346	♦ SSI	56-41		♦ ETC GIC MST		2N1446	♦ ΔTES ITC	
2N1268	♦ ETC	78-43	JAN2N1307	♦ VALG TII	54-71	2N1347	♦ SSI	183-103	2N1389	♦ ΔTII CNS GESY ITC	59-115	2N1447	♦ ΔTES ITC	
2N1269	♦ ETC	79-94		♦ RCA		2N1348	♦ SSI	56-9		♦ ETC GIC MST		2N1448	♦ ΔTES ITC	
2N1270	♦ ETC	79-12	2N1307	♦ ΔTII CNS ESMF	54-71	2N1349	♦ SSI	58-110	2N1390	♦ ΔTII CNS GESY ITC	59-116	2N1449	♦ ΔTES ITC	
2N1271	♦ ETC	79-17		♦ IDC MST NJS		2N1350	♦ SSI	59-17		♦ ETC GIC MST		2N1450	♦ ΔTES ITC	
2N1272	♦ ETC	81-110		♦ MULB NTLB		2N1351	♦ SSI	59-9	2N1391	♦ ΔTII CNS GESY ITC	59-117	2N1451	♦ ΔTES ITC	
2N1273	♦ ΔTII	59-94		♦ PHC NTRADF		2N1352	♦ SSI	59-10		♦ ETC GIC MST		2N1452	♦ ΔTES ITC	
	♦ ETC			♦ PHIN		2N1353	♦ SSI	55-75	2N1392	♦ ΔTII CNS GESY ITC	59-118	2N1453	♦ ΔTES ITC	
2N1274	♦ ΔTII	59-95		♦ VALG TII		2N1354	♦ SSI	58-92		♦ ETC GIC MST		2N1454	♦ ΔTES ITC	
	♦ ETC		JAN2N1308	♦ RCA	63-83	2N1355	♦ SSI	182-26	2N1393	♦ ΔTII CNS GESY ITC	59-119	2N1455	♦ ΔTES ITC	
2N1275	♦ ETC	67-48		♦ VALG TII	184-51	2N1356	♦ SSI	58-105		♦ ETC GIC MST		2N1456	♦ ΔTES ITC	
	♦ ETC		2N1308	♦ ΔTII CNS ESMF		2N1357	♦ SSI	182-96	2N1394	♦ ΔTII CNS GESY ITC	59-120	2N1457	♦ ΔTES ITC	
2N1276	♦ ETC	80-66		♦ IDC MST NJS		2N1358	♦ SSI	59-11	2N1395	♦ ΔTII CNS GESY ITC	59-121	2N1458	♦ ΔTES ITC	
2N1277	♦ ETC	80-67		♦ MULB NTLB		2N1359	♦ SSI	183-42		♦ ETC GIC MST		2N1459	♦ ΔTES ITC	
2N1278	♦ ETC	80-68		♦ PHC NTRADF		2N1360	♦ SSI	59-1	2N1396	♦ ΔTII CNS GESY ITC	59-122	2N1460	♦ ΔTES ITC	
2N1279	♦ ETC	80-70	JAN2N1309	♦ PHIN	56-39	2N1361	♦ SSI	183-43		♦ ETC GIC MST		2N1461	♦ ΔTES ITC	
2N1280	♦ ETC	58-108		♦ VALG TII		2N1362	♦ SSI	59-19	2N1397	♦ ΔTII CNS GESY ITC	59-123	2N1462	♦ ΔTES ITC	
2N1281	♦ ETC	59-8		♦ RCA		2N1363	♦ SSI	184-19		♦ ETC GIC MST		2N1463	♦ ΔTES ITC	
2N1282	♦ ETC	59-13		♦ THIB		2N1364	♦ SSI	127-89	2N1398	♦ ΔTII CNS GESY ITC	59-124	2N1464	♦ ΔTES ITC	
2N1284	♦ ETC	58-109	JAN2N1310	♦ VALG GIC TII	63-84	2N1365	♦ SSI	180-50		♦ ETC GIC MST		2N1465	♦ ΔTES ITC	
2N1291	♦ ETC	129-29		♦ RCA		2N1366	♦ SSI	58-92	2N1399	♦ ΔTII CNS GESY ITC	59-125	2N1466	♦ ΔTES ITC	
2N1292	♦ ETC	132-15	2N1309	♦ ΔTII CNS ESMF	54-72	2N1367	♦ SSI	182-26		♦ ETC GIC MST		2N1467	♦ ΔTES ITC	
2N1293	♦ ETC	129-30		♦ IDC MST NJS		2N1368	♦ SSI	58-105	2N1400	♦ ΔTII CNS GESY ITC	59-126	2N1468	♦ ΔTES ITC	
2N1294	♦ ETC	132-16		♦ MULB NTLB		2N1369	♦ SSI	182-96		♦ ETC GIC MST		2N1469	♦ ΔTES ITC	
2N1295	♦ ETC	127-88		♦ PHC NTRADF		2N1370	♦ SSI	59-11	2N1401	♦ ΔTII CNS GESY ITC	59-127	2N1470	♦ ΔTES ITC	
2N1296	♦ ETC	132-17		♦ PHIN		2N1371	♦ SSI	183-42		♦ ETC GIC MST		2N1471	♦ ΔTES ITC	
2N1297	♦ ETC	129-31		♦ VALG TII		2N1372	♦ SSI	59-1	2N1402	♦ ΔTII CNS GESY ITC	59-128	2N1472	♦ ΔTES ITC	
2N1298	♦ ETC	132-18	JAN2N1311	♦ RCA	56-55	2N1373	♦ SSI	184-19		♦ ETC GIC MST		2N1473	♦ ΔTES ITC	
2N1299	♦ ETC	63-52		♦ VALG TII		2N1374	♦ SSI	127-89	2N1403	♦ ΔTII CNS GESY ITC	59-129	2N1474	♦ ΔTES ITC	
2N1301	♦ ETC	56-73	2N1309A	♦ GIC	56-56	2N1375	♦ SSI	180-50		♦ ETC GIC MST		2N1475	♦ ΔTES ITC	
2N1302	♦ ETC	63-32		♦ IDC MST NJS	80-60	2N1376	♦ SSI	59-96	2N1404	♦ ΔTII CNS GESY ITC	59-130	2N1476	♦ ΔTES ITC	
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			JAN2N1310	♦ GIC	62-84	2N1378	♦ SSI	130-25	2N1405	♦ ΔTII CNS GESY ITC	59-131	2N1478	♦ ΔTES ITC	
						2N1379	♦ SSI	179-105		♦ ETC GIC MST		2N1479	♦ ΔTES ITC	
						2N1380	♦ SSI	127-90	2N1406	♦ ΔTII CNS GESY ITC	59-132	2N1480	♦ ΔTES ITC	
						2N1381	♦ SSI	127-91		♦ ETC GIC MST		2N1481	♦ ΔTES ITC	
						2N1382	♦ SSI	127-92	2N1407	♦ ΔTII CNS GESY ITC	59-133	2N1482	♦ ΔTES ITC	
						2N1383	♦ SSI	127-93		♦ ETC GIC MST		2N1483	♦ ΔTES ITC	
						2N1384	♦ SSI	127-94	2N1408	♦ ΔTII CNS GESY ITC	59-134	2N1484	♦ ΔTES ITC	
						2N1385	♦ SSI	127-95		♦ ETC GIC MST		2N1485	♦ ΔTES ITC	
						2N1386	♦ SSI	127-96	2N1409	♦ ΔTII CNS GESY ITC	59-135	2N1486	♦ ΔTES ITC	
						2N1387	♦ SSI	127-97		♦ ETC GIC MST		2N1487	♦ ΔTES ITC	
						2N1388	♦ SSI	127-98	2N1410	♦ ΔTII CNS GESY ITC	59-136	2N1488	♦ ΔTES ITC	
						2N1389	♦ SSI	127-99		♦ ETC GIC MST		2N1489	♦ ΔTES ITC	
						2N1390	♦ SSI	127-100	2N1411	♦ ΔTII CNS GESY ITC	59-137	2N1490	♦ ΔTES ITC	
						2N1391	♦ SSI	127-101		♦ ETC GIC MST		2N1491	♦ ΔTES ITC	
						2N1392	♦ SSI	127-102	2N1412	♦ ΔTII CNS GESY I				

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2N1479 (cont.)	SEN SIL SSI		JAN2N1499A	SPR	50-43	2N1537	ΔMOTA DEL KSC	127-105	2N1553	ΔMOTA ETC SOD	128-27	2N1592	ΔTII CNS SCA	79-45
JAN2N1479	RCA SIL	144-41	2N1499B	ΔSPR CNS	51-25 192-48	2N1537A	ΔMOTA TII	129-45	2N1553A	ΔMOTA CNS ETC SOD	128-28	2N1593	ΔTII CNS SCA	79-46
2N1480	ΔRCA ETC PIR	144-42	2N1500	ΔMOTA IDC	50-57 193-42	2N1538	ΔMOTA CNS KSC	127-106	JAN2N1553A	MOTA	128-29 179-98	2N1594	ΔTII CNS SCA	79-47
JAN2N1480	SSI TEC RCA SIL	144-43	JAN2N1500	SPR	50-44 191-5	2N1538	ΔMOTA CNS KSC	127-106	2N1554	ΔMOTA CNS KSC	128-30	2N1605	ΔTII CNS SCA	63-80 184-33
2N1481	ΔRCA ETC IDC	144-44	2N1501	ΔSOD KSC	123-91	2N1539	ΔMOTA DEL KSC	127-107	2N1554A	ΔMOTA CNS ETC SOD	128-31	2N1605A	ETC CNS GIC	63-108
JAN2N1481	PIR SEN SPC SSI	144-45	2N1502	ΔSOD KSC	123-92	2N1539A	ΔMOTA KSC SOD	127-108	JAN2N1554A	MOTA	128-32 179-99	2N1613	ΔFSC BNT EMLS	107-48
2N1482	ΔRCA ETC IDC	144-46	2N1504/10	ΔKSC	123-9	2N1540	ΔMOTA DEL IDC	127-109	2N1555	ΔMOTA CNS KSC	128-33	2N1613A	ESMF FERB HSC	
JAN2N1482	PIR SEN SPC SSI	144-47	2N1505	ΔTRW SSI	142-94	2N1540A	ΔMOTA ETC SOD	127-110	2N1555A	ΔMOTA KSC SOD	128-34	2N1613B	INTG LTTF MISI	
2N1483	ΔRCA CNS PIR	153-40	2N1506	ΔTRW NPC SOD	142-95	2N1541	ΔMOTA DEL KSC	128-1	JAN2N1555A	MOTA	128-35 179-100	2N1613C	MEHK MST NTLB	
JAN2N1483	SEN SSI TEC RCA	153-41	2N1506A	ΔTRW IDC SOD	143-82	2N1541A	ΔMOTA KSC SOD	128-2	2N1556	ΔMOTA CNS KSC	128-36	2N1613D	PHIN RADF RCA	
2N1484	ΔRCA IDC PIR	153-42	JAN2N1506A	none	108-103	2N1542	ΔMOTA DEL SOD	128-3	2N1556A	ΔMOTA CNS ETC SOD	128-37	2N1613E	RAYN SGSI STCB	
JAN2N1484	SEN SSI TEC RCA	153-43	2N1507	ΔTII	104-5	2N1542A	ΔMOTA KSC SOD	128-4	JAN2N1556A	MOTA	128-38 179-101	2N1613F	TES TEC TFKG	
2N1485	ΔRCA CNS PIR	153-44	2N1510	ΔTRW CNS ETC	62-53	2N1543	ΔMOTA DEL KSC	128-5	2N1557	ΔMOTA CNS KSC	128-39	2N1613G	VALG FSC RAYN	107-49
JAN2N1485	SEN SSI TEC RCA	153-45	2N1511	ΔSIL SSI	161-9	2N1543A	ΔMOTA ETC SOD	128-6	2N1557A	ΔMOTA CNS KSC	128-40	2N1613H	TII VALG FSC	
2N1486	ΔRCA IDC PIR	153-46	2N1512	ΔSIL SSI	161-10	2N1544	ΔMOTA DEL SOD	128-7	JAN2N1557A	MOTA	128-41 179-3	2N1613I	RAYN TADI RAYN	102-61 144-48
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2N2194A	ESMF HSC MEHK NSC RAYN SGSI TADI TES TIIB TIIF	107-21 189-39	JAN2N2218A	CNS BNT ESMF ETC GIC HSC INTG ITC LTTF MEHK MULB NPC NTLB PHIN RAYN SES SPR STCB TADI TEC TII TIIF	109-1 196-26	2N2223	BNT ESMF FSC HSC IDC INTG ITC LTTF MEHK MULB NPC NTLB PHIN RAYN SES SPR STCB TADI TEC TII TIIF	102-97	2N2227	SCA SIL	172-16	2N2283	ASOD CNS	121-39	
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CNS HSC SCA SSI	♦ETC RAYN SSI	196-56	SCA SSI	SSI		2N2637	♦ΔSOD	129-55	2N2662	♦ΔTII	122-10	2N2734	♦ΔSOD	129-98
♦SPR TADI TIIB	♦TIIF		2N2591	♦ΔSOD	74-85	2N2638	♦ΔSOD	129-56	2N2663	♦ΔTII	122-11	2N2735	♦ΔSOD	129-99
2N2541	ΔRAYN	59-31	CNS SSI	SCA SSI		2N2639	♦ΔTII	89-104	2N2664	♦ΔTII	122-12	2N2736	♦ΔSOD	129-100
CNS SSI	♦TIIF	184-60	2N2593	♦ΔSOD	74-87	♦FSC GIC	ESMF GESI	203-12	2N2665	♦ΔTII	122-13	2N2737	♦ΔSOD	129-101
2N2552	♦ΔTII	122-60	CNS SSI	SCA SSI		♦MOTA RAYN SSI	TEC SSSI		2N2666	♦ΔTII	122-14	2N2738	♦ΔSOD	129-102
CNS SSI	♦KSC SOD		2N2594	CNS	144-55	♦SOD TADI	TEC TIIF		2N2667	♦ΔTII	122-15	2N2739	♦ΔWESY	172-21
♦MOTA	TEK		2N2595	♦ΔSOD	74-70	♦TES	TIIF		2N2668	♦ΔTII	122-16	SEN	SPC	178-39
2N2553	♦ΔTII	122-61	2N2596	♦ΔSOD	74-71	JAN2N2639	none	89-110	2N2669	♦ΔTII	122-17	2N2740	♦ΔWESY	172-22
♦KSC SOD	♦MOTA		CNS SSI	SCA SSI		2N2640	♦ΔTII	203-13	2N2670	♦ΔTII	122-18	SEN	SPC	178-40
JAN2N2553	KSC TII	61-54	2N2597	♦ΔSOD	74-72	CNS SSI	ESMF GESI	89-105	2N2671	♦ΔAPX	52-69	2N2741	♦ΔWESY	172-23
2N2554	♦ΔTII	122-62	CNS SSI	SCA SSI		♦FSC GIC	MISI	203-14	2N2672	♦ΔAPX	52-70	2N2742	♦ΔWESY	172-24
CNS SSI	♦KSC SOD		2N2598	♦ΔSOD	74-73	♦MOTA RAYN SSI	TEC SSSI		2N2691	ΔSOD	128-72	SEN	SPC	178-41
♦MOTA	TEK		CNS SSI	SCA SSI		♦SOD TADI	TEC TIIF		2N2691A	ΔSOD	130-66	2N2743	♦ΔWESY	172-25
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CNS SSI	♦KSC SOD		2N2600	♦ΔSOD	74-75	♦MOTA RAYN SSI	TEC SSSI		CNS RAYN TADI	SCA TEC	90-24	2N2747	♦ΔWESY	172-29
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CNS SSI	♦KSC SOD		2N2601	♦ΔSOD	74-52	2N2642	♦ΔTII	89-107	2N2697	ΔSOD	151-78	SEN	SPC	178-92
JAN2N2557	KSC TII	121-16	CNS SSI	SCA SSI		CNS SSI	ESMF GESI	203-15	2N2698	CNS		2N2752	♦ΔWESY	172-32
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CNS SSI	♦KSC SOD		2N2605	♦ΔSOD	74-89	♦FSC GIC	MISI		2N2710	FSC SCA SSSI	99-12	2N2758	♦ΔWESY	172-38
♦MOTA	TEK		BNT MOTA RAYN	CNS SSI		♦MOTA RAYN SSI	TEC SSSI		♦MOTA		200-54	2N2759	♦ΔWESY	172-39
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CNS SSI	♦KSC SOD		JAN2N2607	♦SODI	111-100	♦FSC GIC	MISI		2N2713	♦ΔGESY	82-62	SEN	SPC	178-53
♦MOTA	TEK		2N2608	♦ΔSIX	111-101	RAYN SSSI	ESMF GESI		ESMF SSI	TEC	82-63	2N2762	SSI	172-42
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CNS SSI	♦KSC SOD		2N2611	♦ΔGESY	149-51	♦ETC SCA SSSI	FSC SSSI	99-28	2N2717	IDC	82-68	SEN	SPC	178-58
♦MOTA	TEK		2N2612	SCA SSI		2N2652	♦ΔGESY	200-100	2N2720	PHIC	53-19	♦SIL	SSI	178-59
2N2564/5	KSC	121-29	2N2613	♦ΔARCA	53-43	♦MOTA RAYN SSI	ESMF SOIF		♦SOD	90-105	2N2721	2N2765	♦ΔWESY	172-45
2N2565	♦ΔTII	122-73	2N2614	♦ΔARCA	53-44	♦SOD TADI	ESMF SOIF		FSC SSI	203-21	2N2722	SEN	SPC	178-57
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♦MOTA	TEK		2N2616	♦ΔARCA	53-46	185-9	2N2651	99-28	FSC SSI	203-23	2N2724	2N2766	♦ΔWESY	172-46
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2N2566/5	KSC	121-31	2N2620	♦ΔARCA	53-50	2N2656	♦ΔGESY	90-57	2N2729	♦MOTA	203-28	2N2768	SSI	172-48
2N2567	♦ΔTII	122-75	2N2621	♦ΔARCA	53-51	2N2657	♦ΔGESY	203-19	♦FSC RAYN	SSI	214-42	2N2769	♦ΔWESY	172-49
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♦MOTA	TEK		2N2623	♦ΔARCA	53-53	2N2659	♦ΔGESY	90-59	2N2731	♦MOTA	214-44	♦SIL	SSI	178-98
2N2567/5	KSC	121-32	2N2624	♦ΔARCA	53-54	2N2660	♦ΔGESY	90-60	2N2732	♦MOTA	214-45	2N2770	♦ΔWESY	172-50
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MULB PHIN	PHIC RADF VALG	209-101	2N2626	♦ΔARCA	53-56	2N2662	♦ΔGESY	90-62	2N2734	♦MOTA	214-47	♦SIL	SSI	172-51
2N2570	♦ΔAPX	91-8	2N2627	♦ΔARCA	53-57	2N2663	♦ΔGESY	90-63	2N2735	♦MOTA	214-48	2N2771	♦ΔWESY	172-52
MULB PHIN	PHIC RADF VALG	209-102	2N2628	♦ΔARCA	53-58	2N2664	♦ΔGESY	90-64	2N2736	♦MOTA	214-49	SEN	SPC	178-99
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2N2580M	♦DEL	170-108	2N2631	♦ΔARCA	53-61	2N2667	♦ΔGESY	90-67	2N2739	♦MOTA	214-52	SEN	SPC	178-100
181-92			2N2632	♦ΔARCA	53-62	2N2668	♦ΔGESY	90-68	2N2740	♦MOTA	214-53	♦SIL	SSI	172-55
2N2581	♦ΔDEL	170-109	2N2633	♦ΔARCA	53-63	2N2669	♦ΔGESY	90-69	2N2741	♦MOTA	214-54	2N2773	♦ΔWESY	172-56
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2N2582	♦ΔDEL	170-110	2N2635	♦ΔARCA	53-65	2N2671	♦ΔGESY	90-71	2N2743	♦MOTA	214-56	♦SIL	SSI	172-57
SOD	TEC	180-43	2N2636	♦ΔARCA	53-66	2N2672	♦ΔGESY	90-72	2N2744	♦MOTA	214-57	2N2774	♦ΔWESY	172-58
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2N2772 (cont.)	♦ SIL SSI		JAN2N2812	none	161-70 190-68 159-88	2N2847	♦ ΔFSC ETC RAYN SCA SSI SGSI TAD I	97-88 195-103	2N2880	Δ SOD ♦ PIR ♦ SIL TEC TIIB UNI	157-86 189-51	2N2904A (cont.)	INTG MEHK MISI NJS NTLB PHIN ♦ RAYN TII ♦ CRY ♦ ΔSIL TEC TEC SSI	IDC ITT MINA MULB ♦ NSC PHIC RADF ♦ SES SOD ♦ STCB TEC TIIF VALG ITT	
2N2773	SS I	172-53 178-101	2N2813	Δ SOD ♦ FSC ♦ PIR SS I TRW UNI		2N2848	ETC ♦ ΔFSC HSC RAYN SGSI TAD I	109-12 195-104	JAN2N2880	FSC SOD SIL TEC	157-87 185-10		♦ NSC PHIC RADF ♦ SES SOD ♦ STCB TEC TIIF VALG ITT	76-64 194-96	
2N2774	SS I	172-54 178-102	2N2814	Δ SOD ♦ FSC ♦ PIR SS I TRW UNI	159-89	2N2849	♦ ΔUNI SS I 186-66 109-73		2N2881	♦ CRY ♦ ΔSIL TEC	134-50		♦ NSC PHIC RADF ♦ SES SOD ♦ STCB TEC TIIF VALG ITT		
2N2775	♦ ΔWESY PTI SS I	172-55 178-104	JAN2N2814	none	161-71 190-69 169-81	2N2850	♦ ΔUNI SS I 186-67 109-73		2N2882	♦ CRY ♦ ΔSIL TEC	134-51		♦ NSC PHIC RADF ♦ SES SOD ♦ STCB TEC TIIF VALG ITT		
2N2776	♦ ΔWESY PTI SS I	172-56 178-105	2N2815	♦ ΔSIL ESMF KER ♦ ETC PTI		2N2850-1	SOD SS I 186-68 109-74		2N2883	SS I TAD I	109-44	JAN2N2904A	MOTA RAYN TES	NSC TEC TIIF	76-64 194-96
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2N2791	♦ ΔGIC SCA	196-90	2N2831	♦ ΔSIL ESMF KER ♦ ETC PTI	169-97	2N2860	♦ ΔUNI SS I 109-76 186-84		2N2901	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2792	♦ ΔGIC SCA	196-91	2N2832	♦ ΔSIL ESMF KER ♦ ETC PTI	169-98	2N2861	♦ ΔUNI SS I 109-77 186-85		2N2902	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2792	♦ ETC MOTA	196-89	2N2833	♦ ΔSIL ESMF KER ♦ ETC PTI	169-99	2N2862	♦ ΔUNI SS I 109-78 186-86		2N2903	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2795	♦ ΔSPR IDC	51-30 199-102	2N2834	♦ ΔSIL ESMF KER ♦ ETC PTI	169-100	2N2863	♦ ΔUNI SS I 109-79 186-87		2N2904	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2796	♦ ΔSPR IDC	51-31 199-103	2N2835	♦ ΔSIL ESMF KER ♦ ETC PTI	169-101	2N2864	♦ ΔUNI SS I 109-80 186-88		2N2905	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2800	♦ ΔMOTA FSC RAYN SGSI TAD I	77-47 191-92	2N2836	♦ ΔSIL ESMF KER ♦ ETC PTI	169-102	2N2865	♦ ΔUNI SS I 109-81 186-89		2N2906	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2800/46	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2837	♦ ΔSIL ESMF KER ♦ ETC PTI	169-103	2N2866	♦ ΔUNI SS I 109-82 186-90		2N2907	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2801	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2838	♦ ΔSIL ESMF KER ♦ ETC PTI	169-104	2N2867	♦ ΔUNI SS I 109-83 186-91		2N2908	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2801/46	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2839	♦ ΔSIL ESMF KER ♦ ETC PTI	169-105	2N2868	♦ ΔUNI SS I 109-84 186-92		2N2909	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2802	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2840	♦ ΔSIL ESMF KER ♦ ETC PTI	169-106	2N2869	♦ ΔUNI SS I 109-85 186-93		2N2910	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2803	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2841	♦ ΔSIL ESMF KER ♦ ETC PTI	169-107	2N2870	♦ ΔUNI SS I 109-86 186-94		2N2911	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2804	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2842	♦ ΔSIL ESMF KER ♦ ETC PTI	169-108	2N2871	♦ ΔUNI SS I 109-87 186-95		2N2912	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2805	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2843	♦ ΔSIL ESMF KER ♦ ETC PTI	169-109	2N2872	♦ ΔUNI SS I 109-88 186-96		2N2913	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2806	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2844	♦ ΔSIL ESMF KER ♦ ETC PTI	169-110	2N2873	♦ ΔUNI SS I 109-89 186-97		2N2914	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2807	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2845	♦ ΔSIL ESMF KER ♦ ETC PTI	169-111	2N2874	♦ ΔUNI SS I 109-90 186-98		2N2915	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2808	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2846	♦ ΔSIL ESMF KER ♦ ETC PTI	169-112	2N2875	♦ ΔUNI SS I 109-91 186-99		2N2916	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2809	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2847	♦ ΔSIL ESMF KER ♦ ETC PTI	169-113	2N2876	♦ ΔUNI SS I 109-92 187-00		2N2917	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2810	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2848	♦ ΔSIL ESMF KER ♦ ETC PTI	169-114	2N2877	♦ ΔUNI SS I 109-93 187-01		2N2918	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2811	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2849	♦ ΔSIL ESMF KER ♦ ETC PTI	169-115	2N2878	♦ ΔUNI SS I 109-94 187-02		2N2919	♦ ΔFSC ESMF PPC SS I	107-27 189-97		♦ BNT EMLS ETC GIC IDC ITT MINA MST NJS NTLB PHIN RAYN SGSI ♦ SPR STCB TEC TIIF VALG ITT	76-65 194-38	
2N2812	♦ ΔMOTA FSC RAYN SGSI TAD I	77-48 191-94	2N2850	♦ ΔSIL ESMF KER ♦ ETC PTI	169-116	2N2879	♦ Δ								

1. TYPE No. CROSS INDEX

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2N3251A (cont.)	TADI ♦ TII TEC TIIB		2N3301 (cont.)	♦ ETC ITT NSC RAYN SCA SES SGSI		2N3347	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-40 203-68	2N3393 (cont.)	NSC IDC ♦ SPR TEK		2N3427	♦ ΔMOTA ITC ♦ ΔMOTA SES	58-97 59-4
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2N3252	♦ ΔMOTA ♦ FSC KER PHIC ♦ RAYN SGSI TADI TES TIIB	144-58 193-110	2N3303	♦ ΔFSC CNS ♦ MOTA SCA SGSI TEC SSI	105-25 199-104	2N3349	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-42 203-70	2N3395	CNS IDC ♦ SPR TEK	82-70	2N3429	♦ ΔWESY SEN	170-26 180-18
2N3253	♦ ΔMOTA ♦ FSC HSC KER PHIC SCA SSI TEC ♦ TII	144-59 193-48	2N3304	♦ ΔFSC CNS ♦ MOTA SCA SGSI TEC SSI	71-17 200-68	2N3350	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-43 203-71	2N3396	CNS IDC ♦ SPR TEK	82-71	2N3430	♦ ΔWESY SEN	170-27 180-19
JAN2N3253	MOTA TII	144-60 200-64	2N3305	♦ ΔFSC CNS ♦ MOTA SCA SGSI TEC SSI	76-28	2N3351	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-44 203-72	2N3397	CNS IDC ♦ SPR TEK	82-72	2N3431	♦ ΔWESY SEN	170-28 180-20
2N3260	♦ ΔSIL PTI	167-109	2N3306	♦ ΔFSC CNS ♦ MOTA SCA SGSI TEC SSI	76-29	2N3352	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-45 203-73	2N3398	CNS IDC ♦ SPR TEK	82-73	2N3432	♦ ΔWESY SEN	170-29 180-21
2N3261	♦ ΔRCA ATEI	92-105 197-27	2N3307	♦ ΔMOTA CNS ♦ ETC	66-99	2N3353	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-46 203-74	2N3399	CNS IDC ♦ SPR TEK	82-74	2N3433	♦ ΔWESY SEN	170-30 180-22
2N3262	♦ ΔRCA FERB	147-55 192-40	2N3308	♦ ΔMOTA CNS ♦ ETC	66-100	2N3354	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-47 203-75	2N3400	CNS IDC ♦ SPR TEK	82-75	2N3434	♦ ΔWESY SEN	170-31 180-23
2N3263	♦ ΔRCA SSA	163-49	2N3309	♦ ΔMOTA CNS ♦ ETC	143-83	2N3355	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-48 203-76	2N3401	CNS IDC ♦ SPR TEK	82-76	2N3435	♦ ΔWESY SEN	170-32 180-24
2N3264	♦ ΔRCA SSA	163-50	2N3310	♦ ΔMOTA CNS ♦ ETC	130-73	2N3356	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-49 203-77	2N3402	CNS IDC ♦ SPR TEK	82-77	2N3436	♦ ΔWESY SEN	170-33 180-25
2N3265	♦ ΔRCA PPC SOD	167-110	2N3311	♦ ΔMOTA CNS ♦ ETC	130-74	2N3357	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-50 203-78	2N3403	CNS IDC ♦ SPR TEK	82-78	2N3437	♦ ΔWESY SEN	170-34 180-26
2N3266	♦ ΔRCA PPC SSI	168-1	2N3312	♦ ΔMOTA CNS ♦ ETC	130-75	2N3358	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-51 203-79	2N3404	CNS IDC ♦ SPR TEK	82-79	2N3438	♦ ΔWESY SEN	170-35 180-27
2N3267	♦ ΔTII TEC	51-48 80-29	2N3313	♦ ΔMOTA CNS ♦ ETC	130-76	2N3359	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-52 203-80	2N3405	CNS IDC ♦ SPR TEK	82-80	2N3439	♦ ΔWESY SEN	170-36 180-28
2N3268	♦ ΔTRW TEC	80-29	2N3314	♦ ΔMOTA CNS ♦ ETC	130-77	2N3360	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-53 203-81	2N3406	CNS IDC ♦ SPR TEK	82-81	2N3440	♦ ΔWESY SEN	170-37 180-29
2N3277	♦ ΔFSC TEC	111-4	2N3315	♦ ΔMOTA CNS ♦ ETC	130-78	2N3361	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-54 203-82	2N3407	CNS IDC ♦ SPR TEK	82-82	2N3441	♦ ΔWESY SEN	170-38 180-30
2N3278	♦ ΔFSC TEC	111-12	2N3316	♦ ΔMOTA CNS ♦ ETC	130-79	2N3362	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-55 203-83	2N3408	CNS IDC ♦ SPR TEK	82-83	2N3442	♦ ΔWESY SEN	170-39 180-31
2N3279	♦ ΔMOTA TEC	53-27	2N3317	♦ ΔMOTA CNS ♦ ETC	130-80	2N3363	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-56 203-84	2N3409	CNS IDC ♦ SPR TEK	82-84	2N3443	♦ ΔWESY SEN	170-40 180-32
2N3280	♦ ΔMOTA TEC	53-28	2N3318	♦ ΔMOTA CNS ♦ ETC	130-81	2N3364	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-57 203-85	2N3410	CNS IDC ♦ SPR TEK	82-85	2N3444	♦ ΔWESY SEN	170-41 180-33
2N3281	♦ ΔMOTA TEC	53-25	2N3319	♦ ΔMOTA CNS ♦ ETC	130-82	2N3365	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-58 203-86	2N3411	CNS IDC ♦ SPR TEK	82-86	2N3445	♦ ΔWESY SEN	170-42 180-34
2N3282	♦ ΔMOTA TEC	53-26	2N3320	♦ ΔMOTA CNS ♦ ETC	130-83	2N3366	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-59 203-87	2N3412	CNS IDC ♦ SPR TEK	82-87	2N3446	♦ ΔWESY SEN	170-43 180-35
2N3283	♦ ΔMOTA TEC	53-11	2N3321	♦ ΔMOTA CNS ♦ ETC	130-84	2N3367	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-60 203-88	2N3413	CNS IDC ♦ SPR TEK	82-88	2N3447	♦ ΔWESY SEN	170-44 180-36
2N3284	♦ ΔMOTA TEC	53-11	2N3322	♦ ΔMOTA CNS ♦ ETC	130-85	2N3368	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-61 203-89	2N3414	CNS IDC ♦ SPR TEK	82-89	2N3448	♦ ΔWESY SEN	170-45 180-37
2N3285	♦ ΔMOTA TEC	53-12	2N3323	♦ ΔMOTA CNS ♦ ETC	130-86	2N3369	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-62 203-90	2N3415	CNS IDC ♦ SPR TEK	82-90	2N3449	♦ ΔWESY SEN	170-46 180-38
2N3286	♦ ΔMOTA TEC	53-13	2N3324	♦ ΔMOTA CNS ♦ ETC	130-87	2N3370	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-63 203-91	2N3416	CNS IDC ♦ SPR TEK	82-91	2N3450	♦ ΔWESY SEN	170-47 180-39
2N3287	♦ ΔMOTA TEC	84-103	2N3325	♦ ΔMOTA CNS ♦ ETC	130-88	2N3371	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-64 203-92	2N3417	CNS IDC ♦ SPR TEK	82-92	2N3451	♦ ΔWESY SEN	170-48 180-40
ETC	SCA SSI		2N3326	♦ ΔMOTA CNS ♦ ETC	130-89	2N3372	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-65 203-93	2N3418	CNS IDC ♦ SPR TEK	82-93	2N3452	♦ ΔWESY SEN	170-49 180-41
2N3288	♦ ΔMOTA SCA SSI	84-104	2N3327	♦ ΔMOTA CNS ♦ ETC	130-90	2N3373	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-66 203-94	2N3419	CNS IDC ♦ SPR TEK	82-94	2N3453	♦ ΔWESY SEN	170-50 180-42
ETC	SCA SSI		2N3328	♦ ΔMOTA CNS ♦ ETC	130-91	2N3374	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-67 203-95	2N3420	CNS IDC ♦ SPR TEK	82-95	2N3454	♦ ΔWESY SEN	170-51 180-43
2N3289	♦ ΔMOTA SCA SSI	84-88	2N3329	♦ ΔMOTA CNS ♦ ETC	130-92	2N3375	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-68 203-96	2N3421	CNS IDC ♦ SPR TEK	82-96	2N3455	♦ ΔWESY SEN	170-52 180-44
ETC	SCA SSI		2N3330	♦ ΔMOTA CNS ♦ ETC	130-93	2N3376	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-69 203-97	2N3422	CNS IDC ♦ SPR TEK	82-97	2N3456	♦ ΔWESY SEN	170-53 180-45
2N3290	♦ ΔMOTA SCA SSI	84-89	2N3331	♦ ΔMOTA CNS ♦ ETC	130-94	2N3377	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-70 203-98	2N3423	CNS IDC ♦ SPR TEK	82-98	2N3457	♦ ΔWESY SEN	170-54 180-46
ETC	SCA SSI		2N3332	♦ ΔMOTA CNS ♦ ETC	130-95	2N3378	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-71 203-99	2N3424	CNS IDC ♦ SPR TEK	82-99	2N3458	♦ ΔWESY SEN	170-55 180-47
2N3291	♦ ΔMOTA SCA SSI	84-72	2N3333	♦ ΔMOTA CNS ♦ ETC	130-96	2N3379	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-72 203-100	2N3425	CNS IDC ♦ SPR TEK	82-100	2N3459	♦ ΔWESY SEN	170-56 180-48
ETC	SCA SSI		2N3334	♦ ΔMOTA CNS ♦ ETC	130-97	2N3380	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-73 203-101	2N3426	CNS IDC ♦ SPR TEK	82-101	2N3460	♦ ΔWESY SEN	170-57 180-49
2N3292	♦ ΔMOTA SCA SSI	84-73	2N3335	♦ ΔMOTA CNS ♦ ETC	130-98	2N3381	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-74 203-102	2N3427	CNS IDC ♦ SPR TEK	82-102	2N3461	♦ ΔWESY SEN	170-58 180-50
ETC	SCA SSI		2N3336	♦ ΔMOTA CNS ♦ ETC	130-99	2N3382	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-75 203-103	2N3428	CNS IDC ♦ SPR TEK	82-103	2N3462	♦ ΔWESY SEN	170-59 180-51
2N3293	♦ ΔMOTA SCA SSI	84-74	2N3337	♦ ΔMOTA CNS ♦ ETC	130-100	2N3383	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-76 203-104	2N3429	CNS IDC ♦ SPR TEK	82-104	2N3463	♦ ΔWESY SEN	170-60 180-52
ETC	SCA SSI		2N3338	♦ ΔMOTA CNS ♦ ETC	130-101	2N3384	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-77 203-105	2N3430	CNS IDC ♦ SPR TEK	82-105	2N3464	♦ ΔWESY SEN	170-61 180-53
2N3294	♦ ΔMOTA SCA SSI	84-75	2N3339	♦ ΔMOTA CNS ♦ ETC	130-102	2N3385	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-78 203-106	2N3431	CNS IDC ♦ SPR TEK	82-106	2N3465	♦ ΔWESY SEN	170-62 180-54
ETC	SCA SSI		2N3340	♦ ΔMOTA CNS ♦ ETC	130-103	2N3386	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-79 203-107	2N3432	CNS IDC ♦ SPR TEK	82-107	2N3466	♦ ΔWESY SEN	170-63 180-55
2N3295	♦ ΔMOTA SCA SSI	142-37	2N3341	♦ ΔMOTA CNS ♦ ETC	130-104	2N3387	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-80 203-108	2N3433	CNS IDC ♦ SPR TEK	82-108	2N3467	♦ ΔWESY SEN	170-64 180-56
KER	SCA TEC		2N3342	♦ ΔMOTA CNS ♦ ETC	130-105	2N3388	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-81 203-109	2N3434	CNS IDC ♦ SPR TEK	82-109	2N3468	♦ ΔWESY SEN	170-65 180-57
2N3296	♦ ΔMOTA SCA SSI	145-104	2N3343	♦ ΔMOTA CNS ♦ ETC	130-106	2N3389	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-82 203-110	2N3435	CNS IDC ♦ SPR TEK	82-110	2N3469	♦ ΔWESY SEN	170-66 180-58
2N3297	♦ ΔMOTA SCA SSI	154-44	2N3344	♦ ΔMOTA CNS ♦ ETC	130-107	2N3390	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-83 203-111	2N3436	CNS IDC ♦ SPR TEK	82-111	2N3470	♦ ΔWESY SEN	170-67 180-59
KER	SCA TEC		2N3345	♦ ΔMOTA CNS ♦ ETC	130-108	2N3391	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-84 203-112	2N3437	CNS IDC ♦ SPR TEK	82-112	2N3471	♦ ΔWESY SEN	170-68 180-60
2N3298	♦ ΔMOTA SCA SSI	141-41	2N3346	♦ ΔMOTA CNS ♦ ETC	130-109	2N3392	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-85 203-113	2N3438	CNS IDC ♦ SPR TEK	82-113	2N3472	♦ ΔWESY SEN	170-69 180-61
2N3299	♦ ΔFSC BNT HSC ITT ♦ MOTA RAYN SES SSI	109-14 196-101	2N3347	♦ ΔMOTA CNS ♦ ETC	130-110	2N3393	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-86 203-114	2N3439	CNS IDC ♦ SPR TEK	82-114	2N3473	♦ ΔWESY SEN	170-70 180-62
2N3300	♦ ΔFSC BNT ETC ITT NSC SCA SGSI STCB TEC	109-15 196-102	2N3348	♦ ΔMOTA CNS ♦ ETC	130-111	2N3394	♦ ΔTII ESMF NSC RAYN SSI TADI TIIB TIIF ♦ TES	69-87 203-115	2N3440	CNS IDC ♦ SPR TEK				

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2N3480	♦ΔTES BNT SODI TII	115-105	2N3496 (cont.)	ETC SCA TEC TIIB TIIF	195-59	2N3547	♦ΔNSC MEHK SSI	74-49	2N3584	♦ΔRCA FERB UNI RCA	155-6 184-8	2N3632 (cont.)	RADF SHWG SSI TADI TIIB VALG	PHIN RAYN SOD SSS TIIB TEC	94-66 201-64 133-102 193-29
2N3461	ΔSOD SCA	121-33	2N3497	♦ΔMOTA SCA TEC TIIB TIIF	75-9 193-28	2N3548	♦ΔNSC MEHK SSI	74-63	JAN2N3584	♦ΔRCA ITC UNI RCA	155-6 184-53 155-7 184-7	2N3633	♦ΔTEC SSI	201-64	
2N3464	SSI TRW	144-62	2N3498	♦ΔMOTA HSC SCA TEC TIIB TIIF	141-12	2N3549	♦ΔNSC MEHK SSI	74-64	2N3585	♦ΔRCA ITC UNI RCA	155-8 184-54 90-107 203-87 53-4	2N3634	♦ΔMOTA SCA TEC MOTA	133-103	
2N3465	ΔCRY CRY	119-50	2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	141-13	2N3550	♦ΔNSC SOD TIIB	74-65 182-95 188-35	JAN2N3585	♦ΔNSC FSC APX PHIC GESH TEC	149-56	2N3635	♦ΔMOTA SSI TEC	133-104 195-60	
2N3466	♦ΔMOTA HSC TADI TIIF	133-25 193-43	JAN2N3498	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-63 201-26 141-13	2N3551	♦ΔNSC SOD TIIB	145-105	2N3587	♦ΔNSC FSC APX PHIC GESH TEC	149-57	2N3636	FSC SSI TEC MOTA	201-31 133-105 193-30	
2N3467	♦FSC ITT TII	133-15 200-60	2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-64 201-27 141-14	2N3552	♦ΔNSC SOD TIIB	145-106	2N3588	♦ΔNSC FSC APX PHIC GESH TEC	149-58	JAN2N3634	♦ΔMOTA SSI TEC	133-103	
JAN2N3467	♦MOTA HSC TADI TIIF	133-15 200-60	2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-64 201-27 141-14	2N3553	♦ΔNSC SOD TIIB	145-106	2N3589	♦ΔNSC FSC APX PHIC GESH TEC	149-59	2N3635	♦ΔMOTA SSI TEC	133-104 195-60	
2N3468	♦FSC ITT TII	133-26 192-49	JAN2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-64 201-27 141-14	2N3554	♦ΔNSC SOD TIIB	145-106	2N3590	♦ΔNSC FSC APX PHIC GESH TEC	149-57	2N3636	FSC SSI TEC MOTA	201-31 133-105 193-30	
JAN2N3468	♦MOTA HSC TADI TIIF	133-16 200-61	JAN2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-64 201-27 141-14	2N3555	♦ΔNSC SOD TIIB	145-106	2N3591	♦ΔNSC FSC APX PHIC GESH TEC	149-58	JAN2N3635	♦ΔMOTA SSI TEC	133-17 201-44 133-105	
2N3469	PPC TEC	141-106	JAN2N3499	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-64 201-27 141-14	2N3556	♦ΔNSC SOD TIIB	145-106	2N3592	♦ΔNSC FSC APX PHIC GESH TEC	149-59	2N3636	FSC SSI TEC MOTA	133-105 193-30	
2N3470	♦ΔWESY SIL SSI	172-64	2N3500	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-65 201-28 141-15	2N3557	♦ΔNSC SOD TIIB	145-106	2N3593	♦ΔNSC FSC APX PHIC GESH TEC	145-107	JAN2N3636	♦ΔMOTA SSI TEC	133-18	
2N3471	♦ΔWESY SIL SSI	172-65	2N3501	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-65 201-28 141-15	JAN2N3553	♦ΔNSC SOD TIIB	145-106	2N3594	♦ΔNSC FSC APX PHIC GESH TEC	145-108	2N3637	♦ΔMOTA SSI TEC	201-32 133-106 195-61	
2N3472	♦ΔWESY SIL SSI	172-66	2N3502	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3554	♦ΔNSC SOD TIIB	145-106	2N3597	♦ΔNSC FSC APX PHIC GESH TEC	168-2 186-22	JAN2N3637	♦ΔMOTA SSI TEC	133-19 201-45 69-50 191-42	
2N3473	♦ΔWESY SIL SSI	172-67	2N3503	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3555	♦ΔNSC SOD TIIB	145-106	2N3599	♦ΔNSC FSC APX PHIC GESH TEC	168-4 186-24	2N3638	♦ΔFSC CNS GIC NJS RAYN	69-50 191-42	
2N3474	♦ΔWESY SIL SSI	172-68	2N3504	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3556	♦ΔNSC SOD TIIB	145-106	2N3599	♦ΔNSC FSC APX PHIC GESH TEC	168-4 186-24	2N3638A	♦ΔFSC CNS GIC NJS RAYN	69-50 191-42	
2N3475	♦ΔWESY SIL SSI	172-69	2N3505	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3557	♦ΔNSC SOD TIIB	145-106	2N3600	♦ΔNSC FSC APX PHIC GESH TEC	85-81	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	67-1 200-55	
2N3476	♦ΔWESY SIL SSI	172-70	2N3506	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3558	♦ΔNSC SOD TIIB	145-106	2N3605	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3639	♦ΔFSC CNS GIC NJS RAYN	67-1 200-55	
2N3477	♦ΔWESY SIL SSI	172-71	2N3507	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3559	♦ΔNSC SOD TIIB	145-106	2N3605A	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3640	♦ΔFSC CNS GIC NJS RAYN	67-2 200-56	
2N3478	♦ΔRCA SOIF	85-69	2N3508	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3560	♦ΔNSC SOD TIIB	145-106	2N3606	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3641	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3479	♦ΔRCA SOIF	209-17	2N3509	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3561	♦ΔNSC SOD TIIB	145-106	2N3606A	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3480	♦ΔRCA SOIF	209-18	2N3510	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3562	♦ΔNSC SOD TIIB	145-106	2N3607	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3642	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3481	♦ΔRCA SOIF	209-19	2N3511	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3563	♦ΔNSC SOD TIIB	145-106	2N3611	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3482	♦ΔRCA SOIF	209-20	2N3512	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3564	♦ΔNSC SOD TIIB	145-106	2N3612	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3643	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3483	♦ΔRCA SOIF	209-21	2N3513	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3565	♦ΔNSC SOD TIIB	145-106	2N3613	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3484	♦ΔRCA SOIF	209-22	2N3514	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3566	♦ΔNSC SOD TIIB	145-106	2N3614	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3644	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3485	♦ΔMOTA RAYN	133-72 194-45	2N3515	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3567	♦ΔNSC SOD TIIB	145-106	2N3615	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3485A	♦FSC SCA	194-45	2N3516	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3568	♦ΔNSC SOD TIIB	145-106	2N3616	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3645	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3486	♦MOTA RAYN	133-73 194-47	2N3517	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3569	♦ΔNSC SOD TIIB	145-106	2N3617	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3486A	♦FSC SCA	194-48	2N3518	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3570	♦ΔNSC SOD TIIB	145-106	2N3618	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3646	♦ΔFSC CNS GIC NJS RAYN	96-54	
JAN2N3486A	♦MOTA RAYN	133-73 194-47	2N3519	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3571	♦ΔNSC SOD TIIB	145-106	2N3619	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3487	♦MOTA RAYN	133-73 194-47	2N3520	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3572	♦ΔNSC SOD TIIB	145-106	2N3620	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3647	♦ΔFSC CNS GIC NJS RAYN	96-54	
JAN2N3487A	♦MOTA RAYN	133-73 194-47	2N3521	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3573	♦ΔNSC SOD TIIB	145-106	2N3621	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3488	♦MOTA RAYN	133-73 194-47	2N3522	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3574	♦ΔNSC SOD TIIB	145-106	2N3622	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3648	♦ΔFSC CNS GIC NJS RAYN	96-54	
JAN2N3488A	♦MOTA RAYN	133-73 194-47	2N3523	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3575	♦ΔNSC SOD TIIB	145-106	2N3623	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3489	♦MOTA RAYN	133-73 194-47	2N3524	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3576	♦ΔNSC SOD TIIB	145-106	2N3624	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3649	♦ΔFSC CNS GIC NJS RAYN	96-54	
JAN2N3489A	♦MOTA RAYN	133-73 194-47	2N3525	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3577	♦ΔNSC SOD TIIB	145-106	2N3625	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3490	♦MOTA RAYN	133-73 194-47	2N3526	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3578	♦ΔNSC SOD TIIB	145-106	2N3626	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	2N3650	♦ΔFSC CNS GIC NJS RAYN	96-54	
JAN2N3490A	♦MOTA RAYN	133-73 194-47	2N3527	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3579	♦ΔNSC SOD TIIB	145-106	2N3627	♦ΔNSC FSC APX PHIC GESH TEC	84-90 197-70 96-2 197-71 84-91 197-85 96-3 197-86 84-92 197-101 126-54	BNT CSI GIC NJS RAYN	♦ΔFSC CNS GIC NJS RAYN	96-54	
2N3491	♦MOTA RAYN	133-73 194-47	2N3528	♦ΔMOTA HSC SCA TEC TIIB TIIF	144-66 201-29 141-15	2N3580	♦ΔNSC SOD 								

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2N3672	ΔRAYN ETC ITT SGSI SSI	75-29 194-50	2N3704	NSC SES TIIB	97-30	2N3730 2N3731 2N3732 2N3733	ΔRCA ΔRCA ΔRCA ΔRCA	122-98 121-87 121-62 152-87		ASC MISI PIR SEN SOD SSI TRW	167-80 182-25 166-89	2N3804	RAYN TADI ΔMOTA BNT RAYN TADI	68-27 203-93
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2N3676	ΔSIL SSI TEC	147-63 181-65	2N3708	NSC SES TIIB	96-93	2N3736	ΔMOTA HSC KER RAYN	143-71 196-60		ASC MISI PIR SEN SOD SSI TRW	167-81 182-24 167-79	2N3805A	ΔMOTA RAYN SSI	68-30 203-96
2N3677	ΔCRY SSI TEC MOTA	74-2 210-12	2N3709	NSC SES TIIB	96-94	2N3737	ΔMOTA HSC KER RAYN	141-20 200-105 103-24 197-88	JAN2N3772	ΔRCA ASC ESMF IDC		2N3806	ΔMOTA BNT RAYN TADI	75-84 211-39
2N3678	ΔTRW FSC ITT SGSI SSI	109-18 195-105	2N3710	NSC SES TIIB	96-95	2N3738	ΔMOTA HSC KER RAYN	102-108 196-61 102-109 200-106 152-101		ASC MISI PIR SEN SOD SSI TRW	138-104 181-44	2N3807	ΔMOTA BNT RAYN TADI	75-85 211-40
2N3680	ΔTII NSC SSI TADI TEC TIIB	90-75 203-88	2N3711	NSC SES TIIB	96-96	2N3739	ΔMOTA HSC KER RAYN	102-108 196-61 102-109 200-106 152-101	2N3773	ΔRCA ASC ESMF IDC		2N3808	ΔMOTA BNT RAYN TADI	75-86 203-97
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2N3683	ΔMCM FSC	85-95	2N3713	NSC SES TIIB	166-82 182-56	2N3740A 2N3741	ΔMOTA HSC KER RAYN	135-73 135-74	2N3775	ΔRCA ASC ESMF IDC		2N3810	ΔMOTA BNT RAYN TADI	75-88 203-99
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2N4037	▲RCA ATEI FERB ▲SCA	133-27	2N4091A	▲TES	118-60	2N4139	▲TES BNT MEHK	116-17	2N4236	▲MOTA FSC SOD	133-30	2N4293	▲NSC	85-45
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2N4040	FERB SOD		2N4093A	▲TES	120-11	2N4142	▲GIC BNT MEHK	70-14 194-53	2N4239	▲MOTA FSC SOD	106-58	2N4296	▲NSC	85-20
2N4041	▲TRW FERB SOD	151-87	2N4094	▲TES	177-31	2N4143	▲GIC BNT MEHK	70-15 194-54	2N4240	▲MOTA FSC SOD	106-59	2N4297	▲NSC	85-27
2N4044	▲SODI ▲QDC	204-25	2N4095	▲TES	177-32	2N4144	▲GIC BNT MEHK	70-16 194-55	2N4241	▲MOTA FSC SOD	106-60	2N4298	▲NSC	85-27
2N4045	▲SODI ▲QDC	204-26	2N4100	▲SODI ▲QDC	204-33	2N4145	▲GIC BNT MEHK	70-17 194-56	2N4242	▲MOTA FSC SOD	106-61	2N4299	▲NSC	85-27
2N4046	▲FSC HSC ITT RAYN STCB	109-19 196-35	2N4104	▲SODI ▲QDC	204-33	2N4146	▲GIC BNT MEHK	70-18 194-57	2N4243	▲MOTA FSC SOD	106-62	2N4300	▲NSC	85-27
2N4047	▲FSC HSC NSC SGSI	109-20 196-36	2N4105	▲SODI ▲QDC	204-33	2N4147	▲GIC BNT MEHK	70-19 194-58	2N4244	▲MOTA FSC SOD	106-63	2N4301	▲NSC	85-27
2N4048	▲MOTA	130-79	2N4106	▲SODI ▲QDC	204-33	2N4148	▲GIC BNT MEHK	70-20 194-59	2N4245	▲MOTA FSC SOD	106-64	2N4302	▲NSC	85-27
2N4049	▲MOTA	179-84	2N4107	▲SODI ▲QDC	204-33	2N4149	▲GIC BNT MEHK	70-21 194-60	2N4246	▲MOTA FSC SOD	106-65	2N4303	▲NSC	85-27
2N4050	▲MOTA	130-81	2N4111	▲SODI ▲QDC	204-33	2N4150	▲GIC BNT MEHK	70-22 194-61	2N4247	▲MOTA FSC SOD	106-66	2N4304	▲NSC	85-27
2N4051	▲MOTA	179-85	2N4112	▲SODI ▲QDC	204-33	2N4151	▲GIC BNT MEHK	70-23 194-62	2N4248	▲MOTA FSC SOD	106-67	2N4305	▲NSC	85-27
2N4052	▲MOTA	130-82	2N4113	▲SODI ▲QDC	204-33	2N4152	▲GIC BNT MEHK	70-24 194-63	2N4249	▲MOTA FSC SOD	106-68	2N4306	▲NSC	85-27
2N4053	▲MOTA	179-87	2N4114	▲SODI ▲QDC	204-33	2N4153	▲GIC BNT MEHK	70-25 194-64	2N4250	▲MOTA FSC SOD	106-69	2N4307	▲NSC	85-27
2N4054	▲MOTA	130-83	2N4115	▲SODI ▲QDC	204-33	2N4154	▲GIC BNT MEHK	70-26 194-65	2N4251	▲MOTA FSC SOD	106-70	2N4308	▲NSC	85-27
2N4055	▲MOTA	179-88	2N4116	▲SODI ▲QDC	204-33	2N4155	▲GIC BNT MEHK	70-27 194-66	2N4252	▲MOTA FSC SOD	106-71	2N4309	▲NSC	85-27
2N4056	▲MOTA	130-84	2N4117	▲SODI ▲QDC	204-33	2N4156	▲GIC BNT MEHK	70-28 194-67	2N4253	▲MOTA FSC SOD	106-72	2N4310	▲NSC	85-27
2N4057	▲MOTA	179-89	2N4118	▲SODI ▲QDC	204-33	2N4157	▲GIC BNT MEHK	70-29 194-68	2N4254	▲MOTA FSC SOD	106-73	2N4311	▲NSC	85-27
2N4058	▲MOTA	130-85	2N4119	▲SODI ▲QDC	204-33	2N4158	▲GIC BNT MEHK	70-30 194-69	2N4255	▲MOTA FSC SOD	106-74	2N4312	▲NSC	85-27
2N4059	▲MOTA	179-90	2N4120	▲SODI ▲QDC	204-33	2N4159	▲GIC BNT MEHK	70-31 194-70	2N4256	▲MOTA FSC SOD	106-75	2N4313	▲NSC	85-27
2N4060	▲MOTA	130-86	2N4121	▲SODI ▲QDC	204-33	2N4160	▲GIC BNT MEHK	70-32 194-71	2N4257	▲MOTA FSC SOD	106-76	2N4314	▲NSC	85-27
2N4061	▲MOTA	179-91	2N4122	▲SODI ▲QDC	204-33	2N4161	▲GIC BNT MEHK	70-33 194-72	2N4258	▲MOTA FSC SOD	106-77	2N4315	▲NSC	85-27
2N4062	▲MOTA	130-87	2N4123	▲SODI ▲QDC	204-33	2N4162	▲GIC BNT MEHK	70-34 194-73	2N4259	▲MOTA FSC SOD	106-78	2N4316	▲NSC	85-27
2N4063	▲MOTA	179-92	2N4124	▲SODI ▲QDC	204-33	2N4163	▲GIC BNT MEHK	70-35 194-74	2N4260	▲MOTA FSC SOD	106-79	2N4317	▲NSC	85-27
2N4064	▲MOTA	130-88	2N4125	▲SODI ▲QDC	204-33	2N4164	▲GIC BNT MEHK	70-36 194-75	2N4261	▲MOTA FSC SOD	106-80	2N4318	▲NSC	85-27
2N4065	▲MOTA	179-93	2N4126	▲SODI ▲QDC	204-33	2N4165	▲GIC BNT MEHK	70-37 194-76	2N4262	▲MOTA FSC SOD	106-81	2N4319	▲NSC	85-27
2N4066	▲MOTA	130-89	2N4127	▲SODI ▲QDC	204-33	2N4166	▲GIC BNT MEHK	70-38 194-77	2N4263	▲MOTA FSC SOD	106-82	2N4320	▲NSC	85-27
2N4067	▲MOTA	179-94	2N4128	▲SODI ▲QDC	204-33	2N4167	▲GIC BNT MEHK	70-39 194-78	2N4264	▲MOTA FSC SOD	106-83	2N4321	▲NSC	85-27
2N4068	▲MOTA	130-90	2N4129	▲SODI ▲QDC	204-33	2N4168	▲GIC BNT MEHK	70-40 194-79	2N4265	▲MOTA FSC SOD	106-84	2N4322	▲NSC	85-27
2N4069	▲MOTA	179-95	2N4130	▲SODI ▲QDC	204-33	2N4169	▲GIC BNT MEHK	70-41 194-80	2N4266	▲MOTA FSC SOD	106-85	2N4323	▲NSC	85-27
2N4070	▲MOTA	130-91	2N4131	▲SODI ▲QDC	204-33	2N4170	▲GIC BNT MEHK	70-42 194-81	2N4267	▲MOTA FSC SOD	106-86	2N4324	▲NSC	85-27
2N4071	▲MOTA	179-96	2N4132	▲SODI ▲QDC	204-33	2N4171	▲GIC BNT MEHK	70-43 194-82	2N4268	▲MOTA FSC SOD	106-87	2N4325	▲NSC	85-27
2N4072	▲MOTA	130-92	2N4133	▲SODI ▲QDC	204-33	2N4172	▲GIC BNT MEHK	70-44 194-83	2N4269	▲MOTA FSC SOD	106-88	2N4326	▲NSC	85-27
2N4073	▲MOTA	179-97	2N4134	▲SODI ▲QDC	204-33	2N4173	▲GIC BNT MEHK	70-45 194-84	2N4270	▲MOTA FSC SOD	106-89	2N4327	▲NSC	85-27
2N4074	▲MOTA	130-93	2N4135	▲SODI ▲QDC	204-33	2N4174	▲GIC BNT MEHK	70-46 194-85	2N4271	▲MOTA FSC SOD	106-90	2N4328	▲NSC	85-27
2N4075	▲MOTA	179-98	2N4136	▲SODI ▲QDC	204-33	2N4175	▲GIC BNT MEHK	70-47 194-86	2N4272	▲MOTA FSC SOD	106-91	2N4329	▲NSC	85-27
2N4076	▲MOTA	130-94	2N4137	▲SODI ▲QDC	204-33	2N4176	▲GIC BNT MEHK	70-48 194-87	2N4273	▲MOTA FSC SOD	106-92	2N4330	▲NSC	85-27
2N4077	▲MOTA	179-99	2N4138	▲SODI ▲QDC	204-33	2N4177	▲GIC BNT MEHK	70-49 194-88	2N4274	▲MOTA FSC SOD	106-93	2N4331	▲NSC	85-27
2N4078	▲MOTA	130-95	2N4139	▲SODI ▲QDC	204-33	2N4178	▲GIC BNT MEHK	70-50 194-89	2N4275	▲MOTA FSC SOD	106-94	2N4332	▲NSC	85-27
2N4079	▲MOTA	179-100	2N4140	▲SODI ▲QDC	204-33	2N4179	▲GIC BNT MEHK	70-51 194-90	2N4276	▲MOTA FSC SOD	106-95	2N4333	▲NSC	85-27
2N4080	▲MOTA	130-96	2N4141	▲SODI ▲QDC	204-33	2N4180	▲GIC BNT MEHK	70-52 194-91	2N4277	▲MOTA FSC SOD	106-96	2N4334	▲NSC	85-27
2N4081	▲MOTA	179-101	2N4142	▲SODI ▲QDC	204-33	2N4181	▲GIC BNT MEHK	70-53 194-92	2N4278	▲MOTA FSC SOD	106-97	2N4335	▲NSC	85-27
2N4082	▲MOTA	130-97	2N4143	▲SODI ▲QDC	204-33	2N4182	▲GIC BNT MEHK	70-54 194-93	2N4279	▲MOTA FSC SOD	106-98	2N4336	▲NSC	85-27
2N4083	▲MOTA	179-102	2N4144	▲SODI ▲QDC	204-33	2N4183	▲GIC BNT MEHK	70-55 194-94	2N4280	▲MOTA FSC SOD	106-99	2N4337	▲NSC	85-27
2N4084	▲MOTA	130-98	2N4145	▲SODI ▲QDC	204-33	2N4184	▲GIC BNT MEHK	70-56 194-95	2N4281	▲MOTA FSC SOD	106-100	2N4338	▲NSC	85-27
2N4085	▲MOTA	179-103	2N4146	▲SODI ▲QDC	204-33	2N4185	▲GIC BNT MEHK	70-57 194-96	2N4282	▲MOTA FSC SOD	106-101	2N4339	▲NSC	85-27
2N4086	▲MOTA	130-99	2N4147	▲SODI ▲QDC	204-33	2N4186	▲GIC BNT MEHK	70-58 194-97	2N4283	▲MOTA FSC SOD	106-102	2N4340	▲NSC	85-27
2N4087	▲MOTA	179-104	2N4148	▲SODI ▲QDC	204-33	2N4187	▲GIC BNT MEHK	70-59 194-98	2N4284	▲MOTA FSC SOD	106-103	2N4341	▲NSC	85-27
2N4088	▲MOTA	130-100	2N4149	▲SODI ▲QDC	204-33	2N4188	▲GIC BNT MEHK	70-60 194-99	2N4285	▲MOTA FSC SOD	106-104	2N4342	▲NSC	85-27
2N4089	▲MOTA	179-105	2N4150	▲SODI ▲QDC	204-33	2N4189	▲GIC BNT MEHK	70-61 194-100	2N4286	▲MOTA FSC SOD	106-105	2N4343	▲NSC	85-27
2N4090	▲MOTA	130-101	2N4151	▲SODI ▲QDC	204-33	2N4190	▲GIC BNT MEHK	70-62 194-101	2N4287	▲MOTA FSC SOD	106-106	2N4344	▲NSC	85-27
2N4091	▲MOTA	179-106	2N4152	▲SODI ▲QDC	204-33	2N4191	▲GIC BNT MEHK	70-63 194-102	2N4288	▲MOTA FSC SOD	106-107	2N4345	▲NSC	85-27
2N4092	▲MOTA	130-102	2N4153	▲SODI ▲QDC	204-33	2N4192	▲GIC BNT MEHK	70-64 194-103	2N4289	▲MOTA FSC SOD	106-108	2N4346	▲NSC	85-27
2N4093	▲MOTA	179-107	2N4154	▲SODI ▲QDC	204-33	2N4193	▲GIC BNT MEHK	70-65 194-104	2N4290	▲MOTA FSC SOD	106-109	2N4347	▲NSC	85-27
2N4094	▲MOTA	130-103	2N4155	▲SODI ▲QDC	204-33	2N4194	▲GIC BNT MEHK	70-66 194-105	2N4291	▲MOTA FSC SOD	106-110	2N4348	▲NSC	85-27
2N4095	▲MOTA	179-108	2N4156	▲SODI ▲QDC	204-33	2N4195	▲GIC BNT MEHK	70-67 194-106	2N4292	▲MOTA FSC SOD	106-111	2N4349	▲NSC	85-27
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2N4097	▲MOTA	179-109	2N4158	▲SODI ▲QDC	204-33	2N4197	▲GIC BNT MEHK	70-69 194-108	2N4294	▲MOTA FSC SOD	106-113	2N4351	▲NSC	85-27
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2N4387	♦ΔSPR	102-58	2N4422	♦TIIB	98-70	2N4857A	TIIB	118-68	2N4886	♦ΔTES	119-107	JAN2N4927	none	144-84
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2N4391	♦FSC		2N4427	♦MOTA			TADI		2N4898	♦ΔTES	119-107	2N4934	♦ARCA	159-100
2N4391	♦MOTA		2N4427	♦PHIC			TIIF		2N4899	♦ΔTES	119-107	2N4935	♦ARCA	159-100
2N4391	♦NSC		2N4427	♦PHIN			TIIF		2N4900	♦ΔTES	119-107	2N4936	♦ARCA	159-100
2N4391	♦TADI		2N4428	♦TRW	155-25	2N4859	♦ΔTII	118-72	2N4901	♦ΔTES	119-107	2N4937	♦ARCA	159-100
2N4391	♦TII		2N4428	ECD			♦NSC	176-10	2N4902	♦ΔTES	119-107	2N4938	♦ARCA	159-100
2N4392	♦SODI	120-18	2N4428	♦KER			♦SODI		2N4903	♦ΔTES	119-107	2N4939	♦ARCA	159-100
2N4392	BNT		2N4428	♦MOTA			♦TES		2N4904	♦ΔTES	119-107	2N4940	♦ARCA	159-100
2N4392	ECD		2N4428	♦RAYN			♦TES		2N4905	♦ΔTES	119-107	2N4941	♦ARCA	159-100
2N4392	♦FSC		2N4428	♦SSS			♦TES		2N4906	♦ΔTES	119-107	2N4942	♦ARCA	159-100
2N4392	♦MOTA		2N4429	♦TRW	144-78	JAN2N4859	none	118-73	2N4907	♦ΔTES	119-107	2N4943	♦ARCA	159-100
2N4392	♦NSC		2N4429	ECD		2N4859A	♦ΔTII	118-74	2N4908	♦ΔTES	119-107	2N4944	♦ARCA	159-100
2N4392	♦TADI		2N4429	♦KER			♦NSC	176-11	2N4909	♦ΔTES	119-107	2N4945	♦ARCA	159-100
2N4392	♦TII		2N4429	♦SSS			TADI		2N4910	♦ΔTES	119-107	2N4946	♦ARCA	159-100
2N4393	♦SODI	120-19	2N4430	♦TRW	148-98	2N4860	♦ΔTII	118-75	2N4911	♦ΔTES	119-107	2N4947	♦ARCA	159-100
2N4393	BNT		2N4430	ECD			♦NSC	176-18	2N4912	♦ΔTES	119-107	2N4948	♦ARCA	159-100
2N4393	ECD		2N4430	♦SOD			♦TES		2N4913	♦ΔTES	119-107	2N4949	♦ARCA	159-100
2N4393	♦FSC		2N4431	♦TRW	152-45	2N4860	BNT		2N4914	♦ΔTES	119-107	2N4950	♦ARCA	159-100
2N4393	♦MOTA		2N4431	♦SOD			♦NSC		2N4915	♦ΔTES	119-107	2N4951	♦ARCA	159-100
2N4393	♦NSC		2N4431	♦TADI			♦TES		2N4916	♦ΔTES	119-107	2N4952	♦ARCA	159-100
2N4393	♦TADI		2N4432	♦TRW	105-3	JAN2N4860	none	118-76	2N4917	♦ΔTES	119-107	2N4953	♦ARCA	159-100
2N4393	♦TII		2N4432	♦SOD		2N4860A	♦ΔTII	118-77	2N4918	♦ΔTES	119-107	2N4954	♦ARCA	159-100
2N4395	♦SODI	161-73	2N4432	♦SOD			♦NSC	176-19	2N4919	♦ΔTES	119-107	2N4955	♦ARCA	159-100
2N4395	BNT		2N4433	♦LTTF	105-4		TADI		2N4920	♦ΔTES	119-107	2N4956	♦ARCA	159-100
2N4395	ECD		2N4433	♦LTTF	81-109		TIIF		2N4921	♦ΔTES	119-107	2N4957	♦ARCA	159-100
2N4395	♦FSC		2N4434	♦APX			TIIF		2N4922	♦ΔTES	119-107	2N4958	♦ARCA	159-100
2N4395	♦MOTA		2N4434	♦CNS			TIIF		2N4923	♦ΔTES	119-107	2N4959	♦ARCA	159-100
2N4395	♦NSC		2N4435	♦ETC			TIIF		2N4924	♦ΔTES	119-107	2N4960	♦ARCA	159-100
2N4395	♦TADI		2N4436	♦PHIC			TIIF		2N4925	♦ΔTES	119-107	2N4961	♦ARCA	159-100
2N4395	♦TII		2N4437	♦MULB	79-92	2N4861	♦ΔTII	118-78	2N4926	♦ΔTES	119-107	2N4962	♦ARCA	159-100
2N4399	♦SODI	120-19	2N4437	♦MULB	79-89		♦NSC	176-79	2N4927	♦ΔTES	119-107	2N4963	♦ARCA	159-100
2N4399	BNT		2N4438	♦CNS	84-76		♦TES		2N4928	♦ΔTES	119-107	2N4964	♦ARCA	159-100
2N4399	ECD		2N4439	♦CNS	196-105		♦TES		2N4929	♦ΔTES	119-107	2N4965	♦ARCA	159-100
2N4399	♦FSC		2N4440	♦CNS	84-77		♦TES		2N4930	♦ΔTES	119-107	2N4966	♦ARCA	159-100
2N4399	♦MOTA		2N4441	♦CNS	196-108		♦TES		2N4931	♦ΔTES	119-107	2N4967	♦ARCA	159-100
2N4399	♦NSC		2N4442	♦CNS	149-44		♦TES		2N4932	♦ΔTES	119-107	2N4968	♦ARCA	159-100
2N4399	♦TADI		2N4443	♦CNS			♦TES		2N4933	♦ΔTES	119-107	2N4969	♦ARCA	159-100
2N4399	♦TII		2N4444	♦CNS			♦TES		2N4934	♦ΔTES	119-107	2N4970	♦ARCA	159-100
2N4399	♦TII		2N4445	♦CNS			♦TES		2N4935	♦ΔTES	119-107	2N4971	♦ARCA	159-100
2N4399	♦TII		2N4446	♦CNS			♦TES		2N4936	♦ΔTES	119-107	2N4972	♦ARCA	159-100
2N4399	♦TII		2N4447	♦CNS			♦TES		2N4937	♦ΔTES	119-107	2N4973	♦ARCA	159-100
2N4399	♦TII		2N4448	♦CNS			♦TES		2N4938	♦ΔTES	119-107	2N4974	♦ARCA	159-100
2N4399	♦TII		2N4449	♦CNS			♦TES		2N4939	♦ΔTES	119-107	2N4975	♦ARCA	159-100
2N4399	♦TII		2N4450	♦CNS			♦TES		2N4940	♦ΔTES	119-107	2N4976	♦ARCA	159-100
2N4399	♦TII		2N4451	♦CNS			♦TES		2N4941	♦ΔTES	119-107	2N4977	♦ARCA	159-100
2N4399	♦TII		2N4452	♦CNS			♦TES		2N4942	♦ΔTES	119-107	2N4978	♦ARCA	159-100
2N4399	♦TII		2N4453	♦CNS			♦TES		2N4943	♦ΔTES	119-107	2N4979	♦ARCA	159-100
2N4399	♦TII		2N4454	♦CNS			♦TES		2N4944	♦ΔTES	119-107	2N4980	♦ARCA	159-100
2N4399	♦TII		2N4455	♦CNS			♦TES		2N4945	♦ΔTES	119-107	2N4981	♦ARCA	159-100
2N4399	♦TII		2N4456	♦CNS			♦TES		2N4946	♦ΔTES	119-107	2N4982	♦ARCA	159-100
2N4399	♦TII		2N4457	♦CNS			♦TES		2N4947	♦ΔTES	119-107	2N4983	♦ARCA	159-100
2N4399	♦TII		2N4458	♦CNS			♦TES		2N4948	♦ΔTES	119-107	2N4984	♦ARCA	159-100
2N4399	♦TII		2N4459	♦CNS			♦TES		2N4949	♦ΔTES	119-107	2N4985	♦ARCA	159-100
2N4399	♦TII		2N4460	♦CNS			♦TES		2N4950	♦ΔTES	119-107	2N4986	♦ARCA	159-100
2N4399	♦TII		2N4461	♦CNS			♦TES		2N4951	♦ΔTES	119-107	2N4987	♦ARCA	159-100
2N4399	♦TII		2N4462	♦CNS			♦TES		2N4952	♦ΔTES	119-107	2N4988	♦ARCA	159-100
2N4399	♦TII		2N4463	♦CNS			♦TES		2N4953	♦ΔTES	119-107	2N4989	♦ARCA	159-100
2N4399	♦TII		2N4464	♦CNS			♦TES		2N4954	♦ΔTES	119-107	2N4990	♦ARCA	159-100
2N4399	♦TII		2N4465	♦CNS			♦TES		2N4955	♦ΔTES	119-107	2N4991	♦ARCA	159-100
2N4399	♦TII		2N4466	♦CNS			♦TES		2N4956	♦ΔTES	119-107	2N4992	♦ARCA	159-100
2N4399	♦TII		2N4467	♦CNS			♦TES		2N4957	♦ΔTES	119-107	2N4993	♦ARCA	159-100
2N4399	♦TII		2N4468	♦CNS			♦TES		2N4958	♦ΔTES	119-107	2N4994	♦ARCA	159-100
2N4399	♦TII		2N4469	♦CNS			♦TES		2N4959	♦ΔTES	119-107	2N4995	♦ARCA	159-100
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2N4970	CNS		2N5026	♦FSC	157-13	2N5081	TES	99-30	2N5129	NSC		2N5158	NSC	181-100
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2N4973	CNS		2N5029	NSC	96-1	2N5084	♦FSC	155-31	2N5132	NSC		2N5161	♦MOTA	135-37
2N4974	CNS		2N5030	NSC	96-2	2N5085	♦FSC	155-32	2N5133	NSC		2N5162	♦MOTA	136-93
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2N4976	CNS		2N5032	♦MOTA	85-97	2N5087	♦MOTA	71-33	2N5135	NSC		2N5172	NSC	82-81
2N4977	CNS		2N5033	♦MOTA	111-52	2N5088	♦MOTA	71-34	2N5136	NSC		2N5173	NSC	82-82
2N4978	CNS		2N5034	NSC	163-67	2N5089	♦MOTA	95-2	2N5137	NSC		2N5174	NSC	82-83
2N4979	CNS		2N5035	NSC	163-68	2N5090	NSC	95-3	2N5138	NSC		2N5175	NSC	82-84
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2N4992	CNS		2N5048	NSC	204-41	2N5103	NSC	146-10	2N5151	NSC		2N5188	NSC	199-2
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			2N5082	NSC	161-78	2N5137	NSC	136-63	2N5185	NSC		2N5222	NSC	71-39
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			2N5093	NSC	161-78	2N5148	NSC	74-92	2N5196	NSC		2N5233	NSC	210-29
			2N5094	NSC	161-78	2N5149	NSC	204-44	2N5197	NSC		2N5234	NSC	133-75
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2N5236	SGSI	105-26	2N5301	ΔMOTA	169-92	2N5345	ΔMOTA	136-62	2N5408	ΔSOD	137-12	2N5479	(cont.)	186-46
2N5237	SSS	202-1	FSC	SCA	181-77	2N5346	ΔMOTA	190-35	2N5409	SSS	188-92	SSS	ΔFSC	186-46
	CNS	147-74	SSS	TIIB			SSS	159-64		SSS	137-13		TRW	159-71
	SSS	189-108		ΔMOTA	169-93		FSC	186-36		SSS	188-93	2N5480	ΔMOTA	186-47
JAN2N5237	TRW	147-75	2N5302	TIIB	181-78	2N5347	TRW	159-65	2N5410	SSS	137-14		SSS	159-71
	none	190-77	FSC	SCA			SSS	186-37		SSS	188-94		TRW	144-90
		147-76	SSS	TIIB		2N5347	FSC	159-66	2N5411	SSS	137-15	2N5481	ΔTRW	148-101
2N5238	ΔSOD	147-76	2N5303	ΔMOTA	169-94	2N5348	ΔMOTA	159-66	2N5412	SSS	188-95	2N5482	ΔTRW	152-61
	SSS	189-109	FSC	SCA	181-79		SSS	186-38		TRW	190-43	2N5483	ΔMOTA	117-107
JAN2N5238	none	147-77	SSS	TIIB		2N5349	ΔMOTA	159-67	2N5413	SSS	141-43	2N5484	ΔMOTA	117-108
		190-78		SSS			SSS	186-39		SSS	196-47	2N5485	ΔMOTA	117-109
		182-104	2N5305	ΔGESY	211-52	2N5354	TRW	72-18	2N5414	SSS	141-44	2N5486	ΔMOTA	117-109
2N5239	ΔRCA	182-105	IDC			ESMF	MISI	72-18		SSS	196-48	2N5487	ΔUNI	154-3
2N5240	ΔRCA	170-109	2N5306	ΔGESY	211-53		NPC		2N5415	ΔRCA	134-75	2N5487-1	TRW	188-21
2N5241	ΔDEL	170-109	CNS	IDC		2N5355	ΔGESY	72-19		MST	134-76	2N5487-2	SSS	154-17
	SOD	165-107	2N5307	ΔGESY	211-54		ESMF		2N5416	ΔRCA	134-76	2N5487-3	TRW	188-22
JAN2N5241	none	183-35	CNS	IDC			NPC			MST	142-80	2N5488	SSS	154-18
		76-5	2N5308	ΔGESY	211-55		ESMF		2N5421	KER	142-80	2N5488-1	SSS	188-23
2N5243	CNS	193-41	CNS	IDC		2N5356	ΔGESY	72-20	2N5422	SOD	144-89	2N5488-2	TRW	154-4
2N5244	ΔFSC	73-39	2N5309	CNS	96-11		MISI		2N5423	KER	150-109	2N5488-3	SSS	188-24
2N5245	ITT	213-55	SSS	PIR	96-12	2N5357	ESMF	136-75	2N5424	KER	152-49	2N5489	SSS	188-25
	SSS	118-81	2N5310	CNS	96-13		NPC			SOD	152-49	2N5490	ΔSIL	172-86
2N5246	TES	118-82	2N5311	CNS	96-13	2N5358	ΔMOTA	116-47	2N5425	KER	156-86	2N5491	SSS	201-35
	TIIB	118-83	2N5312	GESY			ΔMOTA	116-48	2N5426	ΔFSC	156-87	2N5492	SSS	201-36
2N5247	ΔTIIB	118-83	CNS	SSS	137-104	2N5359	ΔMOTA	116-49	2N5427	ΔMOTA	156-70	2N5493	SSS	201-37
2N5248	ΔTIIB	118-84	2N5313	SSS	187-38	2N5360	ΔMOTA	116-50	2N5428	SSS	188-40	2N5494	SSS	201-38
2N5249	TIIB	96-9	SSS	SSS	161-83	2N5361	ΔMOTA	116-51	2N5429	FSC	156-71	2N5495	SSS	201-39
	CNS	96-9	CNS	PIR	187-39	2N5362	ΔMOTA	116-52	2N5430	SSS	188-41	2N5496	SSS	201-40
2N5249A	ΔGESY	96-10	2N5314	TRW	137-105	2N5363	ΔMOTA	116-53	2N5431	SSS	188-42	2N5497	SSS	201-41
	CNS	96-10	SSS	TEC	187-40	2N5364	ΔMOTA	72-21	2N5432	ΔMOTA	156-72	2N5498	SSS	201-42
2N5250	ΔGESY	172-82	2N5315	SSS	161-84	2N5365	ESMF	72-22	2N5433	SSS	156-73	2N5505	SSS	111-87
	ΔSOD	184-4	CNS	SSS	187-41	2N5366	ESMF	72-22	2N5434	SSS	188-43	2N5506	SSS	204-61
JAN2N5250	KER	172-83	CNS	PIR	161-84	2N5367	CNS	72-23	2N5435	SSS	209-38	2N5507	SSS	111-88
	PTI	190-73	KER	TRW	137-106	2N5368	MISI	72-23	JAN2N5431	none	209-39	2N5508	SSS	204-62
	TEC	172-84	SSS	SSS	186-85	2N5369	ESMF	97-95	2N5432	ΔSIX	116-62	2N5509	SSS	111-89
2N5251	ΔSOD	184-5	2N5316	PIR	161-85	2N5370	SSS	196-69	2N5433	BNT	176-2	2N5510	SSS	204-63
	PTI	184-5	CNS	TRW	187-22	2N5371	IDC	97-96	2N5434	SSS	116-63	2N5511	SSS	111-90
JAN2N5251	TEC	172-85	SSS	SSS	187-22	2N5372	SSS	196-70	2N5435	SSS	116-64	2N5512	SSS	204-64
	none	190-74	2N5317	SSS	137-107	2N5373	SSS	97-97	2N5436	SSS	129-84	2N5513	SSS	111-91
2N5252	ΔFSC	146-11	CNS	PIR	186-86	2N5374	SSS	196-71	2N5437	SSS	129-85	2N5514	SSS	204-65
2N5253	SSS	146-12	2N5318	SSS	161-86	2N5375	SSS	179-98	2N5438	SSS	129-86	2N5515	SSS	111-92
2N5254	ΔFSC	71-101	CNS	TRW	187-23	2N5376	SSS	196-72	2N5439	SSS	129-87	2N5516	SSS	204-66
	SSS	211-51	2N5319	SSS	187-23	2N5377	SSS	72-83	2N5440	SSS	129-88	2N5517	SSS	111-93
2N5255	CNS	71-102	CNS	SSS	148-99	2N5378	SSS	72-84	2N5441	SSS	129-89	2N5518	SSS	204-67
2N5256	CNS	204-56	CNS	SSS	189-60	2N5379	SSS	72-84	2N5442	SSS	129-90	2N5519	SSS	111-94
2N5257	CNS	71-103	2N5320	SSS	134-74	2N5380	SSS	97-99	2N5443	SSS	129-91	2N5520	SSS	204-68
2N5262	ATEI	204-57	ΔRCA	SSS	189-61	2N5381	SSS	98-42	2N5444	SSS	129-92	2N5521	SSS	111-95
	SSS	106-46	CNS	SSS	148-100	2N5382	SSS	72-85	2N5445	SSS	129-93	2N5522	SSS	204-69
2N5263	APX	177-16	SSS	TEC	189-56	2N5383	SSS	73-19	2N5446	SSS	129-94	2N5523	SSS	204-70
2N5264	SSS	181-82	2N5321	SSS	134-73	2N5384	SSS	137-10	2N5447	SSS	129-95	2N5524	SSS	115-41
	SSS	190-9	ATEI	SSS	189-60	2N5385	SSS	137-11	2N5448	SSS	129-96	2N5525	SSS	204-71
2N5265	ΔMOTA	111-53	2N5322	SSS	148-100	2N5386	SSS	137-108	2N5449	SSS	129-97	2N5526	SSS	115-42
2N5266	ΔMOTA	111-54	ATEI	SSS	189-60	2N5387	SSS	168-12	2N5450	SSS	129-98	2N5527	SSS	204-72
2N5267	ΔMOTA	111-55	SSS	SSS	134-73	2N5388	SSS	97-99	2N5451	SSS	129-99	2N5528	SSS	115-43
2N5268	ΔMOTA	111-56	2N5323	SSS	148-100	2N5389	SSS	98-42	2N5452	SSS	129-100	2N5529	SSS	204-73
2N5269	ΔMOTA	111-57	ATEI	SSS	189-60	2N5390	SSS	72-85	2N5453	SSS	129-101	2N5530	SSS	115-44
2N5270	ΔMOTA	111-58	SSS	SSS	134-74	2N5391	SSS	72-85	2N5454	SSS	129-102	2N5531	SSS	204-74
2N5271	ΔMOTA	176-1	2N5324	SSS	126-3	2N5392	SSS	72-85	2N5455	SSS	129-103	2N5532	SSS	115-45
	SSS	202-2	ATEI	SSS	181-95	2N5393	SSS	73-19	2N5456	SSS	129-104	2N5533	SSS	204-75
2N5272	ΔMOTA	99-16	2N5325	SSS	126-4	2N5394	SSS	73-19	2N5457	SSS	129-105	2N5534	SSS	115-46
	SSS	200-53	ATEI	SSS	181-96	2N5395	SSS	73-19	2N5458	SSS	129-106	2N5535	SSS	204-76
2N5277	ΔTES	119-108	2N5326	SSS	155-34	2N5396	SSS	73-19	2N5459	SSS	129-107	2N5536	SSS	115-47
2N5278	BNT	119-109	2N5327	SSS	190-82	2N5397	SSS	73-19	2N5460	SSS	129-108	2N5537	SSS	204-77
	SSS	119-109	ATEI	SSS	147-78	2N5398	SSS	73-19	2N5461	SSS	129-109	2N5538	SSS	115-48
2N5279	ΔTES	144-88	2N5328	SSS	191-63	2N5399	SSS	73-19	2N5462	SSS	129-110	2N5539	SSS	204-78
	BNT	144-88	ATEI	SSS	158-46	2N5400	SSS	73-19	2N5463	SSS	129-111	2N5540	SSS	115-49
2N5280	MST	142-38	2N5329	SSS	191-64	2N5401	SSS	73-19	2N5464	SSS	129-112	2N5541	SSS	204-79
	SSS	142-38	ATEI	SSS	163-21	2N5402	SSS	73-19	2N5465	SSS	129-113	2N5542	SSS	115-50
2N5281	MST	133-22	2N5330	SSS	190-88	2N5403	SSS	73-19	2N5466	SSS	129-114	2N5543	SSS	204-80
	SSS	133-22	ATEI	SSS	145-94	2N5404	SSS	73-19	2N5467	SSS	129-115	2N5544	SSS	115-51
2N5282	SSS	133-23	2N5331	SSS	166-11	2N5405	SSS	73-19	2N5468	SSS	129-116	2N5545	SSS	204-81
	SSS	133-23	ATEI	SSS	190-89	2N5406	SSS	73-19	2N5469	SSS	129-117	2N5546	SSS	115-52
2N5284	CNS	158-44	2N5332	SSS	168-11	2N5407	SSS	73-19	2N5470	SSS	129-118	2N5547	SSS	204-82
	SSS	158-44	CNS	SSS	190-90	2N5408	SSS	73-19	2N5471	SSS	129-119	2N5548	SSS	115-53
2N5285	SSS	158-45	2N5333	SSS	73-56	2N5409	SSS	73-19	2N5472	SSS	129-120	2N5549	SSS	204-83
	SSS	158-45	ATEI	SSS	213-57	2N5410	SSS	73-19	2N5473	SSS	129-121	2N5550	SSS	115-54
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2N5541	Δ SOD	141-108	2N5820	SSI	158-17	2N5687	Δ TRW	144-97	2N5798	Δ MOTA	111-60	2N5908	Δ SIX	204-100
2N5542	Δ SOD	185-16	2N5821	SSI	138-40	2N5688	Δ TRW	148-90	2N5799	Δ MOTA	111-61	2N5909	Δ SIX	119-29
2N5543	Δ SOD	181-88	2N5822	SSI	165-40	2N5689	Δ TRW	153-102	2N5800	Δ MOTA	111-62	2N5910	Δ SIX	204-101
2N5544	Δ SOD	185-17	2N5823	SSI	138-41	2N5690	Δ TRW	157-74	2N5801	Δ MOTA	116-74	2N5911	Δ SIX	119-30
2N5545	Δ SOD	185-18	2N5824	SSI	138-42	2N5691	Δ TRW	161-89	2N5802	Δ MOTA	116-75	2N5912	Δ SIX	204-102
2N5546	Δ SOD	185-19	2N5825	SSI	138-43	2N5692	Δ TRW	129-90	2N5803	Δ MOTA	116-76	2N5913	FSC	71-29
2N5547	Δ SOD	185-20	2N5826	SSI	138-44	2N5693	Δ TRW	179-67	2N5804	Δ MOTA	116-77	2N5914	SIX	201-11
2N5548	Δ SOD	185-21	2N5827	SSI	138-45	2N5694	Δ TRW	129-91	2N5805	Δ MOTA	184-57	2N5915	SIX	119-85
2N5549	Δ SOD	185-22	2N5828	SSI	165-74	2N5695	Δ TRW	179-68	2N5810	Δ MOTA	163-13	2N5916	SIX	204-103
2N5550	Δ SOD	185-23	2N5829	SSI	169-96	2N5696	Δ TRW	179-69	2N5811	Δ MOTA	184-58	2N5917	SIX	119-86
2N5551	Δ SOD	185-24	2N5830	SSI	169-97	2N5697	Δ TRW	179-70	2N5812	Δ MOTA	101-18	2N5918	SIX	204-104
2N5552	Δ SOD	185-25	2N5831	SSI	169-98	2N5698	Δ TRW	179-71	2N5813	Δ MOTA	75-65	2N5919	SIX	144-100
2N5553	Δ SOD	185-26	2N5832	SSI	169-99	2N5699	Δ TRW	179-72	2N5814	Δ MOTA	101-19	2N5920	SIX	147-38
2N5554	Δ SOD	185-27	2N5833	SSI	169-100	2N5700	Δ TRW	179-73	2N5815	Δ MOTA	75-66	2N5921	SIX	151-56
2N5555	Δ SOD	185-28	2N5834	SSI	167-82	2N5701	Δ TRW	129-94	2N5816	Δ MOTA	101-20	2N5922	SIX	146-13
2N5556	Δ SOD	185-29	2N5835	SSI	167-83	2N5702	Δ TRW	179-74	2N5817	Δ MOTA	75-67	2N5923	SIX	146-14
2N5557	Δ SOD	185-30	2N5836	SSI	167-84	2N5703	Δ TRW	143-10	2N5818	Δ MOTA	101-21	2N5924	SIX	151-39
2N5558	Δ SOD	185-31	2N5837	SSI	167-85	2N5704	Δ TRW	144-98	2N5819	Δ MOTA	75-68	2N5925	SIX	155-39
2N5559	Δ SOD	185-32	2N5838	SSI	167-86	2N5705	Δ TRW	148-102	2N5820	Δ MOTA	101-22	2N5926	SIX	144-101
2N5560	Δ SOD	185-33	2N5839	SSI	167-87	2N5706	Δ TRW	148-103	2N5821	Δ MOTA	75-69	2N5927	SIX	151-55
2N5561	Δ SOD	185-34	2N5840	SSI	167-88	2N5707	Δ TRW	148-104	2N5822	Δ MOTA	101-23	2N5928	SIX	172-93
2N5562	Δ SOD	185-35	2N5841	SSI	167-89	2N5708	Δ TRW	155-37	2N5823	Δ MOTA	75-70	2N5929	SIX	181-53
2N5563	Δ SOD	185-36	2N5842	SSI	167-90	2N5709	Δ TRW	155-38	2N5824	Δ MOTA	101-24	2N5930	SIX	172-94
2N5564	Δ SOD	185-37	2N5843	SSI	167-91	2N5710	Δ TRW	109-94	2N5825	Δ MOTA	96-99	2N5931	SIX	181-54
2N5565	Δ SOD	185-38	2N5844	SSI	167-92	2N5711	Δ TRW	148-103	2N5826	Δ MOTA	96-100	2N5932	SIX	172-95
2N5566	Δ SOD	185-39	2N5845	SSI	167-93	2N5712	Δ TRW	153-103	2N5827	Δ MOTA	96-101	2N5933	SIX	187-42
2N5567	Δ SOD	185-40	2N5846	SSI	167-94	2N5713	Δ TRW	153-104	2N5828	Δ MOTA	96-102	2N5934	SIX	168-21
2N5568	Δ SOD	185-41	2N5847	SSI	167-95	2N5714	Δ TRW	157-14	2N5829	Δ MOTA	96-103	2N5935	SIX	187-43
2N5569	Δ SOD	185-42	2N5848	SSI	167-96	2N5715	Δ TRW	160-1	2N5830	Δ MOTA	96-104	2N5936	SIX	168-22
2N5570	Δ SOD	185-43	2N5849	SSI	167-97	2N5716	Δ TRW	145-72	2N5831	Δ MOTA	96-105	2N5937	SIX	187-44
2N5571	Δ SOD	185-44	2N5850	SSI	167-98	2N5717	Δ TRW	114-62	2N5832	Δ MOTA	96-106	2N5938	SIX	168-23
2N5572	Δ SOD	185-45	2N5851	SSI	167-99	2N5718	Δ TRW	114-63	2N5833	Δ MOTA	96-107	2N5939	SIX	187-70
2N5573	Δ SOD	185-46	2N5852	SSI	167-100	2N5719	Δ TRW	114-64	2N5834	Δ MOTA	96-108	2N5940	SIX	168-24
2N5574	Δ SOD	185-47	2N5853	SSI	167-101	2N5720	Δ TRW	149-70	2N5835	Δ MOTA	96-109	2N5941	SIX	187-71
2N5575	Δ SOD	185-48	2N5854	SSI	167-102	2N5721	Δ TRW	186-87	2N5836	Δ MOTA	96-110	2N5942	SIX	168-25
2N5576	Δ SOD	185-49	2N5855	SSI	167-103	2N5722	Δ TRW	157-97	2N5837	Δ MOTA	96-111	2N5943	SIX	187-72
2N5577	Δ SOD	185-50	2N5856	SSI	167-104	2N5723	Δ TRW	186-88	2N5838	Δ MOTA	96-112	2N5944	SIX	168-26
2N5578	Δ SOD	185-51	2N5857	SSI	167-105	2N5724	Δ TRW	186-89	2N5839	Δ MOTA	96-113	2N5945	SIX	187-73
2N5579	Δ SOD	185-52	2N5858	SSI	167-106	2N5725	Δ TRW	186-90	2N5840	Δ MOTA	96-114	2N5946	SIX	168-27
2N5580	Δ SOD	185-53	2N5859	SSI	167-107	2N5726	Δ TRW	186-91	2N5841	Δ MOTA	96-115	2N5947	SIX	187-74
2N5581	Δ SOD	185-54	2N5860	SSI	167-108	2N5727	Δ TRW	186-92	2N5842	Δ MOTA	96-116	2N5948	SIX	168-28
2N5582	Δ SOD	185-55	2N5861	SSI	167-109	2N5728	Δ TRW	186-93	2N5843	Δ MOTA	96-117	2N5949	SIX	187-75
2N5583	Δ SOD	185-56	2N5862	SSI	167-110	2N5729	Δ TRW	186-94	2N5844	Δ MOTA	96-118	2N5950	SIX	168-29
2N5584	Δ SOD	185-57	2N5863	SSI	167-111	2N5730	Δ TRW	186-95	2N5845	Δ MOTA	96-119	2N5951	SIX	187-76
2N5585	Δ SOD	185-58	2N5864	SSI	167-112	2N5731	Δ TRW	186-96	2N5846	Δ MOTA	96-120	2N5952	SIX	168-30
2N5586	Δ SOD	185-59	2N5865	SSI	167-113	2N5732	Δ TRW	186-97	2N5847	Δ MOTA	96-121	2N5953	SIX	187-77
2N5587	Δ SOD	185-60	2N5866	SSI	167-114	2N5733	Δ TRW	186-98	2N5848	Δ MOTA	96-122	2N5954	SIX	168-31
2N5588	Δ SOD	185-61	2N5867	SSI	167-115	2N5734	Δ TRW	186-99	2N5849	Δ MOTA	96-123	2N5955	SIX	187-78
2N5589	Δ SOD	185-62	2N5868	SSI	167-116	2N5735	Δ TRW	186-100	2N5850	Δ MOTA	96-124	2N5956	SIX	168-32
2N5590	Δ SOD	185-63	2N5869	SSI	167-117	2N5736	Δ TRW	186-101	2N5851	Δ MOTA	96-125	2N5957	SIX	187-79
2N5591	Δ SOD	185-64	2N5870	SSI	167-118	2N5737	Δ TRW	186-102	2N5852	Δ MOTA	96-126	2N5958	SIX	168-33
2N5592	Δ SOD	185-65	2N5871	SSI	167-119	2N5738	Δ TRW	186-103	2N5853	Δ MOTA	96-127	2N5959	SIX	187-80
2N5593	Δ SOD	185-66	2N5872	SSI	167-120	2N5739	Δ TRW	186-104	2N5854	Δ MOTA	96-128	2N5960	SIX	168-34
2N5594	Δ SOD	185-67	2N5873	SSI	167-121	2N5740	Δ TRW	186-105	2N5855	Δ MOTA	96-129	2N5961	SIX	187-81
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2N5596	Δ SOD	185-69	2N5875	SSI	167-123	2N5742	Δ TRW	186-107	2N5857	Δ MOTA	96-131	2N5963	SIX	187-82
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2N5598	Δ SOD	185-71	2N5877	SSI	167-125	2N5744	Δ TRW	186-109	2N5859	Δ MOTA	96-133	2N5965	SIX	187-83
2N5599	Δ SOD	185-72	2N5878	SSI	167-126	2N5745	Δ TRW	186-110	2N5860	Δ MOTA	96-134	2N5966	SIX	168-37
2N5600	Δ SOD	185-73	2N5879	SSI	167-127	2N5746	Δ TRW	186-111	2N5861	Δ MOTA	96-135	2N5967	SIX	187-84
2N5601	Δ SOD	185-74	2N5880	SSI	167-128	2N5747	Δ TRW	186-112	2N5862	Δ MOTA	96-136	2N5968	SIX	168-38
2N5602	Δ SOD	185-75	2N5881	SSI	167-129	2N5748	Δ TRW	186-113	2N5863	Δ MOTA	96-137	2N5969	SIX	187-85
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2N5604	Δ SOD	185-77	2N5883	SSI	167-131	2N5750	Δ TRW	186-115	2N5865	Δ MOTA	96-139	2N5971	SIX	187-86
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1743-0610	WESY	166-103	1756-1860	WESY	185-26	1843-3020	WESY	185-111	2868-2	UNI	149-115	40380	UNI	141-50	
1743-0620	WESY	186-104	1763-0610	WESY	185-83	1843-3020	WESY	185-112	2868-3	UNI	188-27	40381	UNI	141-50	
1743-0630	WESY	186-105	1763-0620	WESY	185-64	1843-3030	WESY	185-113	2869-1	UNI	158-82	40382	UNI	141-50	
1743-0810	WESY	166-108	1763-0630	WESY	185-64	1843-3030	WESY	185-114	2869-2	UNI	149-116	40383	UNI	141-50	
1743-0810	WESY	186-99	1763-0810	WESY	185-62	1843-3030	WESY	185-115	2869-3	UNI	188-28	40384	UNI	141-50	
1743-0810	WESY	166-109	1763-0820	WESY	185-62	1843-3030	WESY	185-116	2870-1	UNI	158-83	40385	UNI	141-50	
1743-0820	WESY	186-100	1763-0830	WESY	185-25	1843-3030	WESY	185-117	2870-2	UNI	149-117	40386	UNI	141-50	
1743-0820	WESY	186-101	1763-1010	WESY	185-25	1843-3030	WESY	185-118	2870-3	UNI	188-29	40387	UNI	141-50	
1743-0830	WESY	186-102	1763-1020	WESY	185-83	1843-3030	WESY	185-119	2871-1	UNI	158-84	40388	UNI	141-50	
1743-1010	WESY	186-103	1763-1030	WESY	185-83	1843-3030	WESY	185-120	2871-2	UNI	149-118	40389	UNI	141-50	
1743-1010	WESY	186-104	1763-1210	WESY	185-26	1843-3030	WESY	185-121	2871-3	UNI	188-30	40390	UNI	141-50	
1743-1010	WESY	186-105	1763-1220	WESY	185-83	1843-3030	WESY	185-122	2872-1	UNI	158-85	40391	UNI	141-50	
1743-1010	WESY	186-106	1763-1230	WESY	185-83	1843-3030	WESY	185-123	2872-2	UNI	149-119	40392	UNI	141-50	
1743-1020	WESY	186-107	1763-1410	WESY	185-83	1843-3030	WESY	185-124	2872-3	UNI	188-31	40393	UNI	141-50	
1743-1030	WESY	186-108	1763-1420	WESY	185-83	1843-3030	WESY	185-125	2873-1	UNI	158-86	40394	UNI	141-50	
1743-1210	WESY	186-109	1763-1610	WESY	185-83	1843-3030	WESY	185-126	2873-2	UNI	149-120	40395	UNI	141-50	
1743-1210	WESY	186-110	1763-1620	WESY	185-83										

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
40473	♦ RCA	82-53	A5T3904	♦ TIIB	98-45	A778	♦ APX	104-81	AC187/AC188			AF115N	MINA	51-19
40474	♦ RCA	82-54		♦ TIIB	197-73			143-92	(cont.)	PHIC		AF116	BELI	49-97
40475	♦ RCA	82-44	A5T3905	♦ TIIB	72-89	A779	♦ APX	104-82	PHIN	RADF			MULB	
40476	♦ RCA	82-45		♦ TIIB	194-28			143-93	AC187K	ATEI	64-34		PHIN	
40477	♦ RCA	82-46	A5T3906	♦ TIIB	72-90	A1109	♦ TES	83-43	SHWG	TFKG		AF116N	MINA	51-20
40478	♦ RCA	82-47		♦ TIIB	179-81	A1170	♦ TES	84-96		VALG		AF117	BELI	49-98
40479	♦ RCA	82-48	A5T5058	♦ TIIB	106-84	A1341	♦ TES	83-44	AC188	APX	61-51		MULB	
40480	♦ RCA	82-49		♦ TIIB	106-85	A1480		205-27		BELI		AF117N	MINA	51-21
40481	♦ RCA	82-50	A5T5059	♦ TIIB	106-85	AC107		51-58		MULB		AF118	MULB	60-109
40482	♦ RCA	82-51		♦ TIIB						PHIN			PHIN	
40487	♦ RCA	52-3	A130	♦ PHIC	97-10					VALG			PHIC	
40488	♦ RCA	51-102	A132	♦ PHIC	97-11	AC116		55-48	AC188/01	BELI	64-33		RADF	
40489	♦ RCA	51-103	A134	♦ APX	93-4	AC117		61-3	PHIN	RADF			VALG	
40490	♦ RCA	53-64	A135	♦ APX	93-5	AC121		61-57	AC188K	ATEI	61-52	AF121	PHIC	53-20
40491	♦ SCA	151-95	A136	♦ APX	93-6	AC122		50-25	SHWG	TFKG			PHIN	
40500	♦ SCA	102-9	A137	♦ APX	93-7	AC123		55-49		VALG			VALG	
40513	♦ RCA	164-1	A138	♦ APX	93-8	AC124		61-2	AC191	ATEI	57-102	AF121S	VALG	53-29
40514	♦ RCA	164-2	A139	♦ APX	93-9	AC125		61-20	AC192	ATEI	57-103	AF124	APX	50-35
40517	♦ RCA	85-101	A141	♦ APX	78-16				AC193	ATEI	121-22		MULB	
40518	♦ RCA	85-102	A142	♦ APX	78-17				AC193K	ATEI	121-23		PHIN	
40519	♦ RCA	93-2	A143	♦ APX	78-18				AC194	ATEI	132-4		SHWG	
40537	♦ RCA	133-32	A157A	♦ APX	93-10	AC126		61-21	AC194K	ATEI	132-5	AF125	APX	50-36
			A157B	♦ APX	93-11				ACY17	MULB	60-46		MULB	
40538	♦ RCA	133-33	A158B	♦ APX	93-12				NTLB	PHIC	181-30		PHIN	
			A158C	♦ APX	93-13				ACY18	MULB	60-47		SHWG	
40539	♦ RCA	145-66	A159B	♦ APX	93-14	AC127		64-25	NTLB	PHIC	181-67	AF126	APX	50-37
			A159C	♦ APX	93-15				ACY19	MULB	60-52		MULB	
40542	♦ RCA	164-3	A180	♦ APX	65-7				NTLB	PHIC	181-68		PHIN	
40543	♦ RCA	164-4	A181	♦ APX	65-8				ACY20	MULB	60-48		SHWG	
40544	♦ RCA	146-29	A182	♦ APX	65-9				NTLB	PHIC		AF127	APX	50-38
			A177	♦ APX	69-81	AC127-01		64-26	ACY21	MULB	60-53		MULB	
40559A	♦ RCA	119-32	A178A	♦ APX	69-82				NTLB	PHIC			PHIN	
40577	♦ RCA	103-6	A178B	♦ APX	69-83	AC127/AC128		202-46	ACY22	MULB	60-49	AF139	♦ APX	50-84
40578	♦ RCA	145-9	A179A	♦ APX	69-84				NTLB	PHIC	181-31		MULB	
40581	♦ RCA	145-10	A179B	♦ APX	69-85				ACY23	SHWG	55-57		ATEI	
40582	♦ RCA	149-5	A203	♦ APX	140-105	AC127/AC132		202-47	ACY32	SHWG	55-58		PHIC	
40594	♦ RCA	149-6	A209	♦ APX	145-14				ACY33	SHWG	61-65		RADF	
			A210	♦ APX	140-82				ACY38	ESMF	56-57		TFKG	
40595	♦ RCA	134-77	A211	♦ APX	140-83					MISI		AF166	ATEI	52-15
			A214	♦ APX	100-109	AC127/AC152		202-48	ACY39	MULB	60-50	AF170	ATEI	51-55
40600	♦ RCA	119-63	A215	♦ APX	94-71	AC128		61-28	ACY40	NTLB	181-66	AF172	ATEI	51-56
40601	♦ RCA	119-64	A230	♦ APX	109-65					MULB	60-45	AF178	MULB	51-26
40602	♦ RCA	119-65	A235	♦ APX	155-78				ACY41	NTLB	181-24		PHIC	
40603	♦ RCA	119-66	A237	♦ APX	151-42					MULB	60-44		PHIN	
40604	♦ RCA	119-67	A238	♦ APX	145-15				ACY44	NTLB	181-16	AF179	MULB	56-97
40605	♦ RCA	146-30	A253	♦ APX	151-62					MULB	60-51		PHIN	
40608	♦ RCA	143-25	A267	♦ APX	145-16	AC128-01		121-18	AD130	SHWG	125-12	AF180	MULB	57-36
			A270	♦ APX	147-39				AD131	SHWG	125-13		PHIC	
40611	♦ RCA	145-11	A272	♦ APX	151-69	AC128K		121-19	AD132	SHWG	125-14		VALG	
			A273	♦ APX	154-54	AC130		202-28	AD133	SHWG	125-15	AF181	MULB	54-54
40612	♦ RCA	121-101	A274	♦ APX	156-89				AD136	SHWG	122-19		PHIN	
40613	♦ RCA	157-53	A275	♦ APX	147-40	AC131		51-8	AD139	VALG			VALG	
40616	♦ RCA	145-12	A276	♦ APX	151-70	AC132		57-48	AD140	PHIC	131-9	AF185	PHIN	53-105
			A277	♦ APX	154-55					VALG			VALG	
40618	♦ RCA	157-54	A301	♦ PHIC	90-110				AD141	MULB	125-16	AF186G	PHIC	52-54
40621	♦ RCA	157-55	A306	♦ PHIC	97-36	AC132-01		61-22	AD142	PHIN		AF186W	PHIN	52-55
40622	♦ RCA	157-56	A307	♦ PHIC	97-37				AD143	ATEI	125-17		PHIC	
40623	♦ RCA	121-102	A310	♦ PHIC	91-1	AC138		59-32	AD143R	ATEI	125-18	AF187	PHIN	56-11
40624	♦ RCA	160-48	A311	♦ PHIC	90-78	AC139		59-33	AD148	SHWG	122-25		ESMF	
40625	♦ RCA	143-26	A311	♦ PHIC	90-78	AC139K/AC142K		61-10	AD149	BELI	124-36	AF188	MISI	56-43
40626	♦ RCA	121-103	A411	♦ APX	52-37					MULB			MISI	
40627	♦ RCA	160-49	A417	♦ APX	79-91	AC141		64-3		PHIN		AF200	ATEI	59-36
40628	♦ RCA	143-27	A418	♦ APX	79-86	AC141B		64-4		SHWG			SHWG	
40629	♦ RCA	157-57	A419	♦ APX	79-87	AC141K		64-19		VALG		AF201	ATEI	59-37
40630	♦ RCA	157-58	A420	♦ APX	79-88	AC142		59-34		SHWG			SHWG	
40631	♦ RCA	157-59	A420	♦ APX	81-81	AC142K		80-54	AD150	SHWG	125-20		SHWG	
40632	♦ RCA	160-50	A427	♦ APX	89-10	AC150		50-24		TFKG		AF202	SHWG	52-94
40633	♦ RCA	164-5	A467	♦ APX	79-79	AC151		55-55	AD152	TFKG	121-85	AF202L	ATEI	59-38
40634	♦ RCA	134-10	A473	♦ APX	89-25	AC151R		55-56	AD155	TFKG	121-86	AF202S	SHWG	52-95
			A480	♦ APX	79-81	AC152		61-58	AD161	APX	132-13		APX	
40635	♦ RCA	145-13	A481	♦ APX	81-48	AC153		61-64		MULB			♦ MOTA	
			A482	♦ APX	81-59	AC153K		61-62		PHIN			PHIC	
40636	♦ RCA	164-6	A483	♦ APX	81-72	AC162		61-60		RADF			RADF	
			A484	♦ APX	81-60	AC163		61-61		SHWG			SHWG	
			A485	♦ APX	85-103	AC170		52-57	AD161/AD162	APX	202-51	AF239S	PHIN	50-94
40637	♦ RCA	152-91	A486	♦ APX	81-82	AC171		52-58		MULB			PHIN	
40665	♦ RCA	149-41	A490	♦ APX	86-30	AC172		63-106		PHIN		AF240	PHIC	50-92
40666	♦ RCA	118-42	A492	♦ APX	85-76				AD162	SHWG			PHIN	
40673	♦ RCA	164-7	A494	♦ APX	81-105					APX	122-23		PHIC	
40675	♦ RCA	211-69	A495	♦ APX	81-100	AC175		64-17		MULB			RADF	
A3T918	♦ TIIB	87-51	A496	♦ APX	88-78	AC176		64-30		PHIN			SHWG	
A3T929	♦ TIIB	87-35	A497	♦ APX	88-93					PHIN			VALG	
A3T930	♦ TIIB	87-36	A569	♦ PHIC	211-3					SHWG		AF251	TFKG	52-65
A3T2221	♦ TIIB	87-43		♦ RADF		AC176K		121-20		VALG		AF252	TFKG	52-64
			A570	♦ PHIC	211-4				AD163	SHWG	125-21		TFKG	52-63
A3T2221A	♦ TIIB	195-90		♦ RADF		AC178		60-43	AD164	TFKG	121-87	AF256	TFKG	52-61
			A600	♦ PHIC	205-12	AC179		60-73	AD165	TFKG	132-11	AF267	VALG	50-96
A3T2222	♦ TIIB	195-107	A601	♦ PHIC	205-13	AC180K		121-25	AD262	ATEI	122-26	AF279	SHWG	50-97
			A602	♦ PHIC	205-14				AD263	ATEI	122-27	AF280	SHWG	50-83
A3T2222A	♦ TIIB	195-91	A603	♦ PHIC	205-15	AC181		64-22	ADY26	MULB	129-103	AFY11	SHWG	61-34

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
AL103	ATEI	125-24	AT386	ANOA	99-107	AUY10	PHIN	121-104	B5031	SOD	157-66	B170001	♦SOD	164-14			
ASY26	ESMF	55-108	AT387	ANOA	99-108		VALG		B5032	SOD	157-67	B170002	♦SOD	164-15			
	MULB	182-60	AT388	ANOA	99-109	AUY18	SHWG	122-20	B5041	SOD	157-68	B170003	♦SOD	164-16			
	PHIN		AT390	ANOA	74-97	AUY19	SHWG	125-40	B5042	SOD	157-69	B170004	♦SOD	164-17			
	RADF		AT391	ANOA	74-98	AUY20	SHWG	125-41	B5051	SOD	157-70	B170005	♦SOD	164-18			
	TIIF		AT392	ANOA	74-99	AUY21	SHWG	125-42	B5052	SOD	157-71	B170006	♦SOD	164-19			
ASY27	ESMF	56-17	AT393	ANOA	74-100	AUY21A	ATEI	125-43	B10474	♦SOD	124-41	B170007	♦SOD	164-20			
	MULB	182-50	AT394	ANOA	74-101	AUY22	SHWG	125-44	B10475	♦SOD	123-64	B170008	♦SOD	164-21			
	PHIN		AT395	ANOA	74-102	AUY22A	ATEI	125-45	B10912	♦SOD	125-49	B170009	♦SOD	164-22			
	RADF		AT396	ANOA	74-103	AUY29	SHWG	125-46	B10913	♦SOD	125-50	B170010	♦SOD	164-23			
	TIIF		AT397	ANOA	74-104	AUY34	SHWG	125-47	B102000	SOD	126-99	B170011	♦SOD	164-24			
ASY28	MULB	82-105	AT398	ANOA	74-105	AUY35	ATEI	122-21	B102001	SOD	126-100	B170012	♦SOD	164-25			
	PHIN	182-61	AT399	ANOA	75-11	AUY36	ATEI	122-22	B102002	SOD	126-101	B170013	♦SOD	164-26			
	RADF		AT400	ANOA	92-73	AUY37	ATEI	125-88	B102003	SOD	126-102	B170014	♦SOD	164-27			
	TIIF		AT401	ANOA	92-74	AUY38	ATEI	125-48	B103000	SOD	126-103	B170015	♦SOD	164-28			
	VALG		AT402	ANOA	92-75	B1085	♦SOD	124-40	B103001	SOD	126-104	B170016	♦SOD	164-29			
ASY29	MULB	62-109	AT403	ANOA	92-76	B1178	♦SOD	126-51	B103002	SOD	126-105	B170017	♦SOD	164-30			
	PHIN	183-19	AT404	ANOA	92-77	B1181	♦SOD	129-75	B103003	SOD	126-106	B170018	♦SOD	164-31			
	RADF		AT405	ANOA	92-78	B3465	♦SOD	147-89	B103004	SOD	126-107						
	TIIF		AT406	ANOA	93-16	B3466	♦SOD	147-90	B13000	♦SOD	128-89	B170019	♦SOD	164-32			
ASY31	PHIN	54-25	AT407	ANOA	93-17	B3511	SOD	147-91	B13001	♦SOD	128-90						
	VALG	182-93	AT410	ANOA	70-18	B3532	SOD	147-92	B13002	♦SOD	128-91	B170020	♦SOD	164-33			
ASY32	PHIN	54-27	AT412	ANOA	70-19	B3533	SOD	147-93	B13003	♦SOD	128-92						
	VALG	183-22	AT413	ANOA	70-20	B3534	SOD	147-94			179-75	B170021	♦SOD	164-34			
ASY48	SHWG	61-56	AT414	ANOA	70-21	B3535	SOD	147-95	B113004	♦SOD	128-93						
ASY70	SHWG	61-59	AT415	ANOA	70-22	B3536	SOD	147-96			179-76	B170022	♦SOD	164-35			
ASY71	VALG	54-104	AT416	ANOA	70-23	B3537	SOD	147-97	B113005	♦SOD	128-94						
ASY73	PHIC	64-27	AT417	ANOA	70-24	B3538	SOD	149-26			179-77	B170023	♦SOD	164-36			
	RADF	182-62	AT418	ANOA	70-25	B3539	SOD	149-27	B143000	♦SOD	150-18						
	VALG		AT419	ANOA	70-26	B3540	SOD	149-28	B143001	♦SOD	150-19	B170024	♦SOD	164-37			
ASY74	PHIN	64-28	AT420	ANOA	97-102	B3541	SOD	149-29	B143002	♦SOD	150-20						
	RADF	183-18	AT421	ANOA	97-103	B3542	SOD	149-30	B143003	♦SOD	150-21	B170025	♦SOD	164-38			
	VALG		AT422	ANOA	97-104	B3543	SOD	149-31	B143004	♦SOD	150-22						
ASY75	PHIC	64-29	AT423	ANOA	97-105	B3544	SOD	149-32	B143005	♦SOD	150-23	B170026	♦SOD	164-39			
	RADF	183-63	AT424	ANOA	97-106	B3545	SOD	149-33	B143006	♦SOD	150-24						
	VALG		AT425	ANOA	97-107	B3546	SOD	149-34	B143007	♦SOD	150-25	B176000	SOD	164-40			
ASY76	PHIN	61-15	AT426	ANOA	98-47	B3547	SOD	158-78	B143008	♦SOD	150-26	B176001	♦SOD	164-41			
	RADF		AT427	ANOA	98-48	B3548	SOD	158-79	B143009	♦SOD	150-27	B176002	♦SOD	164-42			
	VALG		AT430	ANOA	72-91	B3549	SOD	158-80	B143010	♦SOD	150-28	B176003	♦SOD	164-43			
ASY77	PHIC	61-16	AT431	ANOA	72-92	B3550	SOD	158-81	B143011	♦SOD	150-29	B176004	♦SOD	164-44			
	RADF		AT432	ANOA	72-93	B3551	SOD	158-82	B143012	♦SOD	150-30	B176005	♦SOD	164-45			
	VALG		AT433	ANOA	72-94	B3552	SOD	158-83	B143013	♦SOD	150-31	B176006	♦SOD	164-46			
ASY80	PHIN	61-17	AT434	ANOA	72-95	B3553	SOD	158-84	B143014	♦SOD	150-32	B176007	♦SOD	164-47			
	RADF		AT435	ANOA	72-96	B3554	SOD	158-85	B143015	♦SOD	150-33	B176008	♦SOD	164-48			
	VALG		AT436	ANOA	72-97	B3555	SOD	158-86	B143016	♦SOD	150-34	B176009	♦SOD	164-49			
ASY81	ESMF	59-53	AT437	ANOA	72-98	B3556	SOD	149-35	B143017	♦SOD	150-35	B176010	♦SOD	164-50			
	MISI		AT438	ANOA	72-99	B3559	SOD	149-36	B143018	♦SOD	150-36	B176011	♦SOD	164-51			
ASY90	ATEI	57-100	AT440	ANOA	105-87	B3570	SOD	150-11	B143019	♦SOD	150-37	B176012	♦SOD	164-52			
ASY91	ATEI	57-101	AT441	ANOA	105-88	B3571	SOD	150-12	B143020	♦SOD	150-38	B176013	♦SOD	164-53			
ASZ15	PHIC	125-25	AT442	ANOA	105-89	B3572	SOD	150-13	B143021	♦SOD	150-39	B176014	♦SOD	164-54			
	RADF	180-73	AT443	ANOA	105-90	B3573	SOD	150-14	B143022	♦SOD	150-40	B176015	♦SOD	164-55			
	VALG		AT444	ANOA	105-91	B3574	SOD	150-15	B143023	♦SOD	150-41	B176016	♦SOD	164-56			
ASZ17	PHIN	125-86	AT445	ANOA	105-92	B3575	SOD	150-16	B143024	♦SOD	150-42	B176017	♦SOD	164-57			
	RADF	180-74	AT446	ANOA	105-94	B3576	SOD	150-17	B143025	♦SOD	150-43	B176018	♦SOD	164-58			
	VALG		AT450	ANOA	66-63	B3577	SOD	158-87	B143026	♦SOD	150-44	B176019	♦SOD	164-59			
ASZ18	PHIC	125-87	AT451	ANOA	66-64	B3578	SOD	158-88	B143027	♦SOD	150-45	B176020	♦SOD	164-60			
	RADF	180-75	AT452	ANOA	66-65	B3579	SOD	158-89	B143028	♦SOD	150-46	B176021	♦SOD	164-61			
	VALG		AT453	ANOA	66-66	B3580	SOD	158-90	B143029	♦SOD	150-47	B177000	♦SOD	167-63			
ASZ20	PHIN	52-38	AT454	ANOA	68-15	B3581	SOD	158-91	B144000	♦SOD	158-95	BC100	TFKG	103-49			
	RADF		AT455	ANOA	68-16	B3582	SOD	158-92	B144001	♦SOD	158-96						
ASZ20N	PHIN	53-30	AT460	ANOA	77-27	B3583	SOD	158-93	B144002	♦SOD	158-97	BC107	APX	183-105			
ASZ21	PHIC	52-66	AT461	ANOA	77-28	B3584	SOD	158-94	B144003	♦SOD	158-98						
	RADF		AT462	ANOA	77-29	B3585	SOD	155-79	B144004	♦SOD	158-99						
	VALG		AT463	ANOA	77-30	B3586	SOD	155-80	B144005	♦SOD	158-100						
ASZ23	PHIN	202-3	AT464	ANOA	77-31	B3587	SOD	155-81	B144006	♦SOD	158-101						
	RADF		AT465	ANOA	77-32	B3588	SOD	155-82	B144007	♦SOD	158-102						
	VALG		AT466	ANOA	77-33	B3589	SOD	155-83	B144008	♦SOD	158-103						
AT318	ANOA	88-38	AT467	ANOA	77-34	B3590	SOD	155-84	B145000	♦SOD	158-104						
AT319	ANOA	88-39	AT468	ANOA	77-35	B3591	SOD	155-85	B145001	♦SOD	158-105						
AT321	ANOA	88-40	AT470	ANOA	107-65	B3592	SOD	155-86	B145002	♦SOD	158-106						
AT322	ANOA	88-41	AT471	ANOA	107-66	B3593	SOD	155-87	B145003	♦SOD	158-107	BC107A	ESMF	93-18			
AT323	ANOA	88-42	AT472	ANOA	107-67	B3594	SOD	147-98	B145004	♦SOD	158-108						
AT324	ANOA	88-43	AT473	ANOA	107-68	B3595	SOD	147-99	B145005	♦SOD	158-109						
AT325	ANOA	88-44	AT474	ANOA	107-69	B3596	SOD	147-100	B1450								

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
BC109 (cont.)	TIIB		BC156A	TFKG	78-11	BC179B (cont.)	PHIN		BC216B	SGSI	108-85	BC328/BC338	SHWG	205-36
BC109B	INTG	93-23	BC156B	TFKG	78-12	BC182	TIIB	91-60	BC220	SGSI	83-79	BC337	SHWG	97-38
BC109C	INTG	93-24	BC156C	TFKG	78-13	BC182A	NSC	91-61	BC221	SGSI	69-86	BC337/BC327	SHWG	205-37
BC110	NSC	91-13	BC157	ATEI	67-22	BC182B	NSC	91-62	BC222	SGSI	92-84	BC338	SHWG	97-39
BC112	VALG	78-19		MULB		BC182L	TIIB	91-63	BC225	SGSI	66-83	BC338/BC328	SHWG	205-38
BC113	NSC	83-67	BC158	PHIN	67-23	BC183	NSC	91-64	BC226	SGSI	106-99	BC340-6	INTG	108-36
BC113A	SGSI	83-93	BC158A	SHWG	68-38	BC183A	NSC	91-65	BC237	SHWG	92-85	BC340-10	INTG	108-37
BC114	NSC	83-22	BC158B	VALG	68-39	BC183B	NSC	91-66	BC237	APX	87-6	BC340-16	INTG	108-38
BC114A	SGSI	83-94	BC159	ATEI	67-24	BC183L	TIIB	91-67	BC238	PHIN	93-34	BC341-6	INTG	108-39
BC115	SGSI	90-11	BC159A	MULB	68-40	BC184	NSC	91-68	BC238A	PHIN	93-35	BC341-10	INTG	108-40
BC116	NSC	70-27	BC159B	SHWG	68-41	BC184B	NSC	91-69	BC238B	PHIN	93-37	BC360-6	INTG	77-36
BC116A	SGSI	77-59	BC160	SHWG	134-11	BC184L	NSC	91-70	BC238C	PHIN	93-38	BC360-10	INTG	77-37
BC117	SGSI	90-12	BC160-6	INTG	77-3	BC185	NSC	105-95	BC238D	PHIN	93-38	BC360-16	INTG	77-38
BC118	SGSI	84-53	BC160-10	TFKG	77-4	BC186	NSC	90-79	BC238E	PHIN	93-38	BC361-6	INTG	77-39
BC119	SGSI	106-94	BC160-16	INTG	77-5	BC187	NSC	70-9	BC238F	PHIN	93-38	BC370	ATEI	73-62
BC120	SGSI	106-95	BC161	INTG	134-12	BC190A	NSC	92-27	BC238G	PHIN	93-38	BC377	ATEI	99-56
BC121	SHWG	78-60	BC161-6	SHWG	77-6	BC190B	NSC	92-28	BC238H	PHIN	93-38	BC378	ATEI	99-57
BC122	SHWG	78-61	BC161-10	TFKG	77-7	BC192	NSC	74-106	BC238I	PHIN	93-38	BC394	SGSI	107-108
BC123	SHWG	78-62	BC161-16	SHWG	77-8	BC194	NSC	78-103	BC238J	PHIN	93-38	BC395	SGSI	108-2
BC125	SGSI	90-13	BC167	TFKG	82-29	BC196A	NSC	195-108	BC238K	PHIN	93-40	BC396	SGSI	76-92
BC125A	SGSI	90-14	BC167A	SHWG	82-30	BC196B	NSC	65-10	BC238L	PHIN	93-44	BCW25	TIIB	101-77
BC126	SGSI	70-28	BC167B	SHWG	82-31	BC196VI	NSC	65-11	BC239	PHIN	93-44	BCW29	TIIB	205-39
BC126A	NSC	77-60	BC167C	SHWG	82-32	BC197	NSC	65-12	BC239A	PHIN	93-44	BCW29	PHIN	101-78
BC132	NSC	83-45	BC167D	TFKG	82-33	BC198	NSC	78-25	BC239B	PHIN	93-43	BCW29	PHIN	65-46
BC132A	SGSI	83-95	BC167E	SHWG	82-34	BC199	NSC	78-26	BC239C	PHIN	93-43	BCW29R	RADF	VALG
BC134	SGSI	84-54	BC167F	SHWG	82-35	BC200	NSC	65-6	BC239D	PHIN	93-44	BCW29R	RADF	VALG
BC135	SGSI	84-55	BC167G	SHWG	82-36	BC201	NSC	68-67	BC239E	PHIN	93-44	BCW30	MULB	RADF
BC135A	SGSI	84-107	BC167H	SHWG	82-37	BC202	NSC	68-68	BC239F	PHIN	93-44	BCW30	MULB	RADF
BC136	SGSI	91-2	BC167I	SHWG	82-38	BC203	NSC	68-69	BC239G	PHIN	93-44	BCW30R	MULB	RADF
BC137	SGSI	69-46	BC167J	SHWG	82-39	BC204A	NSC	70-41	BC239H	PHIN	93-44	BCW31	MULB	RADF
BC138	SGSI	106-96	BC167K	SHWG	82-40	BC204B	NSC	70-42	BC239I	PHIN	93-44	BCW31	MULB	RADF
BC139	SGSI	76-87	BC167L	SHWG	82-41	BC204V	NSC	70-43	BC239J	PHIN	93-44	BCW31	MULB	RADF
BC139A	SGSI	76-88	BC167M	SHWG	82-42	BC204VI	NSC	70-44	BC239K	PHIN	93-44	BCW31R	MULB	RADF
BC140	SHWG	145-17	BC167N	SHWG	82-43	BC205A	NSC	70-45	BC239L	PHIN	93-44	BCW32	MULB	RADF
BC140-6	INTG	106-4	BC167O	SHWG	82-44	BC205B	NSC	70-46	BC239M	PHIN	93-44	BCW32	MULB	RADF
BC140-10	SHWG	205-29	BC167P	SHWG	82-45	BC205C	NSC	70-47	BC239N	PHIN	93-44	BCW32	MULB	RADF
BC140-16	INTG	106-5	BC167Q	SHWG	82-46	BC205D	NSC	70-48	BC239O	PHIN	93-44	BCW32	MULB	RADF
BC140C	TFKG	142-82	BC167R	SHWG	82-47	BC205E	NSC	70-49	BC239P	PHIN	93-44	BCW32	MULB	RADF
BC140D	TFKG	142-83	BC167S	SHWG	82-48	BC205F	NSC	70-50	BC239Q	PHIN	93-44	BCW32	MULB	RADF
BC141	SHWG	145-18	BC167T	SHWG	82-49	BC205VI	NSC	70-51	BC239R	PHIN	93-44	BCW32	MULB	RADF
BC141-6	INTG	106-7	BC167U	SHWG	82-50	BC206B	NSC	70-52	BC239S	PHIN	93-44	BCW32	MULB	RADF
BC141-10	SHWG	205-32	BC167V	SHWG	82-51	BC207A	NSC	93-27	BC239T	PHIN	93-44	BCW32	MULB	RADF
BC141-16	INTG	106-8	BC167W	SHWG	82-52	BC207B	NSC	93-28	BC239U	PHIN	93-44	BCW32	MULB	RADF
BC142	SGSI	106-9	BC167X	SHWG	82-53	BC207C	NSC	93-29	BC239V	PHIN	93-44	BCW32	MULB	RADF
BC143	SGSI	76-95	BC167Y	SHWG	82-54	BC207D	NSC	93-30	BC239W	PHIN	93-44	BCW32	MULB	RADF
BC144	SGSI	105-70	BC167Z	SHWG	82-55	BC207E	NSC	93-31	BC239X	PHIN	93-44	BCW32	MULB	RADF
BC145	SGSI	90-15	BC167A	SHWG	82-56	BC207F	NSC	93-32	BC239Y	PHIN	93-44	BCW32	MULB	RADF
BC146	APX	78-20	BC167B	SHWG	82-57	BC207G	NSC	93-33	BC239Z	PHIN	93-44	BCW32	MULB	RADF
BC147	MULB		BC167C	SHWG	82-58	BC207H	NSC	93-34	BC239A	PHIN	93-44	BCW32	MULB	RADF
BC147A	RADF		BC167D	SHWG	82-59	BC207I	NSC	93-35	BC239B	PHIN	93-44	BCW32	MULB	RADF
BC147B	PHIN		BC167E	SHWG	82-60	BC207J	NSC	93-36	BC239C	PHIN	93-44	BCW32	MULB	RADF
BC147C	PHIN		BC167F	SHWG	82-61	BC207K	NSC	93-37	BC239D	PHIN	93-44	BCW32	MULB	RADF
BC148	ATEI		BC167G	SHWG	82-62	BC207L	NSC	93-38	BC239E	PHIN	93-44	BCW32	MULB	RADF
BC148A	MINA		BC167H	SHWG	82-63	BC207M	NSC	93-39	BC239F	PHIN	93-44	BCW32	MULB	RADF
BC148B	PHIC		BC167I	SHWG	82-64	BC207N	NSC	93-40	BC239G	PHIN	93-44	BCW32	MULB	RADF
BC148C	RADF		BC167J	SHWG	82-65	BC207O	NSC	93-41	BC239H	PHIN	93-44	BCW32	MULB	RADF
BC149	VALG		BC167K	SHWG	82-66	BC207P	NSC	93-42	BC239I	PHIN	93-44	BCW32	MULB	RADF
BC149A	VALG		BC167L	SHWG	82-67	BC207Q	NSC	93-43	BC239J	PHIN	93-44	BCW32	MULB	RADF
BC149B	VALG		BC167M	SHWG	82-68	BC207R	NSC	93-44	BC239K	PHIN	93-44	BCW32	MULB	RADF
BC149C	VALG		BC167N	SHWG	82-69	BC207S	NSC	93-45	BC239L	PHIN	93-44	BCW32	MULB	RADF
BC149D	VALG		BC167O	SHWG	82-70	BC207T	NSC	93-46	BC239M	PHIN	93-44	BCW32	MULB	RADF
BC153	SGSI	66-57	BC167P	SHWG	82-71	BC207U	NSC	93-47	BC239N	PHIN	93-44	BCW32	MULB	RADF
BC154	SGSI	66-75	BC167Q	SHWG	82-72	BC207V	NSC	93-48	BC239O	PHIN	93-44	BCW32	MULB	RADF
BC155A	TFKG	79-7	BC167R	SHWG	82-73	BC207W	NSC	93-49	BC239P	PHIN	93-44	BCW32	MULB	RADF
BC155B	TFKG	79-8	BC167S	SHWG	82-74	BC207X	NSC	93-50	BC239Q	PHIN	93-44	BCW32	MULB	RADF
BC155C	TFKG	79-9	BC167T	SHWG	82-75	BC207Y	NSC	93-51	BC239R	PHIN	93-44	BCW32	MULB	RADF
			BC167U	SHWG	82-76	BC207Z	NSC	93-52	BC239S	PHIN	93-44	BCW32	MULB	RADF
			BC167V	SHWG	82-77	BC208A	NSC	93-53	BC239T	PHIN	93-44	BCW32	MULB	RADF
			BC167W	SHWG	82-78	BC208B	NSC	93-54	BC239U	PHIN	93-44	BCW32	MULB	RADF
			BC167X	SHWG	82-79	BC208C	NSC	93-55	BC239V	PHIN	93-44	BCW32	MULB	RADF
			BC167Y	SHWG	82-80	BC208D	NSC	93-56	BC239W	PHIN	93-44	BCW32	MULB	RADF
			BC167Z	SHWG	82-81	BC208E	NSC	93-57	BC239X	PHIN	93-44	BCW32	MULB	RADF
			BC168A	SHWG	82-82	BC208F	NSC	93-58	BC239Y	PHIN	93-44	BCW32	MULB	RADF
			BC168B	SHWG	82-83	BC208G	NSC	93-59	BC239Z	PHIN	93-44	BCW32	MULB	RADF
			BC168C	SHWG	82-84	BC208H	NSC	93-60	BC239A	PHIN	93-44	BCW32	MULB	RADF
			BC168D	SHWG	82-85	BC208I	NSC	93-61	BC239B	PHIN	93-44	BCW32	MULB	RADF
			BC168E	SHWG	82-86	BC208J	NSC	93-62	BC239C	PHIN	93-44	BCW32	MULB	RADF
			BC168F	SHWG	82-87	BC208K	NSC	93-63	BC239D	PHIN	93-44	BCW32	MULB	RADF
			BC168G	SHWG	82-88	BC208L	NSC	93-64	BC239E	PHIN	93-44	BCW32	MULB	RADF
			BC168H	SHWG	82-89	BC208M	NSC	93-65	BC239F	PHIN	93-44	BCW32	MULB	RADF
			BC168I	SHWG	82-90	BC208N	NSC	93-66	BC239G	PHIN	93-44	BCW32		

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
BCY56	PHIN	82-87	BD115	APX	150-48	BDY82	MULB	155-103	BF183	PHIN	79-93	BF308	SGSI	81-91
	PHIC			PHIC			VALG	181-76	(cont.)	VALG		BF309	SGSI	81-92
	VALG			RADF		BDY63	TIIB	182-24		PHIN		BF310	TFKG	88-86
BCY57	PHIN	93-77	BD117	SGSI	157-98	BDY64	TIIB	168-81	BF184	BELI	79-93	BF311	TFKG	96-78
	TIIF		BD121	SSI	158-3	BDY65	TIIB	154-10		MULB		BF316	SGSI	65-50
BCY58	SHWG	99-59	BD123	MULB	158-4	BDY66	TIIB	154-11		PHIN		BF329	ATEI	88-110
	VALG			SSI	190-49	BDY67	TIIB	136-94		SHWG		BF330	ATEI	87-71
BCY58A	INTG	99-60	BD124	APX	153-16	BDY68	TIIB	136-95		VALG	79-90	BF332	ATEI	87-14
	TIIF			SSI	190-50	BDY69	TIIB	138-4		APX		BF333	ATEI	87-3
BCY58B	INTG	99-61		PHIC	191-97	BDY70	TIIB	135-84	BF185	BELI		BF334	VALG	88-83
	TIIF			RADF		BDY87	SHWG	214-47		MULB		BF335	VALG	88-77
BCY58C	INTG	99-62	BD127	TFKG	135-34	BDY88	SHWG	214-48		PHIN		BF344	ATEI	86-101
	TIIF		BD128	TFKG	152-47	BDY89	SHWG	214-49		SHWG		BF345	ATEI	86-102
BCY58D	INTG	99-63		TFKG	185-36	BF108	♦ NPC	108-41		VALG		BF311	ATEI	81-75
	TIIF		BD129	TFKG	152-48	BF109	MULB	142-89		PHIN	109-93	BFS13E	SGSI	78-29
BCY59	TFKG	89-19	BD130	SHWG	164-62		PHIC		BF186	APX		BFS13F	SGSI	78-30
	TIIF		BD131	PHIC	154-92	BF111	VALG	146-33		PHIN		BFS13G	SGSI	78-31
BCY59A	INTG	99-64		VALG		BF115	SHWG	80-109		MULB		BFS14E	SGSI	65-13
	TIIF		BD132	PHIC	136-25		BELI		BF194	PHIN	87-12	BFS14F	SGSI	65-14
BCY59B	INTG	99-65		VALG			MULB			PHIN		BFS14G	SGSI	65-15
	TIIF		BD135Δ	SHWG	151-96		PHIN			BELI		BFS15E	SGSI	78-32
BCY59C	ATEI	99-66	BD135Δ	PHIN	151-97		SHWG			MULB		BFS15F	SGSI	78-33
	TIIF		BD136%	VALG		BF117	INTG	105-59		PHIN		BFS15G	SGSI	78-34
BCY59D	INTG	99-67	BD136%	APX	151-98		TIIF		BF195	VALG	87-1	BFS16F	SGSI	65-20
	TIIF		BD136%	SHWG	135-13		STCB			APX		BFS16G	SGSI	65-21
BCY65	TIIF	141-51	BD137%	PHIN	135-14	BF118	INTG	108-70		BELI		BFS17	PHIN	79-29
BCY65E	SHWG	109-107	BD137%	VALG	135-15	BF119	INTG	108-61		MULB		BFS17R	RADF	79-28
		198-95	BD137%	APX	135-15	BF120	INTG	89-45		PHIN		BFS18	MULB	79-13
BCY66	SHWG	141-52	BD137%	SHWG	151-99	BF121	INTG	96-14		SHWG		BFS18R	RADF	79-14
BCY67	SHWG	77-14	BD138%	PHIN	151-100	BF122	INTG	96-16	BF196	PHIC	85-18	BFS18R	RADF	79-14
BCY69	ESMF	91-76	BD138%	VALG		BF127	INTG	96-15		RADF		BFS19	MULB	79-16
	MISI		BD138%	APX	151-101	BF127	INTG	96-15		PHIN		BFS19R	RADF	79-17
BCY70	MULB	72-7	BD139%	SHWG	135-16	BF127	INTG	96-15		PHIN		BFS20	MULB	79-24
	NTLB		BD139%	PHIN	135-17	BF127	INTG	96-15		RADF		BFS20R	RADF	79-25
	PHIC		BD139%	VALG	151-102	BF127	INTG	96-15		PHIN		BFS21	VALG	115-60
	RADF		BD140%	APX	135-18	BF127	INTG	96-15		RADF		BFS21A	VALG	115-61
BCY71	VALG	72-10	BD140%	PHIN	151-102	BF127	INTG	96-15		PHIN		BFS22	PHIN	147-41
	MULB		BD141	VALG		BF127	INTG	96-15		RADF		BFS22R	RADF	147-42
	NTLB		BD142	APX	135-19	BF127	INTG	96-15		PHIN		BFS23	VALG	147-43
	PHIC		BD144	SHWG	135-19	BF127	INTG	96-15		PHIN		BFS23R	RADF	147-44
	RADF		BD145	APX	151-103	BF127	INTG	96-15		PHIN		BFS26E	SGSI	65-16
BCY71A	VALG	72-11	BD145	SHWG	155-100	BF127	INTG	96-15		PHIN		BFS26F	SGSI	65-17
BCY72	NTLB	72-6	BD148	SHWG	154-56	BF127	INTG	96-15		PHIN		BFS26G	SGSI	65-18
	PHIC		BD149	SHWG	154-57	BF127	INTG	96-15		PHIN		BFS27E	SGSI	78-35
	RADF		BD162	SHWG	154-58	BF127	INTG	96-15		PHIN		BFS27F	SGSI	78-36
BCY78	VALG	70-92	BD163	SHWG	154-59	BF127	INTG	96-15		PHIN		BFS27G	SGSI	78-37
	ATEI		BD215	SHWG	154-58	BF127	INTG	96-15		PHIN		BFS28	MULB	114-72
BCY79	INTG	70-93	BDY10	ATEI	153-105	BF127	INTG	96-15		PHIN		BFS28R	APX	114-73
	TIIF			APX	174-91	BF127	INTG	96-15		PHIN		BFS29	TIIB	91-77
	TFKG			PHIC	180-4	BF127	INTG	96-15		PHIN		BFS29P	TIIB	80-94
BCY87	MULB	80-51	BDY11	RADF	180-4	BF127	INTG	96-15		PHIN		BFS30	TIIB	91-78
	PHIC			VALG		BF127	INTG	96-15		PHIN		BFS30P	TIIB	80-95
	RADF			APX	174-92	BF127	INTG	96-15		PHIN		BFS31	TIIB	91-79
BCY88	VALG	205-41	BDY12	SHWG	156-97	BF127	INTG	96-15		PHIN		BFS31P	TIIB	80-96
	MULB		BDY13	SHWG	156-98	BF127	INTG	96-15		PHIN		BFS32	TIIB	70-94
	PHIC		BDY15A	INTG	151-31	BF127	INTG	96-15		PHIN		BFS32P	TIIB	66-42
BCY89	VALG	80-53	BDY15B	STCB	151-32	BF127	INTG	96-15		PHIN		BFS33	TIIB	70-95
	PHIC		BDY15C	STCB	151-33	BF127	INTG	96-15		PHIN		BFS33P	TIIB	66-43
	RADF		BDY16A	INTG	151-34	BF127	INTG	96-15		PHIN		BFS34	TIIB	70-96
BCY90	VALG	71-88	BDY16B	STCB	151-35	BF127	INTG	96-15		PHIN		BFS34P	TIIB	66-44
BCY90B	TAGS	74-25	BDY17	STCB	151-35	BF127	INTG	96-15		PHIN		BFS36	FERB	96-22
BCY91	TAGS	71-89		MULB	164-65	BF127	INTG	96-15		PHIN		BFS36A	FERB	96-23
BCY91B	TAGS	74-26		RADF		BF127	INTG	96-15		PHIN		BFS37	FERB	71-98
BCY92	TAGS	71-90	BDY18	VALG	164-66	BF127	INTG	96-15		PHIN		BFS37A	FERB	71-99
		184-39		MULB		BF127	INTG	96-15		PHIN		BFS38	FERB	96-45
BCY92B	TAGS	74-27		RADF		BF127	INTG	96-15		PHIN		BFS38A	FERB	96-46
		184-40		VALG		BF127	INTG	96-15		PHIN		BFS39	FERB	96-47
BCY93	TAGS	71-91	BDY19	TFKG	164-67	BF127	INTG	96-15		PHIN		BFS40	FERB	71-110
BCY93B	TAGS	74-28		VALG		BF127	INTG	96-15		PHIN		BFS40A	FERB	72-1
BCY94	TAGS	71-92		RADF		BF127	INTG	96-15		PHIN		BFS41	FERB	72-2
BCY94B	TAGS	74-29		VALG		BF127	INTG	96-15		PHIN		BFS42	FERB	96-25
BCY95	TAGS	71-93		TFKG		BF127	INTG	96-15		PHIN		BFS43	FERB	96-26
		184-41	BDY23	ESMF	173-20	BF127	INTG	96-15		PHIN		BFS44	FERB	71-105
BCY95B	TAGS	74-30	BDY24	MISI	173-21	BF127	INTG	96-15		PHIN		BFS45	FERB	71-106
		184-42	BDY25	ESMF	173-22	BF127	INTG	96-15		PHIN		BFS46	FERB	96-75
BCY96	TAGS	71-94	BDY26	MISI	173-23	BF127	INTG	96-15		PHIN		BFS46A	FERB	96-76
BCY96B	TAGS	74-31	BDY27	ESMF	173-24	BF127	INTG	96-15		PHIN		BFS50	TFKG	143-94
BCY97	TAGS	71-95	BDY28	MISI	173-25	BF127	INTG	96-15		PHIN		BFS51	TFKG	146-34
BCY97B	TAGS	74-32		ESMF	173-25	BF127	INTG	96-15		PHIN		BFS51	SHWG	87-64
BCY98	TAGS	74-33		SHWG		BF127	INTG	96-15		PHIN		BFS57	TIIB	86-68
BCY98B	TAGS	74-33		ESMF	173-24	BF127	INTG	96-15		PHIN		BFS57P	TIIB	79-72
BCZ10	PHIC	67-80	BDY29	MISI	173-25	BF127	INTG	96-15		PHIN		BFS58	TIIB	86-94
	RADF		BDY34	ESMF	173-25	BF127	INTG	96-15		PHIN		BFS58P	TIIB	79-76
	VALG		BDY38	SHWG	151-104	BF127	INTG	96-15		PHIN		BFS59	FERB	102-79
BCZ11	PHIC	67-87		APX	164-68	BF127	INTG	96-15		PHIN		BFS60	FERB	102-80
	RADF			PHIC		BF127	INTG	96-15		PHIN		BFS61	FERB	102-81
BCZ12	PHIN	67-81		RADF		BF127	INTG	96-15		PHIN		BFS62	TFKG	89-27
	VALG			VALG		BF127	INTG	96-15		PHIN		BFS67	TIIB	116-81
BCZ13	PHIN	65-22	BDY39	SHWG	164-69	BF127	INTG	96-15		PHIN		BFS67P	TIIB	114-37
	VALG		BDY55	ESMF	171-82	BF127	INTG	96-15		PHIN		BFS68	TIIB	116-82
BCZ14	PHIN	65-23	BDY											

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
BFV17	TIIF	80-75	BFV88A	TIIF	196-77	BFW61	APX	116-88	BFX79	SGSI	202-52	BFY57	SGSI	106-101
BFV18	TIIF	80-97			98-2	MULB	PHIC		BFX80	SGSI	202-53			
BFV20	TIIF	66-39	BFV88B	TIIF	98-2	PHIN	RADF		BFX81	SGSI	202-54	BFY63	LTTF	105-32
BFV21	TIIF	66-40			196-78		VALG							
BFV22	TIIF	66-41	BFV88C	TIIF	98-3	BFW63	SGSI	81-54	BFX84	FERB	107-33	BFY64	SGSI	76-107
BFV25	TIIF	66-21			196-79	BFW64	SGSI	81-62		MINA			TIIB	195-7
BFV26	TIIF	68-22	BFV89	TIIF	89-78	BFW68	SGSI	98-97		NTLB				105-39
BFV27	TIIF	81-32			211-10			87-62	BFX85	FERB	107-34	BFY65	TIIF	
			200-46	BFV89A	TIIF	89-79	BFW70	SGSI	70-103					
BFV28	TIIF	81-33			211-11	BFW87	MULB	195-65		MINA		BFY67	APX	107-81
			200-25	BFV91	TIIF	75-48		194-70	BFX86	NTLB			PHIC	
BFV29	TIIF	66-48			199-68	BFW88	MULB	194-70		MULB			RADF	
			199-38		211-76			70-104	BFX87	NTLB		BFY67A	TIIF	105-71
BFV30	TIIF	66-35	BFV91N	TIIF	75-49	BFW89	MULB	195-67		MINA	76-47		VALG	
			192-28		199-69	BFW90	MULB	70-98	BFX88	NTLB	191-38	BFY67C	TIIF	105-72
BFV31	TIIF	66-45			211-77	BFW91	MULB	194-71		VALG			VALG	105-73
			198-96	BFV92	TIIF	100-59		70-99	BFX89	MINA			VALG	105-72
BFV32	TIIF	66-46			198-72	BFW92	MULB	194-72		NTLB	76-48	BFY68A	TIIF	105-73
			198-97	BFV92N	TIIF	100-60	BFW92	VALG	79-82		NTLB	191-39	BFY69	TIIF
BFV33	TIIF	66-36			198-73	BFW96	MULB	114-74		RADF		BFY69A	TIIF	79-110
BFV34	TIIF	65-52	BFV93	TIIF	100-47	BFW96	RADF		BFX89	APX	86-35	BFY70	APX	145-22
			211-5	BFV93A	TIIF	211-78	BFW98	VALG	94-46		PHIC			
BFV35	TIIF	65-53	BFV93AN	TIIF	211-79	BFW99	RADF	86-96		PHIN			VALG	109-42
			211-6	BFV93N	TIIF	100-48	BFW99	SHWG	75-104		RADF			196-110
BFV36	TIIF	65-54			196-2	BFX11	TIIF	205-52		SHWG		BFY72	SGSI	98-83
			211-7	BFV94	TIIF	100-49		70-101	BFX90	VALG			TIIF	98-84
BFV37	TIIF	80-64			196-3	BFX12	MULB		BFX91	SGSI	74-69	BFY74	SGSI	97-18
			211-8	BFV94N	TIIF	100-50			BFX92	SGSI	76-91	BFY75	SGSI	
BFV38	TIIF	80-65			196-4		TIIB			SGSI	90-26	BFY76	SGSI	
			211-9	BFV95	TIIF	75-45	BFX13	MULB	70-105		TIIF			TIIF
BFV40	TIIF	80-103			196-5		TIIB		BFX92A	SGSI	97-25	BFY77	SGSI	97-23
BFV41	TIIF	81-2			211-80	BFX15	TIIF	104-15		TIIF	90-27	BFY78	SGSI	94-44
BFV42	TIIF	81-17	BFV95N	TIIF	75-46			205-53	BFX93	SGSI	97-26	BFY79	TIIF	93-105
			199-5		196-6	BFX16	TIIF	205-54	BFX93A	TIIF	97-26	BFY80	TIIF	89-20
BFV43	TIIF	81-9			100-35	BFX17	SGSI	109-25		SGSI	103-7	BFY81	TIIF	205-60
			197-46	BFV96	TIIF	100-35	BFX18	85-19		TIIF			SGSI	
BFV44	TIIF	81-10			193-45	BFX19	TIIF	85-20		SGSI	103-8	BFY82	SGSI	205-61
			197-47	BFV96N	TIIF	100-36	BFX20	85-21	BFX94	SGSI	109-26	BFY83	SGSI	205-62
BFV45	TIIF	81-3			99-82	BFX21	SGSI	85-22		TIIF	109-27	BFY84	TIIF	205-63
BFV46	TIIF	81-11	BFV97	TIIF	100-76	BFX22	MINA	75-94		NTLB			TIIF	
			197-90	BFV97N	TIIF	100-77	BFX29	NTLB		RADF		BFY85	TIIF	89-17
BFV47	TIIF	81-18	BFV98	TIIF	99-81	BFX29	PHIC		BFX98	SGSI	106-100	BFY86	TIIF	205-64
BFV49	TIIF	80-104	BFV98N	TIIF	99-82	BFX29	TIIF		BFX99	SGSI	102-41		TIIF	89-18
			194-65	BFW10	APX	116-83				SGSI	205-59	BFY87	TIIF	205-65
BFV50	TIIF	80-98			193-46		MULB			TIIF	90-82	BFY87A	TIIF	78-14
			193-52		100-78	BFX30	PHIC		BFY10	MULB		BFY88	TIIF	85-88
BFV51	TIIF	79-102			100-78		TIIB			PHIN		BFY90	APX	85-105
			177-38	BFW11	APX	116-84							PHIC	
BFV52	TIIF	80-99			100-78		NTLB						VALG	
			193-44		100-77	BFX31	RADF		BFY11	MULB			TIIF	78-15
BFV53	TIIF	79-103			99-81	BFX33	VALG	82-16		PHIN			TIIF	78-15
			177-39	BFW16	APX	105-97	BFX34	145-19					TIIF	85-88
BFV54	TIIF	81-4			100-77			190-71					SHWG	
			196-76		99-82	BFX35	SGSI	75-33	BFY18	MULB			SHWG	
BFV55	TIIF	80-100			100-78		TIIB		BFY19	PHIN			TIIF	
			193-49	BFW16A	VALG	143-30	BFX36	76-60					VALG	
BFV59	TIIF	81-53	BFW17	APX	105-96			205-55	BFY26	PHIN			TIIF	
BFV60	TIIF	79-104			100-78	BFX37	MULB	72-41					TIIF	
BFV61	TIIF	79-105			100-77		NSC		BFY27				TIIF	
BFV62	TIIF	79-106			99-81	BFX38	SGSI	77-41	BFY33				TIIF	
BFV70	TIIF	211-70	BFW17A	VALG	143-31	BFX39	TIIF	191-57					TIIF	
BFV71	TIIF	211-71	BFW19	SGSI	105-34	BFX40	SGSI	191-58	BFY34				TIIF	
BFV73	TIIF	211-72	BFW20	SGSI	72-39	BFX41	TIIF	177-43	BFY37				TIIF	
BFV73N	TIIF	211-73			72-40	BFX42	SGSI	191-60	BFY39				TIIF	
BFV75	TIIF	211-74	BFW21	SGSI	72-40	BFX43	TIIF	99-18	BFY39/I				TIIF	
BFV76	TIIF	211-75	BFW22	TIIF	72-48	BFX44	MULB	99-19	BFY39/II				TIIF	
BFV80	TIIF	81-34	BFW23	SGSI	72-49	BFX45	PHIN		BFY39/III				TIIF	
BFV81	TIIF	71-11			72-48	BFX46							TIIF	
			199-66	BFW24	TIIF	107-76							TIIF	
BFV81A	TIIF	71-12			107-76	BFX47	MULB						TIIF	
			199-67	BFW25	SGSI	107-104							TIIF	
BFV81B	TIIF	71-13			107-77	BFX48	PHIN						TIIF	
			199-29	BFW26	SGSI	107-77							TIIF	
BFV82	TIIF	69-73	BFW29	LTTF	104-62	BFX49							TIIF	
BFV82A	TIIF	69-74			89-11	BFX50							TIIF	
BFV82B	TIIF	69-75	BFW30	APX									TIIF	
			192-26		76-12	BFX51							TIIF	
BFV82C	TIIF	69-76			192-68	BFX52							TIIF	
			192-27	BFW31	TIIF	102-82							TIIF	
BFV83	TIIF	93-48			192-69	BFX53							TIIF	
BFV83A	TIIF	93-49			107-32	BFX54							TIIF	
			197-91	BFW32	TIIF	104-86							TIIF	
BFV83B	TIIF	93-78			104-78	BFX55							TIIF	
			198-61	BFW33	SGSI	205-44							TIIF	
BFV83C	TIIF	93-79			205-45	BFX56							TIIF	
			198-71	BFW36	TIIF	104-86							TIIF	
BFV85	TIIF	97-108	BFW37	LTTF	104-78	BFX57							TIIF	
			195-109	BFW39	SGSI	205-44							TIIF	
BFV85A	TIIF	97-109			205-45	BFX58							TIIF	
			195-110	BFW39A	SGSI	205-46							TIIF	
BFV85B	TIIF	97-110			205-46	BFX59							TIIF	
			196-1	BFW40	TIIF	205-47							TIIF	
BFV85C	TIIF	98-50	BFW40A	SGSI	205-47	BFX60							TIIF	
			197-55	BFW43	SGSI	74-68							TIIF	
BFV85D	TIIF	89-102	BFW44	SGSI	76-90	BFX61							TIIF	
BFV85E	TIIF	89-103	BFW45	APX	108-71	BFX62							TIIF	
BFV85F	TIIF	90-80			205-48	BFX63							TIIF	
BFV85G	TIIF	90-81												

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
BLY76	RADF	145-68	BSW13	SHWG	81-104	BSX36	SGSI	72-104	BSY21	TADI	98-52	BU104	ESMF	173-27
BLY78	VALG	150-49	BSW19	TFKG	197-18	BSX38	TIIF	194-79	BSY24	TIF	197-95	BU105	MISI	160-67
BLY79	TFKG	153-19	BSW21	ESMF	86-100	BSX39	TFKG	82-2	BSY26	STCB	190-68	MULB PHIN	APX	160-67
BLY87	APX	151-73	BSW21A	MISI	198-22	BSX40	SGSI	99-34	BSY27	MULB	92-35		PHIC	PHIC
BLY88	PHIN	154-60	BSW22	ESMF	71-1	BSX41	TIIF	198-63	BSY28	STCB	193-107	BU106	VALG	140-70
BLY89	PHIN	156-99	BSW22A	ESMF	71-2	BSX44	APX	77-46	BSY29	STCB	193-108	BU107	TIIF	140-71
BLY91	PHIN	151-71	BSW23	MISI	71-3	BSX45	PHIC	77-57	BSY30	STCB	93-87	BU108	APX	163-14
BLY92	PHIN	154-61	BSW24	SGSI	76-105	BSX46	RADF	94-24	BSY31	STCB	198-100	BU110	VALG	163-5
BLY93	PHIN	156-100	BSW25	TIIF	194-74	BSX47	TIIF	199-61	BSY32	SHWG	198-99	BU111	SHWG	159-9
BN209	MULB	205-68	BSW26	TIIF	194-75	BSX48	SHWG	190-12	BSY33	SHWG	142-84	BU115	ATEI	163-23
BP101	MULB	207-79	BSW27	TIIF	194-75	BSX49	SHWG	140-80	BSY34	SHWG	142-86	BU120	ATEI	163-24
BPX25	MULB	207-79	BSW28	TIIF	194-75	BSX50	SHWG	199-77	BSY35	SHWG	199-50	BU125	SGSI	140-84
BPX29	MULB	207-80	BSW29	TIIF	194-75	BSX51	SHWG	140-81	BSY36	SHWG	93-80	BUY10	STCB	155-106
BPX30	RADF	207-81	BSW32	TIIF	194-75	BSX52	SHWG	140-81	BSY37	SHWG	198-45	BUY11	STCB	155-107
BPX38	RADF	207-82	BSW33	TIIF	194-75	BSX52A	SHWG	140-81	BSY38	SHWG	198-45	BUY18	SGSI	162-27
BPX43	RADF	207-83	BSW34	TIIF	194-75	BSX53	SHWG	140-81	BSY39	SHWG	93-81	BUY20	TIIF	190-10
BPY60	SGSI	207-84	BSW35	TIIF	194-75	BSX54	SHWG	140-81	BSY40	SHWG	198-46	BUY21	TIIF	162-100
BPY61/I	SHWG	207-85	BSW41	TIIF	194-75	BSX55	SHWG	140-81	BSY41	SHWG	93-81	BUY21A	TIIF	162-102
BPY61/II	SHWG	207-86	BSW42	TIIF	194-75	BSX56	SHWG	140-81	BSY42	SHWG	198-46	BUY22	TIIF	162-103
BPY62/I	SHWG	207-87	BSW42A	TIIF	194-75	BSX57	SHWG	140-81	BSY43	SHWG	93-81	BUY23	TIIF	172-7
BPY62/II	SHWG	207-88	BSW43	TIIF	194-75	BSX58	SHWG	140-81	BSY44	SHWG	198-46	BUY23A	TIIF	186-20
BPY62/III	SHWG	207-89	BSW43A	TIIF	194-75	BSX59	SHWG	140-81	BSY45	SHWG	93-81	BUY24	TIIF	172-8
BPY65	SGSI	207-91	BSW44	TIIF	194-75	BSX60	SHWG	140-81	BSY46	SHWG	198-46	BUY24	SGSI	155-108
BR78	RADF	150-50	BSW44A	TIIF	194-75	BSX61	SHWG	140-81	BSY47	SHWG	107-83	BUY39	TIIF	189-106
BR100B	SOD	213-77	BSW45	TIIF	194-75	BSX62	SHWG	140-81	BSY48	SHWG	107-39	BUY40	TIIF	157-99
BR100D	SOD	158-101	BSW45A	TIIF	194-75	BSX63	SHWG	140-81	BSY49	SHWG	107-40	BUY41	TIIF	154-12
BR101B	SOD	213-78	BSW46	TIIF	194-75	BSX64	SHWG	140-81	BSY50	SHWG	189-49	BUY43	SHWG	154-62
BR101D	SOD	158-102	BSW47	TIIF	194-75	BSX65	SHWG	140-81	BSY51	SHWG	192-19	BUY46	ATEI	154-63
BSV15	SHWG	134-13	BSW48	TIIF	194-75	BSX66	SHWG	140-81	BSY52	SHWG	108-47	BUY51	TIIF	167-92
BSV16	SHWG	190-4	BSW49	TIIF	194-75	BSX67	SHWG	140-81	BSY53	SHWG	192-20	BUY51A	TIIF	167-93
BSV21	TIIF	190-5	BSW50	TIIF	194-75	BSX68	SHWG	140-81	BSY54	SHWG	108-47	BUY52A	TIIF	167-94
BSV22	TIIF	73-36	BSW51	TIIF	194-75	BSX69	SHWG	140-81	BSY55	SHWG	192-20	BUY53	TIIF	167-95
BSV22	VALG	199-70	BSW52	TIIF	194-75	BSX70	SHWG	140-81	BSY56	SHWG	108-48	BUY53A	TIIF	167-96
BSV35	VALG	114-75	BSW53	TIIF	194-75	BSX71	SHWG	140-81	BSY57	SHWG	192-20	BUY54	TIIF	167-97
BSV35	FERB	211-12	BSW54	TIIF	194-75	BSX72	SHWG	140-81	BSY58	SHWG	108-48	BUY54A	TIIF	167-98
BSV35	FERB	96-74	BSW55	TIIF	194-75	BSX73	SHWG	140-81	BSY59	SHWG	192-36	C80	SLCB	116-91
BSV35A	FERB	200-28	BSW56	TIIF	194-75	BSX74	SHWG	140-81	BSY60	SHWG	108-49	C81	SLCB	119-68
BSV36	FERB	197-92	BSW57	TIIF	194-75	BSX75	SHWG	140-81	BSY61	SHWG	192-37	C82A	SLCB	114-76
BSV36	FERB	96-77	BSW58	TIIF	194-75	BSX76	SHWG	140-81	BSY62	SHWG	108-49	C82B	SLCB	114-77
BSV37	FERB	200-98	BSW59	TIIF	194-75	BSX77	SHWG	140-81	BSY63	SHWG	192-37	C83A	SLCB	114-78
BSV37	FERB	72-12	BSW60	TIIF	194-75	BSX78	SHWG	140-81	BSY64	SHWG	108-50	C83B	SLCB	114-79
BSV38	TIIF	199-71	BSW61	TIIF	194-75	BSX79	SHWG	140-81	BSY65	SHWG	108-50	C84	SLCB	114-80
BSV38	TIIF	116-89	BSW62	TIIF	194-75	BSX80	SHWG	140-81	BSY66	SHWG	108-50	C85	SLCB	114-81
BSV38P	TIIF	176-12	BSW63	TIIF	194-75	BSX81	SHWG	140-81	BSY67	SHWG	108-50	C86	SLCB	114-82
BSV38P	TIIF	114-39	BSW64	TIIF	194-75	BSX82	SHWG	140-81	BSY68	SHWG	108-50	C87	SLCB	114-83
BSV39	TIIF	176-13	BSW65	TIIF	194-75	BSX83	SHWG	140-81	BSY69	SHWG	108-50	C88	SLCB	114-84
BSV39P	TIIF	116-90	BSW66	TIIF	194-75	BSX84	SHWG	140-81	BSY70	SHWG	108-50	C89	SLCB	114-85
BSV51	TIIF	88-1	BSW67	TIIF	194-75	BSX85	SHWG	140-81	BSY71	SHWG	108-50	C90	SLCB	114-86
BSV52	TIIF	114-40	BSW68	TIIF	194-75	BSX86	SHWG	140-81	BSY72	SHWG	108-50	C91	SLCB	114-87
BSV52	TIIF	88-1	BSW69	TIIF	194-75	BSX87	SHWG	140-81	BSY73	SHWG	108-50	C92	SLCB	114-88
BSV52	TIIF	79-26	BSW70	TIIF	194-75	BSX88	SHWG	140-81	BSY74	SHWG	108-50	C93	SLCB	114-89
BSV52R	PHIN	200-29	BSW71	TIIF	194-75	BSX89	SHWG	140-81	BSY75	SHWG	108-50	C94	SLCB	114-90
BSV52R	PHIN	79-27	BSW72	TIIF	194-75	BSX90	SHWG	140-81	BSY76	SHWG	108-50	C95	SLCB	114-91
BSV53	MULB	200-30	BSW73	TIIF	194-75	BSX91	SHWG	140-81	BSY77	SHWG	108-50	C96	SLCB	114-92
BSV53	MULB	93-106	BSW74	TIIF	194-75	BSX92	SHWG	140-81	BSY78	SHWG	108-50	C97	SLCB	114-93
BSV53P	TIIF	198-103	BSW75	TIIF	194-75	BSX93	SHWG	140-81	BSY79	SHWG	108-50	C98	SLCB	114-94
BSV53P	TIIF	81-19	BSW76	TIIF	194-75	BSX94	SHWG	140-81	BSY80	SHWG	108-50	C99	SLCB	114-95
BSV54	TIIF	198-104	BSW77	TIIF	194-75	BSX95	SHWG	140-81	BSY81	SHWG	108-50	C100	SLCB	114-96
BSV54	TIIF	93-107	BSW78	TIIF	194-75	BSX96	SHWG	140-81	BSY82	SHWG	108-50	C101	SLCB	114-97
BSV54P	TIIF	198-105	BSW79	TIIF	194-75	BSX97	SHWG	140-81	BSY83	SHWG	108-50	C102	SLCB	114-98
BSV54P	TIIF	81-20	BSW80	TIIF	194-75	BSX98	SHWG	140-81	BSY84	SHWG	108-50	C103	SLCB	114-99
BSV55	TIIF	198-106	BSW81	TIIF	194-75	BSX99	SHWG	140-81	BSY85	SHWG	108-50	C104	SLCB	114-100
BSV55	TIIF	71-14	BSW82	TIIF	194-75	BSX100	SHWG	140-81	BSY86	SHWG	108-50	C105	SLCB	114-101
BSV55A	TIIF	199-48	BSW83	TIIF	194-75	BSX101	SHWG	140-81	BSY87	SHWG	108-50	C106	SLCB	114-102
BSV55A	TIIF	71-15	BSW84	TIIF	194-75	BSX102	SHWG	140-81	BSY88	SHWG	108-50	C107	SLCB	114-103
BSV55AP	TIIF	199-72	BSW85	TIIF	194-75	BSX103	SHWG	140-81	BSY89	SHWG	108-50	C108	SLCB	114-104
BSV55AP	TIIF	66-49	BSW86	TIIF	194-75	BSX104	SHWG	140-81	BSY90	SHWG	108-50	C109	SLCB	114-105
BSV55P	TIIF	199-73	BSW87	TIIF	194-75	BSX105	SHWG	140-81	BSY91	SHWG	108-50	C110	SLCB	114-106
BSV55P	TIIF	66-50	BSW88	TIIF	194-75	BSX106	SHWG	140-81	BSY92	SHWG	108-50	C111E	SGSI	93-82
BSV59	SGSI	199-49	BSW89	TIIF	194-75	BSX107	SHWG	140-81	BSY93	SHWG	93-71	C201	CRY	202-30
BSV59	SGSI	98-73	BSW90	TIIF	194-75	BSX108	SHWG	140-81	BSY94	SHWG	108-92	C202	CRY	202-31
BSV64	VALG	198-93	BSW91	TIIF	194-75	BSX109	SHWG	140-81	BSY95	SHWG	108-92	C203	CRY	202-32
BSV64	VALG	109-92	BSW92	TIIF	194-75	BSX110	SHWG	140-81	BSY96	SHWG	91-105	C204	CRY	99-84
BSV78	VALG	191-69	BSW93	TIIF	194-75	BSX111	SHWG	140-81	BSY97	SHWG	91-105	C205	CRY	202-32
BSV78	VALG	118-48	BSW94	TIIF	194-75	BSX112	SHWG	140-81	BSY98	SHWG	91-45	C206	CRY	83-51
BSV79	VALG	176-14	BSW95	TIIF	194-75	BSX113	SHWG	140-81	BSY99	SHWG	91-45	C207	CRY	119-69
BSV79	VALG	118-49	BSW96	TIIF	194-75	BSX114	SHWG	140-81	BSY100	SHWG	91-46	C208	CRY	107-105
BSV80	VALG	176-28	BSW97	TIIF	194-75	BSX115								

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C9081	CRY	74-10	CS3707	TES	87-95	D13T1	GESY	209-52	D44C3	GESY	157-38	DT5106	DEL	170-72
C9082	CRY	74-5	CS3708	TES	87-96	D13T2	GESY	209-53		GESY	189-76		DEL	182-66
C9083	CRY	74-11	CS3709	TES	87-97	D16G6	GESY	85-31	D44C4	GESY	157-37	DT5107	DEL	170-73
C9084	CRY	74-6	CS3710	TES	87-98	D26B1	GESY	78-46			189-77		DEL	182-67
C9085	CRY	74-12	CS3711	TES	87-99			176-91	D44C5	GESY	157-38	DT5108	DEL	170-74
CA2D2	SOD	123-93	CS3843	TES	83-69		GESY	78-47			189-78	DT5401	DEL	168-87
CDT1309	KSC	125-51	CS3844	TES	83-84			176-92	D44C6	GESY	157-39		DEL	180-89
CDT1310	KSC	125-52	CS3845	TES	83-101	D26C1	GESY	78-48			189-79	DT5402	DEL	170-75
		179-110	CS3854	TES	83-96	D26C2	GESY	78-49	D44C7	GESY	157-40	DT5410	DEL	170-76
CDT1311	KSC	125-53	CS3855	TES	83-97	D26C3	GESY	78-50			189-80		SOD	182-47
		180-1	CS3855A	TES	83-104	D26C4	GESY	78-51	D44C8	GESY	157-41	DT5411	DEL	170-77
CDT1312	KSC	125-54	CS3855A	TES	83-105	D26C5	GESY	78-52			189-81		SOD	182-104
		180-2	CS3859	TES	83-109	D26E1	GESY	78-53	D44C9	GESY	157-42	DT5413	DEL	168-88
CDT1313	KSC	125-55	CS3859A	TES	83-85	D26E2	GESY	78-53			189-82		SOD	183-20
		180-3	CS3860	TES	83-110	D26E3	GESY	78-54	D45C1	GESY	136-84	DT5423	DEL	170-78
CDT1315	KSC	125-56	CS3900	TES	82-90	D26E4	GESY	78-55			187-106		SOD	182-105
CDT1319	KSC	125-57	CS3900A	TES	82-91	D26E5	GESY	78-56	D45C2	GESY	136-85	DT5423M	DEL	170-79
		179-106	CS3901	TES	82-92	D26E6	GESY	78-57			187-107		DEL	182-14
CDT1320	KSC	125-58	CS3903	TES	95-54	D26E7	GESY	78-58	D45C3	GESY	136-86	DT5424	DEL	170-80
		179-107			196-40	D26G1	GESY	78-59			187-108		DEL	182-48
CDT1321	KSC	125-59	CS3904	TES	95-67	D29A4	SPR	71-76	D45C4	GESY	136-87	DT5425	DEL	170-81
		179-108			197-75	D29A5	SPR	71-77			187-109		DEL	182-49
CDT1322	KSC	125-60	CS3905	TES	71-51	D29E1	GESY	75-95	D45C5	GESY	136-88	DT5430	DEL	171-55
		179-109			179-79	D29E2	GESY	75-105			187-110		DEL	182-54
CF2386	CRY	119-87	CS3906	TES	70-107	D29E4	GESY	75-96	D45C6	GESY	136-89	DT5431	DEL	171-56
CFM13026	TES	120-23			196-41	D29E5	GESY	75-102			188-1		DEL	182-55
CM600	CRY	116-92	CS4001	CSI	85-89	D29E6	GESY	75-106	D45C7	GESY	136-90	DT5431M	DEL	171-57
CM601	CRY	116-93	CS4003	CSI	83-46	D29E7	GESY	76-4			188-2		DEL	181-97
CM602	CRY	116-94	CS4005	CSI	90-87	D29E8	GESY	75-82	D45C8	GESY	136-91	DT5701	DEL	164-71
CM603	CRY	116-95	CS4006	CSI	90-88	D29E9	GESY	75-97			188-3		ITC	
CM640	CRY	116-96	CS4007	CSI	90-89	D29E10	GESY	75-103	D45C9	GESY	136-92	DT5702	DEL	164-72
CM641	CRY	116-97	CS4012	CSI	70-7	D30A1	GESY	65-24			188-4		ITC	
CM642	CRY	116-98			193-67	D30A2	GESY	65-25	DA3F3	SOD	131-10	DT5704	DEL	164-73
CM643	CRY	116-99	CS4013	CSI	70-8	D30A3	GESY	65-26			177-110	DT5721	DEL	164-74
CM644	CRY	116-100			193-68	D30A4	GESY	65-27	DT1003	LUCB	103-71	DT5723	DEL	164-75
CM645	CRY	116-101	CS4021	CSI	83-1	D30A5	GESY	65-28			181-33	DT5801	DEL	168-89
CM646	CRY	116-102			179-82	D33D21	GESY	102-44	DT1110	LUCB	141-53	DT5802	DEL	168-90
CM647	CRY	116-103	CS4060	CSI	83-47	D33D22	GESY	102-62	DT1111	LUCB	141-54	DT5804	DEL	168-91
CM697	CRY	119-70	CS4061	CSI	83-48	D33D24	GESY	102-45	DT1112	LUCB	141-55	E1P	ROSG	207-93
		177-29	CS4062	CSI	83-52	D33D25	GESY	102-59	DT1120	LUCB	141-56	E100	SIX	115-67
CMX740	CRY	119-71	CS4123	TES	95-55	D33D26	GESY	102-63	DT1121	LUCB	141-57	E101	SIX	115-68
		177-48	CS4124	TES	95-56	D33D27	GESY	102-70	DT1122	LUCB	141-58	E102	SIX	115-69
CP409	SGSI	108-55	CS4125	TES	71-52	D33D28	GESY	102-10	DT1311	LUCB	148-16	E103	SIX	115-70
		191-65	CS4126	TES	71-58	D33D29	GESY	102-46	DT1312	LUCB	148-17	E300	SIX	115-71
CP600	CRY	120-37	CS4193	CSI	82-93	D33D30	GESY	102-60	DT1321	LUCB	148-18	EN697	BNT	90-36
CP601	CRY	120-38	CS4194	CSI	82-94	D40C1	GESY	214-51	DT1322	LUCB	148-19		FSC	
CP602	CRY	120-39	CS4256	TES	82-95	D40C2	GESY	214-52	DT1510	LUCB	106-59	EN706	FSC	84-57
CP603	CRY	120-44	CS4409	TES	95-69	D40C4	GESY	214-53			180-38		FSC	195-37
CP650	CRY	120-40	CS4410	TES	95-70	D40C5	GESY	214-54	DT1511	LUCB	106-60	EN708	FSC	84-101
CP651	CRY	120-41	CS4424	TES	97-5	D40C7	GESY	214-55			180-39		FSC	197-97
CP652	CRY	120-42	CS4425	TES	103-46	D40D1	GESY	151-10	DT1512	LUCB	106-61	EN718A	FSC	86-108
CP653	CRY	120-43	CS5086	TES	71-35		GESY	193-100			180-40	EN722	FSC	66-78
CP657	SGSI	157-101	CS5087	TES	71-36	D40D2	GESY	151-11	DT1520	LUCB	106-62	EN744	FSC	84-87
CP701	SGSI	155-109	CS5088	TES	95-4		GESY	193-101			181-81		FSC	197-20
CQT940A	KSC	128-95	CS5089	TES	95-5	D40D3	GESY	151-12	DT1521	LUCB	106-63	EN870	FSC	86-104
CQT940B	KSC	128-96	CS5249	TES	98-52		GESY	193-102			181-82	EN871	FSC	86-109
CQT940BA	KSC	128-97	CS5368	TES	98-7	D40D4	GESY	151-13	DT1522	LUCB	106-64	EN914	FSC	84-102
CQT1075	KSC	129-76			196-81		GESY	193-103			181-83		FSC	197-98
CQT1076	KSC	129-77	CS5369	TES	98-8	D40D5	GESY	151-14	DT1602	LUCB	78-67	EN930	FSC	83-23
CQT1077	KSC	129-78			196-82		GESY	193-104	DT1603	LUCB	78-68	EN956	FSC	86-110
CQT1110	KSC	128-98	CS5370	TES	98-9	D40D7	GESY	151-15	DT1610	LUCB	103-68	EN1132	BNT	69-47
CQT1110A	KSC	128-99			196-83		GESY	193-105			180-97		FSC	
CQT1111	KSC	128-100	CS5371	TES	98-10	D40D8	GESY	151-16	DT1612	LUCB	78-69	EN1613	BNT	90-90
CQT1111A	KSC	128-101			196-84		GESY	193-106	DT1613	LUCB	78-70		FSC	
CQT1112	KSC	128-102	CS5447	TES	69-60	D40N1	GESY	148-14	DT1621	LUCB	105-105	EN1711	BNT	90-95
CS697	TES	100-107	CS5448	TES	69-61	D40N3	GESY	148-15	DT3200	LUCB	159-10		FSC	
		190-85	CS5449	TES	91-23	D41D1	GESY	135-3	DT3201	LUCB	159-11	EN2219	BNT	96-57
CS706	TES	88-74	CS5450	TES	91-24		GESY	192-87	DT3301	LUCB	153-73		FSC	
		198-29	CS5451	TES	91-25	D41D2	GESY	135-4	DT3302	LUCB	153-74	EN2222	BNT	84-83
CS1420	TES	100-108	CST1773	KSC	123-65		GESY	192-88	DT4011	LUCB	159-12		FSC	
		190-86			180-14	D41D4	GESY	135-5	DT4303	LUCB	160-68	EN2369A	FSC	85-32
CS1990	TES	100-100	CST1773A	KSC	123-66		GESY	192-89	DT4304	LUCB	160-69		FSC	200-32
CS2369	TES	88-78			180-15	D41D5	GESY	135-6	DT4305	LUCB	160-70	EN2484	FSC	83-70
		198-53	CST1773B	KSC	123-67		GESY	192-90	DT4306	LUCB	160-71	EN2894A	FSC	67-14
CS2484	TES	89-47			180-16	D41D7	GESY	135-7	DT6103	LUCB	168-83		FSC	201-24
CS2711	TES	87-74	CST1789	KSC	123-68		GESY	192-91	DT6104	LUCB	168-84	EN2905	BNT	69-88
CS2712	TES	87-75	CTP1500	KSC	128-103	D41D8	GESY	135-8	DT6105	LUCB	168-85		FSC	192-70
CS2713	TES	87-76	CTP1503	KSC	128-104		GESY	192-92	DT6106	LUCB	168-86	EN2907	BNT	66-91
CS2714	TES	87-77	CTP1504	KSC	128-105	D42C1	GESY	151-108	DTG110	DEL	129-5		FSC	192-71
CS2715	TES	87-78	CTP1508	KSC	128-106		GESY	189-66	DTG110A	DEL	129-6	EN3009	FSC	84-108
CS2716	TES	87-79	CTP1544	KSC	126-108	D42C2	GESY	151-109	DTG110B	DEL	129-6		FSC	198-64
CS2921	TES	87-80	CTP1552	KSC	126-109		GESY	189-67	DTG600	DEL	127-1	EN3011	FSC	85-23
CS2922	TES	87-81	CTP3500	KSC	128-107	D42C3	GES							

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FE5485	♦ FSC	118-13	GET3013	♦ GESY	98-78	HSC3954	HSC	114-5	K2126A	♦ KMC	86-58	KM7014	KSC	123-72
FE5486	♦ FSC	118-14			198-66			205-90	K2126B	♦ KMC	86-88	KM7015	KSC	123-73
FF102	♦ CRY	120-46	GET3014	♦ GESY	98-79	HSC4391	HSC	118-15	K2127	♦ KMC	86-15	KM7016	KSC	123-74
		207-94			198-75			178-29	K2127A	♦ KMC	86-59	KM7017	KSC	123-75
FF409	♦ CRY	116-107	GET3638	♦ GESY	73-27	HSC4392	HSC	118-16	K2127B	♦ KMC	86-87	KS6101	KER	146-40
		207-95			192-109			176-30	K2501	♦ KMC	94-68			198-67
FF600	♦ CRY	116-108	GET3638A	♦ GESY	73-28	HSC4393	HSC	118-17	K2502	♦ KMC	100-90	KS6102	KER	146-41
		207-96			192-110			176-31	K2503	♦ KMC	96-81			198-84
FI0049	♦ FSC	113-22	GET3646	♦ GESY	98-80	HSC4416	HSC	118-18	K2507	♦ KMC	100-91	KS6103	KER	148-20
		211-87			198-79	HSC4416A	HSC	118-19	K2509	♦ KMC	96-82			197-48
FM870	♦ FSC	99-54	G12711	♦ GIC	89-53	HSC5163	HSC	118-20	K2523	♦ KMC	94-55	KS6104	KER	148-21
FM871	♦ FSC	99-55	G12712	♦ GIC	89-54	HSC5457	HSC	118-21	K2524	♦ KMC	94-69			197-56
FM3954	♦ NSC	119-88	G12713	♦ GIC	89-55	HSC5457A	HSC	118-22	K2525	♦ KMC	94-89	KS6105	KER	149-37
		205-74	G12714	♦ GIC	89-56	HSC5458	HSC	118-23	K2526	♦ KMC	94-100			199-22
FM3954A	♦ NSC	119-89	G12715	♦ GIC	89-57	HSC5458A	HSC	118-24	K2601	♦ KMC	94-56	KS6106	KER	149-38
		205-75	G12716	♦ GIC	89-58	HSC5459	HSC	118-25	K2601A	♦ KMC	94-80			199-39
FM3955	♦ NSC	119-90	G12921	♦ GIC	82-96	HSC5459A	HSC	118-26	K2601B	♦ KMC	94-101	KS6107	KER	149-39
		205-76	G12922	♦ GIC	82-97	HSC5484	HSC	118-27	K2601C	♦ KMC	86-16			193-79
FM3955A	♦ NSC	119-91	G12923	♦ GIC	82-98	HSC5485	HSC	118-28	K2602	♦ KMC	94-57	KS6108	KER	149-40
		205-77	G12924	♦ GIC	82-99	HSC5486	HSC	118-29	K2602A	♦ KMC	94-81			193-92
FM3956	♦ NSC	119-92	G12925	♦ GIC	82-100	HSC5638	HSC	118-30	K2602B	♦ KMC	94-102	KS6109	KER	151-46
		205-78	G12926	♦ GIC	82-101			176-32	K2602C	♦ KMC	86-17			199-40
FM3957	♦ NSC	119-93	G13392	♦ GIC	82-102	HSC5639	HSC	118-31	K2603	♦ KMC	94-58	KS6110	KER	151-47
		205-79	G13638	♦ GIC	70-108			176-33	K2603A	♦ KMC	94-82			198-86
FM3958	♦ NSC	119-94			197-7	HSC5640	HSC	118-32	K2603B	♦ KMC	94-103	KS6111	KER	151-48
		205-80	G13638A	♦ GIC	70-109			176-34	K2603C	♦ KMC	86-18			199-41
FOS100	STCB	91-26			197-2	HT100	EMLS	69-37	K2604	♦ KMC	94-59	KS6112	KER	151-49
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MHM2115	♦SOD	212-40	MM1553	♦MOTA	157-72			198-76	MPS2713	♦MOTA	95-57	MPSU05	♦MOTA	147-47
MHM2116	♦SOD	212-41	MM1619	♦MOTA	162-108	MMT3546	♦MOTA	67-40			195-76	MPSU06	♦MOTA	147-48
MHM2117	♦SOD	212-42	MM1620	♦MOTA	78-2			201-12	MPS2714	♦MOTA	95-58	MPSU10	♦MOTA	147-49
MHM2201	♦SOD	212-43	MM1755	♦MOTA	78-3	MMT3798	♦MOTA	67-28			195-77	MPSU51	♦MOTA	135-9
MHM2211	♦SOD	212-44	MM1756	♦MOTA	196-45	MMT3799	♦MOTA	67-29	MPS2715	♦MOTA	95-8	MPSU52	♦MOTA	134-70
MHM2212	♦SOD	212-45			78-4	MMT3823	♦MOTA	115-19	MPS2716	♦MOTA	95-9	MPSU55	♦MOTA	134-48
MHM2213	♦SOD	212-46	MM1757	♦MOTA	78-5	MMT3903	♦MOTA	87-42	MPS2923	♦MOTA	82-103	MPSU56	♦MOTA	134-49
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MHM2215	♦SOD	212-48			108-88	MMT3904	♦MOTA	87-45	MPS2925	♦MOTA	82-105			212-61
MHM2216	♦SOD	212-49	MM1803	♦MOTA	141-25			197-36	MPS2926	♦MOTA	95-72	MQ2219A	♦MOTA	100-51
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MJ481	♦MOTA	162-45	MM2263	♦MOTA	191-72	MP500	♦MOTA	130-94			191-45	MQ3762	♦MOTA	76-20
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MJ491	♦MOTA	138-6	MM2483	♦MOTA	97-9	MP501	♦MOTA	130-96			193-1	MQ3799	♦MOTA	68-36
MJ500	♦MOTA	137-46	MM2484	♦MOTA	97-9	MP501A	♦MOTA	130-97	MPS3639	♦MOTA	66-103			212-66
			MM3000	♦MOTA	141-29	MP502	♦MOTA	130-98			197-67	MQ3799A	♦MOTA	68-37
			MM3001	♦MOTA	141-30	MP502A	♦MOTA	130-99	MPS3640	♦MOTA	71-69			206-45
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			MM3003	♦MOTA	141-32	MP504A	♦MOTA	130-101	MPS3646	♦MOTA	85-1			208-17
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MJ2250	♦MOTA	153-21	MM3726	♦MOTA	134-15	MP601	♦MOTA	127-8	MPS3706	♦MOTA	95-37	MRD450	♦MOTA	78-71
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MJ2267	♦MOTA	138-63	MM4003	♦MOTA	133-37			179-10	MPS3711	♦MOTA	95-21	MSA8506	♦FSC	151-2
MJ2268	♦MOTA	138-64	MM4019	♦MOTA	134-16	MP800	♦MOTA	131-11	MPS5172	♦MOTA	86-99	MSA8507	♦FSC	152-81
MJ2801	♦MOTA	165-102	MM4020	♦MOTA	135-65	MP801	♦MOTA	131-12	MPS6507	♦MOTA	95-103	MSA8508	♦FSC	152-75
MJ2840	♦MOTA	167-64	MM4021	♦MOTA	136-16	MP900	♦MOTA	131-13	MPS6511	♦MOTA	95-22	MSP10	MST	148-22
MJ2841	♦MOTA	167-65	MM4022	♦MOTA	137-52			179-12	MPS6512	♦MOTA	95-59	MSP10A	MST	152-8
MJ2901	♦MOTA	138-44	MM4023	♦MOTA	138-7	MP901	♦MOTA	131-14	MPS6513	♦MOTA	95-60	MSP15	MST	148-23
MJ2940	♦MOTA	138-61	MM4048	♦MOTA	73-44			179-13	MPS6514	♦MOTA	95-82	MSP15A	MST	152-9
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MJ3101	♦MOTA	153-22	MM4429	♦MOTA	145-32	MP1612A	♦MOTA	127-12	MPS6518	♦MOTA	71-65	MSP25A	MST	152-11
MJ3201	♦MOTA	152-6	MM4430	♦MOTA	145-33	MP1612B	♦MOTA	127-13	MPS6519	♦MOTA	71-66	MSP30	MST	148-26
MJ3202	♦MOTA	152-7	MM4545	♦MOTA	135-80	MP1613	♦MOTA	127-14	MPS6520	♦MOTA	95-84	MSP30A	MST	152-12
MJ3701	♦MOTA	135-64			188-5	MP2000A	♦MOTA	129-13	MPS6521	♦MOTA	95-85	MSP35	MST	148-27
MJ3771	♦MOTA	167-66	MM4546	♦MOTA	135-81			188-55	MPS6522	♦MOTA	71-67	MSP35A	MST	152-13
					188-6	MP2060	♦MOTA	127-15	MPS6523	♦MOTA	71-68	MSP40	MST	148-28
MJ3772	♦MOTA	167-67	MM4547	♦MOTA	135-82	MP2061	♦MOTA	127-16	MPS6530	♦MOTA	95-86	MSP40A	MST	152-14
					186-28	MP2062	♦MOTA	127-17	MPS6531	♦MOTA	95-87	MSP45	MST	148-29
MJ3801	♦MOTA	156-74	MM4645	♦MOTA	134-17	MP2063	♦MOTA	127-18	MPS6532	♦MOTA	95-88	MSP45A	MST	152-15
					188-7	MP2100A	♦MOTA	129-14	MPS6533	♦MOTA	71-60	MSP50	MST	148-30
MJ3802	♦MOTA	189-93	MM4646	♦MOTA	134-18			188-8	MPS6534	♦MOTA	71-61	MSP50A	MST	152-16
					188-8	MP2200A	♦MOTA	129-15	MPS6535	♦MOTA	71-62	MSP55	MST	148-31
MJ4101	♦MOTA	153-75	MM4647	♦MOTA	134-19			186-29	MPS6540	♦MOTA	95-79	MSP55A	MST	152-17
MJ4502	♦MOTA	138-86			57-32	MP2300A	♦MOTA	129-16	MPS6544	♦MOTA	95-104	MSP60	MST	148-32
MJ6700	♦MOTA	137-48	MM5000	♦MOTA	57-33	MP2400A	♦MOTA	129-17	MPS6543	♦MOTA	95-105	MSP60A	♦MST	151-50
			MM5001	♦MOTA	57-34			180-58	MPS6544	♦MOTA	95-23	MSP65	MST	148-33
MJ6701	♦MOTA	137-49	MM5002	♦MOTA	57-34			180-59	MPS6545	♦MOTA	95-24	MSP70	MST	148-34
			MM5005	♦MOTA	134-45	MP3730	♦MOTA	126-5	MPS6546	♦MOTA	95-98	MSP70A	♦MST	151-51
MJ7000	♦MOTA	167-68	MM5006	♦MOTA	134-46	MP3731	♦MOTA	126-6	MPS6547	♦MOTA	95-99	MSP75	MST	148-35
MJ7200	♦MOTA	172-9	MM5007	♦MOTA	134-47	MP8111	MEHK	156-35	MPS6560	♦MOTA	101-101	MSP80	MST	148-36
MJ7201	♦MOTA	172-10	MM8000	♦MOTA	143-35	MP8112	MEHK	156-36	MPS6561	♦MOTA	101-102	MSP85	MST	148-37
MJ8100	♦MOTA	134-96	MM8001	♦MOTA	143-36	MP8113	MEHK	156-37	MPS6562	♦MOTA	75-80	MSP90	MST	148-38
			MM8002	♦MOTA	143-37	MP8114	MEHK	156-38	MPS6563	♦MOTA	75-81	MSP95	MST	148-39
MJ8101	♦MOTA	134-97	MM8003	♦MOTA	145-34	MP8121	MEHK	156-39	MPS6564	♦MOTA	95-25	MSP100	MST	148-40
			MM8006	♦MOTA	86-22	MP8122	MEHK	156-40	MPS6565	♦MOTA	95-46	MSP5405	MST	150-53
MJ8400	♦MOTA	168-106	MM8007	♦MOTA	86-23	MP8123	MEHK	156-41	MPS6566	♦MOTA	95-47	MSP6605	MST	150-54
MJ9000	♦MOTA	168-107	MM8008	♦MOTA	143-38	MP8211	MEHK	156-42	MPS6567	♦MOTA	95-26	MST10	MST	143-42
MJE105	♦MOTA	138-24	MM8009	♦MOTA	143-39	MP8212	MEHK	156-43	MPS6568	♦MOTA	95-80	MST10S	♦MST	106-102
MJE205	♦MOTA	162-94	MM8010	♦MOTA	143-40	MP8221	MEHK	156-44	MPS6568A	♦MOTA	95-81	MST15	MST	143-43
MJE340	♦MOTA	154-64	MM8011	♦MOTA	143-41	MP8222	MEHK	156-45	MPS6569	♦MOTA	95-73	MST20	MST	143-44
MJE370	♦MOTA	136-32	MM8012	♦MOTA	145-35	MP8223	MEHK	156-46	MPS6570	♦MOTA	95-74	MST20B	MST	146-47
MJE371	♦MOTA	137-32	MMF1	♦MOTA	117-23	MP8511	MEHK	136-43	MPS6571	♦MOTA	95-40	MST20S		

1. TYPE No. CROSS INDEX

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MS75404	MST	143-102	NKT10419	NTLB	91-30	OC74	PHIC	61-29	PL1064	TIIF	80-11	PT1835	TRW	104-105
MS76604	MST	143-103	NKT10439	NTLB	102-48		PHIN		PL1065	TIIF	80-12	PT1836	TRW	100-41
MT101B	SELB	111-74	NKT10519	NTLB	91-31	OC74N	VALG	61-24	PL1066	TIIF	80-13	PT1837	TRW	100-42
MT102B	SELB	111-75	NKT12329	NTLB	102-88	OC75	MULB	54-17	PL1067	TIIF	80-14	PT1937	TRW	164-84
		206-46	NKT12429	NTLB	102-89		PHIN		PL1081	TIIF	80-15		TRW	189-6
		65-43	NKT13329	NTLB	98-56	OC76	MULB	54-9	PL1082	TIIF	80-16	PT1941	TRW	165-110
MT0404	MEHK	65-44			197-79		PHIC		PL1083	TIIF	80-17		TRW	189-7
MT0404-1	MEHK	65-44			98-57				PL1084	TIIF	80-18	PT1949	TRW	160-72
MT0404-2	MEHK	65-45	NKT13429	NTLB	197-80	OC77	MULB	54-10	PL1085	TIIF	80-19		TRW	190-11
MT0411	MEHK	65-39	NKT16229	NTLB	85-56		PHIC		PL1091	TIIF	114-47	PT1963	TRW	160-73
MT0412	MEHK	65-40	NKT20329	NTLB	69-64				PL1092	TIIF	114-48	PT2523	TRW	109-88
MT0413	MEHK	65-40	NKT20339	NTLB	74-107	OC77M	RADF	57-74	PL1093	TIIF	114-49	PT2524	TRW	109-89
MT1060	FSC	94-70	NKT35219	NTLB	85-33	OC79	PHIC	61-27	PL1094	TIIF	114-50	PT2525	TRW	107-43
MT1060A	FSC	94-90	NKT80111	NTLB	114-23		PHIN		PL1101	TIIF	65-59	PT2525A	TRW	145-84
MT1061	FSC	89-7	NKT80112	NTLB	114-24	OC80	PHIC	61-31	PL1102	TIIF	65-60	PT2540	TRW	109-83
MT1061A	FSC	89-7	NKT80113	NTLB	114-25		PHIN		PL1103	TIIF	65-61	PT2575	TRW	107-44
MT1062	FSC	89-9	NKT80211	NTLB	118-107	OC83	MULB	61-35	PL1104	TIIF	65-62	PT2600	TRW	152-58
MT1063	FSC	89-9	NKT80212	NTLB	118-108		PHIC		PL1111	TIIF	80-20	PT2610	TRW	151-18
MT1070	FSC	141-59	NKT80213	NTLB	118-109	OC84	MULB	61-36	PL1112	TIIF	80-21	PT2620	TRW	149-7
MT4101	MEHK	78-75	NKT80214	NTLB	118-110		PHIC		PL1113	TIIF	80-22	PT2620A	TRW	149-8
MT4102.A	MEHK	78-76	NKT80215	NTLB	119-1	OC122	PHIC	60-60	PL402?	TIIF	81-22	PT2630	TRW	151-19
MT4103	MEHK	78-77	NKT80216	NTLB	119-2		PHIN				199-10	PT2635	TRW	153-77
MT6001	MEHK	78-101	NPC108		114-107	OC123	PHIC	60-61	PL4022	TIIF	81-35		TRW	193-38
MT6002	MEHK	78-86	NPC108A		114-108		PHIN				200-36	PT2640	TRW	149-9
MT6003	MEHK	78-107	NPC115		81-102	OC139	MULB	63-3	PL4023	TIIF	81-36	PT2660	TRW	149-10
MT9001	MEHK	199-9	NPC167		81-21		PHIC				200-37	PT2670	TRW	149-11
		78-108	NPC173		87-60		RADF		PL4031	TIIF	73-9		TRW	193-39
		199-25	NPC187		81-107	OC140	MULB	63-5			194-108	PT2909	TRW	168-108
MU851	MOTA	209-56	NPC188		85-57		PHIC		PL4032	TIIF	73-10	PT2920	TRW	174-45
MU852	MOTA	209-57	NPC189		81-106		RADF				194-109	PT2944	TRW	168-109
MU853	MOTA	209-58	NPC211N		119-3	OC141	MULB	63-1	PL4033	TIIF	73-11	PT2972	TRW	174-46
MU4891	MOTA	209-59	NPC212N		119-4		PHIC				194-110	PT2981	TRW	162-50
MU4892	MOTA	209-60	NPC213N		119-5		RADF		PL4034	TIIF	73-12	PT2986	TRW	174-47
MU4893	MOTA	209-61	NPC214N		119-6	OC169	PHIN	49-93			195-1	PT3473	TRW	104-88
MU4894	MOTA	209-62	NPC215N		119-7		PHIC		PL4051	TIIF	87-8	PT3500	TRW	145-36
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N2XA	TIIF	104-52	NS1110		176-6		PHIN		PL4052	TIIF	87-9	PT3503	TRW	149-13
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NF506	NSC	117-30			202-5	OC200	MULB	67-84			196-14	PT4690	TRW	152-18
NF510	NSC	119-98	NS7200		206-48		PHIC		PL4054	TIIF	87-30	PT4816	TRW	109-28
NF511	NSC	119-78	NS7201		206-49	OC201	MULB	67-106			197-57	PT4925	TRW	148-41
NF550	NSC	114-6	NS7300		206-50		PHIC		PL4055	TIIF	87-11	PT4926	TRW	158-5
		206-47	NS7301		206-51	OC202	MULB	67-107			196-15	PT4961	TRW	148-42
NF4302	NSC	117-31	NS7302		206-52		PHIC		PL4061	TIIF	83-26	PT4992	TRW	175-10
NF4303	NSC	117-32	NS7303		206-53	OC203	MULB	67-85	PL4062	TIIF	83-27	PT5693	TRW	156-54
NF4304	NSC	117-33	NS7304		206-54		PHIC		PL4112	TIIF	81-55	PT5902	TRW	168-110
NKT11	NTLB	51-10	NS7305		206-55	OC204	MULB	68-92	PMT1767	TRW	89-4	PT5909	TRW	175-11
NKT12	NTLB	51-16	NS9001		141-107		PHIC		PP3000	PPC	164-78	PT5916	TRW	150-57
NKT72	NTLB	51-14			184-80	OC205	MULB	68-93	PP3001	PPC	164-79	PT5947	TRW	142-88
NKT73	NTLB	51-12	NS9002		159-13		PHIC		PP3002	PPC	164-80	PT5950	TRW	160-74
NKT124	NTLB	51-17			184-81	OC206	MULB	68-103	PP3003	PPC	164-81	PT5963	TRW	169-1
		184-59	OC20		125-65		PHIC		PP3004	PPC	164-82	PT5991	TRW	171-84
NKT125	NTLB	51-15	OC22		123-36	OC207	MULB	71-30	PP3005	PPC	164-83	PT5992	TRW	164-85
		183-32	PHIN			OCP70	PHIC	208-26	APX	PPC	140-77	PT5994	TRW	169-2
NKT126	NTLB	51-13	OC23		123-37		PHIN		PP3007	PPC	140-78	PT6618	TRW	145-99
		182-21	PHIN			OCP71	MULB	208-27	PP3008	PPC	140-79	PT6635	TRW	151-3
NKT135	NTLB	56-13	OC24		123-38	OS14	PHIC		PP3083	PPC	154-65	PT6636	TRW	152-59
		182-101	PHIN			OS18	TOSJ	208-28	PP3084	PPC	154-66	PT6669	TRW	143-87
NKT137	NTLB	56-44	OC25		124-70	P20	TOSJ	208-29	PP3085	PPC	154-67	PT6905A	TRW	169-3
		183-64	PHIN			P21	SGSI	208-30	PP3086	PPC	154-68		TRW	191-66
NKT210	NTLB	58-18	OC26		121-82	P102	SGSI	208-31	PP3087	PPC	154-69	PT6905B	TRW	169-4
NKT211	NTLB	58-19	PHIC				SIX	112-63	PP3088	PPC	154-70		TRW	191-67
NKT212	NTLB	58-20	PHIN				SIX	208-32	PP3250	PPC	154-71	PT6905C	TRW	169-5
NKT213	NTLB	58-21	OC28		125-66	P236	SIX	208-33	PP3310	PPC	154-72		TRW	191-68
NKT214	NTLB	58-22	MULB		180-76	P237	SIX	208-34	PP3312	PPC	154-73	PT6907	TRW	162-99
NKT215	NTLB	58-23	PHIC			P238	SIX	208-35	PPR1006	PPC	150-55	PT6951	TRW	169-6
NKT216	NTLB	58-24	OC29		125-67	P346A	SGSI	199-43			213-81	PT6952	TRW	169-7
NKT217	NTLB	58-25	MULB		180-77	P1027	TES	112-64	PPR1007	PPC	156-108	PT6953	TRW	170-22
NKT219	NTLB	58-26	PHIN			P1028	TES	112-65			213-82	PT6954	TRW	170-23
NKT223	NTLB	60-68	OC30		121-88	P1029	TES	112-66	PPR1008	PPC	150-56	PT6955	TRW	170-24
NKT224	NTLB	60-69	VALG			P1069E	TES	112-67			213-83	PT6963	TRW	162-51
NKT225	NTLB	60-70	OC30A		121-89	P1086E	TES	112-68	PPR1009	PPC	156-109	PT6984	TRW	164-86
NKT229	NTLB	60-71	OC30B		121-90		TES	176-109			213-84		TRW	190-6
NKT261	NTLB	60-74	OC35		125-68	P1087E	TES	112-69	PPR1010	PPC	162-46	PT6988	TRW	164-87
NKT262	NTLB	60-75	MULB		180-78			177-75			213-85		TRW	190-7
NKT264	NTLB	60-76	VALG			PBC107	ESMF	82-108	PPR1011	PPC	162-47	PT6994	TRW	166-27
NKT270	NTLB	58-4	OC36		125-69		MISI				213-86	PT6995	TRW	166-28
NKT271	NTLB	58-40	MULB		180-79	PBC108	ESMF	82-109	PPR1012	PPC	162-48	PT6996	TRW	167-69
NKT272	NTLB	58-41	PHIN				MISI				213-87	PT7503	PTI	173-45
NKT274	NTLB	58-42	OC41		49-74	PBC109	ESMF	82-110	PPR1013	PPC	162-49		TRW	181-60
NKT275	NTLB	58-43	OC41N		52-26		MISI				213-88	PT7506	PTI	173-46
NKT281	NTLB	59-35	OC42		49-75	PBC182	ESMF	89-69	PT12	STL	213-89		TRW	181-61
NKT302	NTLB	61-42	OC42N		52-29		MISI		PT13	STL				

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QD400-71	QDC	88-77	SA2722	TES	91-87	SDT2205	SOD	171-58	SDT3513	SOD	138-21	SDT4554	SOD	152-27	
		206-66			206-91	SDT2305	SOD	171-59	SDT3514	SOD	138-22	SDT4555	SOD	152-28	
QD400-78	QDC	73-72	SA2723	TES	91-88	SDT3101	SOD	138-8	SDT3515	SOD	138-23	SDT4556	SOD	152-29	
		206-67			206-92			187-59	SDT3516	SOD	138-24	SDT4583	SOD	152-30	
QD401-71	QDC	68-78	SA2724	TES	91-89	SDT3102	SOD	138-9	SDT3550	SOD	134-35	SDT4611	SOD	153-79	
		206-68			206-93			187-60	SDT3551	SOD	134-36	SDT4612	SOD	153-80	
QD401-78	QDC	73-73	SA2725	TES	92-14	SDT3103	SOD	138-10	SDT3552	SOD	134-37	SDT4613	SOD	153-81	
		206-69			212-79			187-61	SDT3553	SOD	134-38	SDT4614	SOD	153-82	
QD402-71	QDC	68-79	SA2726	TES	91-90	SDT3104	SOD	138-11	SDT3554	SOD	134-39	SDT4615	SOD	153-83	
		206-70			212-80			187-62	SDT3575	SOD	135-29	SDT4616	SOD	153-84	
QD402-78	QDC	73-74	SA2738	TES	91-91	SDT3105	SOD	138-12	SDT3576	SOD	135-30	SDT4617	SOD	153-85	
		206-71			206-94			186-89	SDT3577	SOD	135-31	SDT4618	SOD	153-86	
QD403-71	QDC	68-80	SA2739	TES	91-92	SDT3106	SOD	138-13	SDT3578	SOD	135-32	SDT4619	SOD	153-87	
		206-72			206-95			186-90	SDT3579	SOD	135-33	SDT4901	SOD	153-88	
QD403-78	QDC	73-75	SD1023	SSS	140-73	SDT3107	SOD	138-14	SDT3601	SOD	138-70	SDT4902	SOD	156-6	
		206-73	SD1043	SSS	145-39			186-91	SDT3602	SOD	138-71	SDT4903	SOD	156-7	
QD404-71	QDC	68-81	SD1100	SSS	143-63	SDT3108	SOD	138-15	SDT3603	SOD	138-72	SDT4904	SOD	156-8	
		206-74	SD1101	SSS	145-40			186-92	SDT3604	SOD	138-73	SDT4905	SOD	156-9	
QD404-78	QDC	73-76	SD1102	SSS	145-41	SDT3109	SOD	138-16	SDT3701	SOD	135-87	SDT4921	SOD	146-60	
		208-75	SD1103	SSS	145-42			186-93	SDT3702	SOD	135-88	SDT4922	SOD	146-61	
RA1	GESY	212-67	SD1120	SSS	145-43	SDT3125	SOD	136-96	SDT3703	SOD	135-89	SDT4923	SOD	146-62	
RA1A	GESY	212-68	SD1180	SSS	145-43	SDT3128	SOD	136-97	SDT3704	SOD	135-90	SDT4924	SOD	146-63	
RA1B	GESY	212-69	SD1181	SSS	146-54	SDT3127	SOD	136-98	SDT3705	SOD	135-91	SDT4925	SOD	146-64	
RA1C	GESY	212-70	SD1182	SSS	146-55	SDT3128	SOD	136-99	SDT3706	SOD	135-92	SDT5001	SOD	146-65	
RA2	GESY	212-71	SD1183	SSS	146-56	SDT3129	SOD	136-100	SDT3707	SOD	135-93	SDT5002	SOD	146-66	
RA2A	GESY	212-72	SD5010	SSS	111-33	SDT3201	SOD	162-52	SDT3708	SOD	135-94	SDT5003	SOD	146-67	
RA2B	GESY	212-73			206-96			162-53	SDT3709	SOD	135-95	SDT5004	SOD	146-68	
RA3	GESY	212-74	SD5011	SSS	111-34	SDT3202	SOD	162-54	SDT3710	SOD	135-96	SDT5005	SOD	146-69	
RA3A	GESY	212-75			206-97			162-55	SDT3711	SOD	135-97	SDT5006	SOD	146-70	
RA3B	GESY	212-76	SD5012	SSS	111-35	SDT3203	SOD	162-56	SDT3712	SOD	135-98	SDT5007	SOD	146-71	
RM3005	RAYN	214-62			206-98			162-57	SDT3713	SOD	135-99	SDT5008	SOD	146-72	
RM3022	RAYN	214-63	SD5013	SSS	111-36	SDT3204	SOD	162-58	SDT3714	SOD	135-100	SDT5009	SOD	146-73	
RS1875	RAYN	139-7			206-99			162-59	SDT3715	SOD	135-101	SDT5010	SOD	146-74	
RT930H	RAYN	78-40	SD5014	SSS	111-37	SDT3205	SOD	162-60	SDT3716	SOD	135-102	SDT5011	SOD	146-75	
RT1110	RADF	202-6			206-100			162-61	SDT3717	SOD	135-103	SDT5012	SOD	146-76	
RT1111	RADF	202-7	SD5015	SSS	111-38	SDT3206	SOD	162-62	SDT3718	SOD	135-104	SDT5013	SOD	146-77	
RT1116	RADF	108-56			206-101			162-63	SDT3719	SOD	135-105	SDT5014	SOD	146-78	
		191-50	SD5050	SSS	114-26	SDT3207	SOD	162-64	SDT3720	SOD	135-106	SDT5015	SOD	146-79	
		202-8			206-102			162-65	SDT3721	SOD	135-107	SDT5016	SOD	146-80	
S550	ECD	152-19	SD5051	SSS	114-27	SDT3208	SOD	162-66	SDT3722	SOD	135-108	SDT5017	SOD	146-81	
S552	ECD	152-20			206-103			162-67	SDT3723	SOD	135-109	SDT5018	SOD	146-82	
S704	ECD	145-37	SDM2301	SOD	160-75	SDT3209	SOD	162-68	SDT3724	SOD	135-110	SDT5019	SOD	146-83	
S708	ECD	149-14	SDM2302	SOD	160-76			162-69	SDT3725	SOD	136-1	SDT5020	SOD	146-84	
		212-77	SDM2303	SOD	160-77	SDT3225	SOD	166-62	SDT3726	SOD	136-2	SDT5021	SOD	146-85	
S715	ECD	146-53	SDM2401	SOD	166-29	SDT3226	SOD	166-63	SDT3727	SOD	136-3	SDT5022	SOD	146-86	
		212-78	SDM2402	SOD	166-30	SDT3227	SOD	166-64	SDT3728	SOD	136-4	SDT5023	SOD	146-87	
S800	ECD	152-21	SDM2403	SOD	166-31	SDT3228	SOD	166-65	SDT3729	SOD	136-5	SDT5024	SOD	146-88	
S801	ECD	152-22	SDT1050	SOD	166-32	SDT3229	SOD	166-66	SDT3730	SOD	136-6	SDT5025	SOD	146-89	
S1000	ECD	152-23	SDT1051	SOD	166-33	SDT3301	SOD	137-16	SDT3731	SOD	136-7	SDT5026	SOD	146-90	
S1050	ECD	153-78	SDT1052	SOD	166-34			188-96	SDT3732	SOD	136-8	SDT5027	SOD	146-91	
S2002	ECD	149-15	SDT1053	SOD	166-35	SDT3302	SOD	137-17	SDT3733	SOD	136-9	SDT5028	SOD	146-92	
S3006	ECD	143-96	SDT1054	SOD	166-36			188-97	SDT3734	SOD	136-10	SDT5029	SOD	146-93	
S3010	ECD	145-38	SDT1055	SOD	166-37	SDT3303	SOD	137-18	SDT3735	SOD	136-102	SDT5030	SOD	146-94	
S3639	SES	68-65	SDT1056	SOD	166-38			188-98	SDT3736	SOD	136-103	SDT5031	SOD	146-95	
S3640	SES	68-66	SDT1057	SOD	166-39	SDT3304	SOD	137-19	SDT3737	SOD	136-104	SDT5032	SOD	146-96	
S3771	SSI	171-85	SDT1058	SOD	166-40			188-99	SDT3738	SOD	136-105	SDT5033	SOD	146-97	
S15649	FSC	83-75	SDT1059	SOD	166-41	SDT3305	SOD	137-20	SDT3739	SOD	136-106	SDT5034	SOD	146-98	
S15650	FSC	83-49	SDT1060	SOD	166-42			188-100	SDT3740	SOD	136-107	SDT5035	SOD	146-99	
S15657	FSC	85-24	SDT1061	SOD	166-43	SDT3306	SOD	137-21	SDT3741	SOD	136-108	SDT5036	SOD	146-100	
S15658	FSC	84-2	SDT1062	SOD	166-44			188-101	SDT3742	SOD	136-109	SDT5037	SOD	146-101	
S15659	FSC	105-30	SDT1063	SOD	166-45	SDT3307	SOD	137-22	SDT3743	SOD	136-110	SDT5038	SOD	146-102	
S15680	FSC	105-12	SDT1064	SOD	166-46			188-102	SDT3744	SOD	137-1	SDT5039	SOD	146-103	
S17900	FSC	105-93	SDT1150	SOD	166-47	SDT3308	SOD	137-23	SDT3745	SOD	137-2	SDT5040	SOD	146-104	
		196-43	SDT1151	SOD	166-48			188-103	SDT3746	SOD	137-3	SDT5041	SOD	146-105	
S18000	FSC	76-106	SDT1152	SOD	166-49	SDT3309	SOD	137-24	SDT3747	SOD	137-4	SDT5042	SOD	146-106	
		196-44	SDT1153	SOD	166-50			188-104	SDT3748	SOD	137-5	SDT5043	SOD	154-74	
SA310	SPR	65-108	SDT1154	SOD	166-51	SDT3321	SOD	134-57	SDT3749	SOD	137-6	SDT5044	SOD	154-75	
SA311	SPR	65-109	SDT1155	SOD	166-52	SDT3322	SOD	134-58	SDT3750	SOD	137-7	SDT5045	SOD	154-76	
SA312	SPR	65-101	SDT1156	SOD	166-53	SDT3323	SOD	134-59	SDT3751	SOD	134-40	SDT5046	SOD	154-77	
SA313	SPR	65-86	SDT1157	SOD	166-54	SDT3324	SOD	134-60	SDT3752	SOD	134-41	SDT5047	SOD	154-78	
SA314	SPR	65-87	SDT1158	SOD	166-55	SDT3325	SOD	134-61	SDT3753	SOD	134-42	SDT5048	SOD	154-79	
SA315	SPR	65-102	SDT1159	SOD	166-56	SDT3326	SOD	134-62	SDT3754	SOD	134-43	SDT5049	SOD	154-80	
SA316	SPR	65-88	SDT1160	SOD	166-57	SDT3327	SOD	134-63	SDT3755	SOD	136-33	SDT5050	SOD	154-81	
SA410	SPR	65-110	SDT1161	SOD	166-58	SDT3328	SOD	134-64	SDT3756	SOD	136-34	SDT5051	SOD	154-82	
SA411	SPR	66-1	SDT1162	SOD	166-59	SDT3329	SOD	134-65	SDT3757	SOD	136-35	SDT5052	SOD	154-83	
SA412	SPR	65-103	SDT1163	SOD	166-60	SDT3401	SOD	159-14	SDT3804	SOD	136-36	SDT5053	SOD	154-84	
SA413	SPR	65-89	SDT1164	SOD	166-61			188-105	SDT3805	SOD	136-37	SDT5054	SOD	154-85	
SA414	SPR	65-90	SDT1250	SOD	166-62	SDT3402	SOD	159-15	SDT3806	SOD	136-38	SDT5055	SOD	154-86	
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SDT6316	SOD	159-31	SDT8003	SOD	169-21	SDT9901	SOD	150-61	SFT250	◆ NPC	125-75	SL305B	SELB	214-66
SDT6408	SOD	159-32	SDT8012	SOD	169-22	SDT9902	SOD	150-62	SFT251	◆ NPC	59-49	SL354BE	SELB	105-23
SDT6409	SOD	159-33	SDT8013	SOD	169-23	SDT9903	SOD	150-63	SFT252	◆ NPC	59-56			207-9
SDT6410	SOD	159-34	SDT8015	SOD	169-24	SDT9904	SOD	150-64	SFT253	◆ ESMF	59-63	SL354BF	SELB	105-24
SDT6411	SOD	159-35	SDT8016	SOD	169-25	SE1001	CSI	85-2		◆ MISI				207-10
SDT6412	SOD	159-36	SDT8045	SOD	169-26	◆ FSC	◆ NPC		SFT264	◆ NPC	129-18	SMT100	◆ SOD	207-11
SDT6413	SOD	159-37	SDT8070	SOD	169-27	SE1002	CSI	85-3	SFT265	◆ NPC	129-19	SMT101	◆ SOD	207-12
SDT6414	SOD	159-38	SDT8071	SOD	169-28	◆ FSC	◆ NPC		SFT266	◆ NPC	129-20	SMT102	◆ SOD	207-13
SDT6415	SOD	159-39	SDT8105	SOD	164-109	SE1010	◆ FSC	88-32	SFT267	◆ NPC	129-21	SMT103	◆ SOD	207-14
SDT6416	SOD	159-40	SDT8106	SOD	164-110		◆ NPC		SFT288	◆ ESMF	56-58	SMT104	◆ SOD	207-15
SDT6901	◆ SOD	156-11	SDT8110	SOD	165-1	SE2001	◆ FSC	84-58		◆ MISI	184-70	SMT105	◆ SOD	207-16
SDT6902	◆ SOD	156-12	SDT8111	SOD	165-2	SE2002	◆ FSC	84-59	SFT298	◆ ESMF	63-85	SP1	◆ NPC	208-40
SDT6903	◆ SOD	156-13	SDT8112	SOD	165-3	SE3001	CSI	85-90		◆ MISI	184-36	SP2	◆ NPC	208-41
SDT6904	◆ SOD	156-14	SDT8113	SOD	165-4		◆ FSC		SFT306	◆ NPC	55-90	SP3	◆ NPC	208-42
SDT6905	◆ SOD	156-15	SDT8114	SOD	165-5	SE3002	CSI	85-91	SFT307	◆ NPC	56-22	SP328F	RAYN	212-81
SDT6906	◆ SOD	156-16	SDT8115	SOD	165-6		◆ FSC		SFT308	◆ NPC	56-51	SP328QF	RAYN	212-82
SDT6907	◆ SOD	156-17	SDT8116	SOD	165-7	SE3005	◆ FSC	85-80	SFT315	◆ NPC	53-86	SP329F	RAYN	212-83
SDT6908	◆ SOD	156-18	SDT8131	SOD	165-8	SE3646	◆ FSC	85-4	SFT316	◆ ESMF	53-96	SP329QF	RAYN	212-84
SDT7011	SOD	162-61	SDT8132	SOD	165-9			198-80		◆ MISI		SP706F	RAYN	212-85
SDT7012	SOD	162-62	SDT8133	SOD	165-10	SE4001	CSI	83-50	SFT317	◆ ESMF	56-71	SP708F	RAYN	212-86
SDT7013	SOD	162-63	SDT8134	SOD	165-11	◆ FSC	◆ NPC			◆ MISI		SP918F	RAYN	212-87
SDT7014	SOD	162-64	SDT8151	SOD	169-29	SE4002	CSI	83-76	SFT319	◆ ESMF	56-62	SP929QF	RAYN	212-88
SDT7015	SOD	162-65	SDT8152	SOD	169-30	◆ FSC	◆ NPC			◆ MISI		SP930QF	RAYN	212-89
SDT7016	SOD	162-66	SDT8153	SOD	169-31	SE4010	CSI	83-77	SFT320	◆ ESMF	56-67	SP1132F	RAYN	212-90
SDT7017	SOD	162-67	SDT8154	SOD	169-32	◆ FSC	◆ NPC			◆ MISI		SP1711F	RAYN	212-91
SDT7018	SOD	162-68	SDT8155	SOD	169-33	SE4020	◆ FSC	84-60	SFT321	◆ ESMF	58-55	SP1890F	RAYN	212-92
SDT7019	SOD	162-69	SDT8156	SOD	169-34	SE4021	◆ FSC	84-85		◆ MISI		SP1893F	RAYN	212-93
SDT7140	SOD	162-70	SDT8157	SOD	169-35	SE4022	◆ FSC	84-86	SFT322	◆ ESMF	58-65	SP2060F	RAYN	207-17
SDT7141	SOD	162-71	SDT8158	SOD	169-36	SE5001	◆ FSC	85-58		◆ MISI		SP2218AF	RAYN	212-94
SDT7150	SOD	162-72	SDT8159	SOD	169-37	SE5002	◆ FSC	85-59	SFT323	◆ ESMF	58-82	SP2218F	RAYN	212-95
SDT7151	SOD	162-73	SDT8301	SOD	169-38	SE5003	◆ FSC	85-60		◆ MISI		SP2219AF	RAYN	212-96
SDT7152	SOD	162-74	SDT8302	SOD	169-39	SE5020	◆ FSC	82-8	SFT325	◆ NPC	58-75	SP2219F	RAYN	212-97
SDT7154	SOD	162-75	SDT8303	SOD	169-40	SE5021	◆ FSC	82-9	SFT337	◆ NPC	55-91	SP2221AF	RAYN	212-98
SDT7155	SOD	162-76	SDT8304	SOD	169-41	SE5022	◆ FSC	82-3	SFT351	◆ NPC	58-53	SP2221AQF	RAYN	212-99
SDT7156	SOD	162-77	SDT8601	PTI	171-106	SE5023	◆ FSC	82-4	SFT352	◆ ESMF	58-66	SP2221F	RAYN	212-100
SDT7202	SOD	164-88	◆ SOD	◆ SOD	◆ SOD	SE5024	◆ FSC	82-5		◆ MISI		SP2221QF	RAYN	212-101
SDT7203	SOD	164-89	SDT8602	PTI	171-107	SE5025	◆ FSC	88-72	SFT353	◆ ESMF	58-77	SP2222AF	RAYN	212-102
SDT7204	SOD	164-90	◆ SOD	◆ SOD	◆ SOD	SE5030A	◆ FSC	94-31		◆ MISI		SP2222AQF	RAYN	212-103
SDT7205	SOD	164-91	SDT8603	PTI	171-108	SE5050	◆ FSC	82-6	SFT354	◆ ESMF	53-100	SP2222F	RAYN	212-104
SDT7206	SOD	164-92	◆ SOD	◆ SOD	◆ SOD	SE5051	◆ FSC	82-7		◆ MISI		SP2222QF	RAYN	212-105
SDT7207	SOD	164-93	SDT8604	PTI	171-109	SE5052	◆ FSC	82-14	SFT357	◆ ESMF	53-99	SP2223AF	RAYN	207-18
SDT7208	SOD	164-94	◆ SOD	◆ SOD	◆ SOD	SE6001	◆ FSC	90-21		◆ MISI		SP2369AF	RAYN	212-106
SDT7209	SOD	164-95	SDT8651	PTI	171-110	SE6002	◆ FSC	90-22	SFT357P	◆ NPC	53-98	SP2369F	RAYN	212-107
SDT7401	SOD	148-64	SDT8652	SOD	172-1	SE6020	◆ FSC	94-3	SFT358	◆ ESMF	53-106	SP2483QF	RAYN	212-108
SDT7402	SOD	148-65	SDT8653	SOD	172-2			200-107		◆ MISI		SP2484F	RAYN	212-109
SDT7403	SOD	148-66	SDT8654	SOD	172-3	SE6021	◆ FSC	94-4	SFT367	◆ NPC	61-38	SP2484QF	RAYN	212-110
SDT7411	SOD	148-67	SDT8655	SOD	172-4			200-108	SFT377	◆ NPC	64-13	SP2604QF	RAYN	213-1
SDT7412	SOD	148-68	SDT8751	PTI	169-42	SE6022	◆ FSC	87-31	SFT440	◆ MISI	151-53	SP2605QF	RAYN	213-2
SDT7413	SOD	148-69	◆ SOD	◆ SOD	◆ SOD	SE6023	◆ FSC	200-109		◆ MISI		SP2904AF	RAYN	213-3
SDT7414	SOD	148-70	SDT8752	PTI	169-43			87-32	SFT443	◆ MISI	145-85	SP2904AQF	RAYN	213-4
SDT7415	SOD	148-71	◆ SOD	◆ SOD	◆ SOD	SE7001	◆ FSC	200-110	SFT443A	◆ MISI	151-54	SP2904F	RAYN	213-5
SDT7416	SOD	148-72	SDT8753	PTI	169-44	SE7002	◆ FSC	107-84		◆ MISI		SP2904QF	RAYN	213-6
SDT7417	SOD	148-73	◆ SOD	◆ SOD	◆ SOD	SE7003	◆ FSC	107-85	SFT445	◆ NPC	108-101	SP2905AF	RAYN	213-7
SDT7418	SOD	148-74	SDT8754	PTI	169-45	SE7006	◆ FSC	152-31		◆ NPC		SP2905AQF	RAYN	213-8
SDT7419	SOD	148-75	◆ SOD	◆ SOD	◆ SOD	SE7020	◆ FSC	151-52	SFT601	◆ MISI	114-51	SP2905F	RAYN	213-9
SDT7511	SOD	156-19	SDT8755	PTI	169-46	SE8001	◆ FSC	109-86	SFT602	◆ MISI	114-52	SP2905QF	RAYN	213-10
SDT7512	SOD	156-20	◆ SOD	◆ SOD	◆ SOD	SE8002	◆ FSC	109-87	SFT603	◆ MISI	114-53	SP2906AF	RAYN	213-11
SDT7513	SOD	156-21	SDT8756	PTI	169-47	SE8010	◆ FSC	109-37	SFT604	◆ MISI	114-54	SP2906AQF	RAYN	213-12
SDT7514	SOD	156-22	◆ SOD	◆ SOD	◆ SOD	SE8041	◆ FSC	108-106	SFT918	◆ ESMF	206-104	SP2906F	RAYN	213-13
SDT7515	SOD	156-23	SDT8757	PTI	169-48	SE8042	◆ FSC	147-12		◆ MISI		SP2906QF	RAYN	213-14
SDT7516	SOD	156-24	◆ SOD	◆ SOD	◆ SOD	SE8541	◆ FSC	77-63	SFT918A	◆ ESMF	206-105	SP2907AF	RAYN	213-15
SDT7517	SOD	156-25	SDT8758	PTI	169-49	SE8542	◆ FSC	134-44		◆ MISI		SP2907AQF	RAYN	213-16
SDT7518	SOD	156-26	◆ SOD	◆ SOD	◆ SOD	SE85819	◆ FSC	114-109	SFT918B	◆ ESMF	206-106	SP2907F	RAYN	213-17
SDT7519	SOD	156-27	SDT8801	◆ SOD	169-50				◆ MISI			SP2907QF	RAYN	213-18
SDT7601	SOD	164-97	SDT8802	◆ SOD	169-51	SFT124	◆ NPC	60-103	SI211N	◆ AKER	117-38	SP2920F	RAYN	207-19
SDT7602	SOD	164-98	SDT8803	◆ SOD	169-52	SFT125	◆ NPC	60-106	SI212N	◆ AKER	117-39	SP2946F	RAYN	213-19
SDT7603	SOD	164-99	SDT8804	◆ SOD	169-53	SFT125P	◆ NPC	60-107	SI213N	◆ AKER	117-40	SP3019F	RAYN	213-20
SDT7604	SOD	164-100	SDT8805	◆ SOD	169-54	SFT130	◆ NPC	61-25	SI214N	◆ AKER	117-41	SP3020F	RAYN	213-21
SDT7605	SOD	164-101	◆ SOD	◆ SOD	◆ SOD	SFT131	◆ NPC	61-32	SI215N	◆ AKER	117-42	SP3115F	RAYN	213-22
SDT7606	SOD	164-102	SDT8921	PTI	173-53	SFT131P	◆ NPC	61-33	SI216N	◆ AKER	117-43	SP3116F	RAYN	213-23
SDT7607	SOD	164-103	◆ SOD	◆ SOD	◆ SOD	SFT143	◆ NPC	60-104	SI221N	◆ AKER	117-44	SP3133F	RAYN	213-24
SDT7608	SOD	164-104	SDT8922	PTI	173-54	SFT144	◆ NPC	60-105	SI222N	◆ AKER	117-45	SP3134F	RAYN	213-25
SDT7609	SOD	164-105	◆ SOD	◆ SOD	◆ SOD	SFT145	◆ NPC	61-26	SI223N	◆ AKER	117-46	SP3135F	RAYN	213-26
SDT7610	SOD	164-106	SDT8923	PTI	173-55	SFT146	◆ NPC	61-30	SI224N	◆ AKER	117-47	SP3136F	RAYN	213-27
SDT7611	SOD	164-107	◆ SOD	◆ SOD	◆ SOD	SFT162	◆ NPC	59-90	SI225N	◆ AKER	117-48	SP3724QD	RAYN	213-28
SDT7612	SOD	164-108	◆ SOD	◆ SOD	◆ SOD	SFT163	◆ NPC	53-110	SI226N	◆ AKER	117-49	SP3724QF	RAYN	213-29
SDT7711	SOD	157-107	SDT8951	◆ SOD	173-56	SFT171	◆ NPC	53-14	SI231N	◆ AKER	114-110	SP3725F	RAYN	213-30
SDT7712</														

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				IN TYPE NUMBER SEQUENCE							
TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
ST15013	♦ TEC	171-87	ST91059	♦ TEC	180-95	STC5111/1	♦ SIL	137-56	SU2098	♦ TES	115-78
ST15014	♦ TEC	171-88			180-100	STC5202	♦ SIL	135-66			T1496
ST15015	♦ TEC	171-89	ST91085	♦ TEC	140-74	STC5203	♦ SIL	135-67	SU2098A	♦ TES	207-30
ST15043	♦ TEC	157-9	ST91086	♦ TEC	140-75	STC5204	♦ SIL	135-68			T11122
			ST91087	♦ TEC	140-76	STC5205	♦ SIL	135-69	SU2098B	♦ TES	207-31
ST15044	♦ TEC	157-10	ST92006	♦ TEC	159-45	STC5206	♦ SIL	135-70			T11123
			ST92007	♦ TEC	159-46	STC5207	♦ SIL	135-71	SU2099	♦ TES	207-32
ST15045	♦ TEC	157-11	ST92008	♦ TEC	159-47	STC5610	♦ SIL	134-66			T11126
			STC1015A	♦ SIL	171-60	STC5611	♦ SIL	134-67	SU2099A	♦ TES	207-33
ST17060	♦ TEC	169-55	STC1015B	♦ SIL	171-61	STC5624	♦ SIL	134-68			T11131
			STC1015C	♦ SIL	171-62	STC5802	♦ SIL	133-66	TCH98	TAGS	71-96
ST17061	♦ TEC	169-56	STC1015D	♦ SIL	171-63	STC5803	♦ SIL	133-67			T11132
			STC1015E	♦ SIL	171-64	STC5804	♦ SIL	133-68	TCH98B	TAGS	184-43
ST17062	♦ TEC	169-57	STC1016	♦ SIL	171-65	STC5805	♦ SIL	133-69			T11136
			STC1016A	♦ SIL	171-66	STC5806	♦ SIL	133-70	TCH99	TAGS	71-97
ST18007	TEC	169-58	STC1016B	♦ SIL	171-67	STC5807	♦ SIL	133-71			T11141
ST18008	TEC	169-59	STC1016C	♦ SIL	171-68	STC7114	♦ SIL	161-58	TCH99B	TAGS	74-34
ST18009	TEC	169-60	STC1016D	♦ SIL	171-69	STC7115	♦ SIL	161-59			T11142
ST18010	TEC	169-61	STC1016E	♦ SIL	171-70	STC7116	♦ SIL	161-60	TD100	♦ SPR	83-53
ST18011	TEC	165-23	STC1024	♦ SIL	161-46	STC7117	♦ SIL	161-61			T11145
ST18012	TEC	165-24	STC1080	♦ SIL	161-18	STC7518	♦ SIL	161-62	TD101	♦ SPR	83-28
ST18013	TEC	165-25	STC1081	♦ SIL	161-19	STC7519	♦ SIL	161-63			T11151
ST18014	TEC	159-41	STC1082	♦ SIL	161-20	STC7520	♦ SIL	161-64	TD102	♦ SPR	83-29
ST18015	TEC	159-42	STC1083	♦ SIL	161-21	STC7521	♦ SIL	161-65			T11152
ST18016	TEC	159-43	STC1084	♦ SIL	161-22	STC7644	♦ SIL	148-79	TD200	♦ SPR	83-54
ST18017	TEC	159-44	STC1085	♦ SIL	161-23	STC7645	♦ SIL	148-80			T11155
ST18018	TEC	170-12	STC1094	♦ SIL	170-18	STE400	♦ GIC	93-68	TD201	♦ SPR	83-30
ST28135	TEC	170-13	STC1201	♦ SIL	153-106	STE401	♦ GIC	93-69			T13027
ST28136	TEC	170-14	STC1300	♦ SIL	156-77	STP20S	MST	139-13	TD202	♦ SPR	83-31
ST28137	TEC	170-15	STC1336	♦ SIL	156-78	STP30P	MST	139-8			T13028
ST28138	TEC	170-16	STC1400	♦ SIL	171-72	STP30S	MST	139-14	TD250	♦ SPR	83-55
ST28139	TEC	170-17	STC1500	♦ SIL	161-31	STP40P	MST	139-9			T13029
ST28140	TEC	174-30	STC1550	♦ SIL	161-25	STP40S	MST	139-15	TD400	♦ SPR	66-67
ST28141	TEC	174-31	STC1551	♦ SIL	161-26	STP50P	MST	139-10			T13030
ST28142	TEC	174-32	STC1552	♦ SIL	161-27	STP50S	MST	139-11	TD401	♦ SPR	66-68
ST28143	TEC	138-87	STC1553	♦ SIL	161-28	STP60P	MST	139-11			T13031
ST29045	TEC	138-88	STC1554	♦ SIL	161-29	STP60S	MST	139-12	TD402	♦ SPR	66-69
ST29046	TEC	138-89	STC1555	♦ SIL	161-30	STP70P	MST	139-12			TIL58
ST29047	TEC	138-90	STC1726	♦ PTI	169-62	STP70S	MST	139-18	TD500	♦ SPR	66-70
ST29048	TEC	138-91				STS1121	SEN	185-28			TIL63
ST29049	TEC	138-92	STC1728	♦ PTI	169-63	STS1122	SEN	185-29	TD501	♦ SPR	66-71
ST29050	TEC	138-93				STS1131	SEN	185-30			TIL64
ST29051	TEC	138-100	STC1731	♦ PTI	169-64	STS1132	SEN	185-31	TD502	♦ SPR	66-72
ST29052	TEC	138-101				STS1133	SEN	185-32			TIL65
ST29053	TEC	136-40	STC1733	♦ PTI	169-65	STS1134	SEN	185-33	TD550	♦ SPR	66-73
ST40002	♦ TEC	185-40	STC1736	♦ PTI	169-66	STT2400	♦ SIL	152-37			TIL66
						STT2401	♦ SIL	152-38	TD600	♦ SPR	202-68
ST40003	♦ TEC	185-41	STC1738	♦ PTI	169-67	STT2402	♦ SIL	152-39			TIL67
						STT2403	♦ SIL	152-40	TD601	♦ SPR	202-69
ST40004	♦ TEC	185-42	STC1800	♦ SIL	152-32	STT2404	♦ SIL	152-41	TD602	♦ SPR	202-70
			STC1850	♦ SIL	152-33	STT2406	♦ SIL	152-43	TD700	♦ SPR	202-71
ST54004	♦ TEC	136-81	STC1860	♦ SIL	152-34	STT2650	♦ SIL	166-1	TD701	♦ SPR	202-72
			STC1861	♦ SIL	152-35	STT2651	♦ SIL	166-2	TD702	♦ SPR	202-73
ST54005	♦ TEC	136-82	STC1862	♦ SIL	152-36	STT2652	♦ SIL	166-3	TD2219	♦ SPR	84-84
			STC2103	♦ PTI	173-70	STT2653	♦ SIL	166-4			TIL605
ST54006	♦ TEC	136-83	STC2104	♦ PTI	173-71	STT2655	♦ SIL	166-5	TD2905	♦ SPR	66-98
						STT2656	♦ SIL	166-6			TIL606
ST72011	♦ TEC	137-25	STC2105	♦ PTI	173-72	STT2800	♦ SIL	166-7	TF78/30	SHWG	121-35
ST72012	♦ TEC	137-26	STC2106	♦ PTI	173-73	STT2801	♦ SIL	166-8	TH95	SPR	214-16
ST72013	♦ TEC	137-27	STC2107	♦ PTI	173-74	STT2802	♦ SIL	166-9	TH2192	SPR	214-17
ST72014	♦ TEC	137-28	STC2108	♦ PTI	173-75	STT2803	♦ SIL	166-10	TH2221	♦ SPR	214-18
ST72015	♦ TEC	138-17				STT2804	♦ SIL	166-11	TH2221A	♦ SPR	214-19
ST72016	♦ TEC	138-18				STT2805	♦ SIL	166-12	TH2222	♦ SPR	214-20
ST72017	♦ TEC	138-19				STT2806	♦ SIL	166-13	TH2222A	♦ SPR	214-21
ST72018	♦ TEC	138-78				STT4451	♦ SIL	147-13	TH2369	SPR	214-22
ST72019	♦ TEC	138-79				STT4452	♦ SIL	147-14	TH2906	♦ SPR	214-23
ST72020	♦ TEC	138-80				STT4453	♦ SIL	147-15	TH2906A	♦ SPR	214-24
ST72021	♦ TEC	137-43				STT4454	♦ SIL	147-16	TH2907	♦ SPR	214-25
ST72036	♦ TEC	137-44				STT4455	♦ SIL	147-17	TH2907A	♦ SPR	214-26
						STT4456	♦ SIL	147-18	TH2926	SPR	214-27
ST72037	♦ TEC	137-45				STT4483	♦ SIL	147-19	TH2944	SPR	214-28
						STT6309	♦ SIL	159-48	TH2945	SPR	214-29
ST72038	♦ TEC	137-46				STT6310	♦ SIL	159-49	TH2946	SPR	214-30
						STT6312	♦ SIL	159-50	TH3638	SPR	214-31
ST72039	♦ TEC	133-63				STT6313	♦ SIL	159-51	TH3877	SPR	214-32
						STT6315	♦ SIL	159-52	TH3904	SPR	214-33
ST72040	♦ TEC	133-64				STT6316	♦ SIL	159-53	TH3906	SPR	214-34
						STT6409	♦ SIL	159-54	TH4258	♦ SPR	214-35
ST72041	♦ TEC	133-65				STT6410	♦ SIL	159-55	TH4384	♦ SPR	214-36
						STT6412	♦ SIL	159-56	TH4386	♦ SPR	214-37
ST74049	♦ TEC	187-67				STT6413	♦ SIL	159-57	TH4413	♦ SPR	214-38
						STT6415	♦ SIL	159-58	TH4415	♦ SPR	214-39
ST74050	♦ TEC	187-68				STT6416	♦ SIL	159-59	TH7500	SPR	214-40
						STT9001	♦ SIL	147-20	TH7501	SPR	214-41
ST74051	♦ TEC	187-69				STT9002	♦ SIL	147-21	T1156	♦ TII	122-76
						STT9003	♦ SIL	147-22	T1156L	♦ TII	122-77
ST75004	♦ TEC	135-10				STT9004	♦ SIL	147-23	T1159	♦ TII	122-78
						STT9005	♦ SIL	147-24	T1160	♦ TII	122-79
ST75005	♦ TEC	135-11				STT9006	♦ SIL	147-25	T1161	♦ TII	122-80
						STT9007	♦ SIL	147-26	T1162	♦ TII	122-81
ST75006	♦ TEC	135-12				STT9008	♦ SIL	147-27	T1363	♦ TII	53-5
						STT9009	♦ SIL	147-28	T1364	♦ TII	53-6
ST76018	♦ TEC	137-53				STT9010	♦ SIL	147-29	T1365	TII	56-88
						STT9011	♦ SIL	147-30	T1390	TII	51-33
ST76019	♦ TEC	137-54				STT9012	♦ SIL	147-31	T1391	TII	51-34
						SU2074	♦ TES	115-76	T1392	TII	56-89
ST76020	♦ TEC	137-55				SU2075	♦ TES	115-77	T1393	TII	56-77
						SU2076	♦ TES	115-78	T1394	TII	56-78
ST84027	TEC	148-76				SU2077	♦ TES	115-79	T1395	TII	56-79
ST84028	TEC	148-77				SU2078	♦ TES	115-80	T1396	TII	56-80
ST84029	TEC	148-78				SU2079	♦ TES	115-81	T1397	TII	56-81
ST86020	TEC	162-87				SU2080	♦ TES	115-82	T1398	TII	56-82
ST86021	TEC	162-88				SU2081	♦ TES	115-83	T1400	♦ TII	51-35

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TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
TIP35A	♦ TII	165-104	TIS97	♦ TII	97-77	TQ64A	♦ SPR	75-5	TRS140MP	♦ ITC	140-85	TRS4502	♦ ITC	90-45
TIP35B	TII	182-11	TIS98	♦ TII	97-78			191-29	TRS150HC	♦ ITC	148-84	TRS4504	♦ ITC	144-17
	TII	165-105	TIS99	♦ TII	97-79	TR34	ITC	53-37	TR160	♦ ITC	104-18	TRS4505	♦ ITC	150-88
TIP35C	TII		TIS100	♦ TII	105-37	TR43	ITC	55-76	TRS160HP	♦ ITC	145-46	TRS4506	♦ ITC	153-33
	TII	165-106	TIS101	♦ TII	105-38	TR44	ITC	55-71	TR160MP	♦ ITC	140-86	TRS4754	♦ ITC	144-18
TIP36	♦ TII	138-49	TIS102	♦ TII	108-16	TR45	ITC	55-59	TRS175HC	♦ ITC	148-85	TRS4755	♦ ITC	150-89
		182-8	TIS103	♦ TII	108-17	TR320	ITC	55-77	TR180	♦ ITC	104-19	TRS4804S	♦ ITC	144-19
TIP36A	♦ TII	138-50	TIS104	♦ TII	72-53	TR321	ITC	55-93	TRS180HP	♦ ITC	145-47	TRS4805S	♦ ITC	150-90
		182-9	TIS105	♦ TII	100-78	TR323	ITC	55-78	TR180MP	♦ ITC	140-87	TRS4926	♦ ITC	149-24
TIP36B	TII	138-45	TIS106	♦ TII	97-80	TR383	ITC	58-69	TRS200	♦ ITC	104-20	TRS4927	♦ ITC	149-25
	TII		TIS107	♦ TII	97-81	TR482	ITC	55-97	TRS200HC	♦ ITC	148-86	TRS5006	♦ ITC	153-34
TIP36C	TII	138-46	TIS108	♦ TII	97-81	TR508	ITC	55-98	TRS200HP	♦ ITC	145-48	TRS5011	♦ ITC	90-46
	TII			♦ TII	87-104	TR650	♦ ITC	55-69	TRS200MP	♦ ITC	140-88	TRS5012	♦ ITC	90-47
TIP41	TII	162-90	TIS109	♦ TII	98-22	TR721	♦ ITC	55-70	TRS225	♦ ITC	104-21	TRS5014	♦ ITC	144-20
	TII			♦ TII	195-85	TR722	ITC	55-92	TRS225HP	♦ ITC	145-49	TRS5015	♦ ITC	150-91
TIP41A	TII	162-91	TIS110	♦ TII	97-82	TR-C44	ITC	55-79	TRS225MP	♦ ITC	140-89	TRS5204S	♦ ITC	144-21
	TII			♦ TII	193-94	TR-C45	ITC	56-32	TRS250	♦ ITC	104-22	TRS5205S	♦ ITC	150-92
TIP41B	TII	162-92	TIS111	♦ TII	98-23	TR-C70	ITC	55-109	TRS250HP	♦ ITC	145-50	TRS5254	♦ ITC	144-22
	TII			♦ TII	98-23	TR-C70	ITC	54-90	TRS250MP	♦ ITC	140-90	TRS5255	♦ ITC	150-93
TIP41C	TII	162-93	TIS112	♦ TII	195-96	TR-C71	ITC	54-91	TRS275	♦ ITC	104-23	TRS5404S	♦ ITC	144-23
	TII			♦ TII	73-13	TR-C72	ITC	54-92	TRS275HP	♦ ITC	145-51	TRS5405S	♦ ITC	150-94
TIP42	TII	138-20	TIS113	♦ TII	194-90	TRL2014	ITC	141-60	TRS275MP	♦ ITC	140-91	TRS5501	♦ ITC	90-48
	TII			♦ TII	105-83	TRL2015	ITC	174-109	TRS301	♦ ITC	104-24	TRS5502	♦ ITC	90-49
TIP42A	TII	138-21	TIS114	♦ TII	194-10	TRL2254S	ITC	141-61	TRS301HP	♦ ITC	145-52	TRS5504	♦ ITC	144-24
	TII			♦ TII	105-84	TRL2255S	ITC	174-110	TRS301LC	♦ ITC	141-99	TRS5505	♦ ITC	150-95
TIP42B	TII	138-22	TIS115	♦ TII	194-11	TRL2504	ITC	141-62	TRS301MP	♦ ITC	140-92	TRS5754	♦ ITC	144-25
	TII			♦ TII	105-85	TRL2504S	ITC	141-63	TRS325	♦ ITC	104-25	TRS5755	♦ ITC	150-96
TIP42C	TII	138-23	TIS116	♦ TII	194-12	TRL2505	ITC	175-1	TRS325HP	♦ ITC	145-53	TRS5804S	♦ ITC	144-26
	TII			♦ TII	105-86	TRL2505S	ITC	175-2	TRS325MP	♦ ITC	140-93	TRS5805S	♦ ITC	150-97
TIP3055	TII	163-19	TIXM101	♦ TII	194-13	TRL2754S	ITC	141-64	TRS350	♦ ITC	104-26	TRS6006	♦ ITC	153-35
	TII		TIXS10	♦ TII	51-50	TRL2755S	ITC	175-3	TRS350HP	♦ ITC	145-54	TRS6011	♦ ITC	90-50
TIS14	♦ TII	117-62	TIXS12	♦ TII	86-64	TRL3014	ITC	141-65	TRS350MP	♦ ITC	140-94	TRS6012	♦ ITC	90-51
	TII		TIXS13	♦ TII	141-35	TRL3014S	ITC	141-66	TRS375	♦ ITC	104-27	TRS6014	♦ ITC	144-27
TIS18	TII	88-106	TIXS35	♦ TII	141-36	TRL3015	ITC	175-4	TRS375HP	♦ ITC	145-55	TRS6015	♦ ITC	150-98
TIS25	♦ TII	117-63	TIXS36	♦ TII	120-47	TRL3015S	ITC	175-5	TRS375MP	♦ ITC	140-95	TRS6204S	♦ ITC	144-28
	TII	207-45	TIXS80	♦ TII	120-48	TRL3504	ITC	141-67	TRS401	♦ ITC	104-28	TRS6205S	♦ ITC	150-99
TIS26	♦ TII	117-64		♦ TII	117-66	TRL3505	ITC	175-6	TRS401HP	♦ ITC	145-56	TRS6504	♦ ITC	144-29
	TII	207-46	TIXS81	♦ TII	117-67	TRL3514S	ITC	141-105	TRS401LC	♦ ITC	141-100	TRS6505	♦ ITC	150-100
TIS27	♦ TII	117-65		♦ TII		TRL3515S	ITC	175-7	TRS401MP	♦ ITC	140-96	TRS6604S	♦ ITC	144-30
	TII	207-47	TK9201	♦ TEK	165-58	TRL4014	ITC	141-68	TRS425	♦ ITC	104-29	TRS6605S	♦ ITC	150-101
TIS34	TII	119-9	TK30551	♦ TEK	165-59	TRL4014S	ITC	141-69	TRS425HP	♦ ITC	145-57	TRS7006	♦ ITC	153-36
TIS37	♦ TII	72-52	TK30552	♦ TEK	165-60	TRL4015S	ITC	175-8	TRS425MP	♦ ITC	140-97	TRS7014	♦ ITC	144-31
	TII		TK30553	♦ TEK	165-61	TRL4504	ITC	142-43	TRS450	♦ ITC	104-30	TRS7014S	♦ ITC	144-32
TIS38	♦ TII	72-50	TK30554	♦ TEK	165-62	TRL4505	ITC	141-70	TRS451	♦ ITC	104-31	TRS7015	♦ ITC	150-102
	TII		TK30555	♦ TEK	165-62	TRL4505	ITC	142-44	TRS451MP	♦ ITC	140-98	TRS7015S	♦ ITC	150-103
TIS39	♦ TII	105-101	TK30556	♦ TEK	165-63	TRL5014	ITC	141-71	TRS475	♦ ITC	104-32	TRS7504	♦ ITC	144-33
	TII	119-10	TK30557	♦ TEK	165-64	TRL5014S	ITC	141-72	TRS475MP	♦ ITC	140-99	TRS7505	♦ ITC	150-104
TIS41	TII	119-11	TK30558	♦ TEK	165-65	TRL5015	ITC	142-45	TRS501	♦ ITC	104-33	TRS8006	♦ ITC	153-37
TIS42	TII	97-76	TK30559	♦ TEK	165-66	TRL5015S	ITC	142-46	TRS501MP	♦ ITC	140-100	TRS8014	♦ ITC	144-34
TIS44	TII	193-70	TK30560	♦ TEK	165-67	TRL5504	ITC	141-73	TRS525	♦ ITC	104-34	TRS8015	♦ ITC	150-105
	TII	98-58	TM1613	♦ TII	105-7	TRL6014	ITC	142-47	TRS525MP	♦ ITC	140-101	TRSP15X5	♦ ITC	134-102
TIS45	TII	197-23	TM1614	♦ TII	76-73	TRL6015	ITC	141-74	TRS550	♦ ITC	104-35	TRSP15X	♦ ITC	134-78
TIS46	TII	98-59	TM1711	♦ TII	105-8	TRL6504	ITC	142-48	TRS550MP	♦ ITC	140-102	TRSP20X5	♦ ITC	134-103
	TII	197-100	TM1712	♦ TII	76-74	TRL6505	ITC	141-75	TRS575	♦ ITC	104-36	TRSP20X	♦ ITC	134-79
TIS47	TII	98-99	TM2613	♦ TII	100-53	TRL7014	ITC	142-49	TRS575MP	♦ ITC	140-103	TRSP25X5	♦ ITC	134-104
	TII	199-11	TM2614	♦ TII	75-42	TRL7015	ITC	141-76	TRS601	♦ ITC	104-37	TRSP25X	♦ ITC	134-80
TIS48	TII	99-23	TM2711	♦ TII	100-54	TRL7504	ITC	142-50	TRS601MP	♦ ITC	140-104	TRSP30X5	♦ ITC	134-105
	TII	200-38	TM2712	♦ TII	75-43	TRL7505	ITC	141-77	TRS650	♦ ITC	104-38	TRSP30X	♦ ITC	134-81
TIS49	TII	99-24	TN53	♦ SPR	108-58	TRL8014	ITC	142-51	TRS701	♦ ITC	104-39	TRSP2006	♦ ITC	135-45
	TII	200-39	TN54	♦ SPR	102-49	TRL8015	ITC	141-78	TRS750	♦ ITC	104-40	TRSP2254	♦ ITC	133-44
TIS50	TII	73-37	TN59	♦ SPR	108-59	TRM2014	ITC	142-52	TRS801	♦ ITC	104-41	TRSP2254S	♦ ITC	133-45
	TII	199-75		♦ SPR	191-10	TRM2015	ITC	141-79	TRS1004	♦ ITC	143-106	TRSP2255	♦ ITC	133-77
TIS51	TII	98-100	TN60	♦ SPR	102-50	TRM2254S	ITC	142-53	TRS1005	♦ ITC	150-68	TRSP2255S	♦ ITC	133-78
	TII	199-26		♦ SPR	191-11	TRM2255S	ITC	141-80	TRS1204	♦ ITC	143-107	TRSP2504	♦ ITC	133-46
TIS52	TII	98-81	TN61	♦ SPR	108-60	TRM2504	ITC	142-54	TRS1205	♦ ITC	150-69	TRSP2504S	♦ ITC	133-47
	TII	198-78		♦ SPR	191-12	TRM2504S	ITC	141-81	TRS1404	♦ ITC	143-108	TRSP2505	♦ ITC	133-79
TIS53	TII	73-45	TN62	♦ SPR	102-51	TRM2505	ITC	141-82	TRS1405	♦ ITC	150-70	TRSP2505S	♦ ITC	133-80
	TII	200-58		♦ SPR	191-13	TRM2505S	ITC	142-55	TRS1604	♦ ITC	143-109	TRSP2754	♦ ITC	133-48
TIS54	TII	73-46	TN63	♦ SPR	106-82	TRM2754S	ITC	142-56	TRS1605	♦ ITC	150-71	TRSP2754S	♦ ITC	133-49
	TII	200-59		♦ SPR	184-75	TRM2755S	ITC	141-83	TRS1804	♦ ITC	143-110	TRSP2755	♦ ITC	133-81
TIS55	TII	98-82	TN64	♦ SPR	101-39	TRM3014	ITC	142-57	TRS1805	♦ ITC	150-72	TRSP2755S	♦ ITC	133-82
	TII	198-69		♦ SPR	184-76	TRM3014S	ITC	141-84	TRS2004	♦ ITC	144-1	TRSP3006	♦ ITC	135-46
TIS56	♦ TII	85-34	TN79	♦ SPR	107-45	TRM3015	ITC	141-85	TRS2005	♦ ITC	150-73	TRSP3014	♦ ITC	133-50
	TII		TN80	♦ SPR	101-80	TRM3015S	ITC	142-58	TRS2006	♦ ITC	153-29	TRSP3014S	♦ ITC	133-51
TIS57	♦ TII	85-35	TN81	♦ SPR	108-102	TRM3504	ITC	142-59	TRS2254	♦ ITC	144-2	TRSP3015	♦ ITC	133-83
	TII		TP3638	♦ SPR	72-65	TRM3505	ITC	141-86	TRS2255	♦ ITC	150-74	TRSP3015S	♦ ITC	133-84
TIS58	♦ TII	119-12		♦ SPR	191-2	TRM3514S	ITC	142-60	TRS2504	♦ ITC	144-3	TRSP3254S	♦ ITC	133-4
	TII		TP363											

1. TYPE No. CROSS INDEX

IN TYPE NUMBER SEQUENCE

TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line	TYPE No.	MFRS	Pg&Line
TRSP5014S	♦ ITC	133- 81	UC734E	♦ SODI	117-101	ZT43	FERR	91- 35	ZT1484	FERR	153- 90			
TRSP5015	♦ ITC	133- 93	UC755	♦ SODI	114- 7			191- 85	ZT1485	FERR	153- 91			
TRSP5015S	♦ ITC	133- 94	UC756	♦ SODI	114- 8	ZT44	FERR	91- 36	ZT1486	FERR	153- 92			
TRSP5281	ITC	134- 89	UC805	SODI	112- 82			191- 86	ZT1487	FERR	161- 13			
TRSP5282	ITC	134- 90	UC807	SODI	113- 30	ZT60	FERR	96- 37			181- 35			
TRSP5415	ITC	134- 91	UC814	♦ SODI	112- 83			191- 98	ZT1488	FERR	161- 14			
TRSP5416	ITC	134- 92	UC851	♦ SODI	112- 84	ZT61	FERR	96- 38			181- 36			
TRSP6006	ITC	135- 55	UC854	SODI	112- 85			191- 99	ZT1489	FERR	161- 15			
TRSP7006	ITC	135- 56	UC855	SODI	112- 86	ZT62	FERR	96- 39			181- 37			
TRSP8006	ITC	135- 57	UC1764	SODI	112-109			191-100	ZT1490	FERR	161- 16			
TSF3	♦ NPC	208- 65	UC2139	♦ SODI	119-100	ZT63	FERR	96- 40			181- 38			
TZ81	♦ SPR	97- 16			213- 41			191-101	ZT1613	FERR	107- 86			
TZ82	♦ SPR	97- 17	UC2147	♦ SODI	115- 84	ZT64	FERR	96- 41	ZT1700	FERR	145- 63			
TZ551	♦ SPR	72- 77	UC2148	♦ SODI	213- 42			191-102	ZT1701	FERR	153- 93			
		192- 93	UC2149	♦ SODI	119-101	ZT66	FERR	96- 42	ZT1702	FERR	161- 5			
TZ552	♦ SPR	72- 78			213- 43			191-103	ZT1708	FERR	92- 60			
		192- 94	UC2766	♦ SODI	112- 87	ZT68	FERR	108- 17			194- 92			
TZ553	♦ SPR	72- 79			213- 44			191-104	ZT1711	FERR	107-107			
		192- 95	UCX2910	♦ SODI	100- 79	ZT80	FERR	92- 40	ZT2015	FERR	167- 77			
TZ554	♦ SPR	72- 80			207- 57			191-105	ZT2016	FERR	167- 78			
		192- 96	UD3005	♦ SPR	193- 74	ZT81	FERR	92- 41	ZT2102	FERR	140-109			
TZ581	♦ SPR	72- 42			213- 45			191-106	ZT2205	FERR	92- 61			
TZ582	♦ SPR	72- 43	UD3006	♦ SPR	193- 75	ZT82	FERR	92- 42			194- 93			
TZ7000	SPR	103- 64			213- 46			191-107	ZT2206	FERR	92- 62			
TZ7001	SPR	103- 65	UD3007	♦ SPR	193- 76	ZT83	FERR	92- 43			194- 94			
TZ7002	SPR	103- 66			202- 78			191-108	ZT2270	FERR	145- 64			
TZ7003	SPR	103- 67	UPA15	NECJ	207- 58	ZT84	FERR	92- 44	ZT2368	FERR	98-101			
TZ7500	SPR	76- 24	UPA36A	NECJ	211- 20			191-109			199- 12			
TZ7501	SPR	76- 25	USA55191/33	none	142- 73	ZT86	FERR	92- 45	ZT2369	FERR	98-102			
TZ7502	SPR	76- 26			189- 90			191-110			200- 40			
TZ7503	SPR	76- 27	USA55191/34	none	142- 74	ZT87	FERR	92- 46	ZT2369A	FERR	98-103			
U110	♦ SIX	112- 70			189-105			192- 1			200- 41			
U112	♦ SIX	112- 71	USA55191/36	none	188- 27	ZT88	FERR	92- 47	ZT2475	FERR	94- 33			
U114	♦ SIX	112- 72	UT100	♦ SIX	117-102			192- 2			200- 99			
U133	♦ SIX	112- 73	UT101	♦ SIX	117-103	ZT89	FERR	92- 48	ZT2476	FERR	105- 9			
U139	♦ SIX	112- 74	V205	SGSI	69-109			192- 3			196- 16			
U139D	♦ SIX	112- 75			191- 14	ZT90	FERR	145- 86	ZT2477	FERR	105- 10			
U146	♦ SIX	112- 76	V405A	SGSI	71- 20	ZT91	FERR	145- 87			196- 17			
U147	♦ SIX	112- 77			199- 79	ZT92	FERR	145- 88	ZT2708	FERR	85- 68			
U148	♦ SIX	112- 78	V409	♦ ECD	157- 73	ZT93	FERR	145- 89	ZT2857	FERR	86- 24			
U149	♦ SIX	112- 79	V410A	SGSI	76- 96	ZT94	FERR	145- 90	ZT2876	FERR	148- 81			
U168	♦ SIX	112- 80	V435	SGSI	69- 65	ZT95	FERR	145- 91	ZT2887	FERR	152- 60			
U183	♦ SIX	115- 6			196- 85	ZT110	FERR	92- 49	ZT2938	FERR	93- 84			
U184	♦ SIX	117- 68	V435A	SGSI	69-110			192- 4			200- 63			
U197	♦ SIX	117- 69	V653	SGSI	72- 32	ZT111	FERR	92- 50	ZT3440	FERR	145- 92			
U198	♦ SIX	117- 70	V654	SGSI	77- 16			192- 5	ZT3441	FERR	153- 94			
U199	♦ SIX	117- 71	V655	SGSI	66- 56	ZT112	FERR	92- 51	ZT3442	FERR	165- 69			
U200	♦ SIX	120- 33	V658	NECJ	89- 13			192- 6	ZTX107	FERR	91- 37			
U201	♦ SIX	120- 34	V721	SGSI	71- 16	ZT113	FERR	92- 52	ZTX108	FERR	91- 38			
U202	♦ SIX	120- 35			200- 12			192- 7	ZTX109	FERR	91- 39			
U221	♦ SIX	120- 3	V723	SGSI	73- 40	ZT114	FERR	92- 53	ZTX114	FERR	93- 85			
U222	♦ SIX	120- 4			199- 99			192- 8	ZTX300	FERR	91- 97			
U231	♦ SIX	117- 72	V741	SGSI	72- 51	ZT116	FERR	92- 54	ZTX301	FERR	91- 98			
		207- 51	V743	SGSI	73- 41			192- 9	ZTX302	FERR	91- 99			
U232	♦ SIX	117- 73	V745	SGSI	77- 62	ZT117	FERR	92- 55	ZTX303	FERR	91-100			
		207- 52	V761	SGSI	74- 78			192- 10	ZTX304	FERR	91-101			
U233	♦ SIX	117- 74	V763	SGSI	75- 47	ZT118	FERR	92- 56	ZTX310	FERR	92- 63			
		207- 53			197- 24			192- 11			193- 71			
U234	♦ SIX	117- 75	V765	SGSI	76- 94	ZT119	FERR	92- 57	ZTX311	FERR	92- 64			
		207- 54	VX3375	♦ ECD	150-106			192- 12			193- 72			
U235	♦ SIX	117- 76	VX3733	♦ ECD	152- 92	ZT152	FERR	69- 31	ZTX312	FERR	94- 5			
		207- 55	VX3866	♦ ECD	145- 58	ZT180	FERR	69- 90			199- 27			
U240	♦ SIX	119- 79	XB401	TIIB	147- 32			193- 13	ZTX313	FERR	94- 14			
		176-110	XB404	TIIB	152- 93	ZT181	FERR	69- 91			200- 42			
U241	♦ SIX	119- 80	XB408	TIIB	154-108			193- 14	ZTX314	FERR	94- 15			
		177- 1	XB433	TIIB	142- 90	ZT182	FERR	68- 76			200- 43			
U242	♦ SIX	119- 81	XB434	TIIB	142- 91			193- 15	ZTX320	FERR	88-107			
		177- 2	XB436	TIIB	149- 42	ZT183	FERR	69- 92	ZTX321	FERR	88-108			
U243	♦ SIX	119- 82	XB437	TIIB	152- 62			193- 16	ZTX325	FERR	86- 25			
		177- 3	XB473	TIIB	142- 92	ZT184	FERR	69- 93	ZTX326	FERR	86- 26			
U244	♦ SIX	120- 45	XB474	TIIB	142- 93			193- 17	ZTX327	FERR	103- 37			
U257	♦ SIX	115- 83	XB475	TIIB	149- 43	ZT187	FERR	69- 94	ZTX330	FERR	87-105			
		207- 56	XB476	TIIB	153-107			193- 18	ZTX331	FERR	87-106			
U1277	♦ TES	117- 77	ZDT10	FERR	91- 93	ZT189	FERR	69- 95	ZTX341	FERR	89- 67			
U1278	TES	117- 78			211- 21			193- 19	ZTX342	FERR	89- 68			
U1279	♦ TES	117- 79	ZDT11	FERR	91- 94	ZT202	FERR	90- 98	ZTX350	FERR	112- 88			
U1280	♦ TES	117- 80			207- 59	ZT203	FERR	90- 99	ZTX360	FERR	103- 18			
U1281	♦ TES	117- 81	ZDT20	FERR	91- 95	ZT204	FERR	90-100			196- 86			
U1282	♦ TES	117- 82			207- 60	ZT210	FERR	147- 33	ZTX500	FERR	69-102			
U1283	♦ TES	117- 83	ZDT21	FERR	91- 96	ZT211	FERR	147- 34	ZTX501	FERR	69-103			
U1284	♦ TES	117- 84			207- 61	ZT280	FERR	69- 96	ZTX502	FERR	69-104			
U1285	♦ TES	117- 85	ZDT30	FERR	80- 84			193- 20	ZTX503	FERR	69-105			
U1286	♦ TES	117- 86			211- 22	ZT281	FERR	69- 97	ZTX504	FERR	69-106			
U1325	♦ TES	117- 87	ZDT31	FERR	80- 85			193- 21	ZTX510	FERR	68- 58			
U1714	♦ TES	117- 88			211- 23	ZT282	FERR	69- 98			199- 76			
U1715	♦ TES	120- 5	ZDT40	FERR	92- 97			193- 22	ZTX530	FERR	68- 11			
U1837E	♦ TES	117- 89			207- 62	ZT283	FERR	69- 99	ZTX531	FERR	68- 12			
U1897E	♦ TES	117- 90	ZDT41	FERR	92- 98			193- 23						
		176- 90			207- 63	ZT284	FERR	69-100						
U1898E	♦ TES	117- 91	ZDT42	FERR	92- 99			193- 24						
		177- 4			207- 64	ZT287	FERR	69-101						
U1899E	♦ TES	117- 92	ZDT44	FERR	92-100			193- 25						
		177- 41			207- 65	ZT402	FERR	90-101						
U1994E	♦ TES	117- 93	ZDT45	FERR	92-101	ZT403	FERR	90-102						
U2047E	♦ TES	117- 94			207- 66	ZT404	FERR	90-103						
UC155	SODI	117- 95	ZM100	FERR	208- 66	ZT600	FERR	109- 29						
UC155W	SODI	114- 58	ZM110	FERR	208- 67			196-107						
UC200	SODI	118- 55	ZT20	FERR	96- 32	ZT696	FERR	104- 63						
UC201	SODI	118- 56			191- 77	ZT697	FERR	104- 79						
UC210	♦ SODI	118- 57	ZT21	FERR	96- 33	ZT706	FERR	92- 58						
UC220	♦ SODI	118- 58			191- 78	ZT706A	FERR	92- 59						
UC241	♦ SODI	117- 96	ZT22	FERR	96- 34			194- 91						
UC250	♦ SODI	119- 99			191- 79	ZT708	FERR	98- 60						
UC251	♦ SODI	120- 49	ZT23	FERR	96- 35	ZT709	FERR	94- 32						
UC400														

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) Tab & (3) TYPE No.

LINE No.	TYPE No.	MAX. COLL. DISS. @25°C (W)	DERATE IN FREE AIR W/°C (Hz)	M A M P	ABS MAX RATINGS @25°C				MAX. I _{cb0} @MAX V _{cb} (A)	TYPICAL h _{FE} PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	L C O D E
					V _{cb0} (V)	V _{ce0} (V)	V _{be0} (V)	I _c (A)		V _{cb} (V)	I _e (A)	h _{fe}	BIAS					
													hoe (mhos)	hie (Ω)	hre (X.0001)			
1	GT34																	
2	2N231	9.0m*		J	4.5	25	25	3.0m	3.0u	5.0	1.0m	20	500nb					
3	2SA121	15m	100M	J	15		4.5	2.0m	8.0u	3.0	500u	19	25u	50	5.0	6.0p	T05	
4	2SA122	15m	100M	J	15			2.0m	8.0u	6.0	1.0m	24	25u	50	5.0	1.3p	T024	
5	2SA123	15m	100M	J	15			2.0m	8.0u	6.0	1.0m	24	25u	50	5.0	1.3p	R14	
6	2SA124	15m	120M	J	15			2.0m	8.0u	6.0	1.0m	32	25u	50	5.0	1.3p	R14	
7	2SA124	15m	120M	J	15			2.0m	8.0u	6.0	1.0m	49	25u	50	5.0	1.3p	R14	
8	JAN2N220	20m		S	15			2.0m	2.0u	6.0	1.0m	40	800n	65	15	5.0p	T01	
9	OC57	20m	434u	S	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	R19	
10	OC57	20m*	666u	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	R19	
11	OC58	20m*	10kΔ	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	R19	
12	2N175	20m*	10kΔ	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	R19	
13	2N175	20m*	850k	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	T040	
14	2N220	20m	3.3m	J	10			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	T01	
15	OC59	20m	2.2M	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	R19	
16	2N344	20mt	866u	J	7.0			5.0m	1.5u	2.0	500u	40	800n	65	15	5.0p	T024	
17	2N345	20mt	50M*	J	5.0			5.0m	3.0u	3.0	500u	66	5.0ub	100			T024	
18	2N346	20mt	866u	J	5.0			5.0m	3.0u	3.0	500u	66	5.0ub	100			T024	
19	2N1499†	25m*	75M*	S	5.0			5.0m	3.0u	3.0	500u	10	5.0ub	100			T024	
20	JAN2N240	25m*	625u	S	20			5.0m	100u	2.5	10m	35					T09	
21	2N1411	25m*	416u	J	6.0			5.0m	10u	3.0	500u	16					R143	
22	2N1221	25m*	25MΔ	J	10			5.0m	5.0u	1.0	50m	20					T024	
23	2N1221A	25m*	25MΔ	J	10			5.0m	5.0u	1.0	50m	20					T024	
24	JAN2N128	25m*	28MΔ	J	10			5.0m	3.0u	3.0	500u	19	1.5ub	75			T024	
25	2N393†	25m*	40MΔ	J	12			5.0m	5.0u	2.5	10m	25					T024	
26	2N1427†	25m*	40MΔ	J	15			5.0m	5.0u	2.5	10m	25					T024	
27	2N245†	25m*	45MΔ	J	10			5.0m	4.0u	3.0	500u	19	4.0u	90			T024	
28	2N503	25m*	50MΔ	J	6.0			5.0m	5.0u	3.0	500u	15					T024	
29	2N252	30m	455u	J	6.0			5.0m	5.0u	3.0	500u	120	1.0ub	55	20		T024	
30	2N308	30m	625u	J	6.0			5.0m	5.0u	3.0	500u	120	1.0ub	55	20		T024	
31	2N309	30m	625u	J	6.0			5.0m	5.0u	3.0	500u	120	1.0ub	55	20		T024	
32	2N310	30m	625u	J	6.0			5.0m	5.0u	3.0	500u	120	1.0ub	55	20		T024	
33	2N240	30m	30MΔ*	J	20			5.0m	100u	2.5	10m	45					T024	
34	2N1109	30m	500u	J	16			5.0m	15m	3.0	500u	30	1.5ub	66			T022	
35	2N1108	30m	30M	J	16			5.0m	10u	6.0	50m	20					T022	
36	2N1110	30m	35M	J	16			5.0m	10u	6.0	50m	33					T022	
37	2N1111	30m	35M	J	20			5.0m	10u	6.0	50m	25					T022	
38	2N1111A	30m	35M	J	20			5.0m	10u	6.0	50m	25					T022	
39	2N1111B	30m	35M	J	20			5.0m	10u	6.0	50m	25					T022	
40	2N1107	30m	40M	J	16			5.0m	10u	6.0	50m	29					T022	
41	2N499	30m*	170M	J	30			5.0m	100u	10	50m	15					T01	
42	2N588	30m*	250M	J	15			5.0m	15u	5.0	3.0m	150					T02	
43	2N5044	30m	2.5GΩ	S	15			30m	6.0u	5.0	3.0m	150					T02	
44	2N5043	30m	3.0GΩ	S	15			30m	6.0u	5.0	3.0m	150					T02	
45	2N7	35m	70M	S	25			15m	10u	4.0	70m	55	14u	2.7k	3.2	1p	T01	
46	2N105	35m	75M	A	25			15m	5.0u	4.0	70m	55	16u	2.8k	5.5	1p	T01	
47	2N139	35m	13M	A	16			15m	10u	9.0	1.0m	48					T040	
48	2N8	35m	13M	A	16			15m	10u	9.0	1.0m	48					T040	
49	JSA107	35m	20M	S	6.0			10m	10u	3.0	1.0m	40					T01	
50	JAN2N393	35m	30MΔ	J	10			10m	10u	3.0	500u	40					R143	
51	2SA106	35m	30M	S	6.0			10m	10u	3.0	1.0m	50					T044	
52	2SA105	35m	75M	S	6.0			10m	10u	3.0	1.0m	50					T044	
53	2N768	35m	175M	S	12			100m	10u	2.0	2.0m	40					T018	
54	2N769†	35m	90M	J	12			100m	10u	5.0	2.0m	55					T018	
55	2SB302	40m	12M	J	10			5.0m	2.0m	6.0	1.0m	80	27u	4.5k	4.0	10p	T01	
56	2SA448	40m	1.6G	J	15			5.0m	10u	3.0	3.0m	40					T017	
57	2N1785	45m	50M*	S	10			5.0m	10u	6.0	1.0m	40	2.0u	40			T09	
58	2N1786	45m	50M*	S	10			5.0m	10u	6.0	1.0m	15	2.0u	40			T09	
59	2N1787	45m	50M*	S	15			5.0m	10u	6.0	1.0m	25	2.0u	40			T09	
60	2N36	50m		J	20			8.0m	6.0	1.0	1.0m	45					OV14	
61	2N37	50m		J	20			8.0m	6.0	1.0	1.0m	30					OV11	
62	2N38	50m		J	20			8.0m	6.0	1.0	1.0m	15					OV11	
63	2N108	50m		J	20			15m	15m	6.0	1.0m	15					R108	
64	2SA295	50m	900u	J	15			50m	15u	1.0	10m	50					R48	
65	2SB303	50m		J	30			25	14u								T01	
66	2SB68	50m	50M	J	105			50	100m	35	5.0m	60					T05	
67	2SB121	50m	50M	J	105			50	100m	35	5.0m	60					T01	
68	2N34A	50m	60M	J	25			8.0m	10u	6.0	1.0m	60					OV15	
69	2N506	50m	60M	J	40			100m	15u	1.0	10m	40					OV11	
70	2N59	50m	700k	J	32			20	7.0u	2.0	2.0m	70					T01	
71	2SB39	50m	85M	J	10			2.0m	10u	4.0	50m	65	25u	3.5k	9.4	40p	T01	
72	2N107	50m	1.0M	J	12			10m	10u	5.0	1.0m	19	1.0ub	32	3.0	40p	R31	
73	2N1265/5	50m	1.0M	J	10			100m	50m	6.0	1.0m	75					T05	
74	OC41	50m*	4.0M	J	16			50m	50m		50m	35					R8	
75	OC42	50m*	7.0M	J	16			50m	50m		50m	70					R8	
76	2SA116	50m	12M	S	30			30	10u	12	12m	1.5	60u				T044	
77	2N398	50m	20M†	A	105			34	14u	35	5.0m	60					T09	
78	2SA113	50m	20M	S	34			10m	7.0u	12	1.0m	45					T044	
79	2SA114	50m	20M	S	34			10m	7.0u	12	1.0m	40					T044	
80	2SA338	50m	20M	J	20			5.0m	16u	6.0	1.0m	30					R18	
81	2SA321	50m	25M	J	20			5.0m	12u	6.0	1.0m	40					T044	
82	GT5148	50m	25M	J	3.0			1.0	10u	30	1.0m	25					T024	
83	2SA115	50m	30M	S	34			5.0m	10u	7.0	12m	1.0	60u				T044	
84	2SA322	50m	30M	J	20			5.0m	12u	6.0	1.0m	40					T044	
85	2SA339	50m	30M	J	20			5.0m	16u	6.0	1.0m	60					R18	
86	2SA219	50m	40M	J	20			5.0m	12u	6.0	1.0m	50					T044	
87	2N504	50m	50MΔ	J	35			1.0	50m	10u	12	1.0m	1.0u	40			T01	
88	2SA221	50m	50M	J	20			5.0m	10m	12u	6.0	1.0m	75				T044	
89	2SA251†	50m	50M	J	15			5.0m	5.0u	1.0	15m	50					R48	
90	2SA408†	50m	50M	J	15			5.0m	5.0u	1.0	15m	100					R48	
91	2SA223	50m	64M	J	20			5.0m	10m	12u	6.0	1.0m	50				T044	
92	2SA222	50m	70M	J	20			5.0m	10m	12u	6.0	1.0m	130				T044	
93	OC169	50m	70M	J	20			5.0m	10m	13u	6.							

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C (Hz)	M E A M P	T ABS MAX RATINGS @25°C				Icbo @Max Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	C O D E		
					BVcbo (V)	BVceo (V)	BVebo (V)	Vcb (V)		Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)	STRUCTURE				DWG. No.	
1#	2SA293	50m	300M	900u	0J	15			5.0m	5.0u	6.0	4.0m	40			1.5p	MD	R48		
2#	2SA379	50m	350M	1.0m	0J		20	.40	5.0m	13u	6.0	1.0m	100			1.0p	AD	TO72	G	
3#	2SA294	50m	400M	900u	0J	15			5.0m	5.0u	6.0	4.0m	40			1.5p	AD	R48		
4#	2SA161	50m	500M		#J	20			15m	5.0u	6.0	20m	13			1.2p	ME	TO18		
5#	2SA162	50m	500M		#J	20			15m	5.0u	6.0	20m	25			1.2p	ME	TO18		
6#	2SA163	50m	500M		#J	20			15m	5.0u	6.0	20m	66			1.2p	ME	TO18		
7#	2SA164	50m	500M		#J	20			15m	5.0u	6.0	20m	13			1.2p	ME	TO18		
8#	2SA165	50m	500M		#J	20			15m	5.0u	6.0	20m	25			1.2p	ME	TO18		
9#	2SA166	50m	500M		#J	20			15m	5.0u	6.0	20m	66			1.2p	ME	TO18		
10#	2SA422	50m	500M	588u	#J	20	20	∅	5.0m	10u	12	2.0m	25			1.2p	ME	TO17		
11#	2SA255	50m	5.0M		#J	12			5.0m	10m	10u	6.0	1.0m	50			1.0p	A	R18	
12#	2SA254	55m	10M		#J	12			5.0m	10m	10u	6.0	1.0m	80			1.0p	A	R18	
13#	2SA259	55m	30M		#J	20			5.0m	10m	10u	6.0	1.0m	45		2.2p	D	R18		
14#	2SA258	55m	40M		#J	20			5.0m	10m	10u	6.0	1.0m	45		2.2p	D	R18		
15#	2SA257	55m	50M		#J	20			5.0m	10m	10u	6.0	1.0m	60		2.2p	D	R18		
16#	2SA256	55m	60M		#J	20			5.0m	10m	10u	6.0	1.0m	75		2.2p	D	R18		
17#	JAN2N501At	60m	769u		#S	15	12	∅	2.0	25u	5.0	10m	30	∅	∅	3.0p	MD	R139	A	
18#	2N1158	60m	769u		#S	20	20	∅	5.0	100m	5.0u	10	3.0m	5.7	∅	3p	MD	TO9	A	
19#	2N1744	60m	500u		#S	20	20	∅	5.0	50m	10u	10	2.0m	10	∅	1.5p	A	TO9	A	
20#	2SA49	60m	1.2m		0J	18			5.0m	10u	10	2.0m	10	∅		1.1p	A	TO1	A	
21#	2SA53	60m	1.2m		0J	18			5.0m	10u	10	2.0m	10	∅		1.1p	A	TO1	A	
22#	AF109R	60m	1.3m		#J	20	15	.30	10m	8.0u	12	1.5m	50	∅		ME	TO72			
23#	MD420	60m			#J	20			50m	10u	10	1.0m	10			∅	ME	TO12		
24#	AC150	60m	1.0M		0J	30			50m	16u	6.0	2.0m	85			∅	ME	R60		
25#	AC122	60m	1.2M		0J	30			50m	15u	6.0	2.0m	90		22u	2.8k	4.5	21p	A	R60
26#	2N1743	60m	1.7M	500u	#S	20	20	∅	5.0	50m	10u	10	2.0m	10	∅	1.5p	A	TO9	A	
27#	2SA52	60m	7.0M	1.2m	0J	18			5.0m	10u	10	2.0m	10	∅		1.1p	A	TO1	A	
28#	2N1742	60m	10.M	500u	#S	20	20	∅	5.0	50m	10u	10	2.0m	10	∅	1.5p	A	TO9	A	
29#	2SA101	60m	15M	1.2m	0J	40			5.0m	10m	16u	6.0	1.0m	30		4.0p	D	TO1		
30#	2SA102	60m	25M	1.2m	0J	40			5.0m	10m	16u	6.0	1.0m	40		4.0p	D	TO1		
31#	2SA103	60m	35M	1.2m	0J	40			5.0m	10m	16u	6.0	1.0m	50		4.0p	D	TO1		
32#	2N1748	60m	50M*	769u	#S	25	25	∅	1.0	50m	10u	6.0	1.0m	30	∅	2.5p	MD	TO9	A	
33#	2N1752	60m	50M*	769u	#S	12	12	∅	2.0	50m	10u	6.0	1.0m	30	∅	3.0p	MD	TO9	A	
34#	2SA104	60m	50M	1.2m	0J	40			5.0m	10m	16u	6.0	1.0m	100		4.0p	D	TO1		
35#	AF124	60m	75M	1.3m	0J	20	20	∅	10m	8.0u	6.0	1.0m	150		2.5p	AD	TO18			
36#	AF125	60m	75M	1.3m	0J	20	20	∅	10m	8.0u	6.0	1.0m	150		2.5p	AD	TO18			
37#	AF126	60m	75M	1.3m	0J	20	20	∅	10m	8.0u	6.0	1.0m	150		2.5p	AD	TO18			
38#	AF127	60m	75M	1.3m	0J	20	20	∅	10m	8.0u	6.0	1.0m	150		2.5p	AD	TO18			
39#	2N5011	60m	90.M	769u	#S	15	12	∅	2.0	50m	10u	5.0	10m	30	∅	1.5p	MD	TO1	A	
40#	2N5011At	60m	90.M	769u	#S	15	12	∅	2.0	50m	25u	5.0	50m	30	∅	1.5p	MD	TO1	A	
41#	2N9791	60m	100M	769u	#S	20	20	∅	2.0	100m	3.0u	5.0	40m	50	∅	1.5p	MD	TO18	A	
42#	2N980	60m	100M	7.7m	#S	20	12	∅	2.0	100m	5.0u	5.0	40m	50	∅	1.5p	MD	TO18	A	
43#	JAN2N1499At	60m	100M	769u	#A	20	20	∅	2.0	2.0	25u	3.0	10m	30	∅	3.0p	MD	TO9	A	
44#	JAN2N1500t	60m	100M	769u	#J	15	12	∅	2.0	50m	25u	5.0	50m	20	∅	3.0p	MD	TO9	A	
45#	2N1726	60m	100M*	1.3m	#S	20	20	∅	1.0	50m	10u	6.0	1.0m	50	∅	2.5p	ME	TO9	A	
46#	2N1727	60m	100M*	1.3m	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	20	∅	2.5p	ME	TO9	A	
47#	2N1728	60m	100M*	1.3m	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	40	∅	2.5p	ME	TO9	A	
48#	2N1788	60m	100M*	1.3m	#S	35	35	∅	5.0	50m	10u	6.0	1.0m	50	∅	2.5p	ME	TO9	A	
49#	2N1789	60m	100M*	1.3m	#S	35	35	∅	5.0	50m	7.0u	12	1.0m	20	∅	2.5p	ME	TO9	A	
50#	2N1790	60m	100M*	1.3m	#S	35	35	∅	5.0	50m	7.0u	12	1.0m	40	∅	2.5p	ME	TO9	A	
51#	2N1864	60m	100M*	1.3m	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	10	∅	2.5p	ME	TO9	A	
52#	2N3412	60m	100M	833u	#S	20	20	∅	2.0	100m	3.0u	5.0	1.0m	25	∅	1.5p	ME	TO9	A	
53#	2N1499At	60m	110M	769u	#S	20	20	∅	2.0	100m	25u	5.0	40m	20	∅	1.5p	ME	TO9	A	
54#	2N499A	60m	120M	833u	#S	30	18	∅	5.0	50m	5.0u	9.0	1.0m	20	∅	2.5p	ME	TO1	A	
55#	JAN2N499A	60m	120M	769u	#S	30	18	∅	5.0	50m	10u	9.0	1.0m	20	∅	2.5p	ME	TO9	A	
56#	2N1748A	60m	132M	769u	#S	25	25	∅	1.0	50m	10u	6.0	1.0m	70	∅	1.3p	ME	TO9	A	
57#	2N1500t	60m	175M	769u	#S	15	12	∅	2.0	50m	25u	5.0	10m	70	∅	1.5p	ME	TO9	A	
58#	2N1746	60m	175M*	769u	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	60	∅	1.2p	ME	TO9	A	
59#	2N1745	60m	200M	769u	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	10	∅	1.5p	ME	TO9	A	
60#	2N1747	60m	200M	769u	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	70	∅	1.8p	ME	TO9	A	
61#	2N1865	60m	200M	769u	#S	20	20	∅	5.0	50m	10u	6.0	1.0m	70	∅	1.8p	ME	TO9	A	
62#	2N1866	60m	200M	769u	#S	35	35	∅	5.0	50m	10u	6.0	1.0m	70	∅	1.8p	ME	TO9	A	
63#	2N1867	60m	200M	769u	#S	35	35	∅	5.0	50m	10u	6.0	1.0m	50	∅	1.8p	ME	TO9	A	
64#	AF106	60m	220M	1.3m	#J	25	18	∅	3.0	10m	10u	12	1.0m	50	∅	ME	TO72			
65#	AFY12	60m	230M	1.3m	#J	25	18	∅	0.5	10m	10u	12	1.0m	50	∅	ME	TO72			
66#	2N502	60m	260M	1.0m	#J	20	20	∅	5.0	50m	20u	10	2.0m	65	∅	1.0p	MD	TO9	A	
67#	2N7791	60m	320M	800u	#S	15	15	∅	2.0	100m	3.0u	5.0	10m	50	∅	2.5p	ME	TO18	A	
68#	2N779At	60m	320M	833u	#S	15	15	∅	2.0	100m	3.0u	5.0	10m	50	∅	2.5p	ME	TO18	A	
69#	2N846At	60m	320M	833u	#S	15	15	∅	2.0	100m	3.0u	5.0								

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C	T M A X P	ABS MAX RATINGS @25°C				MAX. lcco @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L O A D E	
					BVcbo	BVceo	BVebo	Ic		Vcb	le	hfe	hoe	hie	hre					
					(V)	(V)	(V)	(A)		(V)	(A)	(mhos)	(Ω)	X.0001						
1	2N990	67m	44m	133u	#J	20	20	1.0	10m	8.0u	6.0	1.0m	40 Δ	300ub	67	300	4.0p	AD	T072	J
2	2N991	67m	44m	133u	#S	20	20	1.0	10m	8.0u	6.0	1.0m	40 Δ				4.0p		T072	G
3	2N993	67m	44m	133u	#J	20	20	1.0	10m	8.0u	6.0	1.0m	40 Δ				4.0p		T072	J
4	AF109	72m	200m	1.1m	#J	30	18		12m										T018	
5	2N502B	75m	1.0m	1.0m	#S	30	30	0.50	50m	5.0u	10	2.0m	25 Δ				1.6p	∅	T09	A
6	JAN2N695†	75m	1.0m	1.0m	#J	15	15	3.5	50m	3.0u	3.0	10m	20 Δ				5.0p		T017	A
7	2N1158A	75m	1.0m	1.0m	#S	20	20	0.50	100m	5.0u	1.0	3.0m	9.0 Δ				2.8p		T09	A
8	AC131	75m			#S	30	30		200m	30u	10	50m	67						T09	A
9	2N206	75m	780k	3.3m	#S	30	30		50m	10u	5.0	1.0m	47	550nb	33	3.2	35p	A	T01	A
10	NKT11	75m	1.0M	1.5m	#J	18	10	12	100m	5.0u	4.5	1.0m	90 Δ				13p	A	T01	A
11	2N265	75m	1.5M	2.0m	#J	15	25		50m	16u	5.0	1.0m	115	500nb	29	4.0	40p	A	R32	A
12	NKT73	75m	2.5M	1.5m	#J	15		10	10m	5.0u	4.5	1.0m	25 Δ				11p	A	T01	A
13	NKT126†	75m	3.0M	1.5m	#J	20	20	6.0	500m	5.0u	4.5	1.0m	75				22p	A	T05	A
14	NKT72	75m	6.2M	1.5m	#J	15	20	10	10m	5.0u	4.5	1.0m	40 Δ				11p	A	T01	A
15	NKT125†	75m	7.0M	1.5m	#J	20	20	6.0	500m	5.0u	4.5	1.0m	100				22p	A	T05	A
16	NKT11	75m	7.5M	1.5m	#J	18	10	12	100m	5.0u	4.5	1.0m	45 Δ				13p	A	T01	A
17	NKT124†	75m	15M	1.5m	#J	20	20	6.0	500m	5.0u	4.5	1.0m	150				22p	A	T05	A
18	AF114N	75m	75M	1.6m	#J	32	15	1.0	10m	8.0u	6.0	1.0m	150				22p	AD	T05	A
19	AF118N	75m	75M	1.6m	#J	32	15	1.0	10m	8.0u	6.0	1.0m	150					AD	T044	A
20	AF118N	75m	75M	1.6m	#J	32	15	1.0	10m	8.0u	6.0	1.0m	150					AD	T044	C
21	AF117N	75m	75M	1.6m	#J	32	15	1.0	10m	8.0u	6.0	1.0m	150					AD	T044	C
22	2N1749	75m	80M	1.0m	#S	40	10	1.0	10m	10u	6.0	1.0m	30 Δ	1.0ub	40		2.5p		T09	A
23	2N2199	75m	120M	1.0m	#S	15	10	5.0	100m	5.0u	10	3.0m	20 Δ				2.8p		T09	A
24	2N2200	75m	120M	1.0m	#S	15	10	5.0	100m	5.0u	10	3.0m	20 Δ				2.8p		T09	A
25	2N1499B†	75m	150M	1.0m	#S	30	20	2.0	100m	3.0u	3.0	1.0m	70 Δ				3p		T09	A
26	AF178	75m	180M	1.6m	#J	35	25	5.0	100m	5.0u	12	1.0m	20 Δ				7.5p	AD	T012	A
27	2N502A	75m	280M	1.0m	#J	30	30	0.50	50m	20u	10	2.0m	65				1.0p	AD	T09	A
28	JAN2N2996	75m	400M	1.0m	#S	15	10	3.0	50m	5.0u	6.0	1.0m	35 Δ				3.0p		T072	G
29	JAN2N2997	75m	400M	1.0m	#S	30	15	3.0	50m	5.0u	12	4.0m	50 Δ				1.0p		T072	G
30	2N2795†	75m	450M	1.0m	#S	25	15	2.5	100m	5.0u	3.0	1.0m	100				2.5p		T018	A
31	2N2796†	75m	450M	1.0m	#S	20	12	2.0	100m	5.0u	3.0	1.0m	60 †				2.5p	D	T018	A
32	2N2416	75m	500M	1.0m	#J	15	10	5.0	20m	5.0u	6.0	2.0m	30				2.5p		T018	A
33	TI390	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	40 †				1.2p		T018	A
34	TI391	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	40 †						T018	
35	TI400	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	20 †						T018	
36	TI401	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	40 †						R80	X
37	TI402	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	20 †						R80	X
38	TI403	75m	500M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	20 †						R80	X
39	2N2996	75m	550M	1.0m	#S	18		3.0	50m	5.0u	6.0	2.0m	35 †						R80	X
40	2N2415	75m	560M	1.0m	#J	15	10	5.0	20m	5.0u	6.0	4.0m	200				3.0p		T072	G
41	JAN2N502A	75m	600M	1.0m	#S	30	30	0.50	50m	10u	10	2.0m	15 Δ				1.2p		T072	G
42	JAN2N502B	75m	600M	1.0m	#S	30	30	0.50	50m	10u	10	2.0m	15 Δ				2.0p		ZA27	A
43	2N2997	75m	600M	1.0m	#S	30	15	3.0	50m	100u	12	4.0m	200				1.8p		T072	G
44	2N700	75m	800M	1.0m	#J	25	20	2.0	50m	2.0u	6.0	2.0m	10	ub	17		1.1p	DM	T072	G
45	2N700A	75m	800M	1.0m	#J	25	25	2.0	50m	2.0u	6.0	2.0m	4.0 Δ				1.4p	ME	T092	G
46	JAN2N700A	75m	800M	1.0m	#J	25	25	3.0	50m	2.0u	6.0	2.0m	4.0 Δ				1.4p		T072	G
47	2N2998	75m	900M	1.0m	#S	15	12	3.0	20m	100u	6.0	3.0m	200				1.7p		T072	G
48	2N3267	75m	900M	1.0m	#S	15	8.0	2.0	20m	5.0u	6.0	3.0m	15 Δ				1.7p	DM	T072	G
49	GM656A	75m	930M	1.0m	#A	18	15	3.0	50m	5.0u	12	3.0m	20 †				3p	EM	R80	X
50	TI XM101	75m	1.5G	1.0m	#S	15	7.0	3.0	50m	6.0u	5.0	2.0m	70				1.7p	PE	T072	G
51	2N2999	75m	1.6G	1.0m	#S	15	10	2.0	20m	100u	6.0	3.0m	100 †				1.7p	DM	T072	G
52	2N370	80m	1.7m	1.7m	#A	24		5.0	10u	10u	6.0	1.0m	80				30p	AD	T07	H
53	2N372	80m	1.7m	1.7m	#A	24		5.0	10u	10u	6.0	1.0m	70				30p	AD	T07	H
54	25B470	80m	1.2m	1.2m	#J	25	18	5.0	50m	6.0u	6.0	1.0m	80	40u	5.0k	.15	3.5p	D	T044	A
55	AF170	80m	1.3m	1.3m	#J	24	24	5.0	10m	12u	6.0	1.0m	70				1.1p	D	T044	A
56	AF172	80m	1.3m	1.3m	#J	24	24	5.0	10m	12u	6.0	1.0m	48				1.1p	D	T022	A
57	2N1266	80m	1.0M		#J	10	10										14p	A	T01	A
58	AC107	80m	2.0M	1.6m	#J	15	15	5.0	10m	3.0u	5.0	300u	60				10p	A	R9	
59	2SA12H	80m	5.0M		#J	16	12	15m	15m	6.0u	6.0	1.0m	60				10p	A	T01	A
60	2SA15H	80m	5.0M		#J	16	13	15m	15m	4.0u	6.0	1.0m	70				10p	A	T01	A
61	2SA31	80m	5.0M	1.3m	#J	12		5.0	10m	10u	6.0	1.0m	50 *	24.u	1.5k	3.2	10p	A	T01	A
62	2SA36	80m	5.0M	1.3m	#J	16		5.0	15m	6.0u	6.0	1.0m	50	24.u	1.5k	3.2	10p	A	T01	A
63	2SA40†	80m	5.0M	1.3m	#J	25	18	12	50m	6.0u	6.0	1.0m	65				10p	A	T01	A
64	2SA137	80m	5.0M	1.3m	#J	6.0		5.0	10m	10u	6.0	1.0m	50	32.u	1.6k	4.6	10p	A	T01	A
65	2SA189	80m	6.0M	1.3m	#J	12		5.0	15m	10u	6.0	1.0m	65				10p	A	T01	A
66	2N409	80m	6.8M	1.5m	#A	13		5.0	15m	10u	9.0	1.0m	48				9.5p	A	T01	A
67	2N410	80m	6.8M	1.5m	#A	13		5.0	15m	10u	9.0	1.0m	48				9.5p	A	T040	A

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C (Hz)	T M E A X P (M A X P)	ABS MAX RATINGS @25°C				MAX. I _{cb} @M _{cb} V _{cb} (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUC-TURE	L C O D E	
					BV _{ceo} (V)	BV _{ceo} (V)	BV _{ceo} (V)	I _c (A)		V _{cb} (V)	h _{fe}	hoe (mhos)	hie (Ω)	hre (X.0001)					
					h _{FE}	h _{FE}	h _{FE}	h _{FE}		h _{FE}	h _{FE}	h _{FE}	h _{FE}	h _{FE}					
1#	2SA353	80m	40M		25	50	10m	10u	9.00	1.0m	70				2.5p	D	TO1	A	
2	40261	80m	40.4M	1.3m	#J	50	50	10m	12u	6.00	1.0m	80			3.7p	DA	TO1	A	
3	40487	80m	40.4M	1.3m	#A	50	1.5	10m	12u	6.00	1.0m	150			3.7p	DA	TO1	A	
4#	2SA108	80m	45.4M	1.3m	#S	30		10m	20u	9.0	1.0m	70			1.7p	D	TO44		
5#	2SA275	80m	45.4M	1.3m	#J	34	1.0	10m	5.0u	6.00	1.0m	60			2.0p	D	TO1		
6#	2SA350H	80m	45.4M		#J	30	30 ∅	30	10m	5.0u	9.0	1.0m	12		2.5p	D	TO1		
7#	2SA267	80m	50.4M	1.3m	#J	20	50	10m	10u	6.00	1.0m	60			2.2p	D	TO1		
8#	2SA270	80m	50.4M	1.3m	#J	9.0	50	10m	10u	6.00	1.0m	75			3.0p	D	TO1		
9#	2SA266	80m	60.4M	1.3m	#J	20	50	10m	10u	6.00	1.0m	75			2.2p	D	TO1		
10#	2SA400	80m	70.4M	1.3m	#J	20	50	10m	10u	6.00	1.0m	70			2.3p	D	TO1		
11#	OC170	80m	75M	1.6m	∅J	20	20	50	10m	8.0u	6.00	1.0m	150		5.0p	AD	TO7		
12#	OC171	80m	75M	1.6m	∅J	20	20	50	10m	8.0u	6.00	1.0m	150		2.5p	AD	TO7		
13#	2SA234	80m	120M		#J	20	50	10m	30u	6.00	1.0m	70			2.1p	ME	TO44		
14#	2SA235H	80m	120M		#J	20	50	10m	15u	6.00	1.0m	30 Δ			2.1p	ME	TO44		
15#	AF166	80m	130M	1.3m	#J	30	30 ∅	1.0	10m	8.0u	6.00	1.5m	85		3.1p	D	TO44		
16#	2SA235	80m	135M		#J	20	50	10m	30u	6.00	1.0m	90			2.1p	ME	TO44		
17#	NKT603Ft	80m	140M	1.6m	∅J	40	40 ∅	1.0	50m	5.0u	4.50	1.0m	100		3.5p	AD	TO7	H	
18#	NKT613F	80m	140M	1.6m	∅J	40	40 ∅	1.0	50m	5.0u	4.50	1.0m	40 Δ		2.0p	AD	TO7	H	
19#	NKT674F	80m	140M	1.6m	∅J	20	20 ∅	1.0	50m	8.0u	4.50	1.0m	60 Δ		3.0p	AD	TO7	H	
20#	NKT677F	80m	140M	1.6m	∅J	20	20 ∅	1.0	50m	8.0u	4.50	1.0m	60 Δ		3.0p	AD	TO7	H	
21#	2N3399	80m	400M	1.1m	#S	20	30	7.0m	8.0u	1.20	5.5m	10 Δ			2.2p	ME	TO72	G	
22#	2SA434	80m	400M		#J	20	50	10m	30u	6.0	3.0m	10 Δ			1.4p	ME	TO7		
23#	2SA435	80m	400M		#J	20	50	10m	30u	6.0	3.0m	10 Δ			1.4p	ME	TO18		
24#	2SB335	83m	1.0M	1.6m	∅J	20	10	60m	10u	6.00	1.0m	70				A	R18		
25#	2SB336	83m	1.0M	1.6m	∅J	20	10	60m	10u	1.00	60m	80 t				A	TO1	A	
26#	OC41N	83m	3.0M	1.6m	∅J	16	15	12	50m	10u	0.0	50m	20 t			A	TO1	A	
27#	OC45N	83m	3.0M	1.6m	∅J	15	15	12	5.0m	10u	6.0	1.0m	25 Δ			A	TO1	A	
28	OC46	83m	3.0M		∅J	20	20	15	125m	3.0u	5.0	3.0m	20			A	R9		
29#	OC42N	83m	5.5M	1.6m	∅J	16	15	15	50m	10u	0.0	50m	40 t			A	TO1	A	
30	OC47	83m	5.5M		∅J	20	20	15	125m	3.0u	5.0	15m	200			A	R9		
31#	2SA145	83m	6.0M	1.6m	∅J	15	15	12	10m	12u	6.0	1.0m	50		12p	A	TO1		
32#	OC45	83m	6.0M	1.6m	∅J	15	15	12	10m	10u	6.0	1.0m	50		10p	A	R9		
33#	OC44N	83m	7.5M	1.6m	∅J	15	15	12	5.0m	10u	6.0	1.0m	45 Δ			A	TO1	A	
34#	2SA144	83m	12.1M	1.7m	J	15	15	12	10m	12u	6.0	1.0m	100		11p	A	TO1		
35#	OC43N	83m	12.1M	1.7m	J	15	15	12	50m	10u	0.0	50m	50 t			A	TO1	A	
36	OC44	83m	15.1M	1.7m	J	15	15	12	10m	10u	2.0	1.0m	100			A	TO1	R9	
37	A411	83m	100M	600	J	40	10	10m	6.0u	6.0	1.0m	20 t			1.5p	AD	TO72	J	
38#	ASZ20	83m	100M	1.7m	J	40	40	50	25m	6.00	6.00	1.0m	45 Δ		2.5p	AD	TO7		
39#	AFZ11	83m	140M	1.7m	J	20	20	#	50	10m	50u	6.00	1.0m	70		2.0p	AD	TO7	G
40#	2SA343	83m	150M	1.7m	J	20	20	40	5.0m	12u	6.00	1.0m	100		1.5p	AD	TO7		
41#	AFZ12	83m	180M	1.7m	J	20	20	50	10m	50u	6.00	1.0m	70		2.0p	AD	TO72	G	
42	2N130	85m	700k	2.0m	J	25	22	12	10m	12u	6.0	1.0m	24		40p	A	TO5	A	
43	2N131	85m	800k	2.0m	J	25	15	12	10m	12u	6.0	1.0m	50		40p	A	TO5	A	
44	2N133	85m	800k	2.0m	J	25	15	12	10m	12u	6.0	1.0m	50		40p	A	TO5	A	
45	2N132	85m	1.0M	2.0m	J	25	12	12	10m	12u	6.0	1.0m	90		40p	A	TO5	A	
46	2N207	85m	2.0M	1.2m	J	12	12	12	20m	15u	5.0	1.0m	100		400n	A	TO5	A	
47	2N207A	85m	2.0M	1.2m	J	12	12	12	20m	10u	5.0	1.0m	100		400n	A	TO5	A	
48	2N207B	85m	2.0M	1.2m	J	12	12	12	20m	10u	5.0	1.0m	100		400n	A	TO5	A	
49	2N535	85m	2.0M	833u	J	20	20	20	20m	12u	5.0	1.0m	100		400n	A	TO23	F	
50	2N535A	85m	2.0M	833u	J	20	20	20	20m	12u	5.0	1.0m	100		400n	A	TO23	F	
51	2N535B	85m	2.0M	833u	J	20	20	20	20m	12u	5.0	1.0m	100		400n	A	TO23	F	
52	2N536	85m	2.0M	833u	J	20	20	20	20m	12u	1.00	30m	150		25p	A	TO23	F	
53	JAN2N987	86m	100M	1.3m	#J	40	40	1.0	10m	8.0u	6.0	1.0m	100		14p	AD	TO72		
54#	AF186G	90m	2.0M	2.0m	∅J	25	25	30	15m	3.5u	3.5u	1.0m	100		1.9p	AD	TO12		
55#	AF186G	90m	2.0M	2.0m	∅J	25	25	30	15m	3.5u	3.5u	1.0m	100		1.9p	AD	TO12		
56	GT1604	90m	50M	1.8m	#S	10	10	100m	10u	6.00	2.0m	125			16p	A	TO9		
57#	AC170	90m	1.2M	2.0m	#J	32	15	10	100m	10u	6.00	2.0m	200		2.1p	A	R60		
58#	AC171	90m	1.2M	2.0m	#J	32	15	10	100m	10u	6.00	2.0m	200		2.1p	A	R60		
59	GT1605	90m	6.5M	1.8m	#S	15	1.0	1.0	25u	9.00	1.0m	30 Δ			18p	A	TO9		
60	GT1606	90m	10.1M	1.8m	#S	15	1.0	1.0	25u	9.00	60m	50 Δ			18p	A	TO9		
61#	AF256	90m*	330M	2.0m	#J	25	25	30	10m	8.0u	120	1.0m	10 t		.5p	PL	MM12		
62#	2SA447	90m*	650M	3.3m	#J	25	25	30	15m	10u	100	2.0m	80		1.6p	PL	MM12		
63#	AF253	90m*	700M	2.0m	#J	20	15	30	10m	5.0u	120	2.0m	10 t		.4p	PL	MM12		
64#	AF252	90m*	750M	2.0m	#J	20	15	30	10m	5.0u	120	2.0m	10 t		.4p	PL	MM12	A	
65#	AF251	90m*	800M	2.0m	#J	20	15	30	10m	5.0u	120	2.0m	10 t		.4p	PL	MM12	A	
66#	ASZ21	94m	300M	2.0m	∅J	20	15	30m	30m	5.0	10m	30 t			.4p	AD	TO18		
67	2N987	100m	1.5M	2.0m	#S	40	40	1.0	10m	8.0u	6.00	1.0m	40 Δ		4p	∅	TO72	G	
68	2N2496	100m	1.6M	2.0m	#S	40	40	∅	10m	6.0u	6.00	1.0m	25 t		2.0p	∅	TO72	J	
69	2N2671	100m	2.0M	2.0m	#S	25	1.0	1.0	10m	8.0u	6.00	1.0m	40 t		2.5p	∅	TO12	G	
70	2N2672	100m	2.0M	2.0m	#S	25	1.0	1.0	10m	8.0u	6.00	1.0m	40 t		2.5p	∅	TO39	A	
71	GT758	100m	500k	2.0m	#S	20	15	200m	25u	4.5	1.0m	15			700nb	30	3.0	TO5	
72	2N63	100m	60M	1.7m	#J	20	22	12	10m	20u	6.0	1.0m	22		14p	A	OV3		
73	2N130A	100m	.70M	1.7m	#J	15	44	12	100m	15u	6.0	1.0m	26			A	OV16	A	
74	2N64	100m	.80M	1.7m	#J	15	15	12	10m	20u	6.0	1.0m	45			F	OV3		
75	2N106	100m	.80M	1.7m	#J	15	15	12	10m	10u	1.5	.50m	45			F	OV4		
76	2N131A	100m	.80M	1.7m	#J	15	30	12	100m	15u	6.0	1.0m	45		18u	1.4k	.43	OV16	A
77	2N133A	100m	.80M	1.7m	#J	15	30	12	100m	15u	6.0	1.0m	50		19u	2.5k	.55	OV16	A
78	2N186	100m	.80M	3.0m	#S	25	30	50	200m	16u	5.0	1.0m	24			A	R32		
79#	2SB134	100m	800k	1.7	#J	30	30	15	100m	10u	1.50	500u	70			A	TO1	A	
80#	2SB135	100m	800k	1.7	#J	30	30	15	100m	10u	6.00	1.0m	70		19u	3.2k	5.3	TO1	A
81	2N132A	100m	1.0M	1.7m	#J	20	24	12	100m	15u									

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	M E A M P X	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL h _{FE} PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUC-TURE DWG. No.	L C O A D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
					fab (Hz)	IN (W/°C)	h _{FE}	h _{FE}		h _{FE}	h _{FE}	h _{FE}	h _{FE}	h _{FE}					
1#	2SA71	100m	100M	2.0m	0J	20	20	10m	13uφ	6.0	1.0m	150				2.5p	AD	T07	
2#	2SA246	100m	155M	2.0m	0J	30	30	30m	30u	6.0φ	5.0m	70				2.5p	ME	T044	
3	2N2273	100m	200MΔ	1.3m	#J	25	15	100m	100u	100	1.0m	20 Δ				3.5p	ME	T018	Aφ
4	2N3588	100m	200MΔ	1.7m	#S	25		65 10m	5.0uφ	6.0φ	1.0mφ	20 Δ						R86	
5	T1363	100m	200M	2.5m	#J	30	30	50m	3.0uφ	6.0φ	500u	35 Δ						T058	
6	T1364	100m	200M	2.5m	#J	30	30	50m	5.0uφ	6.0φ	500u	20 Δ						T058	
7	2N9761	100m	250MΔ	1.3m	#S	15	10	2.0 100m	3.0uφ	5.0φ	20mφ	30 Δ						T018	A
8	JAN2N2273	100m	250MΔ	1.3m	#S	25	25	1.0	10uφ	100	1.0uφ	20 Δ						T018	Aφ
9	2N2654	100m	250MΔ	2.5m	#J	32	32	50 10m	8.0uφ	6.0	1.0m	50 Δ						T012	A
10	2N3283	100m	250MΔ	1.3m	#J	25	25	50	10uφ	100	3.0mφ	10 Δ						R96d	G
11	2N3284	100m	250MΔ	1.3m	#J	25	25	50	10uφ	100	3.0mφ	10 Δ						R96d	G
12	2N3285	100m	250MΔ	1.3m	#J	20	20	50	10uφ	100	3.0mφ	5.0 Δ						T072	Gφ
13	2N3286	100m	250MΔ	1.3m	#J	20	20	50	10uφ	100	3.0mφ	5.0 Δ						T072	Gφ
14#	SFT171	100m	250M	1.7m	#J	30	20	25m	10uφ	9.0	1.5mφ	3.5 Δ						T033	
15#	SFT172	100m	250M	1.7m	#J	30	20	25m	10uφ	9.0	1.5mφ	3.5 Δ						T033	
16#	SFT173	100m	250M	1.7m	#J	30	20	25m	10uφ	9.0	1.5mφ	7.0 Δ						T033	
17#	SFT174	100m	250M	1.7m	#J	30	20	25m	10uφ	9.0	1.5mφ	3.5 Δ						T033	
18#	2G101	100m	320M	1.7m	#J	15	15	1.0	20m	10u	5.0φ	2.0m						T05	
19	2N2717	100m	390M	2.2m	0J	25	25	15m	8.0uφ	100	3.0m	30 Δ						T018	A
20#	AF121	100m	390M	2.2m	0J	25	25	15m	8.0uφ	100	3.0m	30 Δ						T018	
21#	2G102	100m	400M	1.7m	#J	15	15	1.0	20m	10u	5.0	2.0m						T05	
22	2N3127	100m	400MΔ	1.3m	#S	25	20	.75 50m	5.0uφ	100	3.0mφ	125 Δ						T072	G
23	JAN2N3127	100m	400MΔ	1.3m	#S	25	20	.75 50m	5.0uφ	100	3.0mφ	20 Δ						T072	G
24#	2SA4131	100m	500M	1.3m	0J	20	15	2.5 30m	5.0uφ	1.0φ	30mφ	70 Δ						T018	
25	2N3281	100m	550MΔ	1.3m	#J	30	15	.50 50m	5.0uφ	100	3.0mφ	10 Δ						R96d	G
26	2N3282	100m	550MΔ	1.3m	#J	30	15	.50 50m	5.0uφ	100	3.0mφ	10 Δ						R96d	G
27	2N3279	100m	600MΔ	1.3m	#J	30	20	1.0 50m	5.0uφ	100	3.0mφ	10 Δ						R96d	G
28	2N3280	100m	600MΔ	1.3m	#J	30	20	1.0 50m	5.0uφ	100	3.0mφ	10 Δ						R96d	G
29#	AF121S	105m*	270M	2.3m	#J	32	32	10m	8.0uφ	100	3.0mφ	10 Δ						T05	J
30#	ASZ20N	110m	40MΔ	1.6m	0J	40	15	25m	5.0u	6.0φ	1.0mφ	45 Δ						T044	C
31#	AFY16	112m*	550M	1.3m	0J	30	25	.50 10m	3.0u	12φ	1.5mφ	40 Δ						T072	
32	AFY37	112m	600M	1.3m	#J	32	32	.30 20m	4.0uφ	100	1.0φ	20 Δ						T072	
33	2N1450	120m	2.0m	1.3m	#S	30	30	1.0	100m	100u	1.0φ	10m	20 Δ					T09	A
34	JAN2N1450M†	120m	1.5m		#S	30	20	1.0	10uφ	1.0φ	10mφ	20 Δ						R81a	
35#	2SB459	120m			#S	30	18	2.5 50m	12u	6.0φ	1.0m	180						T01	
36#	2SB460	120m			#S	40	25	2.5 50m	6.0u	6.0φ	1.0m	180						T01	
37	TR34	120m	1.6MΔ	2.0m	#J	40	40	10 150m	20u	6.0	1.0m	15						T05	
38#	GET896	120m	1.7MΔ	2.0m	#J	20	15	100m	5.0uφ	1.0φ	25mφ	42 Δ						T05	A
39#	GET897	120m	1.7MΔ	2.0m	#J	20	15	100m	5.0uφ	1.0φ	25mφ	65 Δ						T05	A
40#	GET898	120m	1.7MΔ	2.0m	#J	20	15	100m	5.0uφ	1.0φ	25mφ	110 Δ						T05	A
41#	2SA208†	120m	3.0M	2.0m	#J	20	20	400m	20u	30	200m	15 Δ						T05	
42	2N269	120m	4.0MΔ	2.8m	0A	20	20	9.0 100m	20u	30	20mφ	40						T01	A
43	2N2613	120m	4.0MΔ	2.6m	#J	30	25	25 50m	5.0uφ	4.0φ	5.0mφ	120 Δ						T01	A
44	2N2614	120m	4.0MΔ	2.6m	#J	40	35	25 50m	5.0uφ	6.0φ	1.0mφ	100 Δ						T01	A
45#	2SA212†	120m	4.0M	2.0m	#J	25	25	15 100m	20u	30	100m	30 Δ						T05	
46	2N5781	120m	5.0M	2.0m	0A	20	20	12 400m	20u	30φ	400mφ	15 Δ						T05	A
47#	2SA209†	120m	5.0M	2.0m	#J	20	20	12 400m	20u	30	200m	30 Δ						T05	
48#	GET880	120m	6.5M	2.0m	#J	20	15	100m	5.0uφ	6.0φ	1.0mφ	110 Δ						T05	A
49#	GET881	120m	6.5M	2.0m	#J	20	15	12 500m	5.0uφ	2.5φ	5.0mφ	150 Δ						T05	A
50#	GET887	120m	6.5M	2.0m	#J	20	15	100m	5.0uφ	6.0φ	1.0mφ	110 Δ						T05	A
51#	GET891	120m	6.5M	2.0m	#J	25	20	12 500m	5.0uφ	2.5φ	5.0mφ	150 Δ						T05	A
52#	2SB482	120m	7.0M	2.0m	#J	35	25	12 50m	6.0uφ	6.0φ	1.0m	200						T01	A
53#	2SB486	120m	7.0M	2.0m	#J	25	20	12 50m	6.0uφ	6.0φ	1.0m	200						T01	A
54#	GET889	120m	7.5M	2.0m	#J	20	15	100m	5.0uφ	6.0φ	1.0mφ	110 Δ						T05	A
55	2N5791	120m	8.0M	2.0m	0A	20	20	12 400m	20u	30φ	400mφ	30 Δ						T05	A
56	2N5831	120m	8.0M	2.0m	#A	18	10	100m	20u	30φ	20mφ	30 Δ						T01	A
57	2SA538	120m	8.0M	2.3m	0J	25	12	50m	5.0u	6.0φ	1.0m	70						T01	A
58	2N1670	120m	10MΔ	2.0m	#J	100	30	3.0	7.0uφ	50	10mφ	15 Δ						T09	F
59	2N2953	120m	10M	385u	#J	30	25	150m	5.0u	10φ	100mφ	200 Δ						T01	A
60#	2SA210†	120m	10M	2.0m	#J	20	20	12 400m	5.0u	30	200m	45 Δ						T05	
61	40263	120m#	10M	2.6m	#J	20	18	2.5 50m	12u	6.0φ	1.0mφ	160						T01	A
62	40359	120m#	10M	2.7m	#A	20	18	2.5 50m	12uφ	6.0φ	1.0mφ	100						T01	A
63	40395	120m#	10M	2.6m	#J	20	18	2.5 50m	12u	6.0φ	1.0mφ	250 Δ						T01	A
64	40490	120m#	10M	1.6m	#A	20	18	2.5 20m	12u	6.0φ	1.0mφ	300						T01	A
65#	GET888	120m	10M	2.0m	#J	20	15	100m	5.0uφ	6.0φ	1.0mφ	220 Δ						T05	A
66	2N602A	120m	12MΔ	2.0m	#J	35	25	1.5 100m	5.0uφ	1.0φ	500uΔ	80 Δ						T09	A
67	2N603A	120m	12MΔ	2.0m	#J	30	20	2.0 50m	5.0uφ	1.0φ	500uΔ	100 Δ						T09	A
68	2N604A	120m	12MΔ	2.0m	#J	30	20	2.5 50m	5.0uφ	1.0φ	500uΔ	120 Δ						T09	A
69#	GET882	120m	12M	2.0m	#J	20	15	12 500m	5.0uφ	2.5φ	5.0mφ	150 Δ						T05	A
70#	GET890	120m	12M	2.0m	#J	20	15	100m	5.0uφ	6.0φ	1.0mφ	220 Δ						T05	A
71#	GET892	120m	12M	2.0m	#J	25	20	12 500m	5.0uφ	2.5φ	5.0mφ	150 Δ						T05	A
72#	2SA217†	120m	14M	2.0m	#J	25	12	100m	5.0u	30	100m	30 Δ						T05	
73	2N5801	120m	15M	2.0m	0A	20	20	12 400m	20u	30φ	400mφ	45 Δ						T05	A
74	2N5841	120m	18M	2.0m	#A	25	12	100m	20u	20φ	24mφ	60 Δ						T01	A
75	2N602	120m	20M	2.0m	#S	20	20	1.0	8.0uφ	1.0φ	500uφ	20 Δ						T09	A
76#	GET885	120m	20M	2.0m	#J	20	15	12 500m	5.0uφ	2.5φ	5.0mφ	150 Δ						T05	A
77#	GET895	120m	20M	2.0m	#J	25	20	12 500m	5.0uφ	2.5φ	5.0mφ	220 Δ						T05	A
78	GT5116	120m	20M	2.0m	#J	15	2.0		10u	1.0φ	40m	20 Δ						T09	
79	JAN2N384	120m	25MΔ	1.6m	#S	40	20	.50 10m	50u	12φ	1.5m	20 Δ						T044	G
80	2N1678	120m	25MΔ	2.0m	#J	60	60	4.0	25u	5.0φ	1.0m	25						T09	
81	2N12																		

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	T M E M A M P	ABS MAX RATINGS @25°C					MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL h _{FE} PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L O A D E
					BV _{cb0} (V)	BV _{ce0} (V)	BV _{eb0} (V)	I _c (A)	BIAS			COMMON EMITTER								
					(V)	(V)	(V)	(A)	V _{cb} (V)		I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001					
1	2N2494	125m	1.7m	#S	40	40	10	6.0u	6.0u	1.0m	25	23u	2.2k	9.0	2pZ	A	T07	H		
2	2N2495	125m	1.7m	#S	40	40	10	6.0u	6.0u	1.0m	25	23u	2.2k	9.0	2pZ	A	T012	G		
3	2N279	125m	2.5m	#J	30	30	10	12u	2.0u	50m	30	80u	800	5.0		A	R9			
4	2N280	125m	300k	Δ	30	30	10	12u	2.0u	3.0m	47	80u	800	5.0		A	R9			
5#	2SB170	125m	300k	Δ	30	30	10	12u	2.0u	500u	30	15u	1.8k	4.5		A	T01			
6	2N281	125m	350k	Δ	16	16	10	12u	2.0u	10m	70	80u	800	5.0		A	R8			
7	2N284	125m	350k	Δ	30	30	10	12u	2.0u	500u	30	23u	2.2k	9.0		A	R8			
8	2N284A	125m	350k	Δ	30	30	10	12u	2.0u	3.0m	47	80u	800	5.0		A	R8			
9#	OC76	125m	350kΔ	Δ	32	32	10	12u	5.4u	10m	45	80u	800	5.0		A	R8			
10#	OC77	125m	350kΔ	Δ	60	60	10	12u	5.4u	10m	45	23u	2.3k	9.0		A	R8			
11#	OC70	125m	450k	Δ	30	30	10	5.0u	2.0u	500u	30	23u	2.3k	9.0		A	R9			
12	2N283	125m	500k	Δ	32	30	10	4.5u	10u	500u	40	23u	2.3k	9.0		A	R8			
13#	2SB171	125m	500k	Δ	30	30	10	12u	2.0u	3.0u	50	75u	800	4.5		A	T01			
14#	2SB173	125m	500k	Δ	20	20	10	12u	6.0u	1.0u	50	80u	800	5.4		A	T01			
15#	OC71	125m	500k	Δ	30	30	10	5.0u	2.0u	3.0m	47	80u	800	5.4		A	R9			
16#	2SB175	125m	600k	Δ	30	30	10	12u	2.0u	3.0m	90	80u	1.3k	5.5		A	T01			
17#	OC75	125m	750k	Δ	30	30	10	5.0u	2.0u	3.0m	90	80u	1.3k	5.5		A	R9			
18#	2SB177	125m	900k	Δ	60	60	10	12u	30m	65	50	80u	1.3k	5.5		A	T01			
19#	OC72	125m	900k	Δ	32	32	10	12u	10u	70	80m	50	80u	1.3k		A	R8			
20	2N65	125m	1.0M	#J	20	16	100m	10u	5.0u	1.0m	75	35p	800	4.5		A	OV4	A		
21#	2SB172	125m	1.0M	#J	32	32	10	12u	1.0u	100m	50	35p	800	4.5		A	T01			
22#	2SB176	125m	1.4M	#J	32	32	10	12u	1.0u	100m	100	35p	800	4.5		A	T01			
23	40329	125m	1.5M	#J	20	25	100m	14u	10u	75	175u	400	3.0		A	T01	A			
24	2N614	125m	3.0M	#J	20	15	10	150m	6.0u	9.0u	4.5	8.0p	800	5.0		A	T05	A		
25#	AS731	125m	4.0MΔ	Δ	25	15	20	200m	3.0u	0.0u	20m	16p	800	5.0		A	R9			
26	2N615	125m	5.0M	#J	20	15	10	150m	6.0u	9.0u	7.5	8.0p	800	5.0		A	T05	A		
27#	AS732	125m	6.0MΔ	Δ	25	15	20	200m	3.0u	0.0u	20m	16p	800	5.0		A	R9			
28	2N617	125m	7.5M	#J	15	10	10	150m	6.0u	9.0u	15	7.0p	800	5.0		A	T05	A		
29	2N505	125m	8.0M	#J	40	40	250m	1.0u	10m	40	40	10p	800	5.0		A	T09	A		
30	2N616	125m	9.0M	#J	15	12	10	150m	6.0u	9.0u	25	7.0p	800	5.0		A	T05	A		
31#	2SA358	125m	20.0M	Δ	75	75	1.0	50m	12u	9.0u	1.0m	3p	800	5.0		D	X35			
32	JAN2N2084	125m	40MΔ	Δ	40	40	1.0	10m	8.0u	6.0u	1.0m	4.0p	800	5.0		A	T033	G		
33	2N2188	125m	60MΔ	Δ	40	25	2.0	30m	3.0u	9.0u	1.5m	4.0p	800	5.0		A	T058	A		
34	2N2190	125m	60MΔ	Δ	60	25	2.0	30m	3.0u	9.0u	1.5m	4.0p	800	5.0		A	T058	A		
35	2N2084	125m	100M	Δ	40	40	1.0	10m	8.0u	6.0u	1.0m	4.0p	800	5.0		A	T033	G		
36	2N2189	125m	102MΔ	Δ	40	25	2.0	30m	3.0u	9.0u	1.5m	4.0p	800	5.0		A	T058	A		
37	2N2191	125m	102MΔ	Δ	60	25	2.0	30m	3.0u	9.0u	1.5m	4.0p	800	5.0		A	T058	A		
38#	2SA401	125m	230M	Δ	30	30	.50	40m	30u	6.0u	1.0m	3.0p	800	5.0		A	T044			
39	MM1139	125m	550M	#J	30	15	.30	30	8.0u	10u	2.0m	17p	800	5.0		A	T072	G		
40	2N111	130m	3.0M	#J	30	20	200m	6.0u	1.0m	25	12p	800	5.0		F	OV4				
41	2N111A	130m	3.0M	#J	30	20	200m	6.0u	1.0m	25	12p	800	5.0		F	OV4	A			
42	2N112	130m	5.0M	#J	30	20	200m	6.0u	1.0m	30	12p	800	5.0		F	OV4				
43	2N112A	130m	5.0M	#J	30	20	200m	6.0u	1.0m	30	12p	800	5.0		F	OV4	A			
44	2N113	130m	10.0M	#J	30	20	200m	6.0u	1.0m	45	12p	800	5.0		F	OV4				
45	2N271	130m	10.0M	#J	30	20	200m	6.0u	1.0m	45	12p	800	5.0		F	OV4				
46	2N271A	130m	10.0M	#J	30	20	200m	6.0u	1.0m	45	12p	800	5.0		F	OV4				
47	2N114	130m	20.0M	#J	30	20	200m	6.0u	1.0m	75	12p	800	5.0		F	OV4				
48	2N1097	140m		#J				100m	16u	1.0u	20m	34	800	5.0		A	T05	A		
49	2N1098	140m		#J	16	16	100m	16u	1.0u	20m	25	40p	800	5.0		A	T05	A		
50	2N1144	140m	4.0M	*J	16	16	100m	16u	5.0u	1.0m	55	40p	800	5.0		A	R32			
51	2N1145	140m	4.0M	*J	16	16	100m	16u	5.0u	1.0m	45	40p	800	5.0		A	R32			
52	2N3074	140m	3.1M	Δ	25	25	.50	20m	10u	5.0u	14m	3.0p	800	5.0		A	T012	G		
53	2N3075	140m	3.1M	Δ	35	35	.50	20m	10u	12u	3.0m	3.0p	800	5.0		A	T012	G		
54#	AF181	140m	350M	Δ	30	30	20m	10u	6.0u	12m	27	1.8p	800	5.0		A	T012	G		
55#	AFY40R	140m	600M	#J	20	15	.30	10m	8.0u	2.0m	55	.25p	800	5.0		A	R96	G		
56#	AFY40	140m	700M	#J	32	20	.30	20m	8.0u	2.0m	55	.25p	800	5.0		A	R90	A		
57	2N138	150m		Δ	20	20	150m	20u	1.0u	50m	44		800	5.0		A	T022	A		
58	2N185	150m		*A	20	20	150m	14u	1.0u	50m	80		800	5.0		A	T022	A		
59	2N217	150m	1.5M	#J	25	25	12	70m	14u	1.0u	50m	75		800	5.0		A	T01	A	
60	2N238	150m		*A	20	20	150m	20u	1.0u	50m	45		800	5.0		A	T022	F		
61	2N311	150m	2.0M	#S	15	15	6.0	60u	5.0u	10m	50	500nb			A	T05	A			
62	2N407	150m	3.0M	Δ	20	18	2.5	70m	14u	1.0u	65		800	5.0		A	T040	A		
63	2N408	150m	3.0M	Δ	20	18	2.5	70m	14u	1.0u	65		800	5.0		A	T01	A		
64	2N680	150m		#J	20	20	50m	14u	1.0u	35		800	5.0		A	OV9				
65#	JAN2N705†	150m	2.0M	#J	15	15	3.5	50m	10u	30u	25	8p	800	5.0		DM	T018	A		
66	2N710A†	150m	2.0M	#S	15	15	2.0	50m	3.0u	50u	25		800	5.0		A	T018	A		
67	2N782†	150m	2.0M	#J	12	12	1.0	200m	3.0u	25u	10m	20	800	5.0		A	T018	A		
68	2N837†	150m	2.0M	#S	12	12	1.0	100m	3.0u	50u	10m	30	800	5.0		A	T018	A		
69	2N1303	150m	2.5M	#J	30	25	300m	6.0u	1.0u	10m	20	20p	800	5.0		A	T05	A		
70	2N1305	150m	2.5M	#J	30	25	300m	6.0u	1.0u	10m	40	20p	800	5.0		A	T05	A		
71	2N1307	150m	2.5M	#J	30	25	300m	6.0u	1.0u	10m	60	20p	800	5.0		A	T05	A		
72	2N1309	150m	2.5M	#J	30	25	300m	6.0u	1.0u	10m	80	20p	800	5.0		A	T05	A		
73	2N1408	150m	2.0M	#S	50	50	10	7.0u	5.0u	1.0m	10	2.0ub			A	T05	A			
74#	JAN2N1646†	150m	2.0M	#S	15	12	2.0	50m	3.0u	50u	10m	20	5.0p	800	5.0		A	X25	A	
75	2N1729†	150m	2.5M	#J	25	15	#	300m	6.0u	30u	100m	30	20p	800	5.0		A	T05	A	
76	2N1853	150m	2.5M	#J	18	18	#	4.0	100m	4.2u	40u	6.0m	30	800	5.0		A	T05	A	
77	JAN2N1853†	150m	25m	#J	18	18	#	4.0	100m	35u†	1.0u	200uΔ	30	800	5.0		A	T05	A	
78#	2SB155	150m		#J	16	16	2.5	300m	14u	4.0u	1.0m	30		800	5.0		A	T01		
79#	2SB156	150m		#J	16	16	2.5	300m	14u	4.0u	1.0m	30		800	5.0		A	T01		
80#	2SB156A	150m		#J	20	20	6.0	300m	15u	4.0u	1.0m	45		800	5.0		A	T01		
81#	2SB185	150m		Δ	25	25	50m	15u	1.5u	30m	45		800	5.0		A	T01			
82#	2SB186	150m																		

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DEGRATE IN FREE AIR W/C (Hz)	TEMPERATURE (°C)	ABS. MAX RATINGS @ 25°C				MAX. I _{cb0} @ MAX V _{cb} (A)	TYPICAL h _{FE} PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	L C O D E		
					V _{cb0} (V)	V _{ceo} (V)	V _{be0} (V)	I _c (A)		BIAS			COMMON EMITTER							
										V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} (X.0001)					
1	2N180	150m	70M	3.0M	30		30	10u	6.0	1.0m	60			25p	A	R8a	A			
2	2N181	150m	70M	5.0M	30		30	10u	6.0	1.0m	60			25p	A	X41	A			
3	2N125	150m	700k	2.5m	30		12	10u	6.0	1.0m	44			40p	A	T01	A			
4	JAN2N467	150m	700kΔ	2.0m	#S	35	15	12	50m	10u	6.0	1.0m	110 Δ	1.0uZb	45 Z	5.0	20pZ	A	T05	A
5	2SB66H	150m	70M	3.0M	#J	30	30	12	70m	6.0u	6.0	1.0m	70	27u	2.2k	5.0	20pZ	A	T01	A
6	2SB120	150m	70M	2.5m	#J	32		2.5	20m	6.5u	1.2	2.0m	70				30p	A	T01	A
7	2N1129	150m	750k	2.5m	#J	25			250m	25u	6.0	100m	165 ↑	1.6ub	10	5.5	125p	AΔ	R2	A
8	2N1130	150m	750k	2.5m	#J	30			250m	25u	6.0	100m	110 ↑	1.6ub	10	5.5	125p	AΔ	R2	A
9	2N422	150m	80M	2.5m	#J	35	20	12	100m	15u	6.0	1.0m	50	19u	2.5k	5.5		FA	T05	A
10	2N563	150m	800k	2.5m	#S	30		10		25u	5.0	1.0m	25	700nb	35	2.5	30p		R116	A
11	2N564	150m	800k	2.0m	#S	30		10		25u	5.0	1.0m	25	700nb	35	2.5	30p		T05	A
12	2SB32	150m	800k	2.5m	#J	20		2.5	50m	14u	6.0	1.0m	40	16u	1.5k	4.2		A	T01	A
13	2SB136	150m	80M	2.5m	#J	25	25	12	150m	10u	1.5	50m	120 ↑					A	T01	A
14	2SB136A	150m	80M	2.5m	#J	60	40	12	300m	10u	1.5	50m	120 ↑					A	T01	A
15	2SB168	150m	80M	2.5m	#J	9.0		2.5	100m	14u	3.0	1.0m	60	20u	1.3k	4.9		A	T01	A
16	2SB457	150m	80M	2.5m	#J	20	20	2.5	500m	15u	1.0	150m	110 ↑					A	T01	A
17	2SB457A	150m	80M	2.5m	#J	32	32	6.0	500m	15u	1.0	150m	110 ↑					A	T01	A
18	2N45	150m	1.0M	2.0m	#J	45		15	50m	10u	5.0	1.0m	12					A	T029	A
19	2N45A	150m	1.0M	2.0m	#J	45		5.0	10m	15u	5.0	1.0m	15 Δ				40p		T05	A
20	2N273	150m	1.0M	1.3m	J	20	30	10	10m	10u	25	50m	20				40p	A	T05	A
21	2N398A	150m	1.0M	2.0m	#J	105	105	50	200m	50u	3.5	5.0m	65 ↑					A	T05	A
22	JAN2N422	150m	1.0MΔ	2.5m	#S	35		12		20u	3.5	0.0	30 Δ	1.0uZ	45 Z		60pZ		R81a	A
23	2N565	150m	1.0M	2.5m	#S	30		10		25u	5.0	1.0m	55	550nb	30	3.5	30p		R116	A
24	2N566	150m	1.0M	2.0m	#S	30		10		25u	5.0	1.0m	55	550nb	30	3.5	30p		T05	A
25	2SB33	150m	1.0M	2.5m	#J	20		2.5	50m	14u	6.0	1.0m	80	20u	2.6k	5.5		A	T01	A
26	2SB37	150m	1.0M	2.5m	#J	30	20	12	50m	14u	6.0	1.0m	80 *	20u	2.6k	5.5	45p	A	T01	A
27	2SB54	150m	1.0M	3.0m	ΔJ	30	20	12	150m	14u	6.0	1.0m	140	30u	4.2k	6.0	35p	A	T01	A
28	2SB55	150m	1.0M	3.0m	ΔJ	60	60	12	150m	14u	1.0	50m	80 ↑				35p	A	T01	A
29	2SB56	150m	1.0M	3.0m	ΔJ	30	25	12	150m	14u	1.0	50m	80 ↑				35p	A	T01	A
30	2SB56A	150m	1.0M	3.0m	ΔJ	45	45	12	150m	14u	1.0	50m	80 ↑				35p	A	T01	A
31	2SB59	150m	1.0M	2.5m	#J	30	20	10	100m	15u	1.0	50m	70 ↑				AΔ		T01	A
32	2SB60	150m	1.0M	2.5m	#J	20		2.5	50m	14u	6.0	1.0m	65	300nb	30	3.0		A	T01	A
33	2SB60A	150m	1.0M	2.5m	#J	20	20	2.5	50m	14u	1.0	50m	70 ↑				A		T01	A
34	2SB61	150m	1.0M	2.5m	#J	30		12	50m	10u	6.0	1.0m	85	30u	3.0k	7.0	40p	A	T01	A
35	2SB65	150m	1.0M	2.5m	#J	30	20	12	100m	15u	6.0	1.0m	65	30u	3.0k	7.0	40p	A	T01	A
36	2SB169	150m	1.0M	2.5m	#J	9.0		2.5	100m	14u	3.0	1.0m	85	24u	2.3k	6.3		A	T01	A
37	MA200	150m	1.0M	2.0m	#J	105	105	10	200m	50u	3.5	5.0m	20	TA				A	T05	A
38	MA201	150m	1.0M	2.0m	#J	105	105	20	200m	50u	3.5	5.0m	20	TA				A	T05	A
39	MA202	150m	1.0M	2.0m	#J	105	105	10	200m	50u	3.5	5.0m	40	TA				A	T05	A
40	MA203	150m	1.0M	2.0m	#J	105	105	20	200m	50u	3.5	5.0m	40	TA				A	T05	A
41	MA204	150m	1.0M	2.0m	#J	90	90	20	200m	50u	3.5	5.0m	20	TA				A	T05	A
42	MA205	150m	1.0M	2.0m	#J	75	75	20	200m	50u	3.5	5.0m	20	TA				A	T05	A
43	MA206	150m	1.0M	2.0m	#J	60	60	10	200m	50u	3.5	5.0m	20	TA				A	T05	A
44	2N1128	150m	1.2M	2.5m	#J	25			250m	20u	1.0	120		500nb	14	1.8	45p	A	R2	A
45	2SB75AH	150m	1.2M	2.5m	#J	45	45	12	100m	6.0u	6.0	1.0m	55	23u	1.6k	3.0	52p	A	T01	A
46	2SB75H	150m	1.2M	2.5m	#J	30		12	100m	6.0u	6.0	1.0m	55	23u	1.6k	3.0	52p	A	T01	A
47	2SB364	150m	1.2M	3.0m	ΔJ	20	20	12	400m	14u	5.0	100m	90 ↑				50p	A	T01	A
48	AC116	150m	1.2M	5.0m	ΔJ	30		12	100m	15u	6.0	4.0m	90					A	X9	A
49	AC123	150m	1.2M	5.0m	ΔJ	45		12	100m	15u	6.0	4.0m	90					A	X9	A
50	2N369	150m	1.3M	3.0m	ΔS	30		10	50m	5.0	1.0m	95						A	OV9	A
51	2N568	150m	1.5M	2.0m	#S	30				25u	5.0	1.0m	100	400nb	30	4.0	30p		T05	A
52	2SB66	150m	1.5M		#S	30		12	70m	14u	6.0	1.0m	70	27u	2.2k	5.0	32p	A	T01	A
53	2SB77AH	150m	1.5M		#S	45	30	12	100m	6.0u	6.0	1.0m	70	26u	1.9k	3.8		A	T01	A
54	2SB77H	150m	1.5M		#S	30	30	12	100m	6.0u	6.0	1.0m	70	26u	1.9k	3.8		A	T01	A
55	AC151	150m*	1.5M	3.3m	#J	32	24	10	200m	25u	1.0	2.0m	110	130u	1.0k	14	27p	A	T01	A
56	AC151R	150m*	1.5M	3.3m	#J	32	24	10	200m	100u	1.0	2.0m	80	100u	750	9.0	27p	A	T01	A
57	ACY23	150m*	1.5M	3.3m	#J	32	30	16	200m	10u	5.0	1.0m	100	40u	3.0k	7.0	27p	A	T01	A
58	ACY32	150m*	1.5M	3.3m	#J	32	30	16	200m	10u	5.0	1.0m	100	40u	3.0k	7.0	27p	A	T01	A
59	TR45	150m	1.5M	2.5m	#J	45		5.0	400m	16u	1.0	2.0m	20 ↑				20p	A	T05	A
60	2N569	150m	2.0M	2.5m	#S	30		10		25u	5.0	1.0m	150	400nb	30	5.0	30p		R116	A
61	2N570	150m	2.0M	2.0m	#S	30		10		25u	5.0	1.0m	150	400nb	30	5.0	30p		T05	A
62	2SB75	150m	2.0M	2.5	#S	45	25	12	100m	14u	6.0	1.0m	55	17k	17k	3.0		A	T01	A
63	2SB75A	150m	2.0M	2.5	#S	45	45	12	100m	14u	6.0	1.0m	55	17k	17k	3.0		A	T01	A
64	2SB77	150m	2.0M	2.5	#S	25	25	12	100m	14u	6.0	1.0m	70	26u	1.9k	3.8		A	T01	A
65	2SB77A	150m	2.0M	2.5	#S	45	45	12	100m	25u	6.0	1.0m	70	26u	1.9k	3.8		A	T01	A
66	2SB439	150m	2.0M	3.0m	ΔJ	30	20	12	150m	14u	6.0	1.0m	130	45u	4.0k	8.0	30p	A	T01	A
67	2SB440	150m	2.0M	3.0m	ΔJ	30	20	12	150m	14u	6.0	1.0m	130	45u	4.0k	8.0	30p	A	T01	A
68	GT122	150m	2.0M	2.0m	#S	25		10		25u	5.0	1.0m	100				35p	AΔ	T05	A
69	TR650	150m	2.0M	2.5m	#J	45	25	25	400m	15u	6.0	1.0m	40	500nb	40	5.0	20p	A	T05	A
70	TR653	150m	2.0M	2.5m	#J	30	15	25	400m	15u	6.0	1.0m	40				20p	A	T05	A
71	TR44	150m	2.2M	2.5m	#J	45		5.0	400m	16u	1.0	2.0m	30 ↑				20p	A	T05	A
72	2N413A	150m	2.5M	2.5m	#J	30			200m	20u	6.0	3.0						A	T05	A
73	JAN2N425†	150m	2.5MΔ	2.0m	#S	30	20	20	400m	3.0u	2.5	1.0mΔ	20 TA				20pZ	A	T05	A
74	2N529	150m	2.5M	1.6m	#S	15				25u	5.0	1.0mΔ	18	1.0ub	28	3.0	14p	A	T05	A
75	2N1352	150m	2.5MΔ	2.5m	#J	30	20	15	200m	5.0u	6.0	1.0m	70 ↑				18p	A	T05	A
76	TR43	150m	2.5M	2.5m	#J	45		5.0	400m	16u	1.0	2.0m								

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	3 TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	M A M P X P	T ABS MAX RATINGS @25°C				MAX. I _{cb0} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	L C O A D E		
					BV _{cb0} (V)	BV _{ce0} (V)	BV _{eb0} (V)	I _c (A)		V _{cb} (V)	h _{fe} (A)	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} (X.0001)						
1	JAN2N1231	150m	5.0MΔ	2.5m	#J	20	15	10	6.0u	5.0u	1.0m	60 Δ	500nb	30	6.0	25pZ	A	R116	A	
2	2N3151	150m	5.0MΔ	2.0m	#S	20	15	10	25u	2.0u	100m	20 †	500nb	30	6.0	14p	A	T05	A	
3	2N3151A†	150m	5.0MΔ	2.0m	#S	30	20	20	25u	2.0u	100m	35	500nb	30	6.0	14p	A	T05	A	
4	JAN2N416	150m	5.0MΔ	2.0m	#J	30	15	12	25u	6.0	1.0m	45 Δ				20pZ	A	R81	A	
5	JAN2N427†	150m	5.0MΔ	2.0m	#S	30	15	15	3.0u	2.5u	1.0mΔ	45 †Δ				20pZ	A	T05	A	
6	2N1093	150m	5.0MΔ	2.5m	#S	30	15	15	6.0u	5.0u	1.0m	40 Δ				20pZ	A	T05	A	
7	2N1115	150m	5.0MΔ	2.5m	#J	30	15	15	125m	6.0u	1.0m	40 †Δ				20pZ	A	OV5	T05	A
8	JAN2N1305	150m	5.0MΔ	2.5m	#S	30	12	10	300m	6.0u	1.0u	10m	80 †			12p	A	T05	A	
9	2N1347	150m	5.0MΔ	2.5m	#S	30	12	10	200m	6.0u	1.0u	10m	80 †			12p	A	T05	A	
10	2N1731	150m	5.0MΔ	2.5m	#J	30	30 #	25	300m	6.0u	1.0u	10m	40 †Δ			20pZ	A	T05	A	
11 #	AF187	150m	5.0MΔ	2.0m	#S	25	15 \$	15	100m	6.0u	1.0u	10m	90	700nb	30	6.0	15p	A	T05	A
12	GT1231	150m	5.0MΔ	2.0m	#S	25	15 \$	15	100m	6.0u	1.0u	10m	90	700nb	30	6.0	15p	A	T05	A
13 #	NKT135†	150m	5.0MΔ	2.1m	#J	30	20	25	300m	6.0u	1.0u	10m	40 †Δ			20pZ	A	T05	A	
14	2N483	150m	5.5MΔ	2.5m	#J	12	10	10	20m	10u	6.0u	60	40			12p	FA	T05	A	
15 #	2SA414†	150m	5.5MΔ	2.5m	#J	30	25	20	200m	3.0u	5.0u	100m	30 †			12p	FA	T05	A	
16 #	SFT226†	150m	5.5MΔ	2.5m	#J	40	32 \$	24	250m	10u	5.0u	10m	25 †Δ			16pZ	A	T05	A	
17 #	AS27†	150m	6.0MΔ	2.5m	#J	25	20	20	3.0u	0.0	200m	20 †Δ				12p	AF	T05	F	
18	2N302	150m	7.0MΔ	2.5m	#J	30	10	20	200m	1.0u	6.0	45				12p	AF	T05	F	
19	2N394A	150m	7.0MΔ	2.5m	#S	30	15 \$	20	200m	6.0u	1.0u	10m	70 †	2.0k		12p	A	T05	A	
20	2N414A	150m	7.0MΔ	2.5m	#S	30	15 \$	20	200m	6.0u	1.0u	10m	70 †	2.0k		12p	A	T05	A	
21	2N1344†	150m	7.0MΔ	2.5m	#J	15	10	10	400m	10u	1.0u	20m	90 †			12p	A	T05	A	
22 #	SFT307	150m	7.0MΔ	2.5m	#J	18	12	12	100m	10u	6.0u	10m	40	1.0ub	27	4.0	8.0p	A	T01	A
23	2N439A	150m	7.5MΔ	2.5m	#J	25	25	300m	10u	1.0u	50m	45	1.0ub	27	4.0	9.0p	A	T05	A	
24	2N485	150m	7.5MΔ	2.5m	#J	12	10	10	10m	10u	6.0	50				12p	FA	T05	A	
25 #	SFT227†	150m	7.5MΔ	2.5m	#J	30	24 \$	18	250m	10u	5.0u	10m	35 †Δ			12p	A	T05	A	
26	2N1231	150m	8.0MΔ	2.5m	#J	20	15	10	125m	6.0u	1.0u	10m	75	65u	3.0k	6.0	12p	A	R32	A
27	2N396†	150m	8.0MΔ	3.3m	#S	30	20 \$	20	200m	6.0u	1.0u	10m	30 †Δ			12p	A	T05	A	
28	2N521	150m	8.0MΔ	1.6m	#S	15	10	10	25u	4.5u	1.0m	7.0	700nb	30	10	14p	A	T05	A	
29	2N521A	150m	8.0MΔ	2.0m	#S	25	10	10	25u	2.5u	20m	150 †	700nb	30	10	14p	A	T05	A	
30	2N581†	150m	8.0MΔ	2.5m	#A	18	10	10	100m	20u	3.0u	20m	30 †			12p	A	T05	A	
31 #	2SA415†	150m	8.0MΔ	2.5m	#J	25	20	20	200m	3.0u	5.0u	100m	45 †			12	A	T05	A	
32	TR-C44	150m	8.0MΔ	2.5m	#J	6.0	6.0	6.0	10u	6.0	1.0m	80				30p	F	T05	A	
33	2N415	150m	10MΔ	2.5m	#J	12	10	20	50m	2.0u	6.0	1.0m	30			30p	F	T05	A	
34	2N415A	150m	10MΔ	2.5m	#J	30	12	20	200m	6.0u	6.0u	80				30p	F	T05	A	
35 #	JAN2N428†	150m	10MΔ	2.0m	#S	30	12	20	400m	25u	2.5u	1.0mΔ	60 †Δ			20pZ	A	T05	A	
36	2N428A†	150m	10MΔ	2.0m	#S	30	18	20	400m	4.0u	2.5u	1.0mΔ	20 †Δ			20pZ	A	T05	A	
37	2N450	150m	10MΔ	2.5m	#J	20	12	10	125m	6.0u	5.0u	1.0m	130	90u	4.0k	6.5	20pZ	FA	R116	A
38	2N484	150m	10MΔ	2.5m	#J	12	10	10	20m	10u	6.0u	1.0m	90			12p	FA	T05	A	
39	JAN2N1307	150m	10MΔ	2.5m	#S	30	15	25	300m	6.0u	1.0u	10m	60 †Δ			20pZ	A	T05	A	
40	2N1345†	150m	10MΔ	2.5m	#J	10	8.0	6.0	400m	6.0u	3.0u	400m	60 †			14p	A	T05	A	
41	2N1346†	150m	10MΔ	2.5m	#J	12	10	8.0	400m	5.0u	2.5u	35m	125 †			14p	A	T05	A	
42	2N1969†	150m	10MΔ	2.5m	#J	30	15	20	400m	25u	2.5u	20mΔ	50 †Δ			20pZ	A	T05	A	
43 #	AF188	150m	10MΔ	2.1m	#J	18	10	10	100m	10u	6.0u	10m	60 †Δ			20pZ	A	T05	A	
44 #	NKT137†	150m	10MΔ	2.1m	#J	30	15	25	300m	6.0u	1.0u	10m	60 †Δ			20pZ	A	T05	A	
45	2N518	150m	11MΔ	2.5m	#J	45	30	30	125m	6.0u	1.0u	10m	60	b	100	12p	A	R32	A	
46	2N316†	150m	12MΔ	2.0m	#S	20	10	20	500m	25u	2.0u	200m	30 †	500nb		14p	A	T05	A	
47	2N316A	150m	12MΔ	2.0m	#S	30	20	20	25u	2.0u	200m	35 †	500nb		14p	A	T05	A		
48	2N486	150m	12MΔ	2.5m	#J	12	10	10	10m	10u	6.0	100				12p	FA	T05	A	
49 #	SFT228†	150m	12MΔ	2.5m	#J	24	20 \$	12	250m	10u	5.0u	10m	50 †Δ			12p	A	T05	A	
50	2N404†	150m	13MΔ	2.5m	#A	25	12	100m	20u	2.0u	20m	40 †				12p	A	T05	A	
51 #	SFT308	150m	13MΔ	2.5m	#J	18	12	100m	10u	6.0u	1.0m	70			9.0p	A	T01	A		
52	2N303	150m	14MΔ	2.5m	#J	30	10	200m	1.0u	6.0	1.0m	75			12p	AF	OV4	F		
53	JAN2N417	150m	15MΔ	2.0m	#J	30	12	12	25u	6.0	1.0m	60 Δ				20pZ	A	R81	A	
54	2N522A	150m	15MΔ	2.0m	#S	25	10	10	25u	2.5u	20m	200 †	700nb	30	14	14p	A	T05	A	
55	JAN2N1309	150m	15MΔ	2.5m	#S	30	15	35	300m	6.0u	1.0u	10m	80 †Δ			20pZ	A	T05	A	
56	2N1309A	150m	15MΔ	2.5m	#J	35	15 #	35	300m	6.0u	1.0u	10m	80 †Δ			20pZ	A	T05	A	
57 #	AC38	150m	15MΔ	2.5m	#S	15	15 #	9.0	100m	2.0u	6.0	100 *				20pZ	A	T05	A	
58 #	SFT288†	150m	16MΔ	2.5m	#J	24	12	12	500m	10u	3.5u	400m	40 †Δ			12p	A	T05	A	
59	2N582†	150m	18MΔ	2.5m	#A	25	12	100m	20u	2.0u	24m	60 †			12p	A	T05	A		
60	2N317†	150m	20MΔ	2.5m	#S	20	6.0	400m	2.0u	2.5u	400m	40 †	500nb		12p	A	T05	A		
61	2N317A†	150m	20MΔ	2.0m	#S	25	20	25	25u	2.5u	400m	40 †	500nb		14p	A	T05	A		
62 #	SFT319	150m	20MΔ	2.5m	#J	20	.50	10m	15u	9.0u	1.0m	50			2.5p	A	T01	A		
63	2N523A	150m	21MΔ	2.0m	#S	25	10	10	25u	2.5u	20m	250 †	700nb	30	20	143p	AA	T05	A	
64	MM404†	150m	25MΔ	2.0m	#J	25	24 ∅	12	150m	5.0u	6.0u	1.0m	135	50u	3.0k	8.0	8.0p	A	T018	A
65	MM404A†	150m	25MΔ	2.0m	#J	40	35 ∅	25	150m	5.0u	6.0u	1.0m	135	50u	3.0k	8.0	8.0p	A	T018	A
66 #	SFT229†	150m	25MΔ	2.5m	#J	18	15 \$	12	250m	10u	5.0u	10m	75 †Δ			12p	AA	T05	A	
67 #	SFT320	150m	35MΔ	2.5m	#J	20	.50	10m	15u	9.0u</										

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C (Hz)	T M E A M P	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)					
					hfe	hoe	hie	hre												
1	JAN2N964†	150m	300MΔ	2.0m	#J	15	7.0	2.5	200m	3.0u	3.0u	10m	40	1Δ			TO18	A		
2	2N964A†	150m	300MΔ	2.0m	#S	15	7.0	2.5	100m	3.0u	1.0u	50m	48	1Δ			TO18	A		
3	2N965†	150m	300MΔ	2.0m	#J	12	7.0	2.0	100m	3.0u	3.0u	10m	40	1Δ			TO18	A		
4	2N966†	150m	300MΔ	2.0m	#J	12	7.0	1.2	100m	3.0u	3.0u	10m	40	1Δ			TO18	A		
5	2N968†	150m	300MΔ	2.0m	#J	15	15	2.5	200m	3.0u	5.0u	10m	17	1Δ			TO18	A		
6	2N969†	150m	300MΔ	2.0m	#J	12	12	2.0	200m	3.0u	5.0u	10m	17	1Δ			TO18	A		
7	2N970†	150m	300MΔ	2.0m	#J	12	12	2.0	200m	3.0u	5.0u	10m	17	1Δ			TO18	A		
8	2N971†	150m	300MΔ	2.0m	#J	7.0	7.0	1.2	200m	10u	5.0u	10m	17	1Δ			TO18	A		
9	2N972†	150m	300MΔ	2.0m	#J	15	15	2.5	200m	3.0u	5.0u	10m	40	1Δ			TO18	A		
10	2N973†	150m	300MΔ	2.0m	#J	12	12	2.0	200m	3.0u	5.0u	10m	17	1Δ			TO18	A		
11	2N974†	150m	300MΔ	2.0m	#J	12	12	2.0	200m	3.0u	5.0u	10m	17	1Δ			TO18	A		
12	2N975†	150m	300MΔ	2.0m	#J	7.0	7.0	1.2	200m	10u	5.0u	10m	40	1Δ			TO18	A		
13	2N985†	150m	300MΔ	2.0m	#J	15	7.0	3.0	200m	100u	5.0u	100m	60	1Δ			TO18	A		
14	2N3449†	150m	300MΔ	2.0m	#S	15	6.0	1.5	100m	3.0u	.25u	10m	20	1Δ			TO18	A		
15	JAN2N3449†	150m	300MΔ	2.0m	#S	15	6.0	1.5	100m	100u	.25u	10m	20	1Δ			TO18	A		
16	2N741	150m	360MΔ	2.0m	#J	15	15	1.0	100m	3.0u	6.0u	5.0m	25	1Δ	45ub	8.0	TO18	A		
17	2N741A	150m	360MΔ	2.0m	#J	20	20	1.0	100m	3.0u	6.0u	5.0m	25	1Δ	45u		TO18	A		
18	2N2956†	150m	375MΔ	2.0m	#J	40	20	3.5	100m	1.0u	5.0m	76	1Δ			TO18	A			
19	2N828A	150m	400MΔ	2.0m	#J	15	2.5	2.5	100m	3.0u	3.0u	10m	25	Δ			TO18	A		
20	2N2957†	150m	400MΔ	2.0m	#J	40	18	3.5	100m	1.0u	5.0m	130	1Δ			TO18	A			
21	2N3371	150m	400MΔ	2.0m	#S	25	10	3.0	100m	7.0u	6.0u	12m	25	Δ			TO18	A		
22#	2SA417†	150m	400MΔ	2.0m	#J	15	15	2.5	200m	3.0u	3.0u	10m	70	1Δ			TO46	A		
23#	2SA450H†	150m	530MΔ	2.0m	#J	12	6.0	1.5	100m	3.0u	1.0u	50m	45				TO18	A		
24#	2SA451H†	150m	530MΔ	2.0m	#J	12	6.0	1.5	100m	3.0u	1.0u	50m	95				TO18	A		
25#	2SA452H†	150m	530MΔ	2.0m	#J	12	6.0	1.5	100m	3.0u	1.0u	50m	95				TO18	A		
26	JAN2N1094	150m	560MΔ	2.0m	#J	30		1.0	40m	5.0u	6.0u	4.0m	15	1Δ	20uZb	15 Z	30 Z	TO18	A	
27	2N3323	150m	600MΔ	2.0m	#J	35	35	3.0	100m	10u	10u	3.0m	30	Δ			TO18	A		
28	2N3324	150m	600MΔ	2.0m	#J	35	35	3.0	100m	10u	10u	3.0m	30	Δ			TO18	A		
29	2N3784	150m	700MΔ	2.0m	#J	30	20	5.0	20m	5.0u	10u	3.0m	20	Δ			TO72	G		
30	2N3785	150m	700MΔ	2.0m	#J	15	12	5.0	20m	5.0u	10u	3.0m	15	Δ			TO72	G		
31	2N3783	150m	800MΔ	2.0m	#J	30	20	5.0	20m	5.0u	10u	3.0m	20	Δ			TO72	G		
32	MM5000	150m	800MΔ	2.0m	#J	30	15	3.0	10m	12u	3.0m	30	1Δ				TO72	G		
33	MM5001	150m	800MΔ	2.0m	#J	30	15	3.0	10m	12u	3.0m	30	1Δ				TO72	G		
34	MM5002	150m	800MΔ	2.0m	#J	30	15	3.0	10m	12u	3.0m	30	1Δ				TO72	G		
35	2N44A	155m	1.0M	2.5m	#S	25	25	5.0	10m	8.0u	5.0	1.0m	31				R32	A		
36#	AF180	156m	250M	3.1m	#J	25	25	25	25m	10u	5.0	14m	14	1Δ			TO12	A		
37	AFY42	160m	650M	1.3m	#S	30	25	3.0	10m	6.0u	10u	2.0m	33	1Δ			TO18	A		
38	2N109	165m	2.8m	2.8m	#S	35	25	12	150m	7.0u	1.0u	50m	65	Δ			TO40	A		
39#	2SB345	165m	17k†	3.3m	#J	32		10	100m	10u	5.0	2.0m	125				TO1	A		
40#	2SB346	165m	17k†	3.3m	#J	32		10	100m	10u	5.0	2.0m	220				TO1	A		
41	2N2428	165m	1.2MΔ	3.03u	#J	32	32	10	30m	10u	5.0	2.0m	120				TO1	A		
42#	2SB371	165m	2.0M	3.03u	#J	32		10	200m	15u	5.0u	5.0m	125	1Δ			TO1	A		
43	2N2429	165m	2.3M	3.03u	#J	32	30	10	100m	10u	5.0	2.0m	40				TO1	A		
44	JAN2N1008B	167m	500kΔ	2.2m	#S	60	55	20	300m	15u	5.0u	10m	40	Δ	300u	800 Z	10	TO5	A	
45	2N1008	167m	1.0M	2.8m	#J	20			300m		5.0u	10m	90				TO5	A		
46	2N1008A	167m	1.0M	2.8m	#J	40			300m		5.0u	10m	90		300u	600	10	TO5	A	
47	2N1008B	167m	1.0M	2.8m	#J	60			300m		5.0u	10m	90		300u	600	10	TO5	A	
48#	AC132	167m	1.3M	3.3m	#J	32	32	10	200m	10u	0.0	5.0m	115	1Δ			TO1	A		
49#	2SB22	170m	2.9m	2.9m	#J	25	25	25	75m	15u	1.5u	3.0m	95				TO1	A		
50	2N464	170m	1.0M	2.9m	#J	45	40	12	100m	15u	6.0u	1.0m	26		17u	900	3.5	TO5	A	
51	2N465	170m	1.1M	2.9m	#J	45	30	12	100m	15u	6.0u	1.0m	45		18u	1.4k	4.3	TO5	A	
52	2N363	170m	1.5M	2.9m	#J	32	30	6.0	100m	15u	6.0u	1.0m	50				TO5	A		
53	2N466	170m	1.5M	2.9m	#J	35	20	12	100m	15u	6.0u	1.0m	90		20u	3.0k	6.5	TO5	A	
54	2N633	170m	1.5M	2.9m	#J	32	30	6.0	100m	25u	5.0u	5.0m	60	1Δ			TO5	A		
55	2N362	170m	2.0M	2.9m	#J	25	18	6.0	100m	15u	6.0u	1.0m	90				TO5	A		
56	2N360	170m	2.5M	2.9m	#J	32	30	6.0	200m	15u	1.0u	5.0m	100	1Δ			TO5	A		
57	2N361	170m	2.5M	2.9m	#J	32	30	6.0	200m	15u	1.0u	5.0m	50	1Δ			TO5	A		
58	2N413	170m	2.5M	2.8m	#J	30	18	20	200m	5.0u	6.0u	1.0m	30		600nb	25	5.0	12p	TO5	A
59	2N632	170m	2.5M	2.8m	#J	30	24	6.0	100m	25u	5.0u	5.0m	120	1Δ			TO5	A		
60	2N467	170m	2.7M	2.9m	#J	35	15	12	100m	15u	6.0u	1.0m	180		22u	5.5k	6.2		TO5	A
61	2N359	170m	3.5M	2.9m	#J	25	18	6.0	200m	15u	1.0u	5.0m	200	1Δ			TO5	A		
62	2N631	170m	3.5M	2.9m	#J	25	18	6.0	100m	25u	6.0u	1.0m	200	1Δ			TO5	A		
63	2N425†	170m	4.0M	2.9m	#J	30	20	20	400m	4.0u	25u	1.0m	30	1Δ		5.5	14p		TO5	A
64	2N426†	170m	6.0M	2.9m	#J	30	18	20	400m	4.0u	25u	1.0m	40	1Δ			TO5	A		
65	2N414	170m	7.0M	2.8m	#J	30	15	20	200m	5.0u	6.0u	1.0m	60		620nb	25	5.0	10p	TO5	A
66	2N416	170m	1.0M	2.8m	#J	30	12	20	200m	5.0u	6.0u	1.0m	80		650nb	25	7.0	12p	TO5	A
67	2N117†	170m	10MΔ	2.9m	#J	30	12	20	400m	5.0u	25u	1.0m	30	1Δ			TO5	A		
68	2N427†	170m	11M	2.9m	#J	30	15	20	400m	4.0u	25u	1.0m	55	1Δ			TO5	A		
69	2N428†	170m	17M	2.9m	#J	30	12	20	400m	4.0u	25u	1.0m	80	1Δ			TO5	A		
70	2N417	170m	2.0M	2.8m	#J	30	10	20	200m	5.0u	6.0u	1.0m	140	1Δ	770nb	26	11	12p	TO5	A
71	2N1017	170m	20M	2.9m	#S	30	10	20	400m	25u	25u	1.0m	100	1Δ			TO5	A		
72	2N1018	170m	25M	2.9m	#S	30	6.0	20	400m	4.0u	25u	1.0m	140	1Δ			TO5	A		
73	2N291	180m	4.0m	4.0m	#A	25			200m	25u	5.0u	10m	25	1Δ			OV7		TO5	A
74#	OC77M	180m			#A	60			125m	15u	9.0	1.0m	25	1Δ			TO5	A		
75	2N402	180m	35M	3.0m	#J	25	10	150m	15u	9.0	1.0m	25			600nb	33	2.0	40p	TO5	A
76	2N612	180m	600k	3.0m	#J	25	10	150m	25u	9.0	1.0m	25			600nb	33	2.0	40p	TO5	A
77	2N403	180m	850k	3.0m	#J	25	10	200m	15u	9.0	1.0m	35			200nb	30	3.0	40p	TO5	A
78	2N613	180m	850k	3.0m	#J	25	10	200m	25u	9.0	1.0m	35			200nb	30	3.0	40p	TO5	A
79	2N6	180m	1.0M	3.0m	#J	25	20	10	200m	15u	100m	45	1Δ				TO5	A		
80	2N61A	180m	1.0M	3.0m	#J	40	20	10	200m											

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1] MAX. COLL. DISS. @25°C (W)	2] fab (Hz)	DERATE IN FREE AIR W/°C				ABS MAX RATINGS @25°C				MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUC-TURE	DWG. No.	L C O A D E	
				M E A M P	V _{bcbo} (V)	V _{veo} (V)	V _{vebo} (V)	I _c (A)	BIAS				COMMON EMITTER										
									V _{cb} (V)	I _e (A)	h _{fe}		h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001								
1#	2SB67H	200m					55	30	55	30m	10u	6.00	1.0m	50 Δ	22u	2.5k	3.5	A	T07				
2#	2SB370	200m					2.5	25	6.0	500	20m	1.00	150mΔ	70 Δ				A	T01				
3#	2SB370A	200m					32	30	12	500	20m	1.00	150mΔ	70 Δ				A	T01				
4#	NKT270	200m				#J	30		5.0	125m	10u	4.50	1.0m	35 Δ				A	T01	A			
5	JAN2N331	200m	400kΔ	3.1m	#S		30	16	12	200m	10u	6.00	1.0m	30 Δ	1.0uZb	50 Z		50pZ	T05	A			
6	2N2042	200m	500kΔ	2.6m	#J		105	105	75	200m	25u	6.00	1.0m	80	550nb	40		25pZ	T05	A			
7	2N2042A	200m	500kΔ	2.7m	#S		105	105	75	200m	25u	6.0	1.0m	20 Δ	7.0uZb	50 Z		25pZ	T05	A			
8	MA885	200m	500kΔ	2.6m	#J		50	50	15	500m	100u	6.00	1.0m	15 Δ	7.0uZb	40 Z		25p	T05	A			
9	2N650	200m	750kΔ	2.7m	#S		45	30	30	500m	100u	6.00	1.0m	30 Δ	37 Zb			25pZ	T05	A			
10	2N650A	200m	750kΔ	2.7m	#S		45	30	30	500m	100u	6.00	1.0m	30 Δ	1.0uZb	37 Zb		25pZ	T05	A			
11	JAN2N650A	200m	750kΔ	2.6m	#S		45	30	30	500m	50u	6.00	1.0m	30 Δ	700nZb	37 Z	8.0 Z	25pZ	T05	A			
12	2N2043	200m	750kΔ	2.6m	#J		105	105	75	200m	25u	6.00	1.0m	180	550nb	40		25pZ	T05	A			
13	2N2043A	200m	750kΔ	2.7m	#S		105	105	75	200m	25u	6.0	1.0m	45 Δ	1.0uZb	50 Z		25pZ	T05	A			
14	MA881	200m	750kΔ	2.6m	#J		60	60	15	500m	100u	6.00	1.0m	30 Δ	100nZb	40 Z		25p	T05	A			
15	MA886	200m	750kΔ	2.6m	#J		50	50	15	500m	100u	6.00	1.0m	30 Δ	1.0uZb	40 Z		25p	T05	A			
16	2N186A	200m	800k	3.3m	#J		25	25	5.0	200m	16u	1.00	100m	24 †		1.2k		40p	R32				
17	2N189	200m	800k	3.3m	#J		25	25		200m	16u	5.0	1.0m	32				40p	R32				
18#	NKT210	200m	90MΔ	3.1m	#J		45	30	10	500m	10u	0.00	25m	50 Δ				60pZ	T01	A			
19#	NKT211	200m	90MΔ	3.1m	#J		32	30	10	500m	10u	0.00	50m	40 Δ				60pZ	T01	A			
20#	NKT212	200m	90MΔ	3.1m	#J		32	32	10	500m	10u	0.00	50m	50 Δ				60pZ	T01	A			
21#	NKT213	200m	90MΔ	3.1m	#J		32	32	10	250m	10u	4.50	1.0m	50 Δ				60pZ	T01	A			
22#	NKT214	200m	90MΔ	3.1m	#J		32	32	10	250m	10u	4.50	1.0m	30 Δ				60pZ	T01	A			
23#	NKT215	200m	90MΔ	3.1m	#J		32	32	10	250m	10u	4.50	1.0m	15 Δ				60pZ	T01	A			
24#	NKT216	200m	90MΔ	3.1m	#J		32	32	10	250m	10u	4.50	1.0m	50 Δ				60pZ	T01	A			
25#	NKT217	200m	90MΔ	3.1m	#J		60	40	10	500m	10u	0.00	25m	50 Δ				60pZ	T01	A			
26#	NKT219	200m	90MΔ	3.1m	#J		32	32	10	250m	10u	4.50	1.0m	85 Δ				60pZ	T01	A			
27#	2N187A	200m	1.0M	3.3m	#J		25	25	5.0	200m	16u	1.00	100m	36 †		2.0k		40p	R32				
28	2N190	200m	1.0M	3.3m	#J		25	25		200m	16u	5.0	1.0m	42				40p	R32				
29	2N322	200m	1.0MΔ		#J		18	18	5.0	200m	16u	1.00	20m	34 Δ				35pZ	T05	A	A\$		
30	2N651	200m	1.0MΔ	2.7m	#S		45	30	30	500m	10u	6.00	1.0m	50 Δ				37 Zb	T05	A			
31	2N651A	200m	1.0MΔ	2.7m	#S		45	30	30	500m	10u	6.00	1.0m	50 Δ	1.0uZb	37 Zb		25pZ	T05	A			
32	JAN2N651A	200m	1.0M	2.6m	#S		45	30	30	500m	50u	6.00	1.0m	50 Δ	700nZb	37 Z	10 Z	25pZ	T05	A			
33#	2SB415	200m	1.0M	3.3m	#J		32	32	6.0	1	14u	0.0	300m	70 †					T01	A			
34#	2SB494	200m	1.0M	3.3m	#J		25	18	6.0	1.0	20u	1.00	150m	38 Δ					T01	A			
35#	2SB495	200m	1.0M	3.3m	#J		25	18	6.0	1.0	20u	1.00	150m	110 †					T01	A			
36#	2SB495A	200m	1.0M	3.3m	#J		32	25	6.0	1.0	20u	1.00	150m	110 †					T01	A			
37	MA100	200m	1.0MΔ	2.7m	#J		60	60	15	500m	100u	6.00	1.0m	50 Δ				25pZ	T05	A			
38	MA882	200m	1.0MΔ	2.6m	#J		60	60	15	500m	100u	6.00	1.0m	50 Δ	100nZb	40 Z		25p	T05	A			
39	MA887	200m	1.0MΔ	2.6m	#J		50	50	15	500m	100u	6.00	1.0m	50 Δ	1.0uZb	40 Z		25p	T05	A			
40#	NKT271	200m	1.0M	3.1m	#J		15	15	5.0	500m	10u	1.50	50m	50 Δ					T01	A			
41#	NKT272	200m	1.0M	3.1m	#J		15	15	5.0	250m	10u	4.50	1.0m	35 Δ					T01	A			
42#	NKT274	200m	1.0M	3.1m	#J		15	15	5.0	250m	10u	4.50	1.0m	85 Δ					T01	A			
43#	NKT275	200m	1.0M	3.1m	#J		15	15	5.0	250m	10u	4.50	1.0m	30 Δ					T01	A			
44	2N188A	200m	1.2M	3.3m	#J		25	25	5.0	200m	16u	1.00	100m	54 †		2.6k		40p	R32				
45	2N191	200m	1.2M	3.3m	#J		25	25		200m	16u	5.0	1.0m	67				40p	R32				
46	2N652	200m	1.2MΔ	2.7m	#S		45	30	30	500m	10u	6.00	1.0m	100 Δ				37 Zb	T05	A			
47	2N652A	200m	1.2MΔ	2.7m	#S		45	30	30	500m	10u	6.00	1.0m	100 Δ	1.0uZb	37 Zb		25pZ	T05	A			
48	JAN2N652A	200m	1.2MΔ	2.6m	#S		45	30	30	500m	50u	6.00	1.0m	100 Δ	700nZb	37 Z	12 Z	25pZ	T05	A			
49#	2SB167	200m	1.2M	3.3m	#J		20	20	2.5	500m	20u	6.00	1.0m	80		38u	2.4k	8.9		T01	A		
50#	2SB431	200m	1.2M	3.3m	#J		32	32	12	500m	20u	6.00	1.0m	80		38u	2.4k	8.9		T01	A		
51	MA883	200m	1.2MΔ	2.6m	#J		60	60	15	500m	100u	6.00	1.0m	100 Δ	100nZb	40 Z		25p	T05	A			
52	MA888	200m	1.2MΔ	2.6m	#J		50	50	15	500m	100u	6.00	1.0m	100 Δ	1.0uZb	40 Z		25p	T05	A			
53#	SFT351	200m	1.2M	3.3m	#J		24	24	12	150m	15u	6.00	1.0m	30		20u	1.0k	2.7	32p	T01	A		
54	2N241A	200m	1.3M	4.0m	QJ		25	25	5.0	200m	16u	1.00	100m	73 †		4.0k		40p	R32				
55#	SFT321	200m	1.3M	3.3m	#J		24	24	12	250m	15u	1.00	100m	30 †				32p	T01	A			
56	2N192	200m	1.5M	5.0m	#J		25	25		200m	16u	5.0	1.0m	90				40p	R32				
57	2N323	200m	1.5MΔ		#J		18	18	5.0	200m	16u	1.00	20m	53 Δ				35pZ	T05	A	A\$		
58	2N519	200m	1.5M	2.6m	#S		15	15	10	200m	2.0u	4.50	1.0m	25				700nb	30	3.0	12p	T05	A
59	2N653	200m	1.5M	2.6m	#J		30	25	25	250m	15u	6.00	1.0m	49				100p	18k	10p	10p	T05	A
60	2N1186	200m	1.5M	2.6m	#J		60	45	30	500m	50u	6.00	1.0m	49				500nb	32	10p	10p	T05	A
61	2N1191	200m	1.5M	2.9m	#J		40	25	25	200m	15u	6.00	1.0m	40				20p	1.4k	20p	Δ	T05	A
62	2N1451	200m	1.5M	3.3m	#J		45	20	10	400m	15u	2.00	20m	45 †		1.0ub	40	3.0	20p	A	T05	A	
63#	2SB263	200m	1.5M	3.3m	#J		20	18	2.5	150m	14u	6.00	1.0m	60		19u	1.6k	4.3	20p	A	T01	A	
64#	2SB324	200m	1.5M	3.3m	#J		32	10	500m	10u	1.00	300m	90 †						T01	A			
65#	SFT322	200m	1.6M	3.3m	#J		24	24	12	250m	15u	1.00	100m	50 †				32p	T01	A	A		
66#	SFT352	200m	1.6M	3.3m	#J		24	24	12	150m	15u	6.00	1.0m	50		27u	1.5k	3.2	32p	T01	A	A	
67	MA884	200m	1.7MΔ	2.6m	#J		60	60	15	500m	100u	6.00	1.0m	190 Δ	1.0uZb	40 Z		25p	T05	A			
68	MA889	200m	1.7MΔ	2.6m	#J		50	50	15	500m	100u	6.00	1.0m	190 Δ	1.0uZb	40 Z		25p	T05	A			
69	TR383	200m	1.8M	3.3m	#J		25	25	10	200m	25u	1.00	150m	72 †				20p	T05	A			
70	2N324	200m	2.0MΔ		#J		18	18	5.0	200m	16u	1.00	20m	72 Δ				35pZ	T05	A	A\$		
71	2N654	200m	2.0M	2.6m	#J		30	25	25	250m	15u	6.00	1.0m	80			3.1k	10p	10p	Δ	T05	A	
72	2N1187	200m	2.0M	2.6m	#J</																		

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DERATE IN FREE AIR W/°C	TEMPERATURE °C	ABS. MAX RATINGS @ 25°C				MAX. Icbo @ MAX Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUCTURE	L C O D E			
					BVcbo (V)	BVceo (V)	BEVbo (V)	Ic (A)		Vcb (V)	Ie (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)						
																			fab	FREE AIR W/°C	MAX. Vcb (V)
1	2N1358†	200m	5.0MΔ	2.6m	#J	30	20	20	200m	6.0u	1.0m	80	†	770nb	25	1.0	12p	A	T05	A	
2	2N1479	200m	5.0M	3.3m	#J	30	45	25	15	400m	1.0m	80	†				20p	AΔ	T05	A	
3	2N1479	200m	5.0M	3.3m	#J	12	12	7.0	200m	5.0u	6.0m	160	†				18p	A	T05	A	
4	2N3428	200m	5.0MΔ	2.7m	#S	45	30	30	500m	5.0u	6.0m	1.0m	350	Δ	500n	35	1.1	20p	AΔ	T05	A
5	MA1704	200m	5.0MΔ	2.6m	#J	25	25	25	500m	15u	1.0m	100m	150	Δ	b	35	1.1	20p	AΔ	T05	A
6	2N4148	200m	7.0M	3.3m	#J	30	30	20	400m	6.0u	6.0m	1.0m	60			20p	A	T05	A		
7	2N414C	200m	7.0M	3.3m	#J	30	30	20	400m	6.0u	6.0m	1.0m	60			12p	A	T05	A		
8	2N1281	200m	7.0M	3.3m	#J	16	10	10	400m	1.0u	1.0m	20m	90	†		10p	A	T05	A		
9	2N1350	200m	8.0M	3.3m	#J	50	20	25	400m	2.0u	3.0m	10m	95	†		12p	A	T05	A		
10	2N1351	200m	8.0M	3.3m	#J	40	20	25	400m	1.0u	3.0m	10m	65	†		12p	A	T05	A		
11	2N1355†	200m	8.0M	3.3m	#J	30	20	20	200m	6.0u	1.0m	10m	80	†		12p	A	T05	A		
12	2N2132	200m	8.0M	2.6m	#S	20	20	10	400m	6.0u	5.0m	1.0m	65		600nb	28	8.0	12p	A	T05	A
13	2N1282	200m	10.0M	3.3m	#J	16	10	10	400m	1.0u	1.0m	20m	100	†		10p	A	T05	A		
14	2N1318†	200m	10.0M	3.3m	#J	30	15	20	400m	25u	2.5m	1.0m	100	†		14p	A	T05	A		
15	2N1317†	200m	10.0M	3.3m	#J	20	12	15	400m	25u	2.5m	1.0m	95	†		14p	A	T05	A		
16	2N1318	200m	10.0M	3.3m	#J	10	6.0	8.0	400m	7.0u	2.5m	1.0m	85	†		14p	A	T05	A		
17	2N1349	200m	10.0M	3.3m	#J	40	20	25	400m	1.0u	3.0m	10m	110	†		12p	A	T05	A		
18	2N397†	200m	12.0M	3.3m	#J	30	15	20	200m	6.0u	1.0m	10m	95	†		12p	A	T05	A		
19	2N1357†	200m	12.0M	3.3m	#J	30	15	20	200m	6.0u	1.0m	10m	85	†		12p	A	T05	A		
20	2N522	200m	18M	2.6m	#S	15	8.0	10	200m	2.0u	4.5m	1.0m	120		700nb	30	110	12p	A	T05	A
21	2N523	200m	25M	2.6m	#S	15	6.0	10	200m	2.0u	4.5m	1.0m	200		700nb	30	14	12p	A	T05	A
22	2N2207	200m	175M	4.0m	ΔJ	10	15	5.0	50m	7.0u	6.0m	10m	36	Δ				AD	T07	H	
23	2N1204A†	200m	220MΔ	2.6m	#S	20	15	4.0	500m	7.0u	1.0m	20m	1.1	Δ				AD	T039	A	
24	2N1204†	200m	320MΔ	2.7m	#S	20	15	4.0	500m	7.0u	1.0m	400m	1.5	Δ				AD	T039	A	
25	2SB370AH	200m	1.4G	2.9m	#J	32	32	12	500	25m	1.0m	15m	70	†				A	T01	A	
26	2N658†	210m	5.0M	2.9m	#J	30	18	12	1	5.0u	.35m	50m	50	†				FA	T05	A	
27	2N662	210m	8.0M	2.9m	#J	30	14	12	1	5.0u	.35m	50m	70	†				FA	T05	A	
28	2N659†	210m	10.0M	2.9m	#J	30	16	12	1	5.0u	.35m	50m	70	†				FA	T05	A	
29	2N660†	210m	15.0M	2.9m	#J	30	14	12	1	5.0u	.35m	50m	90	†				FA	T05	A	
30	2N661†	210m	20.0M	2.9m	#J	30	9.0	12	1	5.0u	.35m	50m	120	†				FA	T05	A	
31	2N2541†	215m	10MΔ	2.9m	#S	30	14	12	1.0	20u	.35m	50m	60	Δ				A	T05	A	
32#	AC138	220m	1.5M	3.3m	#J	32	32	10	1.2	14u	6.0m	5.0m	100					A	T01	A	
33#	AC139	220m	1.5M	3.3m	#J	32	32	10	1.2	14u	6.0m	400m	80	†				A	T01	A	
34#	AC142	220m	1.5M	3.3m	#J	32	32	10	1.2	14u	6.0m	400m	80	†				A	T01	A	
35#	NKT281	220m	1.5M	3.4m	#J	32	16	10	1.0	10u	0.0m	5.0m	55	Δ				A	T01	A	
36#	AF200	220m	1.5M	3.4m	#J	25	25	.30	10m	10u	1.0m	12	1.0m	50	†			ME	T05	A	
37#	AF201	220m	2.2M	2.2m	#J	25	25	.30	10m	10u	1.0m	12	1.0m	50	†			ME	T05	A	
38#	AF202L	220m	2.2M	2.2m	#J	25	25	.30	10m	10u	1.0m	12	1.0m	50	†			ME	T05	A	
39#	2SB178	220m	7.0M	3.0m	ΔJ	32	32	6.0	300m	20u	1.0m	300m	65	†				A	R43	A	
40#	2SB178A	220m	7.0M	3.0m	ΔJ	40	40	6.0	300m	20u	1.0m	300m	65	†				A	R43	A	
41#	JAN2N526	220m	1.0MΔ	3.0m	#S	45	30	15	500m	10u	5.0m	1.0m	44	Δ				A	T05	A	
42#	2SB304	220m	1.0M	5.0m	ΔJ	30	20	10	500m	15u	1.0m	50m	70	†				AΔ	T05	A	
43#	2SB304A	220m	1.0M	5.0m	ΔJ	45	30	15	500m	10u	1.0m	50m	70	†				AΔ	T05	A	
44#	2SB376	220m	1.0M	5.0m	ΔJ	20	20	6.0	300m	20u	.50m	300m	50	†				AΔ	R43	A	
45#	2SB427	220m	1.0M	5.0m	ΔJ	45	30	15	500m	15u	1.0m	100m	60	†				AΔ	T05	A	
46#	2SB428	220m	1.0M	5.0m	ΔJ	45	30	15	500m	15u	1.0m	100m	60	†				AΔ	T05	A	
47	2N460	220m	1.2M	3.0m	#J	45	35	15	400m	15u	5.0m	1.0m	24					A	T05	A	
48#	SFT221	220m	1.3M	3.7m	#J	30	24	15	200m	15u	1.0m	10m	30	†				A	T05	A	
49#	SFT251	220m	1.3M	3.7m	#J	30	24	15	150m	15u	6.0m	1.0m	30	†				A	T05	A	
50	2N2431	220m	1.5M	3.4m	#J	32	32	10	500m	10u	5.0m	1.0m	40					A	T05	A	
51#	SFT241	220m	1.6M	3.7m	#J	45	35	25	500m	15u	1.0m	100m	45	†				A	T05	A	
52	2N319	220m	2.0M	3.7m	#J	20	20	200m	#	18u	1.0m	20m	34	†				A	T05	A	
53#	ASY81	220m	2.0M	3.7m	#J	60	35	25	500m	15u	1.0m	100m	60	†				A	T05	A	
54#	SFT222	220m	2.0M	3.7m	#J	30	24	15	250m	15u	1.0m	100m	60	†				A	T05	A	
55#	SFT243	220m	2.0M	3.7m	#J	60	35	25	500m	15u	1.0m	100m	60	†				A	T05	A	
56#	SFT252	220m	2.0M	3.7m	#J	30	24	15	150m	15u	6.0m	1.0m	60	†				A	T05	A	
57	2N320	220m	2.5M	3.7m	#J	20	20	200m	#	18u	1.0m	20m	50	†				A	T05	A	
58#	SFT242	220m	2.5M	3.7m	#J	45	30	25	500m	15u	1.0m	100m	60	†				A	T05	A	
59	2N321	220m	3.0M	3.7m	#J	20	20	200m	#	18u	1.0m	20m	50	†				A	T05	A	
60	2N381	220m	3.0M	3.0m	#J	50	25	20	400m	10u	5.0m	1.0m	60	†				A	T05	A	
61	2N1924	220m	3.0M	3.6m	#J	60	40	25	500m	10u	5.0m	1.0m	44					A	T05	A	
62#	AC184	220m	3.0M	3.0m	#S	32	24	10	500m	15u	1.0m	200m	110	†				A	T05	A	
63#	SFT253	220m	3.0M	3.7m	#J	30	20	15	150m	15u	6.0m	1.0m	80	†				A	T05	A	
64	2N1925	220m	3.5M	3.6m	#J	60	40	25	500m	10u	5.0m	1.0m	44					A	T05	A	
65	2N461	220m	4.0M	3.0m	#J	45	35	15	400m	15u	5.0m	1.0m	48					A	T05	A	
66	2N1926	220m	4.0M	3.6m	#J	60	40	25	500m	10u	5.0m	1.0m	49					A	T05	A	
67#	SFT223	220m	4.0M	3.7m	#J	30	20	15	250m	15u	1.0m	100m	80	†				A	T05	A	
68	2N383	220m	5.0M	3.0m	#J	50	25	20	400m	10u	5.0m	1.0m	115	†				A	T05	A	
69	2N524	220m	5.0M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	41	Δ				A	T05	A	
70	2N524A	220m	5.0M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	41	Δ				A	T05	A	
71	2N525	220m	5.5M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	64	Δ				A	T05	A	
72	2N525A	220m	5.5M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	64	Δ				A	T05	A	
73	2N526	220m	6.5M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	88	Δ				A	T05	A	
74	2N526A	220m	6.5M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	88	Δ				A	T05	A	
75	2N527	220m	7.0M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	120	Δ				A	T05	A	
76	2N527A	220m	7.0M	3.0m	#J	45	30	15	500m	10u	5.0m	1.0m	120	Δ				A	T05	A</	

2. GERMANIUM PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E M X P	ABS MAX RATINGS @25°C					TYPICAL h _f PARAMETERS							Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L E O A D E
					BV _{ceo} (V)	BV _{ceo} (V)	BV _{ebo} (V)	I _c (A)	I _{cb} @MAX V _{cb} (A)	BIAS			COMMON EMITTER							
										V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001					
1	JAN2N1041	400m	5.2m	#J	100	80	20		70u	1.5	500u	2.0 Δ								
2#	AC124	400m	14m	#J	45		10		500u	6.0	50m	85 ↑								
3#	AC117	400m	14m	#J	30		10		500u	6.0	50m	85 ↑								
4	KF2000	400m	.01M	#J	80	50	20	3	100u	.50	1	35 1Δ								
5	KF2001	400m	.01M	#J	120	100	20	3	100u	.50	1	40 1Δ								
6	KF2002	400m	.01M	#J	80	50	20	3	100u	.50	1	35 1Δ								
7	KF2003	400m	.01M	#J	120	100	20	3	100u	.50	1	40 1Δ								
8	2N1494A	400m	220MΔ	#S	20	15	4.0	500m	7.0u	.50	200m	25 1Δ			8p					
9	2N1494T	400m	320MΔ	#S	20	15	4.0	500m	7.0u	1.5	400m	35 1#			7.0p					
10	AC139K/AC142K	420m	1.5M	#J	40	25	3.0	1.2	10u	0.0	400m	100 ↑			40p					
11#	SFT234	450m	30M	#J	80	50	20	1	750u	.50	1	40 ↑								
12#	SFT234A	450m	30M	#J	80	50	20	1	750u	.50	1	40 ↑								
13#	2SB347	500m	17k↑	#J	32		10	100m	10u	5.0	50m	30 1Δ								
14#	2SB348	500m	17k↑	#J	32		10	100m	10u	5.0	2.0m	125								
15#	ASY76	500m	300kΔ	#J	40	32	10	300m	40u	0.0	300m	26 1Δ								
16#	ASY77	500m	300kΔ	#J	60	60	10	300m	40u	0.0	300m	26 1Δ								
17#	ASY80	500m	700kΔ	#J	40	40	20	300m	40u	0.0	300m	5 1Δ								
18#	SFT232	500m	700kΔ	#S	40	30	20	3.0	50u	.50	50m	110 ↑								
19#	SFT233	500m	700kΔ	#S	60	40	20	3.0	50u	.50	50m	110 ↑								
20#	AC125	500m	1.3MΔ	#J	32	32	10	100m	200u	5.0	2.0m	125								
21#	AC126	500m	1.7MΔ	#J	32	32	10	100m	200u	5.0	2.0m	100 1Δ			80u	1.7k	6.5			
22#	AC132-01	500m	2.0MΔ	#J	32	12	10	200m	10u	0.0	200m	70 ↑								
23	2N1496T	500m	150MΔ	#J	40	25	4.0	500m	7.0u	.50	200m	25 1Δ			40p					
24#	OC74N	550m	8.0k↑	#J	20	10	6.0	300m	20u	6.0	50m	60 1Δ								
25#	SFT130	550m	1.0M	#J	24	12	500m	20u	1.0	250m	30 ↑									
26#	SFT145	550m	1.0M	#J	45	20	25	500m	20u	1.0	250m	30 ↑								
27#	OC79	550m	1.2M	#J	26	26	10	200m	10u	6.0	50m	42								
28#	AC128	550m	1.5M	#J	32	32	10	1	1	0.0	50m	55 1Δ								
29#	OC74	550m	1.5M	#J	20	20	300m	10u	6.0	5.0m	75									
30#	SFT146	550m	1.8M	#J	45	20	25	500m	20u	1.0	250m	60 ↑								
31#	OC80	550m	2.0M	#J	32	20	20	600m	10u	6.0	50m	85								
32#	SFT131	550m	2.0M	#J	24	12	500m	20u	1.0	250m	70 ↑									
33#	SFT131P	550m	2.0M	#J	30	15	15	500m	25u	1.0	250m	70 ↑								
34#	AFY11	560m*	300MΔ	#J	30	15	1.0	70m	18u	10	10m	60								
35	OC83	600m	.85MΔ	#J	32	20	3.0	500m	100u	6.0	10m	90								
36#	OC84	600m	1.0MΔ	#J	32	32	10	500m	100u	6.0	1.0m	90								
37#	2SB496	600m	2.0M	#J	25	18	2.5	250	14m	1.5	50m	60 1Δ								
38#	SFT367	650m	4.0MΔ	#J	32		1	1	1	1.0	300m	250 1Δ								
39#	NKT351	700m	1.0M	#J	30	30	5.0	2.5	100u	0.0	1.0	30 1Δ								
40#	2SB405	720m	700kΔ	#J	25	25	6.0	1.0	50u	1.0	200m	100 ↑								
41#	2N601T	750m	10 Δ	#J	30	20	20	500m	5.0u	1.0	100m	175 ↑								
42#	NKT302	750m	1.0M	#J	60	40	15	2.5	50u	0.0	50m	50 1Δ								
43#	NKT304	750m	1.0M	#J	30	20	15	2.5	50u	0.0	50m	50 1Δ								
44	2N1123	750m	5.0M	#J	45	40	45	500m	25u	1.0	100m	70 ↑								
45	JAN2N600T	750m	5.6MΔ	#S	35	35	30		25u	1.0	200m	50 1Δ			15p					
46	2N600	750m	10.0M	#J	35	35	30	500m	25u	1.0	100m	125 ↑			20p					
47	2N1385	750m	250MΔ	#J	25	10	4.0	100m	10u	1.0	10m	10 1Δ			15p					
48#	GM378A	750m	400MΔ	#S	20	15	.30	50m	5.0u	10	3.0m	20 1Δ			3p					
49	2N2929	750m	700MΔ	#S	25	10	.75	100m	10u	10	10m	10 1Δ								
50#	GM290A	750m	700MΔ	#S	20	15	.30	50m	5.0u	10	3.0m	20 1Δ								
51#	AC188	800m	1.5MΔ	#J	25	15	10	1	200u	1.0	300m	200 ↑			90p					
52#	AC188K	800m	1.5MΔ	#J	25	15	10	1	200u	1.0	300m	200 ↑								
53#	AFY19	800m	350MΔ	#J	32	32	.50	300m	10u	12	80m	40 1Δ			12p					
54	JAN2N2553	900m	12m	#J	60	40	20		70u	1.5	500u	2.0 Δ								
55	JAN2N2555	900m	12m	#J	100	60	20		70u	1.5	500u	2.0 Δ								
56#	ASY48	900m*	1.2MΔ	#J	64	45	16	300m	18u	.50	100m	50 ↑								
57#	AC121	900m*	1.5MΔ	#J	20	20	10	300m	25u	.50	100m	100 ↑								
58#	AC152	900m*	1.5MΔ	#J	32	24	10	500m	25u	.50	100m	75 ↑								
59#	ASY70	900m*	1.5MΔ	#J	32	30	16	300m	18u	.50	100m	80 ↑								
60#	AC162	900m*	1.7MΔ	#J	32	24	10	200m	25u	5.0	2.0m	110 ↑			80u	2.0k	8.0			
61#	AC163	900m*	2.3MΔ	#J	32	24	10	200m	25u	5.0	2.0m	160 ↑			90u	2.8k				
62#	AC153K	1.0 *	1.5MΔ	#J	32	32	10	1.0	200u	0.0	300m	90 ↑								
63#	2N2095	1.0 *	500MΔ	#S	30	15	1.0	300m	15u	0.0	200m	90 ↑			8.0p					
64#	AC153	1.1 *	1.5MΔ	#J	32	32	10	1.0	200u	0.0	300m	90 ↑								
65#	ACY33	1.1 *	1.5MΔ	#J	32	32	10	1.0	50u	0.0	300m	90 ↑								
66#	2SA374	1.5	300kΔ	#J	34	25	.50	300m	12u	2.0	150m	100			13p					
67#	2SB492	6.0	700kΔ	#J	25	25	6.0	2.0	50u	1.5	200m	110 ↑								

3. GERMANIUM NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	MAX. COLL. DISS. @25°C (W)	DERATE IN FREE AIR W/°C	M A X P	ABS MAX RATINGS @25°C			Icbo @MAX Vcb (A)	TYPICAL h _{FE} PARAMETERS			Cob (F)	DESCRIPTION		L C O D E						
					BVcbo (V)	BVceo (V)	BVcbo (V)		Vcb (V)	le (A)	hfe		hoe (mhos)	hie (Ω)		hre (X.0001)	STRUC-TURE	DWG. No.			
1	2N1010	20m	2.0M	667u	*A	10	10	10	2.0m	10u	3.0φ	3.0m	35		A∅	TO22	A5				
2	2N170	25m	2.5M	1.1m	*S	6.0	6.0	6.0	2.0m	3.0u	5.0	1.0m	20		G	OV5	A				
3	2N166	25m	5.0M		*S	6.0	6.0	6.0	2.0m	5.0u	6.0	1.0m	32		G	R5	A				
4#	2SC75	30m	10.0M		∅J	15	15	15	5.0m	8.0u	6.0	1.0m	24		G	R14					
5#	2SC76	30m	10.0M		∅J	15	15	15	5.0m	8.0u	6.0	1.0m	24		G	R14					
6#	2SC77	30m	10.0M		∅J	15	15	15	5.0m	8.0u	6.0	1.0m	24		G	R14					
7#	2SC73	30m	20.0M		∅J	15	15	15	5.0m	8.0u	6.0	1.0m	41		G	R14					
8#	2SC78	30m	20.0M		∅J	15	15	15	5.0m	2.0u	6.0	1.0m	49		G	R14					
9	2N124	50m	300k	714u	∅J	10	10	10	5.0m	2.0u	5.0	1.0m	18	.20u	33	2.0	1.5p	10p	OV9		
10	2N507	50m	.60M		#J	40	40	40	100m	15u	5.0	1.0m	25	Δ					TO22	F	
11	2N567	50m	.60M		#J	40	40	40	100m	15u	1.0	1.0m	40						R116		
12	2N103	50m	.75M		∅J	35	35	35	100m	50u	4.5	1.0m	4.0				20p		OV9	A	
13	2N97	50m	1.0M		∅J	30	30	30	100m	2.0u	4.5	1.0m	13		GΔ	TO5	A				
14	2N98	50m	1.25M		∅J	40	40	40	100m	2.0u	4.5	1.0m	40		G	OV9	A				
15	2N194	50m	3.0M		∅J	18	18	18	100m	25u	6.0φ	1.0m	8.0		G	TO22	F				
16	2N194A	50m	3.0M	1.0m	∅J	18	18	18	100m	25u	6.0φ	1.0m	8.0		A	TO22	F				
17	2N211	50m	3.0M	1.0m	∅J	18	18	18	50m	50u	6.0φ	1.0m	5.0		A	TO22	F				
18	2N216	50m	3.0M	1.0m	∅J	18	18	18	50m	50u	6.0φ	1.0m	7.5		A	TO22	F				
19	2N516	50m	3.0M	1.0m	∅J	18	18	18	10m	50u	6.0φ	1.0m	7.5		A	TO22	F				
20	2N516	50m	3.0M	1.0m	∅J	18	18	18	10m	50u	6.0φ	1.0m	7.5		A	TO22	F				
21	2N517	50m	3.0M	1.0m	#J	18	18	18	10m	50u	6.0φ	1.0m	7.5		A	TO22	F				
22	2N99	50m	3.5M		#J	40	40	40	10m	2.0u	4.5	1.0m	40		GΔ	OV9	A				
23	2N1058	50m	4.0MΔ	2.5m	#J	18	18	18	50m	2.0u	6.0φ	1.0m	17		A	TO22	A				
24	2N125	50m	5.0M	1.4m	∅J	10	10	10	8.0m	2.0u	5.0	1.0m	36	230nb	62	3.0	10p		OV9	F	
25	2N126	50m	5.0M	1.4m	∅J	10	10	10	8.0m	2.0u	5.0	1.0m	20		b	90	14p		R26		
26	2N169	55m	4.0M	1.1m	∅A	15	15	15	20m	5.0u	1.0φ	1.0m	25		G	OV17	A				
27	2N169A	55m	4.0M	1.1m	∅A	15	15	15	20m	5.0u	1.0φ	1.0m	25		G	OV17	A				
28	2N168	55m	6.0M	1.1m	∅A	15	15	15	20m	5.0u	1.0φ	1.0m	25		G	OV17	A				
29	JAN2N78A	60m	1.1MΔ	1.0m	#S	20	20	20	20m	3.0u	1.0φ	1.0m	45	tΔ	b	140	∅	6.0p	∅	OV5	F
30	2N78A	65m	1.0M	1.1m	#S	20	20	20	20m	3.0u	1.0φ	1.0m	45								
31	2N145	65m	1.4m		∅J	20	20	20	5.0m	3.0u	9.0	1.0m	60		G	OV9					
32	2N146	65m	1.4m		∅J	20	20	20	5.0m	3.0u	9.0	1.0m	60		G	OV9					
33	2N147	65m	1.4m		∅J	20	20	20	5.0m	3.0u	9.0	1.0m	60		G	OV9					
34	2N172	65m	1.4m		∅J	16	16	16	5.0m	3.0u	9.0	1.0m	45		G	OV9					
35	2N253	65m			∅J	12	12	12	5.0m	3.0u	5.0φ	100m	30	Δ							
36	2N254	65m			∅J	12	12	12	5.0m	3.0u	5.0φ	100m	30	Δ							
37#	2SD162	65m	3.0M	1.1m	#J	20	20	20	30m	12u	6.0φ	1.0m	60		A	R18					
38	2N164	65m	4.0MΔ		#J	15	15	15	30m	5.0u	1.0φ	1.0m	80	∅	17u	2.0k	4.0	10p		TO5	A
39	2N165	65m	5.0M	1.1m	#J	15	15	15	30m	5.0u	1.0φ	1.0m	72	t			2.4p		R5		
40	2N292	65m	5.0M	1.1m	#S	15	15	15	20m	5.0u	1.0φ	1.0m	25	t			2.4p		OV5		
41	2N448	65m	5.0M	1.1m	#S	15	15	15	20m	5.0u	1.0φ	1.0m	25	t	67u		1.0	2.4p		OV5	
42	2N1198	65m	5.0MΔ		#J	15	15	15	20m	5.0u	1.0φ	1.0m	25	t	67u		1.0	2.4p		OV5	
43	2N168A	65m	8.0M	1.1m	#A	15	15	15	20m	5.0u	1.0φ	1.0m	25	t			2.4p		OV17	A	
44	2N293	65m	8.0M	1.1m	#S	15	15	15	20m	5.0u	1.0φ	1.0m	25	t	67u		50	2.4p		OV5	
45	2N449	65m	8.0M	1.1m	#J	15	15	15	20m	5.0u	1.0φ	1.0m	25	t			2.4p		OV17		
46	2N1086	65m	8.0M	1.1m	#J	9.0	9.0	9.0	20m	3.0u	5.0φ	1.0m	40		G	OV5					
47	2N1086A	65m	8.0M	1.1m	#J	9.0	9.0	9.0	20m	3.0u	5.0φ	1.0m	40		G	OV5					
48	2N1087	65m	8.0M	1.1m	#J	9.0	9.0	9.0	20m	3.0u	5.0φ	1.0m	40		G	OV5					
49	2N1121	65m	8.0M	1.1m	#J	15	15	15	20m	3.0u	5.0φ	1.0m	40		G	OV5					
50	2N178	65m	9.0M	1.1m	#S	15	15	15	20m	3.0u	5.0	1.0m	58		200nb	55	2.0	6.0p		OV5	
51	2N167	65m	9.0M	1.1m	#S	30	30	30	75m	1.5u	5.0	1.0m	65		200nb	55	1.5	2.5p		OV5	
52	JAN2N167A	70m	5.0MΔ	1.1m	#S	30	30	30	50m	1.5u	1.0φ	8.0m	17	tΔ			6.0p	∅		OV5	
53	2N1510	75m	1.3m		#J	75	70	70	8.0m	5.0u	1.0φ	1.0m	30	t							
54	2N167A	75m	9.0M	1.2m	#S	30	30	30	50m	1.5u	1.0φ	8.0m	30	t	200nb	55	1.5	6.0p		OV5	
55	2N1217	75m	9.0M	1.3m	#S	20	20	20	50m	1.5u	1.0φ	2.0m	60	t			2.5p		OV5		
56	2N1694t	75m	9.0M	1.3m	#J	20	20	20	25m	1.5u	1.0φ	2.0m	25	t			2.5p		TO5		
57	2N821t	75m	10.0MΔ	1.3m	#J	30	30	30	400m	10u	1.0φ	50m	70	t	FA		90p		u3		
58#	2SD35	83m	1.6m		∅J	20	20	20	60m	10u	1.0φ	250uΔ	108	∅	A					R18	
59#	2SD36	83m	1.6m		∅J	20	20	20	60m	10u	1.0φ	250uΔ	120	∅	A					R18	
60	2N556	100m	1.7m		#J	25	25	25	200m	10u	1.0φ	10m	50	t	AΔ				TO5		
61	2N557	100m	1.7m		#J	25	25	25	200m	10u	1.0φ	10m	30	t	AΔ				TO5		
62	2N558	100m	1.7m		#J	15	15	15	200m	10u	1.0φ	10m	75	t	AΔ				TO5		
63	2N647	100m	2.0m		∅A	25	25	25	50m	14u	1.0φ	50m	70	t	A				TO1		
64	2N649	100m	2.0M	2.0m	∅A	20	18	18	50m	14u	1.0φ	50m	65	t	A				TO5		
65	2N444	100m	.50MΔ	2.0m	#S	15	15	15	2.0u	4.5	1.0m	15			A			13p		TO5	A5
66	2N445	100m	2.0MΔ	2.0m	#S	15	15	15	2.0u	4.5	1.0m	35			A			13p		TO5	A5
67	2N1366	100m	2.5MΔ	1.6m	∅J	12	12	12	10m	15u	6.0φ	1.0m	10		FAΔ				TO5		
68	2N1367	100m	2.5MΔ	1.7m	∅J	12	12	12	10m	15u	1.0φ	1.0m	20	tΔ	FAΔ				TO5		
69	2N356t	100m	3.0M	2.0m	#S	20	18	18	500m	5.0u	5.0φ	1.0m	30		A				TO5		
70	2N182	100m	3.8M	2.0m	∅J	25	25	25	300m	10u	6.0	1.0m	25		A				R8A		
71	2N164A	100m	4.0MΔ		#J	15	15	15	30m	5.0u	1.0φ	1.0m	80	∅	A				TO5		
72	GT792	100m	4.8M	2.0m	#J	15	15	15	100m	6.0u	5.0	1.0m	37	tΔ	A				TO5		
73	2N292A	100m	5.0M	2.0m	#J	15	15	15	20m	5.0u	1.0φ	1.0m	51	∅					TO5		
74	2N446	100m	5.0MΔ	2.0m	#S	15	15	15	2.0u	4.5	1.0m	60			A			13p		TO5	A5
75	2N357t	100m	6.0M	2.0m	#S	20	15	15	500m	5.0u	5.0φ	1.0m	45		A			14p		TO5	A5
76	2N183	100m	7.5M	500u	∅J	25	25	25	300m	10u	6.0	1.0m	40		A				R8A		
77	2N439	100m	7.5M	1.6m	#J	25	25	25	300m	10u	1.0φ	50m	45		A				TO5		
78	2N358t	100m	9.0M	2.0m	#S	20	12	12	500m	5.0u	5.0φ	1.0m	60</								

3. GERMANIUM NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T M A M X P	ABS MAX RATINGS @25°C				MAX. I _{cb0} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L C O D E		
					V _{bcbo} (V)	V _{bcvo} (V)	V _{bebo} (V)	I _c (A)		V _{cb} (V)	I _e (A)	h _{fe}	COMMON EMITTER	hoe (mhos)	hie (Ω)		hre X.0001	STRUC-TURE		DWG. No.	
1#	OC141	130m	9.0M	2.0M	∅J	20	20	20	200m	3.0u∅	0.0	15m	100 Δ				30pZ	A Δ	R9		
2#	2SC341	140m	3.5MΔ	2.7m	∅J	20	20	20	250m	3.0u∅	0.0	200m	30 Δ					A Δ	R9		
3#	OC139	140m	3.5M∅Δ	2.8m	∅J	20	20	20	250m	0.0	0.0	15m	40 Δ					A Δ	R9		
4#	2SC351	140m	4.5MΔ	2.7m	∅J	20	20	20	400m	3.0u∅	0.0	200m	65 Δ					A Δ	R9		
5#	OC140	140m	4.5M∅Δ	2.8m	∅J	20	20	20	400m	0.0	0.0	15m	75 Δ					A Δ	R9		
6#	2SC361	140m	9.0MΔ	2.7m	∅J	20	20	20	400m	3.0u∅	0.0	200m	100 Δ					A Δ	R9		
7	2N312	150m		2.0m	#S	15		15		60u	5.0∅	10m	50 Δ	500nb				A Δ	TO5		A
8	2N356A1	150m		2.0m	#S	30	20	20		5.0u∅	2.5∅	100m∅	20 Δ					A Δ	TO5		A S
9	2N357A1	150m		2.0m	#S	30	20	20		5.0u∅	2.5∅	200m∅	25 Δ					A Δ	TO5		A S
10	2N358A1	150m		2.0m	#S	30	15	20		5.0u∅	2.5∅	300m∅	25 Δ					A Δ	TO5		A S
11	JAN2N358A1	150m		2.0m	#S	30	15	20		25u	2.5∅	300m∅	25 Δ					A Δ	TO5		A S
12	2N17301	150m		2.5m	#J	25	15 #	20	300m	6.0u	3.0∅	100m∅	30 Δ				20pZ	A Δ	R81a		A S
13	GT229	150m		2.0m	#J	12			200m	20u	5.0∅	1.0m	20	500nb	30			A	TO5		
14#	NKT773	150m		2.5m	#J	15	15 \$	5.0	300m	15u∅	1.5∅	50m∅	50 Δ					A	TO1		A
15	2N1251	150m	75kΔ	2.5m	#J	20	15 \$	10	100m	50u	6.0∅	1.0m	150					A	TO22		F
16	2N444A	150m	500kΔ	2.0m	#S	40	25	10		4.0u∅	5.0∅	1.0m	15 Δ	1.0uZb				A Δ	TO5		A S
17	GT949	150m	700kΔ	2.0m	#S	30			200m	25u	3.5∅	1.0mΔ	30	500nb				A Δ	TO5		
18	2N35	150m	800k	2.5m	∅J	40			100m	50u	6.0∅	1.0m	75		2.5k	6.0	16p	A Δ	TO22		A
19	2N94	150m	2.0MΔ	2.5m	#J	20	20 \$		100m	50u	6.0∅	1.0m∅	50 Δ				100p	A	TO22		F
20	2N233	150m	2.0MΔ	1.5m	#J	10	10 \$	5.0	100m	50u	6.0∅	1.0m	3.5 Δ				11p	A	TO22		F
21	2N233A	150m	2.0MΔ	1.5m	#J	18	18 \$	5.0	100m	50u	6.0∅	1.0m∅	15				11p	A	TO22		F
22	2N445A	150m	2.0MΔ	2.0m	#S	30	18	10		4.0u∅	5.0∅	1.0m	35 Δ	1.0uZb				A	TO5		A S
23#	2SD33	150m	2.0M	2.5m	#J	20	15 \$	2.5	50m	14u∅	6.0∅	1.0m	60	17.0u	1.7k	3.8	30p	A	TO1		
24#	2SD37	150m	2.0M	2.5m	#J	30	20 \$	12	50m	14u	6.0∅	1.0m	60 *	17.0u	1.7k	3.8	30p	A	TO1		
25#	NKT717	150m	2.0M	2.7m	∅J	45	45 \$	10	150m	15u∅	1.5∅	50m∅	40 Δ					A	TO1		A
26#	2N364	150m	2.5M	2.0m	∅S	40			50m	10u	5.0	1.0m	15	100nb	55	900m	10p	G	OV9		
27#	2SD195	150m	2.5MΔ	2.5m	#J	20	15 \$	15	50m	14u∅	1.0∅	50m∅	70 Δ				A Δ	TO1			
28	2N193	150m	3.0M	2.5m	#J	18	18 \$	5.0	50m	50u	6.0∅	1.0m	7.5				11p	A	TO22		A
29	2N365	150m	3.0M	2.0m	∅S	30			50m	10u	5.0	1.0m	34	100nb	55	900m	10p	G	OV9		
30	2N6791	150m	3.0M	2.5m	#J	25			50m	25u	5.0∅	3.0m∅	30 Δ				A	R5			
31	2N10121	150m	3.0MΔ	2.0m	#S	40	22	35		5.0u∅	2.5∅	100m	40 Δ				20pZ	A	TO5		A S
32	2N13021	150m	3.0MΔ	2.5m	#S	25	25	25	300m	6.0u	1.0∅	10m∅	20 Δ				20pZ	A	TO5		A S
33	JAN2N1302	150m	3.0MΔ	2.5m	#S	25	25	25	300m	6.0u	1.0∅	10m∅	20 Δ				20pZ	A	TO5		A S
34	2N1391	150m	3.0MΔ	2.0m	#S	25	18	15		4.0u∅	5.0∅	1.0m	35 Δ					A	TO5		A
35	2N19931	150m	3.0MΔ	2.0m	#J	30	18	30	300m	10u∅	1.0∅	10m∅	50 Δ				20pZ	A	TO5		A ∅
36#	2SD75AH	150m	3.0M	2.0m	#J	45	30	12	100m	6.0∅	1.0m	40		15u	1.1k	25	4.2p	A	TO1		
37#	2SD75H	150m	3.0M	2.0m	∅S	30	30	12	100m	10u	6.0∅	1.0m	40	15u	1.1k	25	4.2p	A	TO1		
38	2N366	150m	3.5M	2.0m	∅S	30			50m	10u	5.0	1.0m	95	100nb	55	900m	10p	G	OV9		A
39#	2SD77	150m	3.5M	2.0m	#S	25	25 ∅	12	100m	14u	6.0∅	1.0m	55	16.0u	1.6k	3.1	10p	A	TO1		
40#	2SD77A	150m	3.5M	2.0m	#S	45	45 ∅	12	100m	6.0∅	1.0m	55		16.0u	1.6k	3.1	10p	A	TO1		
41#	2SD77AH	150m	3.5M	2.0m	#S	45	30	12	100m	6.0∅	1.0m	55		19u	1.4k	2.7	5.0p	A	TO1		
42#	2SD77H	150m	3.5M	2.0m	#S	30	30	12	100m	10u	6.0∅	1.0m	55	19u	1.4k	2.7	5.0p	A	TO1		
43	2N4381	150m	3.7M	2.0m	#J	30	25	25	300m	6.0u	1.0∅	50m	25	1.0ub	27	4.0	15p	A	TO5		A
44	2N212	150m	4.0MΔ	1.0m	#A	18	18	5.0	100m	50u	6.0∅	1.0m∅	20				10p	A	TO22		F
45#	2SD75	150m	4.0M	2.5m	#J	25	25 ∅	12	100m	14u	6.0∅	1.0m	40	15.0u	1.2k	3.0	3.0	A	TO1		
46#	2SD75A	150m	4.0M	2.5m	#J	45	45 ∅	12	100m	25u	6.0∅	1.0m	40	15.0u	1.2k	3.0	3.0	A	TO1		
47	GT904	150m	4.0M	2.0m	#S	20			200m	25u	2.0∅	1.0mΔ	30 Δ	500nb				A	TO5		
48	GT948	150m	4.0MΔ	2.0m	#S	20		5.0	200m	20u	3.5∅	1.0mΔ	30 Δ	500nb				A Δ	TO5		
49	2N94A	150m	5.0MΔ	2.5m	#J	20	20 \$		100m	50u	6.0∅	1.0m∅	20 Δ				100p	A	TO22		F
50#	JAN2N3881	150m	5.0MΔ	2.0m	#S	25	20 \$	15	200m	10u	5.0∅	30m∅	60 Δ				20pZ	A	TO5		A S
51	2N446A	150m	5.0MΔ	2.0m	#S	30	15	10		4.0u∅	5.0∅	1.0m	60 Δ	1.0uZb				A	TO5		A S
52	2N1299	150m	5.0M	2.0m	#J	40				1.0∅	50m∅	35 Δ						A	TO5		A S
53	2N13041	150m	5.0MΔ	2.5m	#S	25	20	25	300m	6.0u	1.0∅	10m∅	40 Δ				20pZ	A	TO5		A S
54	JAN2N1304	150m	5.0MΔ	2.5m	#S	25	25	25	300m	6.0u	1.0∅	10m∅	40 Δ				20pZ	A	TO5		A S
55	2N1732	150m	5.0MΔ	2.5m	#S	30	30 #	25	300m	6.0u	1.0∅	10m∅	40 Δ				20pZ	A	TO5		A S
56	2N1891*	150m	5.0MΔ	2.5m	#S	25	15	25	300m	5.0u∅	1.5∅	100m∅	25 Δ				20pZ	A	TO5		A S
57	2N18921	150m	5.0MΔ	2.5m	#J	30	15	25	300m	6.0u∅	5.0∅	2.0m∅	30 Δ				20pZ	A	TO5		A S
58	GT167	150m	5.0MΔ	2.0m	#S	25		15		25u	1.0m	8.0m	25 Δ	500nb	28	3.0	16p	A	TO5		
59#	NKT7341	150m	5.0M	2.5m	#J	25	20	25	300m	6.0u	1.0∅	10m∅	40 Δ				20pZ	A	TO5		A
60#	SFT184	150m	5.0MΔ	2.5m	#J	15	15		100m	5.0u	6.0∅	1.0m∅	60 Δ				20p	A	TO5		
61	2N3771	150m	6.0M	2.0m	#J	25	20 \$		200m	10u	5.0∅	30m∅	40 Δ				15p	A	TO5		A
62	2N377A1	150m	6.0M	2.0m	#J	40			150m	20u∅	1.0∅	30m∅	20 Δ				15p	A	TO5		A S
63	2N385	150m	6.0M	2.0m	#J	25	25 \$	15	200m	10u	7.5∅	30m	60 Δ				15p	A Δ	TO5		A
64	2N10001	150m	7.0MΔ	2.0m	#S	40	25	40		15u	5.0∅	100m	25 Δ				20pZ	A	TO5		A
65	2N385A	150m	8.0M	2.0m	#J	40	15	15	200m	40u	5.0∅	30m	70 Δ				20pZ	A Δ	TO5		A
66	2N388A1	150m	8.0M	2.0m	#J	40			150m	10u∅	5.0∅	30m∅	60 Δ				15p	A	TO5		A S
67	2N634	150m	8.0M	2.5m	#	20	15	15	300m	15u	7.5∅	200m∅	15 Δ				12p	A	TO9		A S
68	2N634A	150m	8.0M	2.5m	#	25	20 \$	25	300m	6.0u∅	1.0	10m∅	55 Δ				12p	A	TO5		A S
69	2N16241	150m	8.0M	2.0m	#J	25		15		1.0u	5.0∅	30m	120 Δ				24p	A	TO5		
70	2N2085	150m	8.0M	2.0m	#	33			500m	5.0u∅	2.5∅	10m	100				20p	A	TO5		A
71	2N447A	150m	9.0MΔ	2.0m	#S	30	12	10		4.0u∅	5.0∅	1.0m	85 Δ	1.0uZb				A	TO5		A S
72	2N4401	150m	10MΔ	2.0m	#J	30	15	25	300m	10u	1.0∅	50m	40 Δ	1.0ub	27	4.0	15pZ	A	TO5		A
73#	2N440A	150m	10M	2.5m	#J	25			250m	1											

3. GERMANIUM NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	3 TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	TEMPERATURE MAX	ABS MAX RATINGS @25°C				MAX. I _{cb0} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE DWG. No.	L C E O A D E		
					V _{cb0} (V)	V _{ce0} (V)	V _{be0} (V)	I _c (A)		BIAS			COMMON EMITTER							
										V _{cb} (V)	I _e (A)	h _{fe}	hoe (mhos)	hie (Ω)	hre (X.0001)					
1#	NKT781	215m		3.3m	#J	32		5.0	1.0	30u∅	0.0∅	50m∅	52 †Δ					A		
2#	AC186	215m	.02M†	3.3m	#J	30	18	10	700m	10u∅	2.0∅	150m∅	60 †Δ					A		
3#	AC141	220m	3.0M	3.3m	#J	32	∅	∅	10	1.2	14u∅	400m∅	80 †					A		
4#	AC141B	220m	3.0M	3.3m	#J	25	25	10	1.2	14u∅	6.0	1.0m	100					A		
5#	2SD178	225m	1.5M	4.5m	∅J	20		6.0	300m	27u∅	.50	300m	90					A		
6#	2SD178A	225m	1.5M	4.5m	∅J	40		6.0	300m	27u∅	.50	300m	90					A		
7#	AC185	225m	4.0M‡	3.0m	#S	32	24 ‡	10	500m	20u∅	1.0∅	200m∅	110 †*					A		
8#	JAN2N1173	250m		3.3m	#S	35	20	35	200m	10u∅	1.0∅	500u∅	50 Δ			25p∅		A		
9#	2SD127	250m			#J	23	20 ‡		500m	20u∅	1.0∅	20m∅	82 †					A		
10#	2SD127A	250m			#J	23	20 ‡		500m	20u∅	1.0∅	500u∅	46 †#Δ					A		
11#	2SD128	250m			#J	32	30 ‡		500m	20u∅	1.0∅	20m∅	82 †					A		
12#	2SD128A	250m			#J	32	30 ‡		500m	20u∅	1.0∅	500m∅	46 †#Δ					A		
13#	SFT377	250m	1.0M‡Δ	3.3m	#S	16	15 ‡	10	600m	10u∅	1.0∅	300m∅	50 †*					A		
14#	2SD34	250m	2.0M	4.2m	#J	20	15 ‡	2.5	150m	14u∅	6.0∅	1.0m	60			20u	1.8k	5.0	45p	A
15#	2SD38	250m	2.0M	4.2m	#J	30	20 ‡	12	150m	16u∅	6.0∅	1.0m	60 *			20u	1.8k	5.0	15p	A
16#	2N1473	250m	8.0M	4.2m	#J	40	40 ‡	15	400m	5.0u∅	.60∅	400m	50 †							A‡
17#	AC175	260m	.02M†	4.0m	#J	25	18	10	1	35u∅	1.0∅	300m∅	150 †							A
18#	AC179	260m	.02M†	4.0m	#J	20	15	10	700m	10u∅	2.0∅	150m∅	60 †Δ							A
19#	AC141K	280m	3.0M	4.0m	#J	32	32 ∅	10	1.2	14u∅	0.0	400m	80 †							A
20#	2N2430	280m	2.5M‡	2.7m	#J	32	32	10	500m	10u∅	0.0	500m	105							A
21#	2SD30	300m			#J	25			200m	15u∅	1.5∅	100m	150							A
22#	AC181	300m	1.0M‡Δ	4.0m	#S	32	24 ‡	10	1.0	200n	1.0∅	600m∅	110 †#*							A*
23#	40396/N	300m#	2.0M	10m	#J	18	18 ‡	2.5	500m	14u∅	1.0∅	50m∅	50 †Δ							A
24#	2SD96	300m	4.0M		#J	25	18 ‡	2.5	250m	14u∅	1.5∅	50m∅	90 †							A
25#	AC127	340m	2.5M‡	2.7m	#J	32	32 ‡	10	500m	10u∅	0.0	20m∅	50 †Δ							A
26#	AC127-01	340m*	2.5M‡	4.0m	#J	32	12	10	500m	10u∅	0.0	500m∅	50 †							A
27#	ASY73†	500m	4.0M‡Δ	2.9m	#	30	20	30	400m	3.0u∅	0.0	.05m	25 †Δ							A
28#	ASY74†	500m	6.0M‡Δ	2.9m	#	30	20	30	400m	3.0u∅	0.0	.05m	40 †Δ							A
29#	ASY75†	500m	1.0M‡Δ	2.9m	#	30	20	30	400m	3.0u∅	0.0	.05m	65 †Δ							A
30#	AC176	700m	1.0M‡Δ	25m	#J	32	32	5.0	1	30u∅	0.0	500m	180 †Δ							A
31#	2SD72	720m∅	750k‡		#J	25	25 ‡	6.0	600m	50u∅	1.0∅	200m∅	80 †							A
32#	AC187	800m	1.5M‡	13m	#J	25	15	10	1	100u∅	1.0∅	300m∅	200 †							A
33#	AC188/01	800m	1.5M‡	6.3u	#J	25	15	10	1	15u∅	1.0∅	50m∅	165 †							A
34#	AC187K	800m	3.0M‡	13m	#J	25	15	10	1	200u∅	1.0∅	300m∅	200 †							A
35#	AC187/01	800m*	5.0M‡	14m	#J	25	15	10	1.0	100u∅	1.0∅	300m∅	200 †							A

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 fab (Hz)	DERATE IN FREE AIR W/°C	M A M X P	ABS MAX RATINGS @25°C				MAX. lcb0 @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L O A D E
						T BVcbo (V)	E BVceo (V)	Ic (A)	Ic (A)		BIAS			COMMON EMITTER						
											Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
1#	BC303	7.0m		40u		90	85	7.0	1.0	20n	100	150m	60							
2#	2S326	50m	1.0M	400u	\$J	6.0	6.0	6.0	10m	10n	3.0	1.0m	80			40p	PLA	T039		
3#	2S327	50m	1.5MΔ	400u	\$A	15	15	15	10m	10n	3.0	1.0m	80				A	T05		
4#	2S327	50m	2.0MΔ		\$A	15	15	15	10m	10u	3.0	1.0m	80				A	R51		
5#	BC320	50m	9.0MΔ	625u	\$J	20	20	20	50m	100n	.500	2.0m	200	f	18u	15	13	5.0p		
7	A160	50m*	90MΔ	625u	\$J	20	20	20	50m	100n	.500	200u	140		13u	12k	25	5.0p		
8	A161	50m*	90MΔ	625u	\$J	20	20	20	50m	100n	.500	200u	140		18u	15k	25	5.0p		
9	A162	50m*	90MΔ	625u	\$J	20	20	20	50m	100n	.500	200u	140		33u	20k	40	5.0p		
10#	BC196A	50m*	130MΔ	625u	\$J	30	25	5.0	100m	50n	5.0	2.0m	125	Δ				4.0p		
11#	BC196B	50m*	130MΔ	625u	\$J	30	25	5.0	100m	50n	5.0	2.0m	240	Δ				4.0p		
12#	BC196VI	50m*	130MΔ	625u	\$J	30	25	5.0	100m	50n	5.0	2.0m	75	Δ				4.0p		
13#	BFS14E	80m	1.6m	\$J	40	40	40	5.0	50n	5.0	1.0m	70	Δ				7.0p			
14#	BFS14F	80m	1.6m	\$J	40	40	40	5.0	50n	5.0	1.0m	70	Δ				7.0p			
15#	BFS14G	80m	1.6m	\$J	40	40	40	5.0	50n	5.0	1.0m	70	Δ				7.0p			
16#	BFS26E	80m	1.6m	\$J	20	20	20	5.0	150n	1.0	10m	50	Δ				7.0p			
17#	BFS26F	80m	1.6m	\$J	20	20	20	5.0	150n	1.0	10m	50	Δ				7.0p			
18#	BFS26G	80m	1.6m	\$J	20	20	20	5.0	150n	1.0	10m	50	Δ				7.0p			
19#	BFS16E	75m	1.3m	\$J	40	30	5.0	50n	100	10	10m	30	Δ				10p			
20#	BFS16F	75m	1.3m	\$J	40	30	5.0	50n	100	10	10m	30	Δ				10p			
21#	BFS16G	75m	1.3m	\$J	40	30	5.0	50n	100	10	10m	30	Δ				10p			
22#	BC213	85m#	500kΔ	833u	\$J	20	20	20	10m	10n	2.0	1.0m	25					40p		
23#	BC214	85m#	500kΔ	833u	\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				40p		
24	D30A1	90m			\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				6.0		
25	D30A2	90m			\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				6.0		
26	D30A3	90m	1.2m		\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				6.0		
27	D30A4	90m	1.2m		\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				6.0		
28	D30A5	90m	1.2m		\$J	18	18	4.0	500m	25n	5.0	10m	30	Δ				6.0		
29	3N112	100m	6.0MΔ	571u	\$S	50	30	4.0	20m	20n	1.0	10m	100	Δ				8.0p		
30	3N123	100m	6.0MΔ	571u	\$S	50	30	4.0	20m	20n	1.0	10m	100	Δ				8.0p		
31	2N2177	100m	8.0M	666u	\$J	6.0	6.0	6.0	50m	1.0n	1.5	20u	50	f			60k	10p		
32	2N2178	100m	8.0M	666u	\$J	6.0	6.0	6.0	50m	1.0n	1.5	20u	50	f			60k	10p		
33	2N2175	100m	10MΔ	666u	\$J	6.0	6.0	6.0	50m	1.0n	1.5	20u	50	f			60k	10p		
34	2N2176	100m	10MΔ	666u	\$J	6.0	6.0	6.0	50m	1.0n	1.5	20u	50	f			60k	10p		
35	3N113	100m	12MΔ	1.0m	\$S	50			20m	10n	1.0	10m	100	Δ				10p		
36	2N1677	100m	32MΔ	833u	\$S	4.5	4.5	4.5	50m	100n	3.0	1.0m	50	f	1.5ub	40		7.0p		
37	2N1676	100m	42MΔ	833u	\$S	4.5	4.5	4.5	50m	100n	3.0	1.0m	50	f				7.0p		
38#	MT0411	100m	60MΔ	8.0m	\$J	60	45	6.0	100m	10n	5.0	1.0m	100	Δ	1.0u	32	6.0	5.0p		
39#	MT0412	100m	60MΔ	8.0m	\$J	60	45	6.0	100m	10n	5.0	1.0m	100	Δ	1.0u	32	6.0	5.0p		
40#	MT0413	100m	60MΔ	8.0m	\$J	40	25	5.0	100m	50n	5.0	1.0m	60	Δ	1.0u	40	10	5.0p		
41#	2SA609	100m	80MΔ		\$J	30	15	5.0	100m	1.0u	6.0	1.0m	80	f				8.0p		
42#	2SA608	100m	180MΔ		\$J						1.0	10m	100	f				12p		
43#	MT0404	100m	200MΔ	8.0m	\$J	25	25	4.0	500m	100n	5.0	50m	30	Δ				12p		
44#	MT0404-1	100m	200MΔ	8.0m	\$J	40	30	5.0	500m	50n	1.0	50m	30	Δ				10p		
45#	MT0404-2	100m	200MΔ	8.0m	\$J	40	30	5.0	500m	50n	1.0	50m	30	Δ				10p		
46#	BCW29	110m	150MΔ	1.1m	\$J	30	20	5.0	50m	100n	5.0	10u	90	f				7.0p		
47#	BCW29R	110m	150MΔ	1.1m	\$J	30	20	5.0	50m	100n	5.0	10u	90	f				7.0p		
48#	BCW30	110m	150MΔ	1.0m	\$J	30	20	5.0	50m	100n	5.0	10u	90	f				7.0p		
49#	BCW30R	110m	150MΔ	1.1m	\$J	30	20	5.0	50m	100n	5.0	10u	150	f				7.0p		
50#	BF316	130m	700MΔ	1.0m	\$J	40	35	4.0	15m	10n	1.0	1.0m	50	f				50ft		
51#	BF272	130m	1.0GΔ	1.0m	\$J	40	35	4.0	15m	10n	1.0	1.0m	60	f				100ft		
52#	BFV34	150m		1.1m	\$S	15	10	15	100m	10n	.50	1.0m	80	Δ				10p		
53#	BFV35	150m		1.1m	\$S	25	20	25	100m	10n	.50	1.0m	40	Δ				10p		
54#	BFV36	150m		1.1m	\$S	40	35	40	100m	10n	.50	1.0m	30	Δ				10p		
55#	PL1031	150m		1.0m	\$J	60	40	5.0	20n	100	10	1.0m	25	Δ				8.0p		
56#	PL1032	150m		1.0m	\$J	60	40	5.0	20n	100	10	1.0m	40	Δ				8.0p		
57#	PL1033	150m		1.0m	\$J	60	40	5.0	20n	100	10	1.0m	50	Δ				8.0p		
58#	PL1034	150m		1.0m	\$J	60	40	5.0	20n	100	10	1.0m	100	Δ				8.0p		
59#	PL1101	150m		1.0m	\$J	25	20	5.0	10m	20	10	10m	20	Δ				5.0p		
60#	PL1102	150m		1.0m	\$J	25	20	5.0	10m	20	10	10m	40	Δ				5.0p		
61#	PL1103	150m		1.0m	\$J	25	20	5.0	10m	15	10	10m	30	Δ				5.0p		
62#	PL1104	150m		1.0m	\$J	25	20	5.0	10m	30	10	10m	30	Δ				5.0p		
63	SA337	150m			\$J	25	20			50m	100n	.50	5.0m	10	Δ			9.0p		
64	SA338	150m			\$J	10	6.0	5.0	50m	100n	.50	5.0m	10	Δ				9.0p		
65	SA339	150m			\$J	25	20	5.0	50m	10n	.50	5.0m	10	Δ				9.0p		
66	SA40	150m			\$J	10	6.0	5.0	50m	10n	.50	5.0m	10	Δ				9.0p		
67	2N923	150m	800kΔ	833u	\$	40	25	40	50m	50u	6.0	1.0m	21		40ub	2.1k	75	20p		
68	2N924	150m	800kΔ	833u	\$	40	25	40	50m	50u	6.0	1.0m	47		40ub	2.1k	75	20p		
69	2N925	150m	800kΔ	833u	\$	50	40	50	50m	50u	6.0	1.0m	17		40ub	2.1k	75	20p		
70	2N926	150m	800kΔ	833u	\$	50	40	50	50m	50u	6.0	1.0m	38		40u	2.1k	75	20p		
71	2N927	150m	800kΔ	833u	\$	70	60	70	50m	50u	6.0	1.0m	15		40u	2.1k	75	20p		
72	2N928	150m	800kΔ	833u	\$	70	60	70	50m	50u	6.0	1.0m	34		40u	2.1k	75	20p		
73	2N2332	150m	1.0M	1.0m	\$J	15	5.0	15	100m	50u	4.0	25u	15	Δ				15p		
74	2N2333	150m	1.0M	1.0m	\$J	15	5.0	15	100m	50u	4.0	25u	20	Δ				15p		
75	2N2334	150m	1.0M	1.0m	\$J	30	15	30	100m	50u	5.0	5.0m	10	Δ				9.0p		
76	2N2335	150m	1.0M	1.0m	\$J	30	15	30	100m	50u	5.0	5.0m	10	Δ				9.0p		
77	2N2336	150m	1.0M	1.0m	\$J	50	35	50	100m	50u	5.0	5.0m	10	Δ				9.0p		
78	2N2337	150m	1.0M	1.0m	\$J	50	35	50	100m	50u	5.0	5.0m	10	Δ				9.0p		
79	2N2372	150m	1.0M	714u	\$J	15	15	15	50m	50u	4.0	25u	15	Δ				15p		
80	2N2373	150m	1.0M	714u	\$J	15	15	15	50m	50u	4.0	25u	20	Δ				15p		
81	2N2274	150m	6.0MΔ	1.3m	\$S	25	25	25	50m	3.0u	.50	5.0m	10	Δ				9.0p		
82	2N2275	150m	6.0MΔ	1.3m	\$S	25	25	25	50m	3.0u	.50	5.0m	10	Δ				9.0p		
83	2N2276	150m	6.0MΔ	1.3m	\$S	15	10	15	50m	3.0u	.50	5.0m	10	Δ				9.0p		
84	2N2277	150m	6.0MΔ	1.3m	\$S	15	10	15	50m	3.0u	.50	5.0m	10	Δ				9.0p		
85	2N3317	150m	6.4MΔ	1.3m	\$S	30	30	30	5											

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	ABS MAX RATINGS @25°C						TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		LEAD CODE	
				M E A M P			Ic			BIAS			COMMON EMITTER				STRUC-TURE	DWG. No.		
				Vcbo (V)	Vceo (V)	Vebo (V)	Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)								
1	SA411	150m	10MSΔ	1.3m	\$J	30	6.0	50m	10n	6.0	1.0m	3.0	15 Δ				6.0pZ	PAZ	T018	A
2	2N3319	150m	12MSΔ	1.3m	\$S	10	6.0	10 50m	3.0n	6.0	1.0m	3.0	20 †	38u	1.4k	3.5	10pZ	PA	R98	A
3	2N858†	150m	14MS	1.3m	\$A	40	40	25 50m	1.0u	5.0	5.0m	20 †				5.0p	PA	T018	A	
4	2N859†	150m	14MS	1.3m	\$A	40	40	25 50m	1.0u	5.0	5.0m	35 †				5.0p	PA	T018	A	
5	2N860†	150m	14MS	1.3m	\$A	25	25	20 50m	1.0u	5.0	5.0m	20 †				5.0p	PA	T018	A	
6	2N862†	150m	14MS	1.3m	\$A	30	30	20 50m	1.0n	5.0	5.0m	20 †				5.0p	PA	T018	A	
7	2N2280	150m	16MSΔ	1.3m	\$J	10	6.0	10 50m	3.0m	5.0	5.0m	10 †Δ				10pZ	E	T018	A	
8	2N1118A	150m	18M*	1.3m	\$J	25	25	10 50m	1.0u	6.0	1.0m	25	1.5ub	50		6.0p	A	T05	A	
9	2N2165	150m	18M*	1.3m	\$S	30	30	10 50m	2.0n	6.0	1.0m	25				6.0p	A	T05	A	
10	2N2166	150m	18M*	1.3m	\$S	15	15	10 50m	2.0n	6.0	1.0m	25				6.0p	S	T05	A	
11	2N1119†	150m	20M*	1.3m	\$	10	10	10 50m	100n	5.0	1.5m	25 †				6.0p	PA	T05	A	
12	2N2162	150m	20M*	1.3m	\$S	30	30	10 50m	10n	3.0	1.0m	35				6.0p	S	T05	A	
13	2N2163	150m	20M*	1.3m	\$S	15	15	10 50m	10n	3.0	1.0m	35				6.0p	A	T05	A	
14	2N2377	150m	20M*	1.3m	\$S	25	25	10 50m	1.0u	6.0	1.0m	15 Δ				12pZ	AΔ	T018	A	
15	2N2378	150m	20M*	1.3m	\$S	10	10	10 50m	100n	5.0	1.5m	25 †				12pZ	AΔ	T018	A	
16	2N1118	150m	21M*	1.3m	\$	25	25	10 50m	1.0u	6.0	1.0m	30	35u	1.4k	3.5	6.0p	PA	T05	A	
17	2N861†	150m	22M*	1.3m	\$A	25	25	20 50m	1.0u	5.0	5.0m	35 †				5.0p	PA	T018	A	
18	2N863†	150m	22M*	1.3m	\$A	15	15	10 50m	1.0u	5.0	5.0m	35 †				5.0p	PA	T018	A	
19	2N864†	150m	22M*	1.3m	\$A	6.0	6.0	6.0 50m	100n	5.0	5.0m	35 †				5.0p	PA	T018	A	
20#	2SA542	150m	30MSΔ	1.1m	\$J	30	25	5.0 50m	50n	10	500u	160 †				8.0pZ	PE	u23a	C	
21#	BFV25	150m	30MSΔ	1.1m	\$S	60	45	6.0 30m	50n	5.0	1.0m	60 Δ				6.0pZ	PE	u34b	P	
22#	BFV26	150m	30MSΔ	1.1m	\$S	60	45	6.0 30m	50n	5.0	1.0m	150 Δ				6.0pZ	PE	u34b	P	
23	2N2167	150m	36M*	1.3m	\$S	12	12	10 50m	20n	6.0	1.0m	38				6.0p	S	T05	A	
24	2N2164	150m	44M*	1.3m	\$S	12	12	10 50m	20n	3.0	1.0m	40				6.0p	S	T05	A	
25	2N865†	150m	52M*	1.3m	\$A	10	6.0	10 50m	100n	5.0	5.0m	75 †				5.0p	PA	T018	A	
26#	2SA429	150m	100M*	1.5m	\$J	150	150	3.0 30m	1.0u	2.0	2.0m	60 †				4.0p	PL	R67a	B	
27#	2SA628†	150m	100M*	1.5m	\$J	30	25	5.0 100m	100n	6.0	1.0m	55 †#Δ				3.5p	PE†	T092	D	
28#	2SA628A†	150m	100M*	1.5m	\$J	65	60	5.0 100m	100n	6.0	1.0m	55 †#Δ				3.5p	PE†	T092	D	
29#	2SA629	150m	100M*	1.5m	\$J	30	25	5.0 30m	100n	6.0	1.0m	90 †#Δ				3.5p	PE†	T092	D	
30#	BCW56	150m#	130M*	2.0m	\$J	80	60	6.0 100m	10u	5.0	2.0m	125 Δ*				4.5p	PE	MM13	F	
31#	BCW57	150m#	130M*	2.0m	\$J	50	45	6.0 100m	10u	5.0	2.0m	125 Δ*				4.5p	PE	MM13	F	
32#	BCW58	150m#	130M*	2.0m	\$J	30	20	5.0 100m	10u	5.0	2.0m	125 Δ*				4.5p	PE	MM13	F	
33#	BCW59	150m#	130M*	2.0m	\$J	30	20	5.0 100m	10u	5.0	2.0m	125 Δ*				4.5p	PE	MM13	F	
34#	2SA480	150m	140M*	1.1m	\$J	30	20	5.0 100m	3.0u	3.0	1.0m	60 †				7.0pZ	PE	T018	Ø	
35#	BFV30†	150m	140MSΔ	1.1m	\$J	20	15	4.0 100m	50n	1.0	5.0m	15 Δ				5.0pZ	PE	u34b	Ø	
36#	BFV33	150m	140MSΔ	1.0m	\$J	25	20	5.0 50m	1.0u	10	1.0m	30 Δ				5.0pZ	D	u34b	Ø	
37#	2SA564	150m	150M*	1.5m	\$J	25	25	5.0 50m	1.0u	5.0	2.0m	200 †				5.0pZ	PE†	T092	B	
38#	2SA564A	150m	150M*	1.5m	\$J	45	45	5.0 50m	1.0u	5.0	2.0m	200 †				5.0pZ	PE†	T092	B	
39#	BFV20	150m	150MSΔ	1.0m	\$J	40	30	5.0 600m	50n	10	150m	40 †Δ				10pZ	PE	u34b	P	
40#	BFV21	150m	150MSΔ	1.0m	\$J	40	30	5.0 600m	50n	10	150m	100 †Δ				10pZ	PE	u34b	P	
41#	BFV22	150m	150MSΔ	1.0m	\$J	50	50	5.0 600m	50n	10	1.0m	80 †Δ				10pZ	PE	u34b	P	
42#	BF532P	150m	200M	1.2m	\$	45	45	5.0 200m	20n	10	5.0m	30 †Δ				10p	PE	u17c	E	
43#	BF533P	150m	200M	1.2m	\$	45	45	5.0 200m	20n	10	2.0m	60 †Δ				10p	PE	u17c	E	
44#	BF534P	150m	200M	1.2m	\$	45	30	5.0 200m	20n	10	2.0m	100 †Δ				10p	PE	u17c	E	
45#	BFV31†	150m	350MSΔ	1.1m	\$J	12	12	4.0 200m	150n	1.0	3.0m	30 †Δ				8.0pZ	PE	u34b	P	
46#	BFV32†	150m	350MSΔ	1.1m	\$J	10	10	3.5 200m	200n	1.0	3.0m	20 †Δ				8.0pZ	PE	u34b	P	
47	2N4411	150m	400MSΔ	833u	\$J	15	12	5.0 25m	5.0n	5.0	500u	40 †Δ				700fZ	E	T072	P	
48#	BFV29†	150m	400MSΔ	1.1m	\$S	20	15	5.0 200m	50n	5.0	1.0m	30 †Δ				4.5p	PE	u34b	P	
49#	BSV55AP†	150m	400M	1.2m	\$			5.0 300m	5.0	3.0	3.0m	30 †Δ				6.0p		u17c	E	
50#	BSV55P†	150m	400M	1.2m	\$			5.0 300m	5.0	3.0	3.0m	40 †Δ				6.0p		u17c	E	
51	2N4248	200m	2.0m	\$J	40	40	5.0	100m	10n	5.0	1.0m	50 Δ				6.0p		R124	A	
52	2N4249	200m	2.0m	\$J	60	60	5.0	100m	10n	5.0	1.0m	100 Δ	40uZ	17kZ	10 Z	6.0pZ	Ø	R124	A	
53	2N4250	200m	2.0m	\$J	40	40	5.0	100m	10n	5.0	1.0m	250 Δ	50uZ	20kZ	10 Z	6.0pZ	Ø	R124	A	
54	2N4250A	200m	2.0m	\$J	60	60	5.0	100m	10n	5.0	1.0m	250 Δ	50uZ	20kZ	10 Z	6.0pZ	Ø	R124	A	
55	MM4261H	200m	1.1m	\$J	15	15	4.5	30m								2.5pZ	Δ	T072	DR	
56#	V655	200m	2.0m	\$	35	35	5.0		50n	5.0	1.0m	135 †	15u	5.2k	1.8	4.0p	PL	T0106	A	
57#	BC153	200m	40 Δ	\$Δ	40	40	5.0		500p	5.0	1.0m	135 †#				6.0pZ	DPL	R97a	A	
58	2N2370	200m	1.0M	1.1m	\$J	15	15	15 50m	50u	4.0	25m	15 Δ				15pZ	A	T05	A	
59	2N2371	200m	1.0M	1.1m	\$J	15	15	15 50m	50u	4.0	25m	20 Δ				15pZ	A	T05	A	
60#	2SA494GR	200m	10MSΔ	2.0m	\$J	35	30	5.0 30m	500n	6.0	100u	220	2.8u	14k	1.0	15pZ	A	R67a	B	
61#	2SA4940	200m	10MSΔ	2.0m	\$J	35	30	5.0 30m	500n	6.0	100u	90	1.1u	8.0k	900m	6.0pZ	PE	R67a	B	
62#	2SA494Y	200m	10MSΔ	2.0m	\$J	35	30	5.0 30m	500n	6.0	100u	140	1.6u	11k	950m	6.0pZ	PE	R67a	B	
63#	AT450Z	200m	20MSΔ	1.6m	\$J	30	30	5.0 50m	20n	10	1.0m	60 †Δ				6.0pZ	PE	MM12a	D	
64#	AT451	200m	20MSΔ	1.6m	\$J	30	30	5.0 50m	20n	10	100u	200 Δ				6.0pZ	PE	MM12a	D	
65#	AT452	200m	20MSΔ	1.6m	\$J	45	45	5.0 50m	20n	10	100u	60 Δ				6.0pZ	PE	MM12a	D	
66#	AT453	200m	20MSΔ	1.6m	\$J	45	45	5.0 50m	20n	10	100u	200 Δ				6.0pZ	PE	MM12a	D	
67	TD400*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	20		10pZ	PL†	L17m	A	
68	TD401*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	20		10pZ	PL†	L17m	A	
69	TD402*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	20		10pZ	PL†	L17m	A	
70	TD500*	200m	20MSΔ	1.6m	\$J	60	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	32 Z		10pZ	PL*	L17w	A	
71	TD501*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	32 Z		10pZ	PL*	L17w	A	
72	TD502*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	32 Z		10pZ	PL†	L17w	A	
73	TD550*	200m	20MSΔ	1.6m	\$J	40	30	5.0 500m	10n	5.0	1.0m	120 Δ	500nZb	32 Z		10pZ	PL*	L17w	A	
74	2N5138	200m	30MSΔ	2.0m	\$J	30	30	5.0 100m	50n	10	1.0m	40 Δ				7.0p		T0106	A	
75#	BC154	200m	40MSΔ	2.0m	\$J	40	40	5.0	500p	5.0	1.0m	330 †#				6.0pZ	DPL	R97a	A	
76	2N4964	200m	60MSΔ	2.0m	\$S															

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T ABS MAX RATINGS @25°C				MAX. I _{cb} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION	L C O D E							
				V _{be} (V)	V _{ceo} (V)	V _{ce} (V)	I _c (A)		BIAS			COMMON EMITTER												
									V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001										
1	2N3639†	200m	500MΔ	2.0m	†J	6.0	4.0	80m	50n	1.0	50m	20	†Δ#				R110	A	A					
2	2N3640†	200m	500MΔ	2.0m	†J	12	12	4.0	80m	50n	1.0	50m	20	†Δ#			R110	A	A					
3	2N4257†	200m	500MΔ	2.0m	†J	6.0	6.0	4.5	50m	10n	3.0	10m	30	†Δ			R110	A	A					
4	2N4257A†	200m	500MΔ	2.0m	†J	6.0	6.0	4.5	50m	10n	3.0	10m	30	†Δ			R124	A	A					
5	2N5055†	200m	550MΔ	2.0m	†J	12	12	4.5	100m	50n	.50	1.0m	12	†Δ			R124	A	A					
6	2N4258†	200m	700MΔ	2.0m	†J	12	12	4.5	50m	10n	3.0	10m	30	†Δ			R110	A	A					
7	2N4258A†	200m	700MΔ	2.0m	†J	12	12	4.5	50m	10n	3.0	10m	30	†Δ			R124	A	A					
8	2N4313†	200m	700MΔ	2.0m	†J	12	12	4.5	100m	50n	.50	10m	30	†Δ#			R124	A	A					
9	2N4958	200m	1.0GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			TO72	A	A					
10	2N4959	200m	1.0GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			TO72	G	G					
11	2N4957	200m	1.2GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			TO72	G	G					
12	JAN2N4957	200m	1.2GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			TO72	G	G					
13	2N5829	200m	1.2GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			TO72	G	A					
14	EN2894A†	200m	1.2GΔ	2.0m	†J	12	12	4.5	50m	50n	1.0	100m	30	†#Δ			DPE	TO106	A					
15	MD4957*	200m	1.5GΔ	1.1m	†S	30	30	3.0	30m	100n	10	2.0m	20	†Δ			L17k	A	A					
16	2N4260	200m	1.6GΔ	1.1m	†S	15	15	4.5	30m	5.0n	1.0	1.0m	25	†Δ			TO72	G	G					
17	2N4261	200m	2.0GΔ	1.1m	†S	15	15	4.5	30m	5.0n	1.0	1.0m	25	†Δ			TO72	G	G					
18	MM4049	200m	4.0GΔ	1.1m	†S	15	10	4.5	30m	10n	2.0	25m	80	†Δ			TO72	G	A					
19	BC257	220m	130MΔ	2.2m	†J			4.5	5.0	100m	100n	5.0	2.0m	260	†#	50u	4.5k	3.0p	TO92	A	A			
20	BC258	220m	130MΔ	2.2m	†J			2.5	5.0	100m	100n	5.0	2.0m	500	†#	70u	8.0k	3.5	TO92	A	A			
21	BC259	220m	130MΔ	2.2m	†J			2.0	5.0	100m	100n	5.0	2.0m	500	†#	70u	8.0k	3.5	TO92	A	A			
22	BC157	220m	200MΔ	2.2m	†J			4.5	6.0	100m	50n	5.0	2.0m	50	†Δ				MM10	A	A			
23	BC158	220m	200MΔ	2.2m	†J			2.0	5.0	100m	100n	5.0	2.0m	50	†Δ				MM10	A	A			
24	BC159	220m	200MΔ	2.2m	†J			2.0	5.0	100m	50n	5.0	2.0m	240	†Δ				MM10	A	A			
25	MMT771	225m	2.0M	2.0m	†J			2.0	4.0	50m	50n	5.0	2.0m	150	†Δ				u43	A	C			
26	MMT751	225m	2.0M	2.0m	†J			3.0	5.0	200m	100n	1.0	50m	20	†Δ				u43	A	C			
27	GT1644	225m	2.0M	1.8m	†S			12	10u		6.0	1.0m	15			1.0ub			TO5	A	A			
28	MMT3798	225m	40MΔ	2.0m	†J			60	3.0	50m	50n	10	1.0m	275		18u	8.0k	2.0	4.0p	AN	u43	D		
29	MMT3799	225m	40MΔ	2.0m	†J			60	3.0	50m	50n	10	1.0m	475		30u	16k	4.0	4.0p	AN	u43	D		
30	A3T2906†	225m	200MΔ	1.8m	†S			60	40	50m	20n	10	1.0m	25	†Δ				12p	AN	u44	A		
31	A3T2906A†	225m	200MΔ	1.8m	†S			60	5.0	500m	10n	10	1.0m	40	†Δ				12p	PET	u44	A		
32	A3T2907†	225m	200MΔ	1.8m	†S			60	5.0	500m	20n	10	1.0m	50	†Δ				12p	PET	u44	A		
33	A3T2907A†	225m	200MΔ	1.8m	†S			60	5.0	500m	10n	10	1.0m	100	†Δ				12p	PET	u44	A		
34	MMT3905†	225m	200MΔ	2.0m	†J			40	5.0	200m	50n	1.0	10m	50	†Δ			15u	4.0k	2.0	5.0p	AN	u23c	F
35	MMT3906†	225m	250MΔ	2.0m	†J			40	5.0	200m	50n	1.0	10m	100	†Δ			15u	4.0k	2.0	5.0p	AN	u23c	F
36	MMT2907†	225m	260MΔ	2.0m	†J			40	5.0	600m	50n	1.0	1.0m	50	†Δ				4.8p	AN	u43	F		
37	A3T2894†	225m	400MΔ	1.8m	†S			12	4.0	200m	2.0u	50	30m	30	†Δ#				6.0p	PET	u44	A		
38	MMT731	225m	400MΔ	2.0m	†J			8.0	4.0	200m	10n	1.0	10m	30	†Δ				5.0p	AN	u43	A		
39	MMT2369†	225m	500MΔ	2.0m	†J			15	4.5	200m	100n	1.0	10m	120	†Δ#				4.0p	AN	u43	D		
40	MMT3546†	225m	700MΔ	2.0m	†J			15	4.5	250m	100n	1.0	10m	30	†Δ#				6.0p	AN	u43	C		
41	BCY29	230m*	500k	2.2m	†J			60	30	50	100n	2.0	50m	25		30u	100	3.0	45p	A	TO5	A		
42	2N3342†	250m	1.6m	†S				20	30	50m	20n	1.0	5.0m	30	†Δ				10p	AN	TO5	A		
43	2SA539	250m	2.5m	†J				60	45	5.0	200m	200n	1.0	10m	40	†Δ				PE	TO92	B		
44	2SA545	250m	2.5m	†J				70	60	5.0	200m	100n	1.0	50m	80	†Δ				PE	TO92	B		
45	2N3401	250m	100kΔ	2.0m	†S			25	25	100m	100n	5.0	1.0m	4.0	†Δ				15p	AN	TO5	A		
46	2N327A	250m	200k	1.8m	†J			50	40	20	50m	100n	5.0	3.0m	15	†	35u	1.0k		70p	FA	TO5	A	
47	2N1034	250m	200k	1.8m	†J			50	40	20	50m	1.0u	6.0	1.0m	15	†	15u	900		70p	FA	TO5	A	
48	2N1275	250m	200k	1.8m	†J			100	80	60	50m	1.0u	50	1.0m	15	†	11u	1.5k	7.5	60p	FA	TO5	A	
49	2N1655	250m	200k	1.8m	†J			125	100	125	50m	1.0u	50	1.0m	15	†	11u	1.5k	7.5	50p	FA	TO5	A	
50	2N1654	250m	250k	1.8m	†J			100	80	100	50m	1.0u	50	1.0m	30	†	11u	1.5k	7.5	50p	FA	TO5	A	
51	2N1656	250m	250k	1.8m	†J			125	100	125	50m	1.0u	50	1.0m	30	†	11u	1.5k	7.5	50p	FA	TO5	A	
52	2N328A	250m	300k	1.8m	†J			50	35	20	50m	100n	5.0	3.0m	30	†	40u	1.7k		70p	FA	TO5	A	
53	2N1035	250m	300k	1.8m	†J			50	50	20	50m	1.0u	6.0	1.0m	30	†	40u	1.7k		70p	FA	TO5	A	
54	2N1037	250m	300k	1.8m	†J			50	35	20	50m	1.0u	6.0	1.0m	25	†	20u	1.4k		70p	FA	TO5	A	
55	2N1623	250m	300k	1.8m	†J			50	20	20	50m	1.0u	6.0	1.0m	25	†	35u	1.0k		70p	FA	TO5	A	
56	2N1036	250m	500k	1.8m	†J			50	35	20	50m	1.0u	6.0	1.0m	60	†	50u	2.5k		70p	FA	TO5	A	
57	2N1643	250m	700k	1.8m	†J			25	25	20	50m	1.0u	6.0	1.0m	18		35sub			50p	A	TO5	A	
58	2N2002	250m	800k	1.6m	†J			5.0	30	100m	1.0n	6.0	1.0m						20p	AN	TO5	A		
59	2N2003	250m	800k	1.6m	†J			5.0	30	100m	3.0n	6.0	1.0m						20p	AN	TO5	A		
60	2N2004	250m	800k	1.6m	†J			15	50	100m	50u	6.0	1.0m						8.0p	A	TO5	A		
61	2N2005	250m	800k	1.6m	†J			15	50	100m	50u	6.0	1.0m						10p	AN	TO5	A		
62	2N2006	250m	800k	1.6m	†J			35	60	100m	50u	6.0	1.0m						10p	AN	TO5	A		
63	2N2007	250m	800k	1.6m	†J			35	60	100m	5.0n	6.0	1.0m						10p	AN	TO5	A		
64	2N938	250m	1.0MΔ	1.6m	†J			40	35	40	100m	25n	6.0	1.0m	15		1.4ub	35	10	7.0p	A	TO18	A	
65	2N943	250m	1.0MΔ	1.6m	†S			40	18	40	50m	6.0	1.0m	10	†Δ				25	A	TO18	A		
66	2N944	250m	1.0MΔ	1.6m	†S			40	18	40	50m	6.0	1.0m	10	†Δ				25	A	TO18	A		
67	2N945	250m	1.0MΔ	1.6m	†S			50	50	50	50m	6.0	1.0m	10	†Δ				25	A	TO18	A		
68	2N946	250m	1.0MΔ	1.6m	†S			80	80	80	50m	6.0	1.0m	10	†Δ				25	A	TO18	A		
69	2N1024	250m	1.0MΔ	1.6m	†J			18	15	18	100m	6.0	1.0m	15		1.4ub			7.0p	A	TO5	A		
70	2N1025	250m	1.0MΔ	1.6m	†J			40	35	40	100m	25n	6.0	1.0m	15		1.4ub	35	10	7.0p	A	TO5	A	
71	JAN2N1025M	250m	1.0MΔ	1.6m	†S			40	35	40	100m	25n	6.0	1.0m	9.0	†Δ	2.5u	75	20	12p	AN	TO5	A	
72	2N1474	250m	1.0MΔ	1.6m	†J																			

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DERATE IN FREE AIR W/°C		3 ABS MAX RATINGS @ 25°C					4 TYPICAL 'h' PARAMETERS							5 DESCRIPTION		L C O D E	
			fab	FREE AIR W/°C	M E A M	BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)	Icbo @ MAX Vcb (A)	BIAS			COMMON EMITTER			Cob (F)	STRUC-TURE		DWG. No.
											Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
1	2N1028	250m	6.0M	1.6m	SS	18	10	12	100	25n	6.0	1.0m	9.0 Δ	1.4ub	35	10	7.0p	A	T05	A
2	2N9420	250m	10.0M	1.7m	SS	25	8.0	25	50m	2.5u	6.0	1.0m	50			7.0p	A	T018	A	
3	2N1918	250m	10.0M	1.7m	SS	25	8.0	25	50m	2.5n	6.0	1.0m	50			7.0p	A	T05	A	
4	2N9410	250m	12.0M	1.7m	SS	25	8.0	25	50m	2.5u	6.0	1.0m	50			7.0p	A	T018	A	
5	2N3812*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	15kZ	25 Z	4pZ	∅	L17s	
6	2N3813*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	∅	L17s	
7	2N3814*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	15kZ	25 Z	4pZ	*∅	L17s	
8	2N3815*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	*∅	L17s	
9	2N3816*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	15kZ	25 Z	4pZ	*∅	L17s	
10	2N3817*	250m	30MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	*∅	L17s	
11#	ZTX530	250m	30MΔ	2.5m	▲A	30	30	5.0	500m	200n	5.0	100u	60 Δ			8.0pZ	PL∅	X59	F	
12#	ZTX531	250m	30MΔ	2.5m	▲A	45	45	5.0	500m	200n	5.0	100u	60 Δ			8.0pZ	PL∅	X59	F	
13	2N4288	250m	40MΔ	2.0m	SS	30	25	6.0	100m	50n	5.0	1.0m	600 Z	1.2uZb	40 Z	10	8.0pZ	∅	u29	
14	2N4289	250m	40MΔ	2.0m	SS	60	45	7.0	100m	10n	5.0	1.0m	600 Z	1.2uZb	40 Z	10	8.0pZ	∅	u29	
15#	AT454	250m	40MΔ	2.5m	▲J	30	30	5.0	50u	20n	100	100u	60 Δ			6.0pZ	PE	MM12aD		
16#	AT455	250m	40MΔ	2.5m	▲J	45	45	5.0	50u	20n	100	100u	60 Δ			6.0pZ	PE	MM12aD		
17	2N2802*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	20 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
18	2N2803*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	20 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
19	2N2804*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	20 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
20	2N2805*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	40 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
21	2N2806*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	40 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
22	2N2807*	250m	60MΔ	1.6m	SS	25	20	5.0	30m	10n	5.0	1.0m	40 Δ	1.0uZb	32 Z	12 Z	8.0pZ	∅	L17k	
23	2N3800*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	30kZ	25 Z	4pZ	∅	L17e	
24	2N3801*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	∅	L17e	
25	2N3802*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	30kZ	25 Z	4pZ	∅	L17e	
26	2N3803*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	∅	L17e	
27	2N3804*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	30kZ	25 Z	4pZ	∅	L17e	
28	2N3804A*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	10n	100	1.0m	150 Δ	60uZ	30kZ	25 Z	4.0pZ	∅	L17e	
29	2N3805*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	∅	L17e	
30	2N3805A*	250m	100MΔ	1.4m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	*∅	L17e	
31	2N3816A*	250m	100MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	150 Δ	60uZ	15kZ	25 Z	4pZ	*∅	L17s	
32	2N3817A*	250m	100MΔ	1.5m	SS	60	60	5.0	50m	0.1u	100	1.0m	300 Δ	60uZ	40kZ	25 Z	4pZ	*∅	L17s	
33	2N4290	250m	100MΔ	2.0m	SS	30	20	5.0	600m	200n	5.0	1.0m	600 Z	1.2uZb	40 Z	10	10pZ	∅	u29	
34	2N4291	250m	100MΔ	2.0m	SS	40	30	6.0	600m	200n	5.0	1.0m	600 Z	1.2uZb	40 Z	10	10pZ	∅	u29	
35#	ME0475	250m	100MΔ	2.0m	SS	J	75	4.0	50u	100	100	1.0m	20 Δ			10pZ	DPt	TO106	A	
36	MQ3799*	250m	100MΔ	1.5m	SJ	60	60	5.0	50m	0.1u	100	1.0m	500	12u	12k	2.5	4pZ	AN∅	L56c	
37	MO3799A*	250m	100MΔ	1.5m	SJ	60	60	5.0	50m	0.1u	100	1.0m	500	12u	12k	2.5	4pZ	AN∅	L56c	
38#	BC158A	250m	150MΔ	2.5m	▲J	30	25	5.0	100m	100n	5.0	2.0m	125 Δ			4.5p	PEt	MM10	A	
39#	BC158B	250m	150MΔ	2.5m	▲J	30	25	5.0	100m	100n	5.0	2.0m	240 Δ			4.5p	PEt	MM10	A	
40#	BC159A	250m	150MΔ	2.5m	▲J	25	20	5.0	100m	100n	5.0	2.0m	125 Δ			4.5p	PEt	MM10	A	
41#	BC159B	250m	150MΔ	2.5m	▲J	25	20	5.0	100m	100n	5.0	2.0m	240 Δ			4.5p	PEt	MM10	A	
42#	2SA402	250m	200MΔ	60	SJ	35	30	5.0	100m	10u	6.0	2.0m	200 t			6.0p	PE	TO18		
43#	2SA522	250m	200MΔ	1.7m	SJ	25	20	5.0	100m	10u	100	1.0m	50			4.0p	PE	TO18		
44#	2SA522A	250m	200MΔ	1.7m	SJ	50	40	5.0	100m	10u	100	1.0m	50			4.0p	PE	TO18		
45#	AT331	250m	200MΔ	2.5m	▲J	20	20	4.0	250m	50u	2.0	150m	35 #tΔ			25p	PL			
46#	AT332	250m	200MΔ	2.5m	▲J	60	50	4.0	500m	50u	2.0	150m	35 #tΔ			25p	PL			
47#	AT333	250m	200MΔ	2.5m	▲J	90	80	4.0	500m	50u	2.0	150m	35 #tΔ			25p	PL			
48	MD2904AF*	250m	200MΔ	1.4m	SJ	60	60	5.0	600m	0.2u#∅	100	150m	40 t#			8pZ	ANΔ	L17d		
49	MD2904F*	250m	200MΔ	1.4m	SJ	60	60	5.0	600m	0.2u#∅	100	150m	40 t#			8pZ	ANΔ	L17d		
50	MD2905AF*	250m	200MΔ	1.4m	SJ	60	60	5.0	600m	0.2u#∅	100	150m	100 t#			8pZ	ANΔ	L17d		
51	MD2905F*	250m	200MΔ	1.4m	SJ	60	60	5.0	600m	0.2u#∅	100	150m	100 t#			8pZ	ANΔ	L17d		
52	MD3133F*	250m	200MΔ	1.4m	SJ	50	35	4.0	600m	0.5u	100	150m	40 t#Δ			10pZ	ANΔ	TO89		
53	MD3134F*	250m	200MΔ	1.4m	SJ	50	35	4.0	600m	0.5u	100	150m	100 t#Δ			10pZ	ANΔ	TO89		
54#	2SA4991	250m	250MΔ	1.6m	SJ	50	40	5.0	100m	500n	1.0	10m	30 tΔ*			5.0p	PE	TO18	A∅	
55#	2SA5001	250m	250MΔ	1.6m	SJ	30	20	5.0	100m	500n	1.0	10m	30 tΔ*			5.0p	PE	TO18	A∅	
56	2N4940*	250m	300MΔ	1.5m	SS	50	40	5.0	50m	0.2u	100	1.0m	50 Δ	50uZ	10kZ	10 Z	5pZ	*∅	L17d	
57	2N4941*	250m	300MΔ	1.5m	SS	50	40	5.0	50m	0.2u	100	1.0m	50 Δ	50uZ	10kZ	10 Z	5pZ	*∅	L17d	
58#	ZTX510t	250m	400MΔ	2.5m	▲A	12	12	4.0	200m	100n	1.0	100m	20 tΔ#			6.0pZ	PLt	X59	F	
59#	ME04611	250m	450MΔ	2.0m	SJ	60	50	6.0	300m	10n	1.0	10m	50 tΔ			6.0pZ	PE	R110	A	
60#	ME04621	250m	450MΔ	2.0m	SJ	50	40	6.0	300m	10n	1.0	10m	100 tΔ			6.0pZ	PE	R110	A	
61#	ME04631	250m	450MΔ	2.0m	SJ	30	20	5.0	300m	10n	1.0	10m	50 tΔ			8.0pZ	PE	R110	A	
62#	ME04911	250m	500MΔ	2.0m	SJ	30	30	5.0	200m	10n	1.0	30m	30 tΔ#			4.0pZ	PE	R110	A	
63#	ME04921	250m	500MΔ	2.0m	SJ	25	25	5.0	200m	10n	1.0	30m	50 tΔ#			4.0pZ	PE	R110	A	
64#	ME04931	250m	500MΔ	2.0m	SJ	15	15	4.0	200m	10n	1.0	30m	50 tΔ#			6.0pZ	PE	R110	A	
65	S3639	250m	500MΔ	2.5m	▲S	6.0	6.0	4.0	80m	0.1u	3.0	10m	30 tΔ			5.5pZ	PEΔ	TO92	B	
66	S3640	250m	500MΔ	2.5m	▲S	12	12	4.0	80m	0.1u	3.0	10m	30 tΔ			5.5pZ	PEΔ	TO92	B	
67#	BC201	280m	100MΔ	1.2m	▲J	5.0	5.0	5.0	50m	10u	5.0	25m	630 *Z				PE	u32	B	
68#	BC202	280m	100MΔ	1.2m	▲J	30	20	5.0	50m	10u	5.0	25m	630 *Z				PE	u32	B	
69#	BC203	280m	100MΔ	1.2m	▲J	45	30	5.0	50m	10u	5.0	25m	630 *Z				PE	u32	B	
70	BCY27	275m	1.0M	2.2m	▲J	30	25	30	50m	10u	6.0	1.0m	15 Δ	30u	1.0k	3.0	45p	A∅	T05	
71	BCY28	275m	1.5M	2.2m	▲J	30	25	30	50m	10u	6.0	1.0m	25 Δ	40u	1.4k	4.0	45p	A∅	T05	
72#	BSY59	280m	100MΔ	2.2m	SJ	30	30	5.0	500m	100n										

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T M E A M X P	ABS MAX RATINGS @ 25°C				Ic @ MAX Vcb (A)	TYPICAL 'h' PARAMETERS					Cob (F)	STRUCTURE		L C O D E				
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			COMMON EMITTER			Dwg. No.	E A D E					
					Vcb (V)	Ic (A)	hfe	hoe (mhos)		hie (Ω)	hre (X.0001)	STRUCTURE	Dwg. No.									
1#	2S324	300m	3.0M	2.4m	J	15	15	15	50m	10u	6.0	1.0m	75		78u	3.2k	8.4	40p	A	R51		
2#	2S304	300m	3.5M	1.7m	SJ	15	15	15	100m	10u	6.0	1.0m	75					40p	A	T05		
3#	2S3040	300m	3.5M	1.7m	SS	15	15	10	100m	10u	6.0	1.0m	39					40p	A	ZA11		
4	3N90	300m	6.0M	1.7m	SS	50		30	20m	.01u								10p	Δ	T072		GD
5	3N91	300m	6.0M	1.7m	SS	50		30	20m	.01u								10p	Δ	T072		GD
6	3N92	300m	6.0M	1.7m	SS	50		30	20m	.01u								10p	Δ	T072		GD
7	3N93	300m	6.0M	1.7m	SS	50		50	20m	.01u								10p	Δ	T072		GD
8	JAN3N93	300m	6.0M	1.7m	SS	50	50	50	20m	.01u								10p	Δ	T072		GD
9	3N94	300m	6.0M	1.7m	SS	50		50	20m	.01u								10p	Δ	T072		GD
10	3N95	300m	6.0M	1.7m	SS	50		50	20m	.01u								10p	Δ	T072		GD
11	3N129	300m	8.0M	1.6m	SS	20		10	20m	1.0n								10p	Δ	T072		GC
12	3N130	300m	8.0M	1.6m	SS	30		20	20m	1.0n								10p	Δ	T072		GC
13	3N131	300m	8.0M	1.6m	SS	40		30	20m	1.0n								10p	Δ	T072		GC
14	3N132	300m	8.0M	1.6m	SS	50		40	20m	1.0n								10p	Δ	T072		GC
15	3N133	300m	8.0M	1.6m	SS	60		50	20m	1.0n								10p	Δ	T072		GC
16	3N134	300m	8.0M	1.7m	SS	20		15	20m	.01u								12p	Δ	T072		GC
17	3N135	300m	8.0M	1.7m	SS	40		30	20m	.01u								12p	Δ	T072		GC
18	3N136	300m	8.0M	1.7m	SS	60		50	20m	.01u								12p	Δ	T072		GC
19	2N864A	300m	12M	1.6m	SS	6.0	6.0	6.0	100m	1.0n	6.0	1.0m	25	Δ		700		9.0p	Δ	T018		GC
20	JAN3N108	300m	12M	1.6m	SS	50		20	20m	250p								10p	Δ	T072		GC
21	3N114	300m	12M	1.7m	SS	30		12	20m	.01u								10p	Δ	T072		GD
22	3N115	300m	12M	1.7m	SS	30		12	20m	.01u								10p	Δ	T072		GD
23	3N116	300m	12M	1.7m	SS	30		12	20m	.01u								10p	Δ	T072		GD
24	3N117	300m	12M	1.6m	SS	50		20	20m	10n								10p	Δ	T072		GD
25	3N118	300m	12M	1.7m	SS	50		20	20m	.01u								10p	Δ	T072		GD
26	3N119	300m	12M	1.7m	SS	50		20	20m	.01u								10p	Δ	T072		GD
27	2N865A	300m	24M	1.6m	SS	10	6.0	10	100m	1.0n	6.0	1.0m	100	Δ		700		9.0p	Δ	T018		GD
28#	2H1254	300m	25M	2.0m	SA	25		5.0	200n	10	2.0m	25			b	30		10p	ME	T018		
29#	2H1256	300m	25M	2.0m	SA	35		5.0	200n	10	2.0m	25			b	30		10p	ME	T018		
30#	2H1258	300m	25M	2.0m	SA	25		5.0	200n	10	2.0m	25			b	30		10p	ME	T018		
31#	ZT152	300m	30M	2.4m	SA	20	20	15	500m	.10u	6.0	100m	35	†				5.0p	PE	T018		
32#	2H1255	300m	40M	2.0m	SA	25		5.0	200n	10	2.0m	55	†		b	30		10p	ME	T018		
33#	2H1257	300m	40M	2.0m	SA	35		5.0	200n	10	2.0m	55	†		b	30		10p	ME	T018		
34#	2H1259	300m	40M	2.0m	SA	25		5.0	200n	10	2.0m	55	†		b	30		10p	ME	T018		
35#	2SA637	300m	40M	2.0m	SJ	150	150	5.0	50m	1.0u	3.0	15m	30	†				10p	DPL	T018		A
36#	HT1001	300m	40M	2.0m	SA	20		5.0	200n	10	2.0m	55	†		b	30		10p	ME	T018		
37#	HT1011	300m	40M	2.0m	SA	20		5.0	50m	200n	1.0	10m	35	†				10p	ME	T018		
38	2N2862	300m	45M	1.7m	SS	25	20	5.0	100m	.01u	5.0	1.0m	25	†		50u	5k	6p	Δ	T018		A
39	2N2861	300m	60M	1.7m	SS	25	20	5.0	100m	.01u	5.0	1.0m	50	†		50u	5k	6p	Δ	T018		A
40	2N3347*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	60	Δ		100u	1.5k	6.0p	Δ	L17k			
41	2N3348*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	60	Δ		100u	1.5k	6.0p	Δ				
42	2N3349*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	60	Δ		100u	1.5k	6.0p	Δ				
43	2N3350*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	150	Δ		100u	3.7k	6.0p	Δ				
44	2N3351*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	150	Δ		100u	3.7k	6.0p	Δ				
45	2N3352*	300m	60M	2.0m	SS	60	45	6.0	10n	5.0	1.0m	150	Δ		100u	3.7k	6.0p	Δ				
46#	BC137	300m	60M	3.0m	J	40	40	4.0	600m	.05u	10	10m	85	†		130u	400	1.4	10p	DPE	R97	A
47	EN1132	300m	60M	3.0m	J	50	35	5.0	100m	1.0u	10	150m	30	†		1.0u	35	8.0	45p	DPE	T0106	A
48#	2SA561	300m	70M	3.0m	J	50	50	5.0	150m	1.0u	10	20m	100	†				20p	DPE	R67a	A	B
49#	2SA562	300m	70M	3.0m	J	30	30	5.0	400m	.10u	1.0	100m	40	†				13p	PET	R67a	A	B
50	2N3638†	300m	100M	3.0m	J	2.5	25	4.0	500m	35n	10	10m	25	†		1.2m	2.0k	26	20p	Δ	R110a	A
51	2N5120*	300m	100M	1.7m	SS	45	45	7.0	10m	100p	5.0	10u	100	†				800fs	Δ	L17c		
52	2N5121*	300m	100M	1.7m	SS	45	45	7.0	10m	100p	5.0	10u	100	†				800fs	Δ	L17c		
53	2N5122*	300m	100M	1.7m	SS	45	45	7.0	10m	100p	5.0	10u	50	†				800fs	Δ	L17c		
54	2N5142†	300m	100M	2.9u	J	20	20	4.0	500m	.05u	10	300m	15	†				10p	Δ	T0105		A
55#	2SA502	300m	100M	2.4m	J	80	70	3.0	50m	1.0u	1.0	20m	60	†				7.0p	EP	R67a		
56#	2SA604	300m	100M	2.4m	J	120	100	5.0	30m	1.0u	3.0	1.0m	40	†				5p	PE	T018		A
57#	2SA605	300m	100M	2.4m	J	180	160	6.0	50m	50n	3.0	1.0m	50	†				5.0p	PE	T018		A
58	CS3702	300m	100M	3.0m	SS	40	25	5.0	200m	100n	5.0	50m	300	#				12p	Δ	T0106		
59	CS3703	300m	100M	3.0m	SS	50	30	5.0	200m	100n	5.0	50m	150	#				12p	Δ	T0106		
60	CS5447	300m	100M	2.3m	SJ	40	25	5.0	200m	100n	5.0	50m	30	†				12p	Δ	T0106		A
61	CS5448	300m	100M	2.3m	SJ	50	30	5.0	200m	100n	5.0	50m	30	†				12p	Δ	T0106		A
62	GI3702	300m	100M	3.0m	J	40	25	5.0	100m	.10u	5.0	50m	30	†				12p	Δ	R97d		
63	GI3703	300m	100M	3.0m	J	50	30	5.0	100m	.10u	5.0	50m	30	†				12p	Δ	R97d		
64#	NKT20329	300m	100M	2.0m	SJ	30	30	4.0	100m	.01u	10	10m	60	†				4.0p	PE	T018		A
65#	V435†	300m	100M	3.0m	J	20	20	5.0	100m	.10u	10	10m	40	†				4.0p	PE	R97		A
66	MPSA70	300m	125M	2.7m	TJ	40	40	4.0	100m	100n	10	5.0m	40	†				4.0p	AN	T092		A
67#	BC179A	300m	130M	2.0m	SJ	25	20	5.0	100m	100n	5.0	2.0m	125	Δ		25u	2.7k	3.0	4.5p	PE	T018	A
68#	BC307Δ	300m	130M	2.2m	SJ	45	50	5.0	100m	100n	5.0	2.0m	222	*		25u	2.7k	3.0	6.0p	PE	X64a	C
69#	BC308Δ	300m	130M	2.2m	SJ	25	50	5.0	100m	100n	5.0	2.0m	222	*		25u	2.7k	3.0	6.0p	PE	X64a	C
70#	BC309Δ	300m	130M	2.2m	SJ	20	50	5.0	100m	100n	5.0	2.0m	222	*		25u	2.7k	3.0	6.0p	PE	X64a	C
71	2N726	300m	140M	2.0m	SJ	25	20	5.0	50m	1.0u	1.0	10m	30	†				5p	MEΔ	T018		A
72	2N727	300m	140M	2.0m	SJ	25	20	5.0	50m	1.0u	1.0	10m	30	†				5p	MEΔ	T018		A
73#	BFV82	300m	140M	500u	SJ	25	20	5.0	50m	1.0u	10	10m	15	Δ				5p	Δ	u26a		B
74#	BFV82A																					

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T ABS MAX RATINGS @25°C				MAX. I _{cb0} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	L C O D E	
				M A M X P	BV _{cb0} (V)	BV _{ceo} (V)	BV _{ebo} (V)		I _c (A)	BIAS			hoe (mhos)	hie (Ω)				hre (X.0001)
										V _{cb} (V)	I _e (A)	h _{fe}						
1#	BC250A	300m	180mS	3.0m	J	20	20	5.0	100m	1.0u	1.0m	35	1Δ	4.0p	PE	X64	A	
2#	BC250B	300m	180mS	3.0m	J	20	20	5.0	100m	1.0u	1.0m	80	1Δ	4.0p	PE	X64	A	
3#	BC250C	300m	180mS	3.0m	J	20	20	5.0	100m	1.0u	1.0m	200	1Δ	4.0p	PE	X64	A	
4#	BC260A	300m	180mS	2.0m	S	20	20	5.0	100m	1.0u	1.0m	35	1Δ	4.0p	PE	TO18	A	
5#	BC260B	300m	180mS	2.0m	S	20	20	5.0	100m	1.0u	1.0m	80	1Δ	4.0p	PE	TO18	A	
6#	BC260C	300m	180mS	2.0m	S	20	20	5.0	100m	1.0u	1.0m	200	1Δ	4.0p	PE	TO18	A	
7#	CS4012†	300m	190mS	3.0m	J	25	25	4.0	500m	5.0u	4.0m	70	1#	60u	1.5k	250m	TO105	A
8#	CS4013†	300m	190mS	3.0m	J	25	25	4.0	500m	5.0u	4.0m	160	1#	60u	1.5k	250m	TO105	A
9#	BC187	300m	191mS	2.0m	S	30	25	5.0	100m	100n	5.0u	2.0m	140	4.5p†	PE	TO18	A	
10	2N2411†	300m	200mS	1.7m	S	25	20	5.0	100m	0.1u	50u	10m	35	†	PE	TO18	A	
11	2N2412†	300m	200mS	1.7m	S	25	20	5.0	100m	0.1u	50u	10m	55	†	PE	TO18	A	
12	2N3644†	300m	200mS	3.0m	J	45	45	5.0	500m	35n	10u	1.0m	80	1Δ	PE	R110a	A	
13	2N3645†	300m	200mS	3.0m	J	60	60	5.0	500m	35n	10u	1.0m	80	1Δ	PE	R110a	A	
14	2N4142†	300m	200mS	3.0m	J	60	40	5.0	200m	50n#	10u	150m	120	1Δ	PE	R110	A	
15	2N4143†	300m	200mS	3.0m	J	60	40	5.0	200m	50n#	10u	150m	300	1Δ	PE	R110	A	
16	2N4228	300m	200mS	3.0m	J	60	40	5.0	200m	50n#	10u	150m	150	1Δ	PE	R110	A	
17#	2SA467	300m	200mS	3.0m	J	40	30	5.0	400m	50u	1.0u	100m	100	†	PE	R67a	B	
18#	AT410	300m	200mS	2.4m	J	30	30	5.0	500m	200n	1.0u	150m	30	1Δ	PE	MM12a	D	
19#	AT412	300m	200mS	2.4m	J	45	45	5.0	500m	20n	1.0u	150m	100	Δ	PE	MM12a	D	
20#	AT413	300m	200mS	2.4m	J	45	45	5.0	500m	20n	1.0u	150m	100	Δ	PE	MM12a	D	
21#	AT414	300m	200mS	2.4m	J	30	30	5.0	500m	20n	1.0u	150m	100	Δ	PE	MM12a	D	
22#	AT415	300m	200mS	2.4m	J	30	30	5.0	500m	20n	1.0u	150m	30	Δ	PE	MM12a	D	
23#	AT416	300m	200mS	2.4m	J	45	45	5.0	500m	20n	1.0u	150m	30	Δ	PE	MM12a	D	
24#	AT417	300m	200mS	2.4m	J	45	45	5.0	500m	20n	1.0u	500m	100	Δ	PE	MM12a	D	
25#	AT418	300m	200m	2.4m	J	30	30	5.0	500m	200n	1.0u	50m	100	†#Δ	PE	MM12a	A	
26#	AT419	300m	200m	2.4m	J	30	30	5.0	500m	200n	1.0u	150m	90	†#Δ	PE	MM12a	A	
27#	BC116	300m	200mS	3.0m	J	45	40	5.0	100m	50n	1.0u	100u	20	1Δ	PE	R97	A	
28#	BC126	300m	200mS	3.0m	J	35	30	5.0	600m	0.5u	1.0u	1.0m	20	1Δ	PE	R97	A	
29#	BC177	300m	200mS	2.0m	S	45	45	5.0	100m	0.5u	5.0u	2.0m	240	1Δ	PE	TO18	A	
30#	BC177A	300m	200mS	2.0m	S	50	45	5.0	100m	0.5u	5.0u	2.0m	180	1Δ	PE	TO18	A	
31#	BC177B	300m	200mS	2.0m	S	50	45	5.0	100m	0.5u	5.0u	2.0m	290	1Δ	PE	TO18	A	
32#	BC177V	300m	200mS	2.0m	S	50	45	5.0	100m	0.5u	5.0u	2.0m	75	1Δ	PE	TO18	A	
33#	BC177VI	300m	200mS	2.0m	S	50	45	5.0	100m	0.5u	5.0u	2.0m	110	1Δ	PE	TO18	A	
34#	BC178	300m	200mS	2.0m	S	20	20	5.0	100m	1.0u	5.0u	2.0m	240	1Δ	PE	TO18	A	
35#	BC178A	300m	200mS	2.0m	S	30	25	5.0	100m	1.0u	5.0u	2.0m	180	1Δ	PE	TO18	A	
36#	BC178B	300m	200mS	2.0m	S	30	25	5.0	100m	1.0u	5.0u	2.0m	290	1Δ	PE	TO18	A	
37#	BC178V	300m	200mS	2.0m	S	30	25	5.0	100m	1.0u	5.0u	2.0m	75	1Δ	PE	TO18	A	
38#	BC178VI	300m	200mS	2.0m	S	30	25	5.0	100m	1.0u	5.0u	2.0m	110	1Δ	PE	TO18	A	
39#	BC179	300m	200mS	2.0m	S	20	20	5.0	100m	0.5u	5.0u	2.0m	240	1Δ	PE	TO18	A	
40#	BC179B	300m	200mS	2.0m	S	25	20	5.0	100m	0.5u	5.0u	2.0m	290	1Δ	PE	TO18	A	
41#	BC204A	300m	200mS	3.0m	J	45	45	5.0	100m	50n	5.0u	2.0m	125	Δ	PE	R110	A	
42#	BC204B	300m	200mS	3.0m	J	45	45	5.0	100m	50n	5.0u	2.0m	240	Δ	PE	R110	A	
43#	BC204V	300m	200mS	3.0m	J	45	45	5.0	100m	50n	5.0u	2.0m	50	Δ	PE	R110	A	
44#	BC204VI	300m	200mS	3.0m	J	45	45	5.0	100m	50n	5.0u	2.0m	75	Δ	PE	R110	A	
45#	BC205A	300m	200mS	3.0m	J	20	20	5.0	100m	1.0u	5.0u	2.0m	125	Δ	PE	R110	A	
46#	BC205B	300m	200mS	3.0m	J	20	20	5.0	100m	1.0u	5.0u	2.0m	240	Δ	PE	R110	A	
47#	BC205V	300m	200mS	3.0m	J	20	20	5.0	100m	1.0u	5.0u	2.0m	50	Δ	PE	R110	A	
48#	BC205VI	300m	200mS	3.0m	J	20	20	5.0	100m	1.0u	5.0u	2.0m	75	Δ	PE	R110	A	
49#	BC206B	300m	200mS	3.0m	J	20	20	5.0	100m	50n	5.0u	2.0m	240	Δ	PE	R110	A	
50#	BC212K†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	50	Δ	PE	X64a	A	
51#	BC212KA†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	100	Δ	PE	X64a	A	
52#	BC212KB†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X64a	A	
53#	BC212L†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	50	Δ	PE	X20	B	
54#	BC212LA†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	100	Δ	PE	X20	B	
55#	BC212LB†	300m	200mS	3.0m	J	60	50	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X20	B	
56#	BC213K†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	70	Δ	PE	X64a	A	
57#	BC213KA†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	100	Δ	PE	X64a	A	
58#	BC213KB†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X64a	A	
59#	BC213KC†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	350	Δ	PE	X64a	A	
60#	BC213L†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	70	Δ	PE	X20	B	
61#	BC213LA†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	100	Δ	PE	X20	B	
62#	BC213LB†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X20	B	
63#	BC213LC†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	350	Δ	PE	X20	B	
64#	BC214K†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	125	Δ	PE	X64a	A	
65#	BC214KB†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X64a	A	
66#	BC214KC†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	350	Δ	PE	X64a	A	
67#	BC214L†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	125	Δ	PE	X20	B	
68#	BC214LB†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	200	Δ	PE	X20	B	
69#	BC214LC†	300m	200mS	3.0m	J	45	30	5.0	200m	15n	5.0u	2.0m	350	Δ	PE	X20	B	
70#	BC251A	300m	200mS	3.0m	J	45	45	5.0	100m	0.5u	5.0u	2.0m	125	Δ	PE	X64	A	
71#	BC251B	300m	200mS	3.0m	J	45	45	5.0	100m	0.5u	5.0u	2.0m	240	Δ	PE	X64	A	
72#	BC251C	300m	200mS	3.0m	J	45	45	5.0	100m	0.5u	5.0u	2.0m	450	Δ	PE	X64	A	
73#	BC252A	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	125	Δ	PE	X64	A	
74#	BC252B	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	240	Δ	PE	X64	A	
75#	BC252C	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	450	Δ	PE	X64	A	
76#	BC253A	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	125	Δ	PE	X64	A	
77#	BC253B	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	240	Δ	PE	X64	A	
78#	BC253C	300m	200mS	3.0m	J	20	20	5.0	100m	0.5u	5.0u	2.0m	450	Δ	PE	X64	A	
79#	BC256A	300m	200mS	3.0m	J	64	64	5.0	100m	0.5u	5.0u	2.0m	125	Δ	PE	X64	A	
80#	BC256B	300m	200mS	3.0m	J	64	64	5.0	100m	0.5u	5.0u	2.0m	240	Δ	PE	X64	A	
81#	BC261A	300m	200mS	2.0m	S	45	45	5.0	100m	0.5u	5.0u							

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1] MAX. COLL. DISS. @25°C (W)	2] f _{ab} (Hz)	DERATE IN FREE AIR W/°C	T _M °C	ABS. MAX. RATINGS @25°C				MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C E O D E
						V _{Bcbo} (V)	V _{BVceo} (V)	V _{BVcbo} (V)	I _c (A)		BIAS		COMMON EMITTER							
											V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001				
1#	BSW21A	300m	300M	2.0m	°S	50	50	5.0	200m	50u	4.5p	2.0m	130	†	4.0p	PE	T018	A	∅	
2#	BSW22	300m	300M	2.0m	°S	25	25	5.0	200m	50u	4.5p	2.0m	250	†	4.0p	PE	T018	A	∅	
3#	BSW22A	300m	300M	2.0m	°S	50	50	5.0	200m	50u	4.5p	2.0m	250	†	4.0p	PE	T018	A	∅	
4#	BSW44	300m	300M	3.0m	°J	25	25	5.0	200m	50u	4.5p	2.0m	130	†	4.0p	PE	R110	A	∅	
5#	BSW44A	300m	300M	3.0m	°J	50	50	5.0	200m	50u	4.5p	2.0m	130	†	4.0p	PE	R110	A	∅	
6#	BSW45	300m	300M	3.0m	°J	25	25	5.0	200m	50u	4.5p	2.0m	250	†	4.0p	PE	R110	A	∅	
7#	BSW45A	300m	300M	3.0m	°J	50	50	5.0	200m	50u	4.5p	2.0m	250	†	4.0p	PE	R110	A	∅	
8#	2N4451†	300m	400MΔ	1.7m	°S	12	12	4.0	100m	08uS	5.0p	30m	40	†#Δ	6pS	PE	T046	A	∅	
9#	2N4453†	300m	400MΔ	1.7m	°S	18	18	5.0	200m	01uS	5.0p	30m	40	†#Δ	6pS	PE	T046	A	∅	
10#	JAN2N4453†	300m	400MΔ	1.7m	°S	25	25	5.0	100m	10nS	5.0p	10m	40	†#Δ	6.0p	PE	T046	A	∅	
11#	BFV811†	300m	400MΔ	588u	°S	12	12	4.0	200m	10u	3.0p	10m	30	†#Δ	6pZ	PE	u26a	B	∅	
12#	BFV81A†	300m	400MΔ	588u	°S	12	12	4.0	200m	10u	3.0p	10m	25	†#Δ	6pZ	PE	u26a	B	∅	
13#	BFV81B†	300m	400MΔ	588u	°S	20	15	5.0	200m	10u	5.0p	10m	40	†#Δ	4.5p	PE	u26a	B	∅	
14#	BSV55†	300m	400M	2.4m	°S							30m	40	†#Δ	6.0p	PE	u34	A	∅	
15#	BSV55A†	300m	400M	2.4m	°S							30m	30	†#Δ	6.0p	PE	u34	A	∅	
16#	V721†	300m	480M		°S							10m	50	†	3.0p	PE	T018	A	∅	
17	2N3304†	300m	500MΔ	1.7m	°S	6.0	6.0	4.0		0.1u	3.0p	10m	63	†	3.5p	PE	T018	A	∅	
18	2N5040	300m	500MΔ	3.0m	°J	25	25	4.0	1	0.05u	1.0p	150m	30	†#	35pS	PE	R124	b	A	
19	2N5041	300m	500MΔ	3.0m	°J	40	40	5.0	1	0.05u	1.0p	150m	40	†#	35pS	PE	R124	b	A	
20#	V405A†	300m	550M	2.0m	°S	12	12	4.0		100n	2.0p	5.0m	35	†	6.0pZ	DPE	T018	∅	A	
21	2N4207†	300m	650MΔ	1.7m	°S	6.0	6.0	4.5	50m	0.1uS	3.0p	10m	50	†#	3pZ	PE	T018	A	∅	
22	2N4208†	300m	700MΔ	1.7m	°S	12	12	4.5	50m	0.1uS	3.0p	10m	30	†#	3pZ	PE	T018	A	∅	
23	FT1702†	300m	700M	1.7m	°S	12	12	4.0		0.1uS	3.0p	10m	63	†#	4pZ	DPE	T018	A	∅	
24	2N4209†	300m	850MΔ	1.7m	°S	15	15	4.5	50m	0.1uS	3.0p	10m	50	†#	3pZ	PE	T018	A	∅	
25	MD5000*	300m	900M	1.9m	°S	20	15	5.0	50m	10n	1.0p	3.0m	50	†	1.7pZ	AN	L66b	∅	A	
26	MD5000A*	300m	900M	1.9m	°S	20	15	5.0	50m	10n	1.0p	3.0m	50	†	1.7pZ	AN	L66b	∅	A	
27	MD5000B*	300m	900M	1.9m	°S	20	15	5.0	50m	10n	1.0p	3.0m	50	†	1.7pZ	AN	L66b	∅	A	
28	2N4080	300m	1.0GΔ	1.7m	°S	20	15	3.0	50m	0.1u	1.0p	3.0m	20	†#	1.7pS	PE	T072	G	∅	
29#	2N5910†	310m	700MΔ	2.8m	°J	20	20	4.5	50m	10nS	3.0p	10m	67	†#	2.0pS	PE	T0106	A	∅	
30#	OC207	310m	2.0M	2.5m	°J	50	50	12	250m	50u	6.0p	10m	50		100pZ	PE	R8	∅	A	
31	MPS404†	310m	4.0MΔ	2.8m	°J	25	24	12	150m	100n	1.5p	12m	30	†#	20pZ	AN	T092	A	∅	
32	MPS404A†	310m	4.0MΔ	2.8m	°J	40	35	25	150m	100n	1.5p	12m	30	†#	20pZ	AN	T092	A	∅	
33	2N5086	310m	4.0MΔ	3.6m	°S	50	50	3.0	50m	0.05u	5.0p	1.0m	150	†	4pS	∅	T092	A	∅	
34	2N5087	310m	4.0MΔ	3.6m	°S	50	50	3.0	50m	0.05u	5.0p	1.0m	250	†	4pS	∅	T092	A	∅	
35#	CS5086	310m	4.0MΔ	3.6m	°S	50	50	3.0	50m	50n	5.0p	1.0m	150	†	4pS	∅	T0106	A	∅	
36#	CS5087	310m	4.0MΔ	3.6m	°S	50	50	3.0	50m	50n	5.0p	1.0m	250	†	4pS	∅	T0106	A	∅	
37	2N5226	310m	50MΔ	2.8m	°S	25	25	4.0	500m	30u	10p	50m	30	†	20pS	AN	T092	A	∅	
38	MPSL51	310m	60MΔ	2.8m	°J	100	100	4.0	600m	1.0u	10p	1.0m	20	†	8.0pZ	AN	T092	A	∅	
39	2N5221	310m	100MΔ	2.8m	°S	15	15	3.0	500m	10u	10p	50m	30	†	15pS	AN	T092	A	∅	
40	2N5227	310m	100MΔ	2.8m	°S	30	30	3.0	50m	10u	10p	2.0m	50	†	5pS	∅	T092	A	∅	
41	2N5400	310m	100MΔ	2.8m	°S	130	120	5.0	600m	100n	10p	1.0m	30	†	6.0pZ	∅	T092	A	∅	
42	2N5401	310m	100MΔ	2.8m	°S	160	150	5.0	600m	50n	10p	1.0m	40	†	6.0pZ	∅	T092	A	∅	
43	MPS3638†	310m	100MΔ	2.8m	°J	25	25	4.0	500m	0.4u	10p	10m	20	†#	20pZ	EA	T092	A	∅	
44	MPS3702	310m	100MΔ	2.8m	°J	40	25	5.0	200m	1.0u	5.0p	50m	60	†#	12pZ	EA	T092	A	∅	
45	MPS3703	310m	100MΔ	2.8m	°J	50	30	5.0	200m	1.0u	5.0p	50m	30	†#	12pZ	EA	T092	A	∅	
46	2N4402†	310m	150MΔ	2.8m	°S	40	40	5.0	600m	1.1u	1.0p	10m	30	†	8.5pS	∅	T092	A	∅	
47	MPS3638A†	310m	150MΔ	2.8m	°J	25	25	4.0	500m	0.4u	10p	10m	100	†#	10pZ	EA	T092	A	∅	
48	2N3905†	310m	200MΔ	2.8m	°J	40	40	5.0	200m	0.5u	10p	1.0m	50	†	4.5pZ	∅	T092	A	∅	
49	2N4125	310m	200MΔ	2.8m	°J	30	30	4.0	200m	0.5u	10p	2.0m	50	†	4.5pS	∅	T092	A	∅	
50	2N4403†	310m	200MΔ	2.8m	°S	40	40	5.0	600m	1.1u	1.0p	10m	60	†	8.5pS	∅	T092	A	∅	
51#	CS3905†	310m	200MΔ	2.8m	°J	40	40	5.0	200m	50n	10p	1.0m	50	†	4.5pZ	∅	T0106	A	∅	
52#	CS4125	310m	200MΔ	2.8m	°J	30	30	4.0	200m	50n	10p	2.0m	50	†	4.5pS	∅	T0106	A	∅	
53	EN3905†	310m	200MΔ	2.8m	°J	40	40	5.0	200m	50n	10p	1.0m	50	†	4.5pZ	EA	T0106	A	∅	
54	MPS6516	310m	200M	2.8m	°J	40	40	4.0	100m	0.5u	10p	2.0m	50	†	4pZ	DPE	T092	A	∅	
55	MPS6517	310m	200M	2.8m	°J	40	40	4.0	100m	0.5u	10p	2.0m	90	†	4pZ	EA	T092	A	∅	
56	2N3906†	310m	250MΔ	2.8m	°J	40	40	5.0	200m	0.5u	10p	1.0m	100	†	4.5pZ	∅	T092	A	∅	
57	2N4126	310m	250MΔ	2.8m	°J	25	25	4.0	200m	0.5u	10p	2.0m	120	†	4.5pS	∅	T092	A	∅	
58	CS4126	310m	250MΔ	2.8m	°J	25	25	4.0	200m	50n	10p	2.0m	120	†	4.5pS	∅	T0106	A	∅	
59	EN3906†	310m	250MΔ	2.8m	°J	40	40	5.0	200m	50n	10p	1.0m	100	†	4.5pZ	DPE	T0106	A	∅	
60	MPS6533	310m	260M	2.8m	°J	40	40	4.0	600m	0.5u	1.0p	100m	40	†	6pZ	EA	T092	A	∅	
61	MPS6534	310m	260M	2.8m	°J	40	40	4.0	600m	0.5u	1.0p	100m	90	†	6pZ	EA	T092	A	∅	
62	MPS6535	310m	260M	2.8m	°J	30	30	4.0	600m	1.0u	1.0p	100m	30	†	6pZ	EA	T092	A	∅	
63	2N5208	310m	300MΔ	2.8m	°S	30	25	3.0	50m	0.1u	10p	2.0m	20	†	1pS	∅	T092	C	∅	
64	2N5228†	310m	300MΔ	2.8m	°S	5.0	5.0	3.0	50m	10uS	1.0p	50m	15	†	5pS	∅	T092	A	∅	
65	MPS6518	310m	340M	2.8m	°J	40	40	4.0	100m	0.5u	10p	2.0m	150	†	4pZ	EA	T092	A	∅	
66	MPS6519	310m	340M	2.8m	°J	25	25	4.0	100m	0.5u	10p	2.0m	250	†	4pZ	EA	T092	A	∅	
67	MPS6522	310m	340M	2.8m	°J	25	25	4.0	100m	0.5u	10p	2.0m	200	†	4pZ	EA	T092	A	∅	
68	MPS6523	310m	340M	2.8m	°J	25	25	4.0	100m	0.5u	10p	2.0m	300	†	4pZ	EA	T092	A	∅	
69	MPS3640†	310m	500MΔ	2.8m	°J	12	12	4.0	80m	10nS	3.0p	10m	30	†#	3.5pZ	AN	X20d	A	∅	
70	MPSL07†	310m	1.0G	2.8m	°J	6.0	6.0	4.5	80m	10nS	3.0p	10m	30	†	1.9p	AN	T092	A	∅	
71	MPSL08†	310m	1.2G	2.8m	°J	12	12	4.5	80m	10nS	3.0p	10m	30	†	1.9p	AN	T092	A	∅	
72	BCY10	312m	1.5M	2.5m	°J	32		12	250m	10u	6.0p	10m	40		90p	AN	R8	∅	A	
73	BCY11	312m	1.5M	2.5m	°J	60		12	250m	10u	6.0p	10m	40		90p	AN	R8			

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	T ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION		C O A D E				
				M E A M P	BVcbo (V)	BVceo (V)	BVebo (V)		BIAS				COMMON EMITTER			STRUC-TURE	DWG. No.		
									Vcb (V)	Ic (A)	hfe		hoe (mhos)	hie (Ω)				hre (X.0001)	
1#	BFS40A	350m	150mΔ	2.3m	25	25	5.0	500m	6.0	10m	50 Δ	5.0p	u53	F					
2#	BFS41	350m	150mΔ	2.3m	45	45	5.0	500m	6.0	10m	40 Δ	5.0p	u53	F					
3#	2V205*	350m	160m	2.3m	15	15	3.0	500m	1.0	1.0m	42 t	8.0p	DPEØ	L17a					
4	2N3673T	350m	200mΔ	2.0m	60	50	5.0	600m	10	10m	55 Δ	9p	TO46	AØ					
5	2N44521	350m	200mΔ	2.0m	45	45	5.0	600m	0.1u	10m	135 Δ	8p	TO46	AØ					
6#	BCY72	350m	200mΔ	2.0m	25	25	5.0	200m	100n	1.0	10m	50 Δ	8p	TO18	Ø				
7#	BCY70	350m	250mΔ	2.0m	50	40	5.0	200m	10	1.0	10m	50 Δ	PE	TO18	Ø				
8#	MD3467Ft	350m	250m	2.0m	40	40	5.0	1	1.0	500m	40 t#	11p	AN	L17d	Ø				
9	MD3762Ft	350m	250m	2.0m	40	40	5.0	1.5	2.0	1	40 t#	11p	AN	L17d	Ø				
10#	BCY71	350m	300mΔ	2.0m	45	45	5.0	200m	0.1u	1.0	10m	100 tΔ	PEØ	TO18	AØ				
11#	BCY71A	350m	380mΔ	2.0m	45	45	5.0	200m	500n	1.0	10m	260	PEØ	TO18	AØ				
12#	BSV371	350m	400mΔ	2.3m	12	12	4.0	500m	100n	5.0	30m	40 Δ	5.0p	u53	F				
13	2N4058	360m	2.9m	2.9m	30	30	6.0	30m	10u	5.0	10m	100 Δ	t	TO92	B				
14	2N4059	360m	2.9m	2.9m	30	30	6.0	30m	10u	5.0	1.0m	45 Δ	t	TO92	B				
15	2N4060	360m	2.9m	2.9m	30	30	6.0	30m	10u	5.0	1.0m	45 Δ	t	TO92	B				
16	2N4061	360m	2.9m	2.9m	30	30	6.0	30m	10u	5.0	1.0m	90 Δ	t	TO92	B				
17	2N4062	360m	2.9m	2.9m	30	30	6.0	30m	10u	5.0	1.0m	180 Δ	t	TO92	B				
18	2N5354	360m	3.6m	3.6m	25	25	4.0	500m	10u	100	2.0m	32 Δ	8p	TO98	B				
19	2N5355	360m	3.6m	3.6m	25	25	4.0	500m	10u	100	2.0m	80 Δ	8p	TO98	B				
20	2N5356	360m	3.6m	3.6m	25	25	4.0	500m	10u	100	2.0m	200 Δ	8p	TO98	B				
21	2N5358	360m	3.6m	3.6m	40	40	4.0	500m	10u	100	2.0m	32 Δ	8p	TO98	B				
22	2N5366	360m	3.6m	3.6m	40	40	4.0	500m	10u	100	2.0m	80 Δ	8p	TO98	B				
23	2N5367	360m	3.6m	3.6m	40	40	4.0	500m	10u	100	2.0m	200 Δ	8p	TO98	B				
24#	BC281A	360m	2.0m	2.0m	45	45	6.0	200m	10nt	5.0	1.0m	50 Δ	DPE	TO18	B				
25#	BC281B	360m	2.0m	2.0m	45	45	6.0	200m	10nt	5.0	1.0m	100 Δ	DPE	TO18	B				
26#	BC281C	360m	2.0m	2.0m	45	45	6.0	200m	10nt	5.0	1.0m	150 Δ	DPE	TO18	B				
27#	BC281A	360m	6.8m	6.8m	45	45	6.0	200m	10n	5.0	1.0m	100 Δ	5.0p	TO18	A				
28#	BC281D	360m	6.8m	6.8m	45	45	6.0	200m	10n	5.0	1.0m	50 Δ	5.0p	TO18	A				
29#	BC282A	360m	6.8m	6.8m	45	45	6.0	200m	10u	5.0	1.0m	200 t	5.0p	TO18	A				
30#	BC292B	360m	6.8m	6.8m	45	45	6.0	200m	10u	5.0	1.0m	400 t	5.0p	TO18	A				
31	1DS257	360m	2.9m	2.9m	20	15	5.0	30m	10n	5.0	1.0m	60 Δ	10p	TO122	P				
32#	V853	360m	12mΔ	2.0m	45	45	6.0	50m	50n	5.0	1.0m	230 t	18u	5.0k	3.0	7.0p	TO18	A	
33#	BC326	360m	15mΔ	2.0m	60	60	6.0	50m	10n	5.0	1.0m	150 Δ	40u	24k	8.0	9.0p	TO18	AØ	
34#	BC325	360m	15mΔ	2.0m	60	60	6.0	50m	10n	5.0	1.0m	80 Δ	30u	13k	8.0	9.0p	TO18	AØ	
35#	2N3788A	360m	30mΔ	2.0m	90	90	5.0	50m	10n	5.0	1.0m	150 Δ	60u	30k	25	4.0p	TO18	AØ	
36#	2N3799A	360m	30mΔ	2.0m	90	90	5.0	50m	10n	5.0	1.0m	300 Δ	60u	40k	25	4.0p	TO18	AØ	
37	2N3962	360m	40mΔ	2.0m	60	60	6.0	200m	0.1u	1.0m	100 Δ	40u	17k	10	6p	TO18	AØ		
38	2N3963	360m	40mΔ	2.0m	80	80	6.0	200m	0.1u	1.0m	100 Δ	40u	17k	10	6p	TO18	AØ		
39#	BFW20	360m	40mΔ	2.0m	60	60	6.0	200m	0.1u	1.0m	300	19u	8k	10	6p	DPL	TO18	AØ	
40#	BFW21	360m	40mΔ	2.0m	80	80	6.0	200m	0.1u	1.0m	300	19u	8k	10	6p	DPL	TO18	AØ	
41#	BFX37	360m	40mΔ	2.0m	60	60	6.0	50m	0.2u	1.0m	200 t	19u	8k	10	5.0p	DPL	TO18	AØ	
42	TZ581	360m	40m	2.8m	40	30	5.0	500m	10n	5.0	1.0m	325	100nb	26	5.0p	PL	TO98	B	
43	TZ582	360m	40m	2.8m	40	30	5.0	500m	10n	5.0	1.0m	225	100nb	26	5.0p	PL	TO98	B	
44	2N3039t	360m	50mΔ	2.0m	50	35	5.0	500m	0.2u	1.0m	20 Δ	250u	600	40p	TO50	A			
45	2N3040t	360m	50mΔ	2.4m	40	30	5.0	500m	0.2u	1.0m	40 Δ	500u	1.2k	40p	TO50	A			
46	2N3964	360m	50mΔ	2.0m	45	35	6.0	200m	0.1u	1.0m	250 Δ	50u	20k	10	6p	TO18	AØ		
47	2N3965	360m	50mΔ	2.0m	60	60	6.0	200m	0.1u	1.0m	250 Δ	50u	20k	10	6p	TO18	AØ		
48#	BFW22	360m	50mΔ	2.0m	45	45	6.0	200m	0.1u	1.0m	350	25u	10k	10	6p	DPL	TO18	AØ	
49#	BFW23	360m	50mΔ	2.0m	60	60	6.0	200m	0.1u	1.0m	350	25u	10k	10	6p	DPL	TO18	AØ	
50	TIS38	360m	50mΔ	2.0m	35	32	5.0	50m	10u	5.0	1.0m	25 tΔ	22u	6.6	3.8	1.7p	PEt	TO92	B
51#	V741	360m	60m	6.8m	30	30	5.0	50u	50u	5.0	180 t	22u	6.6	3.8	5.0p	PEt	TO18	A	
52	TIS37	360m	80mΔ	2.9m	35	32	6.0	50m	10u	5.0	1.0m	45 tΔ	1.7p	PEt	TO92	A			
53	TIS104	360m	90mΔ	2.8m	60	60	6.0	50m	50u	5.0	1.0m	210	15u	6.0k	1.3	4.0p	PEt	X55	A
54	2N869	360m	100mΔ	2.0m	25	18	5.0	50m	0.1u	1.0m	20 t#Δ	20	15u	6.0k	1.3	4.0p	PEt	TO18	AØ
55	2N995	360m	100mΔ	2.0m	20	15	4.0	50m	5.0p	1.0	20m	35 t#Δ	10p	TO18	AØ				
56	2N995A1	360m	100mΔ	2.0m	20	15	4.0	50m	5.0p	1.0	20m	35 t#Δ	10p	TO18	AØ				
57	2N2695t	360m	100mΔ	2.0m	25	25	4.0	500m	0.2u	1.0	50m	30 t#Δ	6.0p	TO18	AØ				
58	2N2696t	360m	100mΔ	2.0m	25	25	4.0	500m	0.2u	1.0	50m	30 t#Δ	20p	TO46	AØ				
59	2N3702	360m	100mΔ	2.8m	40	25	5.0	200m	100n	5.0	50m	50 t#Δ	1.2m	1.5k	26	12p	TO92	B	
60	2N3703	360m	100mΔ	2.8m	50	30	5.0	200m	100n	5.0	50m	50 t#Δ	1.2m	1.5k	26	12p	TO92	B	
61	2N5447	360m	100mΔ	2.9m	40	25	5.0	200m	10u	5.0	50m	50 t#Δ	12p	TO92	B				
62	2N5448	360m	100mΔ	2.9m	50	30	5.0	200m	10u	5.0	50m	50 t#Δ	12p	TO92	B				
63	BC327	360m	100m	2.9m	45	45	5.0	200m	100n	1.0	100m	350 t	12p	PE	X64b	A			
64#	BC328	360m	100m	2.9m	25	25	5.0	800m	100n	1.0	100m	350 t	12p	PE	X64b	A			
65#	TP3638t	360m	100mΔ	2.0m	25	25	5.0	100m	100n	1.0	100m	350 t	12p	PE	X93	A			
66	LDA454	360m	125m	2.9m	35	35	5.0	30m	10n	1.0	2.0m	2.5	6.0p	TO18	AØ				
67	LDA455	360m	125m	2.9m	35	35	5.0	30m	10n	1.0	2.0m	2.5	6.0p	TO18	AØ				
68	2N3073t	360m	130mΔ	2.0m	60	60	4.0	500m	0.1u	100	25 Δ	1.2m	1.5k	26	10p	TO18	AØ		
69	2N3121t	360m	130mΔ	2.0m	45	45	4.0	500m	0.1u	100	25 Δ	1.2m	1.5k	26	10p	TO18	AØ		
70	2N5372t	360m	150mΔ	2.9m	60	30	5.0	500m	50n	100	1.0m	20 tΔ	10p	X93	A				
71	2N5373t	360m	150mΔ	2.9m	60	30	5.0	500m	50n	100	1.0m	20 tΔ	10p	X93	A				
72	2N5374t	360m	150mΔ	2.9m	60	30	5.0	500m	50n	100	1.0m	100 Δ	10p	X93	A				
73	2N5375t	360m	150mΔ	2.9m	40	30	5.0	500m	50n	100	1.0m	20 tΔ	10p	X93	A				
74#	BCW35	360m	150m	2.7m	60	45	5.0	600m	10n	5.0	100m	100 Δ	5.0u	40k	10	6.0p	PEØ	TO18	A
75#	ME0404	360m	150mΔ	2.9m	25	25	4.0	10u	10u	5.0	50m	30 tΔ	12p	PEt	TO106	A			
76	TP3638At	360m	150mΔ	2.0m	25	25	5.0	100m	100n	1.0	50m	100 t	10p	PE	X93	A			
77	TZ5511	360m	150mΔ	2.8m	60	30	5.0	500m	50n	100	1.0m	20 tΔ	10p	PL	TO98	B			
78	TZ5521	360m	150mΔ	2.8m	60	30	5.0	500m	50n	100	1.0m	50 tΔ	10p	PL	TO98	B			
79	TZ5531	360m	150mΔ	2.8m	60	30	5.0	500m	50n	100	1.0m	100 tΔ	10p	PL	TO98	B			
80	TZ5541	360m	150mΔ	2.8m	40	30	5.0	500m	50n	100	1.0m	20 tΔ	10p	PL	TO98	B			
81	2N996t	360m	160mΔ	2.0m	15	12	4.0	50m	5n	1.0	20m	75 t#	7.5p	PEØ	TO18	AØ			
82	2N4359	360m	200mΔ	2.0m	45	45	5.0	50m	0.1u	5.0	1.0m	700 t	60u	20k	10	6p	TO18	AØ	
83	2N5378	360m	200mΔ	2.8m	40	30	5.0	500m	10n	5.0	1.0m								

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 fab (Hz)	DERATE IN FREE AIR W/°C	M E A P	ABS MAX RATINGS @25°C				MAX. lcco @Vcb	TYPICAL h' PARAMETERS			COMMON EMITTER			Cob (F)	STRUC-TURE	DWG. No.	L C O A D E			
						Vcbo (V)	Vceo (V)	Vbeo (V)	lc (A)		Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)							
1#	ME0404-1	360m	200MΔ	2.9m	Δ	Δ	40	40	5.0	0.8u	1.00	50m	30 Δ				10p	PEΔ	TO106	A			
2#	ME0404-2	360m	200MΔ	2.9m	Δ	Δ	40	40	5.0	0.5u	1.00	50m	75 Δ				10p	PEΔ	TO106	A			
3#	ME501Δ	360m	200MΔ	2.7m	Δ	Δ	25	25	12	100m	1.00	50m	10 Δ#				13p	PEΔ	TO106	A			
4#	ME502	360m	200MΔ	2.9m	Δ	Δ	25	20 *	12	500m	1.00	50m	20 Δ#				13p	PEΔ	R110	A			
5#	ME503	360m	200MΔ	2.9m	Δ	Δ	30	30	30	500m	1.00	50m	40 Δ#				13p	PEΔ	TO106	A			
6#	ME511	360m	200MΔ	2.9m	Δ	Δ	50	50	40	500m	1.00	50m	10 Δ#				13p	PEΔ	TO106	A			
7#	ME512	360m	200MΔ	2.9m	Δ	Δ	50	40	40	500m	1.00	50m	20 Δ#				13p	PEΔ	TO106	A			
8#	ME513	360m	200MΔ	2.8m	Δ	Δ	70	60	60	500m	1.00	50m	20 Δ#				13p	PEΔ	TO106	A			
9#	PL40311	360m	200MΔ	2.4m	Δ	Δ	60	60	5.0	600m	20m	1.00	40 Δ				13p	PEΔ	R110	A			
10#	PL40321	360m	200MΔ	2.4m	Δ	Δ	60	60 *	5.0	600m	10m	1.00	40 Δ				8p	PE	u51				
11#	PL40331	360m	200MΔ	2.4m	Δ	Δ	60	40	5.0	600m	20m	1.00	40 Δ				8p	PE	u51				
12#	PL40341	360m	200MΔ	2.4m	Δ	Δ	60	60 *	5.0	600m	10m	1.00	100 Δ				8p	PE	u51				
13	TIS1121	360m	200MΔ	2.8m	Δ	Δ	60	40	5.0	600m	20m	1.00	100p				8.0p	PE†	X55	A			
14	2N3248†	360m	250MΔ	2.0m	Δ	Δ	15	12	5.0	200m	.05u	1.00	10m	50 Δ#			8p	PE	TO18	A			
15	2N3250†	360m	250MΔ	2.0m	Δ	Δ	50	40	5.0	200m	.02u	1.00	10m	50 Δ			6p	PE	TO18	A			
16	2N3250A†	360m	250MΔ	2.0m	Δ	Δ	60	60	5.0	200m	.02u	1.00	10m	50 Δ#			6p	EAΔ	TO18	A			
17	JAN2N3250A†	360m	250MΔ	2.0m	Δ	Δ	60	60	5.0	200m	.02u	1.00	10m	50 Δ			6.0p	PE	TO18	A			
18	2N3545†	360m	250MΔ	2.0m	Δ	Δ	20	20	5.0	200m	.01u	1.00	10m	40 Δ			8p	PE	TO18	A			
19	2N5383	360m	250M	2.9m	Δ	Δ	40	25	5.0	400m	.01u	1.00	100 Δ				4.5p	PE	X55	A			
20	TIS61	360m	300M	2.0m	Δ	Δ	80	60	6.0	30m	40n	2.00	155 *				6.0p	PE	T092	A			
21	JAN2N2604	360m	300M	2.0m	Δ	Δ	70	60	6.0	30m	40n	5.00	100 Δ				6.0p	PE	TO46	A			
22	JAN2N2605	360m	300M	2.0m	Δ	Δ	15	12	5.0	200m	.05u	1.00	100 Δ#				8p	PE	TO18	A			
23	2N3249†	360m	300M	2.0m	Δ	Δ	50	40	5.0	200m	.02u	1.00	100 Δ				8p	PE	TO18	A			
24	2N3251†	360m	300M	2.0m	Δ	Δ	50	40	5.0	200m	.02u	1.00	100 Δ				8p	PE	TO18	A			
25	2N3251A†	360m	300M	2.0m	Δ	Δ	60	60	5.0	200m	.02u	1.00	100 Δ#				6.0p	EAΔ	TO18	A			
26	JAN2N3251A†	360m	300M	2.0m	Δ	Δ	60	60	5.0	200m	.02u	1.00	100 Δ				6.0p	PE	TO18	A			
27	GET3638†	360m	300M	3.6m	Δ	Δ	25	25	4.0	350m	.35n	1.00	10m	100 Δ			10p	PE	TO18	A			
28	GET3638A†	360m	300M	3.6m	Δ	Δ	25	25	4.0	350m	.35n	1.00	10m	100 Δ			10p	PE	TO18	A			
29	MD1T3251	360m	300M	2.4m	Δ	Δ	50	40	5.0	200m	.02u	1.00	10m	3.0 Δ			6.0p	PE	TO122	P			
30	2N3829†	360m	350M	2.4m	Δ	Δ	35	35	5.0	200m	.3u	1.00	30m	30 Δ#			6.0p	PE	TO52	A			
31	JAN2N869A†	360m	400M	2.1m	Δ	Δ	25	18	5.0	10m	.08u	5.00	30m	40 Δ#			6.0p	PE	TO18	A			
32	2N2894†	360m	400M	2.0m	Δ	Δ	12	12	4.0	200m	.08u	5.00	30m	40 Δ#			6.0p	PE	TO18	A			
33	2N3012†	360m	400M	2.0m	Δ	Δ	12	12	4.0	200m	.08u	5.00	30m	30 Δ#			6.0p	PE	TO18	A			
34	2N3576†	360m	400M	2.4m	Δ	Δ	20	15	5.0	200m	.01u	5.00	10m	40 Δ			4.6p	PE	TO18	A			
35	2N4034†	360m	400M	2.0m	Δ	Δ	40	40	5.0	100m	15n	1.00	10m	50 Δ			4.0p	PE	TO18	A			
36#	BSV21†	360m	400M	2.0m	Δ	Δ	12	12	5.0	200m	.80n	3.00	10m	25 Δ#			4.0p	PE	TO18	A			
37	TIS50†	360m	400M	2.9m	Δ	Δ	12	12	4.0	200m	1u	1.00	100m	20 Δ#			8p	PE	TO92	A			
38	2N4035†	360m	450M	2.0m	Δ	Δ	40	40	5.0	100m	15n	1.00	10m	150 Δ			4.0p	PE	TO92	A			
39	2N5244	360m	450M	2.0m	Δ	Δ	40	40	5.0	100m	15n	1.00	10m	150 Δ			3.5p	PE	TO18	A			
40#	V723†	360m	450M	2.9m	Δ	Δ	20	20	5.0	100m	1.00	10m	130 †				3.0p	PE	TO18	A			
41#	V743	360m	450M	6.8m	Δ	Δ	20	20	5.0	50m	50u	5.00	10m	130 †			3.0p	PE	TO18	A			
42	2N3798	360m	500M	2.0m	Δ	Δ	60	60	5.0	50m	.01u	5.00	10m	125 Δ			4.0p	PE	TO18	A			
43	2N3799	360m	500M	2.0m	Δ	Δ	60	60	5.0	50m	.01u	5.00	10m	250 Δ			4.0p	PE	TO18	A			
44	MM4048	360m	500M	2.0m	Δ	Δ	45	45	5.0	50m	.01u	5.00	50m	150 Δ			4.0p	PE	TO18	A			
45	TIS53†	360m	500M	2.9m	Δ	Δ	6.0	6.0	4.0	80m	.01u	1.00	50m	20 Δ#			5.5p	PE	TO92	A			
46	TIS54†	360m	500M	2.9m	Δ	Δ	12	12	4.0	80m	.01u	1.00	50m	20 Δ#			5.5p	PE	TO92	A			
47#	BFX48†	360m	550M	2.0m	Δ	Δ	30	30	5.0	100m	15n	1.00	100m	130 †			2.2p	DPE	TO18	A			
48	2N5056†	360m	600M	2.1m	Δ	Δ	15	15	4.5	100m	.05u	5.00	10m	12 Δ			4.5p	PE	TO18	A			
49	JAN2N5332	360m	600M	2.3m	Δ	Δ	20	12	2.0	100m	10n	1.00	10m	20 Δ			3.5p	PE	TO46	A			
50	2N869A†	360m	640M	2.0m	Δ	Δ	25	18	5.0	200m	.01u	5.00	30m	40 Δ#			6p	PE	TO18	A			
51	2N3209†	360m	640M	2.0m	Δ	Δ	20	20	4.0	200m	.08u	5.00	30m	75 Δ#			5p	PE	TO18	A			
52	2N3546†	360m	700M	2.0m	Δ	Δ	15	12	4.5	200m	.01u	1.00	10m	30 Δ			5p	PE	TO18	A			
53#	BSX29†	360m	700M	2.0m	Δ	Δ	12	12	4.0	200m	.08u	1.00	100m	40 Δ#			3.3p	DPE	TO18	A			
54	2N2894A†	360m	800M	2.0m	Δ	Δ	12	12	4.5	200m	10u	5.00	30m	40 Δ#			4.5p	PE	TO18	A			
55	2N5057†	360m	800M	2.1m	Δ	Δ	15	15	4.5	100m	.05u	5.00	10m	20 Δ			4.5p	PE	TO18	A			
56	2N5332	360m	800M	2.4m	Δ	Δ	20	12	2.0	100m	.01u	1.00	10m	20 Δ			3.5p	PE	TO46	A			
57#	BSW25†	360m	1.2G	2.0m	Δ	Δ	12	12	4.5	100m	.05u	5.00	30m	63 Δ#			3.3p	DPE	TO18	A			
58	2N2425†	375m	10MΔ	3.0m	Δ	Δ	50	10	30	50m	10u	5.00	5.0m	25 Δ			14p	A	TO5	A			
59	2N2424†	375m	15MΔ	3.0m	Δ	Δ	40	5.0	20	50m	10u	5.00	5.0m	30 Δ			14p	A	TO5	A			
60#	BC297	375m	150M	2.5m	Δ	Δ	45	5.0	1.0	100m	1.00	1.00	100m	75 Δ			12p	PE	TO18	A			
61#	BC298	375m	150M	2.5m	Δ	Δ	25	5.0	1.0	100m	1.00	1.00	100m	75 Δ			12p	PE	TO18	A			
62#	BC370	375m	150M	2.5m	Δ	Δ	20	5.0	500m	1.00	1.00	10m	50 Δ			12p	PE	TO18	A				
63	2N935	385m	20M	2.9m	Δ	Δ	50	40	20	50m	.10u	1.50	10m	11 †			70p	AΔ	TO18	A			
64	2N936	385m	30M	2.9m	Δ	Δ	50	35	20	50m	.10u	5.00	3.0m	28			40u	AΔ	TO18	A			
65	2N330A	385m	5.0M	2.9m	Δ	Δ	5.0	0.0	20	50m	.10u	5.00	3.0m	25			40u	AΔ	TO5	A			
66	2N937	385m	5.0M	2.9m	Δ	Δ	50	30	20	50m	.10u	5.00	10m	60			50u	AΔ	TO18	A			
67	2N329A	390m	5.0M	1.9m	Δ	Δ	50	30	20	50m	.10u	5.00	3.0m	60 †			50u	3.0k	TO5	A			
68	2N3581	400m	2.2m	2.2m	Δ	Δ	50	40	6.0	30m	.20u	5.00	100u	150 †			1.0u	35	10	6.0p	TO46	A	
69	2N3582	400m	2.2m	2.2m	Δ	Δ	50	40	6.0	30m	.20u	5.00	100u	300 †			1.0u	35	10	6.0p	TO46	A	
70#	BC283	400m	2.2m	2.2m	Δ	Δ	30	30	5.0	600m	500n	5.00	50m	40 Δ			920m	155m	4.6	7.0p	DPL	TO18	P
71	MD1T2605	400m	300 Δ	2.3m	Δ	Δ	60	45	6.0	30m	10n	5.00	10m	150 Δ			6.0p	PE	TO122	P			
72	QD400-78*	400m	300 Δ	2.3m	Δ	Δ	25	25	6.0	20m	1.0n	5.00	10u	50 Δ			3.0p	PE	L2d				
73	QD401-78*	400m	450 Δ	2.3m	Δ	Δ	45	45	6.0	20m	500p	5.00	10u	100 Δ			40u	PE	L2d				
74	QD402-78*	400m	450 Δ	2.3m	Δ	Δ	25	25	6.0	20m													

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E M X P	ABS MAX RATINGS @25°C			MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L C O A D E			
					VBVcbo (V)	VBVceo (V)	VBVebo (V)		Vcb (V)	Ic (A)	BIAS			COMMON EMITTER			STRUC-TURE		DWG. No.		
					hfe	hoe (mhos)	hie (Ω)				hre (X.0001)										
1	2N3527	400m	5.0MΔ	2.3m	Δ	30	30	10	100m	1.0n	6.00	1.0u	40	†	10pZ	E	TO46	A			
2	2N3677	400m	5.0MΔ	2.3m	Δ	30	20	30	100m	1.0n	6.00	1.0m	4.0	Δ	10pZ	Δ	TO46	A			
3	2N4981	400m	5.0MΔ	2.2m	Δ	30	30	50	100m	3.0n	5.00	1.0m	40	Δ	10pZ	Δ	TO46	A			
4	C9080	400m	5.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	85		10pZ	E	TO5	A			
5	C9082	400m	5.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	85		10pZ	E	TO18	A			
6	C9084	400m	5.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	85		10pZ	E	R135	A			
7	2N3840	400m	6.0MΔ	2.3m	Δ	50	50	50	100m	.5n	5.00	1.0m	50	Δ	9pZ		TO46	A			
8	2N3061	400m	8.0M	2.3m	Δ	70	60	30	100m	5n	6.00	1.0m	60	Δ	10pZ	E	TO46	A			
9	2N3914	400m	8.0MΔ	2.3m	Δ	60	40	40	200m	.5n	5.00	1.0m	60	Δ	8pZ		TO18	A			
10	C9081	400m	8.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	155		10pZ	E	TO5	A			
11	C9083	400m	8.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	155		10pZ	E	TO18	A			
12	C9085	400m	8.0M	2.3m	Δ	30	30	5.0	100m	0.1u	6.00	1.0m	155		10pZ	E	R135	A			
13	2N2945	400m	10MΔ	4.3m	Δ	25	20	25	100m	2.0n	5.00	1.0m	100	†	10pZ	E	TO46	A			
14	2N2945A	400m	10MΔ	2.3m	Δ	25	20	25	100m	2.0u	5.00	1.0m	70	Δ	10pZ	Δ	TO46	A			
15	JAN2N2945A	400m	10MΔ	2.2m	Δ	25	20	25	100m	200p	5.00	1.0m	70	Δ	10pZ	Δ	TO46	A			
16	2N3058	400m	10M	2.3m	Δ	6.0	6.0	6.0	100m	1.0n	5.00	1.0u	40	Δ	10pZ	E	TO46	A			
17	2N3059	400m	10M	2.3m	Δ	10	10	10	100m	1.0n	3.00	.01m	100	Δ	10pZ	E	TO46	A			
18	2N3217	400m	10MΔ	2.3m	Δ	15	10	15	100m	1.0n	6.00	1.0m	1.0	Δ	14pZ	E	TO46	A			
19	2N4980	400m	10MΔ	2.2m	Δ	30	30	30	100m	1.0n	5.00	1.0m	60	Δ	10pZ	Δ	TO46	A			
20	2N2944	400m	15MΔ	4.3m	Δ	15	10	15	100m	.10n	5.00	1.0m	200	†	10pZ	Δ	TO46	A			
21	2N2944A	400m	15MΔ	2.3m	Δ	15	10	15	100m	1.0u	5.00	1.0m	100	Δ	10pZ	Δ	TO46	A			
22	2N3915	400m	15MΔ	2.3m	Δ	60	30	30	200m	.5n	5.00	1.0m	90	Δ	8pZ	Δ	TO18	A			
23	2N4007	400m	15MΔ	2.3m	Δ	20	15	20	100m	.30n	6.00	1.0m	30	Δ	10pZ	Δ	TO46	A			
24	2N4008	400m	15MΔ	2.3m	Δ	35	30	35	100m	.3n	6.00	1.0m	20	Δ	10pZ	Δ	TO46	A			
25#	BCY90B	400m	15MΔ	3.3m	Δ	40	40	20	50m	2n	6.00	1.0m	25		4pZ	PE	TO5	A			
26#	BCY91B	400m	15MΔ	3.3m	Δ	40	40	20	50m	2n	6.00	1.0m	42		4pZ	PE	TO5	A			
27#	BCY92B	400m	15MΔ	3.3m	Δ	40	40	20	50m	2n	6.00	1.0m	70		4pZ	PE	TO5	A			
28#	BCY93B	400m	15MΔ	3.3m	Δ	70	70	30	50m	2n	6.00	1.0m	25		4pZ	PE	TO5	A			
29#	BCY94B	400m	15MΔ	3.3m	Δ	70	70	30	50m	2n	6.00	1.0m	42		4pZ	PE	TO5	A			
30#	BCY95B	400m	15MΔ	3.3m	Δ	70	70	30	50m	2n	6.00	1.0m	70		4pZ	PE	TO5	A			
31#	BCY96B	400m	15MΔ	3.3m	Δ	90	90	30	50m	2n	6.00	1.0m	25		4pZ	PE	TO5	A			
32#	BCY97B	400m	15MΔ	3.3m	Δ	90	90	30	50m	2n	6.00	1.0m	42		4pZ	PE	TO5	A			
33#	BCY98B	400m	15MΔ	3.3m	Δ	40	40	20	50m	2n	6.00	1.0m	125		4pZ	PE	TO5	A			
34#	1CH99B	400m	15MΔ	3.3m	Δ	70	70	30	50m	2n	6.00	1.0m	125		4pZ	PE	TO5	A			
35	2N4006	400m	20MΔ	2.3m	Δ	10	6.0	10	100m	10n	6.00	1.0m	40	Δ	10pZ	Δ	TO46	A			
36	2N4413	400m	20MΔ	2.3m	Δ	40	30	5.0	600m	10n	5.00	1.0m	120	Δ	10pZ	Δ	TO18	A			
37	2N4413A	400m	20MΔ	2.3m	Δ	60	60	5.0	600m	10n	5.00	1.0m	120	Δ	500nb	32	Δ	TO18	A		
38	2N4415	400m	20MΔ	2.3m	Δ	40	30	5.0	600m	10n	5.00	1.0m	100	Δ	500nb	32	Δ	TO18	A		
39	2N4415A	400m	20MΔ	2.3m	Δ	60	60	5.0	600m	10n	5.00	1.0m	100	Δ	500nb	32	Δ	TO18	A		
40	2N2599A	400m	40MΔ	2.3m	Δ	125	100	7.0	50m	0.2u	5.00	5.0m	75	†	6pZ	P-P L	TO46	A			
41	2N3930	400m	40MΔ	2.3m	Δ	180	180	6.0	100m	10n	5.00	1.0m	80	Δ	25uZ	12kZ	10	Δ	TO18	A	
42	2N4017*	400m	40MΔ	2.2m	Δ	45	45	6.0	200m	10n	5.00	1.0m	250	Δ	50uZ	20kZ	10	Δ	L17x	A	
43	2N4018*	400m	40MΔ	2.2m	Δ	80	80	6.0	200m	10n	5.00	1.0m	100	Δ	40uZ	17kZ	10	Δ	L17x	A	
44	2N4019*	400m	40MΔ	2.2m	Δ	60	60	6.0	200m	10n	5.00	1.0m	100	Δ	50uZ	20kZ	10	Δ	L17x	A	
45	2N4021*	400m	40MΔ	2.3m	Δ	60	60	6.0	200m	0.1u	5.00	1.0m	100	Δ	40uZ	17kZ	10	Δ	L17k	A	
46	2N4024*	400m	40MΔ	2.3m	Δ	60	60	6.0	200m	0.1u	5.00	1.0m	100	Δ	40uZ	17kZ	10	Δ	L17k	A	
47	2N4357	400m	40MΔ	2.3m	Δ	240	240	6.0	100m	0.2u	10	1.0m	100	Δ	25uZ	12kZ	10	Δ	TO18	A	
48	2N2605A	400m	45M	2.2m	Δ	60	45	6.0	30m	2.0n	5.00	1.0m	600	Δ	1.0uZb	35	10	Δ	TO46	A	
49	2N3547	400m	45MΔ	2.2m	Δ	60	60	6.0	100m	25n	5.00	1.0m	100	Δ	1.0uZb	35	10	Δ	TO18	A	
50	2N721	400m	50MΔ	2.7m	Δ	50	35	5.0	1.0u	10	5.00	1.0m	15	Δ	1.0uZb	35	8.0	Δ	TO18	A	
51	2N721A	400m	50MΔ	2.2m	Δ	50	35	5.0	100n	10	5.00	5.0m	15	Δ	5.0uZb	10	8.0	Δ	TO18	A	
52	2N2601	400m	50MΔ	4.3m	Δ	60	60	6.0	25n	5.00	5.00	1.0m	18	Δ	1.0ub	30	10	Δ	TO46	A	
53	2N2602	400m	50MΔ	4.3m	Δ	60	60	6.0	25n	5.00	5.00	1.0m	36	Δ	1.0ub	30	10	Δ	TO46	A	
54	2N2603	400m	50MΔ	4.3m	Δ	60	60	6.0	25n	5.00	5.00	1.0m	76	Δ	1.0ub	30	10	Δ	TO46	A	
55	2N3341	400m	50MΔ	2.7m	Δ	30	20	5.0	30m	0.1u	1.00	.01m	40	Δ	6pZ				TO46	A	
56	2N4020*	400m	50MΔ	2.3m	Δ	45	45	6.0	200m	0.1u	5.00	1.0m	250	Δ	50uZ	20kZ	10	Δ	L17k	A	
57	2N4022*	400m	50MΔ	2.3m	Δ	60	60	6.0	200m	0.1u	5.00	1.0m	250	Δ	50uZ	20kZ	10	Δ	L17k	A	
58	2N4023*	400m	50MΔ	2.3m	Δ	45	45	6.0	200m	0.1u	5.00	1.0m	250	Δ	50uZ	20kZ	10	Δ	L17k	A	
59	2N4025*	400m	50MΔ	2.3m	Δ	60	60	6.0	200m	0.1u	5.00	1.0m	250	Δ	50uZ	20kZ	10	Δ	L17k	A	
60	2N722	400m	60MΔ	2.6m	Δ	50	35	5.0	1.0u	10	5.00	1.0m	25	Δ	1.0uZb	35	8.0	Δ	TO18	A	
61	2N2303/46	400m	60MΔ	2.3m	Δ	50	35	5.0	600	1.0u	5.00	1.0	75	Δ	1.0	Δ	35	8.0	Δ	TO46	A
62	2N2600A	400m	60MΔ	2.3m	Δ	125	100	7.0	50m	0.2u	5.00	5.0m	150	†	1.8kZ	10	10	Δ	TO46	A	
63	2N3548	400m	60MΔ	2.2m	Δ	60	45	6.0	100m	10n	5.00	1.0m	100	Δ	1.0uZb	35	10	Δ	TO18	A	
64	2N3549	400m	60MΔ	2.2m	Δ	60	60	6.0	100m	10n	5.00	1.0m	100	Δ	1.0uZb	35	10	Δ	TO18	A	
65	2N3550	400m	60MΔ	2.2m	Δ	60	45	10	100m	1.0n	5.00	1.0m	200	Δ	1.0uZb	35	10	Δ	TO18	A	
66	2N3726	400m	60MΔ	2.2m	Δ	45	45	5.0	300m	10n	10	1.0m	135	Δ	80uZ	11kZ	15	Δ	L17k	A	
67	2N3727	400m	60MΔ	2.2m	Δ	45	45	5.0	300m	10n	10	1.0m	135	Δ	80uZ	11kZ	15	Δ	L17k	A	
68#	BFW43	400m	60MΔ	2.3m	Δ	150	150	6.0	0.1u	10	10	10m	40	†	7pZ	PE	TO18	A			
69#	BFX90	400m	60MΔ	2.3m	Δ	180	180	6.0	0.1u	10	10	10m	170	†	5.0p	PE	TO18	A			
70	2N2595	400m	80MΔ	4.3m	Δ	80	60	6.0	25n	5.00	5.00	5.0m	20	Δ	1.2k	4.0p			TO46	A	
71	2N2596	400m	80MΔ	4.3m	Δ	80	60	6.0	25n	5.00	5.00	5.0m	40	Δ	1.5k	4.0p			TO46	A	
72	2N2597	400m	80MΔ	4.3m	Δ	80	60	6.0	25n	5.00	5.00	5.0m	80	Δ	1.8k	4.0p			TO46	A	
73	2N2598	400m	80MΔ	4.3m	Δ	125	80	7.0	25n	5.00	5.00	5.0m	20	Δ	1.2k	4.0p			TO46	A	
74	2N2599	400m	80MΔ	4.3m	Δ	125	80	7.0	25n	5.00	5.00	5.0m	40	Δ	1.5k	4.0p			TO46	A	
75	2N2600	400m	80MΔ	4.3m	Δ	125	80	7.0													

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	TEMPERATURE M A X P	ABS MAX RATINGS @25°C					MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS					Cob (F)	DESCRIPTION	C O D E	
					Vcbo (V)	Vceo (V)	Vbeo (V)	Ic (A)	BIAS			COMMON EMITTER							
									Vcb (V)		Ie (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
1	TQ60A†	400m	100MSΔ	2.2m	5J	80	60	5.0	800m	20n	5.0	1.0m	30 Δ	500nZb	35 Z	10pZ	PE	T018	A A A
2	TQ62†	400m	100MSΔ	2.2m	5J	40	30	5.0	600m	20n	5.0	1.0m	30 Δ	500nZb	35 Z	10pZ	PE	T08	A A A
3	TQ62A†	400m	100MSΔ	2.2m	5J	60	60	5.0	600m	20n	5.0	1.0m	30 Δ	500nZb	35 Z	10pZ	PE	T018	A A A
4	TQ64†	400m	100MSΔ	2.2m	5J	20	20	5.0	600m	100n	5.0	1.0m	20 Δ	500nZb	35 Z	10pZ	PE	T018	A A A
5	TQ64A†	400m	100MSΔ	2.2m	5J	30	30	5.0	600m	100n	5.0	1.0m	35	500nZb	35 Z	10pZ	PE	T018	A A A
6	2N2800/46	400m	120MSΔ	2.3m	5J	50	35	5.0	800	100n#	10	100m	20 Δ		25pZ	PE	T046	A A A	
7	2N2801/46	400m	120MSΔ	2.3m	5J	50	35	5.0	800	100n#	10	100m	30 Δ		25pZ	PE	T046	A A A	
8	2N3081/46	400m	150MSΔ	2.3m	5J	70	50	6.0	600	10n	10	150	30 Δ		13pZ	PE	T046	A A A	
9	2N3497†	400m	150MSΔ	2.3m	5S	120	120	4.5	100m	10u	10	10m	40 Δ	300uZ	1.2kZ	2 Z	PE	T018	A A A
10	2N5146†	400m	150MSΔ	2.3m	5J	40	40	5.0	15	10u#	2.0	1	20 Δ		20pZ	PE	L56	A A A	
11#	AT399	400m	150M	2.3m	5J	70	70	5.0	1.0	200n	5.0	50m	150		20pZ	PE	T018	A A A	
12	2N2906†	400m	200MSΔ	2.3m	5S	60	40	5.0	600m	0.2u	10	1.0m	25 Δ		8pZ	PE	T018	A A A	
13	JAN2N2906†	400m	200MSΔ	2.2m	5S	60	40	5.0	600m	20n	10	1.0m	25 Δ		8.0pZ	PE	T018	A A A	
14	2N2906A†	400m	200MSΔ	2.3m	5S	60	60	5.0	600m	0.1u	10	1.0m	40 Δ		8pZ	PE	T018	A A A	
15	JAN2N2906A†	400m	200MSΔ	2.2m	5S	60	60	5.0	600m	10n	10	1.0m	40 Δ		8.0pZ	PE	T018	A A A	
16	2N2907†	400m	200MSΔ	2.3m	5S	60	40	5.0	600m	0.2u	10	1.0m	30 Δ		8pZ	PE	T018	A A A	
17	JAN2N2907†	400m	200MSΔ	2.2m	5S	60	40	5.0	600m	20n	10	1.0m	50 Δ		8.0pZ	PE	T018	A A A	
18	2N2907A†	400m	200MSΔ	2.3m	5S	60	60	5.0	600m	0.1u	10	1.0m	100 Δ		8pZ	PE	T018	A A A	
19	JAN2N2907A†	400m	200MSΔ	2.2m	5S	60	60	5.0	600m	10n	10	1.0m	100 Δ		8.0pZ	PE	T018	A A A	
20	2N3135†	400m	200MSΔ	2.3m	5S	50	35	4.0	600m	0.5u	10	150m	40 Δ		10pZ	PE	T018	A A A	
21	2N3136†	400m	200MSΔ	2.3m	5S	50	35	4.0	600m	0.5u	10	150m	100 Δ		10pZ	PE	T018	A A A	
22	2N3485A†	400m	200MSΔ	2.3m	5S	60	60	5.0	600m	0.1u	10	10m	40 Δ		8pZ	EA	T046	A A A	
23	JAN2N3485A†	400m	200MSΔ	2.2m	5S	60	60	5.0	600m	10n	10	1.0m	40 Δ		8pZ	EA	T046	A A A	
24	2N3486A†	400m	200MSΔ	2.3m	5S	60	60	5.0	600m	0.1u	10	10m	100 Δ		8pZ	EA	T046	A A A	
25	JAN2N3486A†	400m	200MSΔ	2.2m	5S	60	60	5.0	600m	10n	10	1.0m	100 Δ		8.0pZ	EA	T046	A A A	
26	2N3496†	400m	200MSΔ	2.3m	5S	80	80	4.5	100m	10u	10	10m	40 Δ	300uZ	1.2kZ	2 Z	PE	T018	A A A
27	2N3504†	400m	200MSΔ	4.0m	5J	45	45	5.0	600m	0.1u	10	10m	35 Δ	800uZ	23kZ	15 Z	PE	T018	A A A
28	2N3505†	400m	200MSΔ	4.0m	5J	60	60	5.0	600m	0.1u	10	10m	35 Δ	800uZ	23kZ	15 Z	PE	T018	A A A
29	2N3672†	400m	200MSΔ	2.3m	5J	60	50	5.0	600m	10n	10	10m	55 Δ		8pZ	PE	T018	A A A	
30	2N4015*	400m	200MSΔ	2.3m	5J	60	60	5.0	300m	0.1u	10	1.0m	135 Δ		9pZ	PE	T018	A A A	
31	2N4016*	400m	200MSΔ	2.3m	5J	60	60	5.0	300m	0.1u	10	1.0m	135 Δ	80uZ	12kZ	15 Z	PE	L17k	A A A
32	2N5763s	400m	200MSΔ	2.2m	5S	65	60	5.0	600m	10n	10	1.0m	70 Δ	80uZ	12kZ	15 Z	PE	L17k	A A A
33#	BFX35	400m	200MSΔ	2.3m	5J	40	40	5.0		0.3u	10	1.0m	200		8.0pZ	PE	T018	A A A	
34#	BSW24†	400m	200MSΔ	2.3m	5J	40	25	5.0	500m	10n	10	15m	40 Δ		8.0pZ	PE	T018	A A A	
35#	BSW72	400m	200MSΔ	2.2m	5J	40	25	5.0	500m	10n	10	10m	40 Δ		8.0pZ	PE	T018	A A A	
36#	BSW73	400m	200MSΔ	2.2m	5J	40	25	5.0	500m	10n	10	10m	100 Δ		8.0pZ	PE	T018	A A A	
37#	BSW74	400m	200MSΔ	2.2m	5J	75	40	5.0	500m	10n	10	10m	40 Δ		8.0pZ	PE	T018	A A A	
38#	BSW75	400m	200MSΔ	2.2m	5J	75	40	5.0	500m	10n	10	10m	100 Δ		8.0pZ	PE	T018	A A A	
39	MD1T2907†	400m	200MSΔ		5A	60	40	5.0	200m	20n	20	50m	2.0 Δ		8.0pZ	PE	T0122	A A A	
40	MQ2904*	400m	200MSΔ	2.2m	5J	60	40	5.0	600m	20n#	10	150m	40 Δ		8.0pZ	ANΔ	L56	A A A	
41	MQ2905A*	400m	200MSΔ	2.2m	5J	60	60	5.0	600m	20n#	10	150m	100 Δ		8.0pZ	ANΔ	L56	A A A	
42#	TM2614	400m	200MSΔ	1.4m	5A	60	50	5.0	600m	0.5u	10	150m	40 Δ		8pZ	ANΔ	L56	A A A	
43#	TM2712	400m	200MSΔ	1.4m	5A	60	40	5.0	600m	0.5u	10	150m	100 Δ		8pZ	ANΔ	L56	A A A	
44#	BF249	400m	250MSΔ	2.7m	5J	30	25	3.0	600m	10	10	10m	30 Δ		8pZ	PE	T018	A A A	
45#	BFV95†	400m	250MSΔ	2.6m	5J	50	30	5.0	800m	0.5u	10	150m	80 Δ		5.0p	PE	L56e	A A A	
46#	BFV95NT	400m	250MSΔ	2.6m	5J	50	30	5.0	800m	0.5u	10	150m	80 Δ		5.0p	PE	L56e	A A A	
47#	V763†	400m	300MSΔ		5						1.0	50m	100 Δ		6.0p	PE	L56e	A A A	
48#	BFV91†	400m	400MSΔ	2.6m	5J	12	12	4.0	200m	30u	50	30m	30 Δ		6pZ	PE	L56d	A A A	
49#	BFV91NT	400m	400MSΔ	2.6m	5J	12	12	4.0	200m	30u	50	30m	30 Δ		6pZ	PE	L56d	A A A	
50#	2CY38	410m	1.5M	3.3m	5A	32	32	12	500m	20	6.0	10m	15 Δ		6pZ	PE	L56e	A A A	
51#	2CY39	410m	1.5M	3.3m	5A	64	64	12	500m	20	6.0	10m	15 Δ		6pZ	PE	T05	A A A	
52#	BCY38	410m	1.5M	3.3m	5J	32	32	12	150m	10u	6.0	10m	27 Δ		6pZ	PE	T05	A A A	
53#	BCY39	410m	1.5M	3.3m	5J	64	64	12	150m	10u	6.0	10m	35 Δ		6pZ	PE	T05	A A A	
54#	BCY54	410m	2.0M	3.3m	5J	50	50	12	300m	10u	6.0	10m	50 Δ		6pZ	PE	T05	A A A	
55#	BCY40	410m	2.5M	3.3m	5J	32	32	12	300m	10u	6.0	10m	50 Δ		6pZ	PE	T05	A A A	
56	2N1256†	450m	30MSΔ	3.0m	5S	40	40	5.0	100m	200n	1.0	10m	25 Δ		10pZ	PE	T05	A A A	
57	2N2154†	450m	30MSΔ	3.0m	5S	30	30	5.0	100m	200n	1.0	10m	25 Δ		10pZ	PE	T05	A A A	
58	2N1259†	450m	40MSΔ	3.0m	5S	50	50	5.0	100m	200n	1.0	10m	25 Δ		10pZ	PE	T05	A A A	
59	2N1255†	450m	50MSΔ	3.0m	5S	30	30	5.0	100m	200n	1.0	10m	40 Δ		10pZ	PE	T05	A A A	
60	2N1257†	450m	50MSΔ	3.0m	5S	40	40	5.0	100m	200n	1.0	10m	40 Δ		10pZ	PE	T05	A A A	
61	2N1258†	450m	50MSΔ	3.0m	5S	30	30	5.0	100m	200n	1.0	10m	75 Δ		10pZ	PE	T05	A A A	
62	2N2393	450m	50MSΔ	3.0m	5J	50	35	5.0	300m	1.0u	5.0	1.0m	15 Δ	1.0uZb	35 Z	8.0 Z	PL	u25	A A A
63	2N2394	450m	60MSΔ	3.0m	5J	50	35	5.0	300m	1.0u	5.0	1.0m	25 Δ	1.0uZb	35 Z	8.0 Z	PL	u25	A A A
64	2V435*	450m	170MSΔ	2.6m	5J	25	25	4.5	750m	0.2u	10	1.0m	130	130u	1.2k	2.6	DPE	L17a	B B B
65	2N5811	500m	4.5m	4.5m	5J	35	25	5.0	750m	100n	2.0	2.0m	60 Δ		15pZ	PE	X55a	B B B	
66	2N5813	500m	4.5m	4.5m	5J	35	25	5.0	750m	100n	2.0	2.0m	150 Δ		15pZ	PE	X55a	B B B	
67	2N5815	500m	4.5m	4.5m	5J	50	40	5.0	750m	100n	2.0	2.0m	60 Δ		15pZ	PE	X55a	B B B	
68	2N5817	500m	4.5m	4.5m	5J	50	40	5.0	750m	100n	2.0	2.0m	100 Δ		15pZ	PE	X55a	B B B	
69	2N5819	500m	4.5m	4.5m	5J	50	40	5.0	750m	100n	2.0	2.0m	150 Δ		15pZ	PE	X55a	B B B	
70	2N5821	500m	4.5m	4.5m	5J	70	60	5.0	750m	100n	2.0	2.0m	60 Δ		15pZ	PE	X55a	B B B	
71	2N5823	500m	4.5m	4.5m	5J	70	60	5.0	750m	100n	2.0	2.0m	100 Δ		15pZ	PE	X55a	B B B	
72#	BFX30	500m	3.4m	3.4m	5J	65	65	5.0	600m#	0.7u	4.0	10m	50 Δ		12pZ	PE	T05	A A A	
73	MD2904*	500m	200MSΔ	2.9m	5J	60	40	5.0	600m	20n#	10	150m	40 Δ		8.0pZ	ANΔ	L17k	A A A	
74	2N5110	500m	1.0M	3.3m	5J	40	40	10	75	10	10	100m	10 Δ		500p	PE	T05	A A A	
75	2N5111	500m	1.0M	3.3m	5J	80	80	10	75	10	10	100m	10 Δ		500p	PE	T05	A A A	
76	2N3910†	500m	4.0MSΔ	2.9m	5S	60	50	5.0	200m	50n	5.0</								

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE fab (Hz)	3 IN FREE AIR W/°C	T M A M X P	ABS MAX RATINGS @25°C						MAX. lcb0 @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUC-TURE DWG. No.	L C O A D E				
						BVcbo (V)		BVceo (V)		BVebo (V)			Ic (A)		BIAS Vcb (V)		COMMON EMITTER hoe (mhos)					hie (Ω)		hre (X.0001)	
						(V)	(V)	(V)	(A)	(V)	(A)		(V)	(A)	(V)	(A)	(V)	(A)				(V)	(A)	(V)	(A)
1#	BFS96	500m	150MΔ	3.3m	SA	60	30	5.0	1.0 #	100n0	100	150m0	40	1Δ#				15p0	PL	X59	F				
2#	BFS97	500m	150MΔ	3.3m	SA	60	40	5.0	1.0 #	100n0	100	150m0	100	1Δ#				15p0	PL	X59	F				
3#	BFS98	500m	150MΔ	3.3m	SA	60	40	5.0	1.0 #	100n0	100	150m0	40	1Δ#				15p0	PL	X59	F				
4	D29E	500m	150MΔ	4.5m	TJ	50	40	5.0	750m	100n	2.0	2.0m0	250	1Δ#				15p0	PE	T098	A				
5	2N5243†	500m	170MΔ	5.0m	†S	30	30	5.0	500m	10u0	1.0	50m0	25	1Δ#				35p0	PE	T0105	B				
6	MPSA65	500m	175M‡	4.5m	TJ	30	30	8.0	300m	100n	5.0	10m0	50k†Δ				2.5p	∅	T092	A					
7	MPSA66	500m	175M‡	4.5m	TJ	30	30	8.0	300m	100n	5.0	10m0	75k†Δ				2.5p	∅	T092	A					
8	2N3764†	500m	180MΔ	2.9m	SS	40	40	5.0	1.5	.1u#	1.0	500m0	35	1Δ				15p0	∅	T046	A∅				
9	2N5795†	500m	200MΔ	2.9m	SS	60	60	5.0	600m	20n0	100	1.0m	40	1Δ				8.0p0	∅	L2d	A∅				
10	2N5796†	500m	200MΔ	2.9m	SS	60	60	5.0	600m	20n0	100	1.0m	100	1Δ				8.0p0	∅	L2d	A∅				
11▼	2N5843*	500m	200MΔ	2.9m	SS	50	40	5.0	50m	10n	100	1.0m0	50	Δ				40u0	6.0k0	10	∅				
12#	BFW311	500m	200M‡	4.0m	SA	50	30	5.0	700m	500n0	100	10m0	40	Δ				250u0	4.0k0	6.0	∅				
13	MD2904A*	500m	200MΔ	2.9m	SA	60	60	5.0	600m	20n#	100	150m0	40	†#Δ				8.0p0	ANΔ	L17k	A∅				
14	MD2905	500m	200MΔ	2.9m	SA	60	60	5.0	600m	20n#	100	150m0	100	†#Δ				8.0p0	ANΔ	L17k	A∅				
15	MD2905A*	500m	200MΔ	2.9m	SA	60	60	5.0	600m	20n#	100	150m0	100	†#Δ				8.0p0	ANΔ	L17k	A∅				
16	MD3133*	500m	200MΔ	2.9m	SA	50	35	4.0	600m	.05u0	100	150m0	40	†#Δ				10p0	ANΔ	L17c	A∅				
17	MD3134*	500m	200MΔ	2.9m	SA	50	35	4.0	600m	.05u0	100	150m0	100	†#Δ				10p0	ANΔ	L17c	A∅				
18▼	2N5844*	500m	250MΔ	2.9m	SS	50	40	5.0	50m	10n	100	1.0m0	100	Δ				60u0	12k0	20	∅				
19	MQ3467†	500m	250M‡	2.9m	SS	40	40	5.0	1	.10u0	1.0	500m0	40	†#				11p0	AN	L56	A∅				
20	MQ3762†	500m	250M‡	2.9m	SS	40	40	5.0	1.5	.10u0	2.0	1	40	†#				11p0	AN	L56	A∅				
21	2N4937*	500m	300MΔ	2.9m	SS	50	40	5.0	50m	.02u0	100	1.0m0	50	Δ				50u0	10k0	10	∅				
22	2N4938*	500m	300MΔ	2.9m	SS	50	40	5.0	50m	.02u0	100	1.0m0	50	Δ				50u0	10k0	10	∅				
23	MM4000	600m		3.4m	SS	100	100	4.0	100m	1.0u0	100	10m0	20	†#Δ				5p0	EA	T039	A∅				
24	TZ7500	600m			SS						5.0	350m0	50	Δ†				15p0		X93	A				
25	TZ7501	600m			SS						5.0	350m0	100	Δ†				15p0		X93	A				
26	TZ7502	600m			SS						5.0	350m0	50	Δ†				15p0		X93	A				
27	TZ7503	600m			SS						5.0	350m0	100	Δ†				15p0		X93	A				
28	2N3305	600m	20MΔ	4.0m	SS	50	40	6.0		50n0	5.0	1.0m0	40	Δ				50u0	3.0k0	6.0	∅				
29	2N3306	600m	20MΔ	4.0m	SS	50	40	6.0		50n0	5.0	1.0m0	70	Δ				80u0	6.0k0	10	∅				
30	2N3857	600m	20MΔ	3.4m	SS	45	45	30	500m	5.0n0	6.0	1.0m0	45	Δ				1.5u0	35	20	∅				
31	2N4412	600m	20MΔ	3.4m	SS	40	30	5.0	600m	10n0	5.0	1.0m0	120	Δ				500nb	32	∅	∅				
32	2N4412A	600m	20MΔ	3.4m	SS	60	60	5.0	600m	10n0	5.0	1.0m0	120	Δ				500nb	32	∅	∅				
33	2N4414	600m	20MΔ	3.4m	SS	40	30	5.0	600m	10n0	5.0	1.0m0	100	Δ				500nb	32	∅	∅				
34	2N4414A	600m	20MΔ	3.4m	SS	60	60	5.0	600m	10n0	5.0	1.0m0	100	Δ				500nb	32	∅	∅				
35	2N1991	600m	40MΔ	4.8m	SS	30	20	5.0		5.0u0	100	150m0	15	†#Δ				45p0	∅	T05	A∅				
36	2N1131	600m	50MΔ	4.0m	SS	50	35	5.0	600m	100u	5.0	1.0m0	15	Δ				1.0u0	35	8.0	∅				
37	JAN2N1131	600m	50MΔ	4.0m	SS	50	35	5.0	600m	1.0u0	5.0	1.0m0	15	Δ				1.0u0	35	8.0	∅				
38	2N1131A†	600m	50MΔ	4.0m	SS	60	40	5.0	600m	500n0	5.0	1.0m0	15	Δ				1.0u0	35	8.0	∅				
39	2N1132	600m	60MΔ	4.0m	SS	50	35	5.0	600m	100u	5.0	1.0m0	25	Δ				1.0u0	35	8.0	∅				
40	JAN2N1132	600m	60MΔ	4.0m	SS	50	35	5.0	600m	1.0u0	5.0	1.0m0	30	Δ				1.0u0	35	8.0	∅				
41	2N1132A†	600m	60MΔ	4.0m	SS	60	40	5.0	600m	500n0	5.0	1.0m0	25	Δ				1.0u0	35	8.0	∅				
42	2N1132B†	600m	60MΔ	4.0m	SS	70	45	6.0	600m	10n0	5.0	1.0m0	25	Δ				1.0u0	35	8.0	∅				
43	2N2303	600m	60MΔ	4.0m	SS	50	35	5.0	500m	1.0u0	5.0	1.0m0	75	Δ				1.0u0	35	8.0	∅				
44#	2SA497	600m	70M‡	5.0m	SS	80	80	5.0	800m	1.0u	2.0	200m0	70	†				40p0	PE	T039	A				
45#	2SA498	600m	70M‡	5.0m	SS	50	50	5.0	800m	1.0u	2.0	200m0	70	†				40p0	PE	T039	A				
46	2N4928	600m	100MΔ	3.4m	SS	100	100	4.0	100m	50u0	100	1.0m0	20	†Δ				6p0	PE	T05	A∅				
47#	BFX87†	600m	100MΔ	3.4m	SS	50	50	4.0	600m	.05u0	100	10m0	40	†Δ				12p0	PE	T05	A∅				
48#	BFX88†	600m	100MΔ	3.4m	SS	40	40	4.0	600m	.05u0	100	10m0	40	†Δ				12p0	PE	T05	A∅				
49	TQ53	600m	100MΔ	3.4m	SS	75	45	5.0	600m	10n0	5.0	1.0m0	55	Δ				900nb	27	1.2	∅				
50	TQ53A	600m	100MΔ	3.4m	SS	80	75	5.0	600m	10n0	5.0	1.0m0	55	Δ				900nb	27	1.2	∅				
51	TQ59†	600m	100MΔ	3.4m	SS	40	30	5.0	600m	20n0	5.0	1.0m0	30	Δ				500nb	35	∅	∅				
52	TQ59A†	600m	100MΔ	3.4m	SS	60	60	5.0	600m	20n0	5.0	1.0m0	30	Δ				500nb	35	∅	∅				
53	TQ61†	600m	100MΔ	3.4m	SS	40	30	5.0	600m	20n0	5.0	1.0m0	30	Δ				500nb	35	∅	∅				
54	TQ61A†	600m	100MΔ	3.4m	SS	60	60	5.0	600m	20n0	5.0	1.0m0	30	Δ				500nb	35	∅	∅				
55	TQ63†	600m	100MΔ	3.4m	SS	20	20	5.0	600m	100n0	5.0	1.0m0	20	Δ				500nb	35	∅	∅				
56	TQ63A†	600m	100MΔ	3.4m	SS	30	30	5.0	600m	100n0	5.0	1.0m0	35	Δ				500nb	35	∅	∅				
57#	2SA509	600m	140M‡		†	35	30	5.0	50m	100n	2.0	50m0	100	†				22p	PE	R67a	A				
58	2N3081	600m	150MΔ	3.4m	SS	70	50	6.0	600m	.01u0	100	150m0	30	†Δ				13p0	PE	T05	A∅				
59	2N3495†	600m	150MΔ	3.4m	SS	120	120	4.5	100m	10u0	100	10m0	40	Δ				300u0	1.2k0	2	∅				
60#	BFX36*	600m	160MΔ	2.2m	SS	60	60	6.0	200m	10n0	5.0	1.0m0	700	Δ				50u0	20k0	10	∅				
61	2N2904†	600m	200MΔ	3.4m	SS	60	40	5.0	600m	.02u0	100	1.0m0	25	Δ				8p0	PE	T05	A∅				
62	JAN2N2904†	600m	200MΔ	3.4m	SS	60	40	5.0	600m	.02u0	100	1.0m0	25	Δ				8.0p0	PE	T05	A∅				
63	2N2904A†	600m	200MΔ	3.4m	SS	60	60	5.0	600m	.01u0	100	1.0m0	40	†Δ				8p0	PE	T05	A∅				
64	JAN2N2904A†	600m	200MΔ	3.4m	SS	60	60	5.0	600m	.02u0	100	1.0m0	40	†Δ				8.0p0	PE	T05	A∅				
65	2N2905†	600m	200MΔ	3.4m	SS	60	40	5.0	600m	.02u0	100	1.0m0	50	†Δ				8p0	PE	T05	A∅				
66	JAN2N2905†	600m	200MΔ	3.4m	SS	60	40	5.0	600m	.02u0	100	1.0m0	50	†Δ				8.0p0	PE	T05	A∅				
67	2N2905A†	600m	200MΔ	3.4m	SS	60	60	5.0	600m	.01u0	100	1.0m0	100	†Δ				8p0	PE	T05	A∅				
68	JAN2N2905A†	600m	200MΔ	3.4m	SS	60	60	5.0	600m	.01u0	100	1.0m0	100	†Δ				8.0p0	PE	T05	A∅				
69	2N3133†	600m	200MΔ	3.4m	SS	50	35	4.0	600m	.05u0	100	150m0	40	†#Δ				10p0	PE	T05	A∅				
70	2N3134†	600m	200MΔ	3.4m	SS	50	35	4.0	600m	.05u0	100	150m0	100	†#Δ				10p0	PE	T05	A∅				
71	2N3																								

4. SILICON PNP - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C (Hz)	M E A M P	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C O A D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			COMMON EMITTER							
										Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)					
1#	2N5855	750m	100MΔ	6.8m	TS	60	60	5.0	1.0	100n	100	10m	50	1Δ#	15p	PE	T0105	A		
2#	2N5857	750m	100MΔ	6.8m	TS	80	80	5.0	1.0	100n	100	10m	50	1Δ#	15p	PE	T0105	A		
3#	BC160-6	750m	100MΔ	5.0m	SJ	40	40	5.0	1.0	100n	1.0	100m	40	1Δ	20p	PE	T039	A		
4#	BC160-10	750m	100MΔ	5.0m	SJ	40	40	5.0	1.0	100n	1.0	100m	63	1Δ	20p	PE	T039	A		
5#	BC160-16	750m	100MΔ	5.0m	SJ	40	40	5.0	1.0	100n	1.0	100m	100	1Δ	20p	PE	T039	A		
6#	BC161-6	750m	100MΔ	5.0m	SJ	60	60	5.0	1.0	100n	1.0	100m	40	1Δ	20p	PE	T039	A		
7#	BC161-10	750m	100MΔ	5.0m	SJ	60	60	5.0	1.0	100n	1.0	100m	63	1Δ	20p	PE	T039	A		
8#	BC161-16	750m	100MΔ	5.0m	SJ	60	60	5.0	1.0	100n	1.0	100m	100	1Δ	20p	PE	T039	A		
9#	2SA5441	750m	160MΔ	5.0m	SJ	60	45	5.0	200m	100n	1.0	10m	40	1Δ	7.0p	PE	T039	A		
10#	2SA5521	750m	160MΔ	5.0m	SJ	60	45	5.0	200m	100n	1.0	10m	40	1Δ	7.0p	PE	T039	A		
11#	2SA537	750m	200MΔ	4.3m	SJ	60	50	4.0	700m	50n	4.0	50m	80	↑	7.0p	PE	T05	A		
12#	2SA537A	750m	200MΔ	4.3m	SJ	90	80	4.0	700m	50n	4.0	50m	80	↑	7.0p	PE	T05	A		
13#	2SA594	750m	200MΔ	4.9m	SJ	50	30	5.0	200m	10u	1.0	10m	60	↑	7.0p	D	T05	A		
14#	BCY67	770m*	180MΔ	4.9m	SJ	45	45	5.0	50m	20n	5.0	2.0m	330		4.5p	PE	R81m	A		
15#	BC311	800m			SJ	70	70	5.0	1.0	50n	1.0	10m	110	↑	13p	PE	T05	A		
16#	V654	800m		4.5m	SJ	50	50	5.0	50n	50n	5.0	100m	100	↑	15p	PE	T039	A		
17#	2N3464	800m	30MΔ	4.7m	SJ	60	40	5.0	1.0	100u	4.0	100m	100	↑#Δ	13p	PE	T05	∅		
18#	2SA510	800m	50MΔ	6.4m	SJ	110	100	5.0	1.0	100u	1.0	50m	50		60p	PE	T039	∅		
19#	2SA511	800m	50MΔ	6.4m	SJ	90	80	5.0	1.0	100u	1.0	50m	50		60p	PL	T039	∅		
20#	2SA512	800m	50MΔ	6.4m	SJ	70	60	5.0	1.0	100u	1.0	50m	50		60p	PL	T039	∅		
21#	2SA513	800m	50MΔ	6.4m	SJ	50	40	5.0	1.0	100u	1.0	50m	50		60p	PL	T039	∅		
22#	2SA516	800m	50MΔ	5.3m	SJ	80	60	5.0	15	50u	2.0	200m	60	↑	43p	D	T05	A		
23#	2SA516A	800m	50MΔ	5.3m	SJ	120	100	5.0	15	50u	2.0	200m	60	↑	43p	D	T05	A		
24#	2N29271	800m	100MΔ	4.5m	SJ	25	25	4.0	500m	0.2u	1.0	10m	25	Δ	20p	PE	T05	A		
25#	2N40301	800m	100MΔ	4.5m	SJ	60	60	5.0	1	0.5u	5.0	10m	30	Δ	20p	PE	T05	A		
26#	2N40311	800m	100MΔ	4.5m	SJ	80	80	5.0	1	0.5u	5.0	10m	30	Δ	20p	PE	T05	A		
27#	AT460	800m	100MΔ	4.5m	SJ	40	40	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
28#	AT461	800m	100MΔ	4.5m	SJ	60	60	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
29#	AT462	800m	100MΔ	4.5m	SJ	80	80	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
30#	AT463	800m	100MΔ	4.5m	SJ	40	40	5.0	1.0	200n	1.0	50m	100	Δ	20p	PE	T039	A		
31#	AT464	800m	100MΔ	4.5m	SJ	60	60	5.0	1.0	200n	1.0	50m	100	Δ	20p	PE	T039	A		
32#	AT465	800m	100MΔ	4.5m	SJ	80	80	5.0	1.0	200n	1.0	50m	100	Δ	20p	PE	T039	A		
33#	AT466	800m	100MΔ	4.5m	SJ	40	40	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
34#	AT467	800m	100MΔ	4.5m	SJ	60	60	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
35#	AT468	800m	100MΔ	4.5m	SJ	80	80	5.0	1.0	200n	1.0	50m	40	Δ	20p	PE	T039	A		
36#	BC360-6	800m	100MΔ	4.5m	SJ	40	40	5.0	500m	100n	5.0	50m	40	Δ	10p	PE	T039	A		
37#	BC360-10	800m	100MΔ	4.5m	SJ	40	40	5.0	500m	100n	5.0	50m	63	Δ	10p	PE	T039	A		
38#	BC360-16	800m	100MΔ	4.5m	SJ	40	40	5.0	500m	100n	5.0	50m	100	Δ	10p	PE	T039	A		
39#	BC361-6	800m	100MΔ	4.5m	SJ	60	60	5.0	500m	100n	5.0	50m	40	Δ	10p	PE	T039	A		
40#	BC361-10	800m	100MΔ	4.5m	SJ	60	60	5.0	500m	100n	5.0	50m	63	Δ	10p	PE	T039	A		
41#	BFX38	800m	100MΔ	4.5m	SJ	55	55	5.0	1.0	50n	5.0	100u	65	↑	15p	DPE	T05	∅		
42#	BFX39	800m	100MΔ	4.5m	SJ	55	55	5.0	1.0	50n	5.0	100u	65	↑	15p	DPE	T05	∅		
43#	BFX40	800m	100MΔ	4.5m	SJ	75	75	5.0	1.0	50n	5.0	100u	125	↑	15p	DPE	T05	∅		
44#	BFX41	800m	100MΔ	4.5m	SJ	75	75	5.0	1.0	50n	5.0	100u	125	↑	15p	DPE	T05	∅		
45#	BSV831	800m	100MΔ	4.0m	SJ	90	80	5.0	1.0	10u	50	150m	70	↑	25p	PE	T039	A		
46#	BSX40	800m	100MΔ	4.5m	SJ	30	30	5.0	500m	25n	1.0	10m	40	Δ	10p	PE	T039	A		
47#	2N28001	800m	120MΔ	4.5m	SJ	50	35	5.0	800m	10u#	1.0	10m	20	Δ	25p	PE	T05	A		
48#	2N28011	800m	120MΔ	4.5m	SJ	50	35	5.0	800m	10u#	1.0	10m	30	Δ	25p	PE	T05	A		
49#	2N30721	800m	130MΔ	4.5m	SJ	60	60	4.0	500m	0.1u	1.0	10m	25	Δ	1.2m	1.5k	26	10p	T05	A
50#	2N31201	800m	130MΔ	4.5m	SJ	45	45	4.0	500m	0.1u	1.0	10m	25	Δ	1.2m	1.5k	26	10p	T05	A
51#	2SA5031	800m	130MΔ	5.3m	SJ	60	50	5.0	600m	50u	2.0	150m	30	Δ	18p	PE	T039	A		
52#	2SA5041	800m	130MΔ	5.3m	SJ	40	30	5.0	600m	50u	2.0	150m	30	Δ	18p	PE	T039	A		
53#	2N40321	800m	150MΔ	4.5m	SJ	60	60	5.0	1	0.5u	5.0	10m	75	Δ	20p	PE	T05	A		
54#	2N40331	800m	150MΔ	4.5m	SJ	80	80	5.0	1	0.5u	5.0	10m	75	Δ	20p	PE	T05	A		
55#	2SA560	800m	150MΔ		SJ	80	60	5.0	800m	50u	2.0	150m	60	↑	19p	PE	T039	A		
56#	BFX74A	800m	150MΔ	4.5m	SJ	60	60	5.0	500m	0.5u	1.0	150m	50	↑#	15p	PE	T05	A		
57#	BSX41	800m	150MΔ	4.5m	SJ	30	30	5.0	500m	25n	1.0	10m	100	Δ	10p	PE	T039	A		
58#	2SA5711	800m	200MΔ	5.6m	SJ	60	45	5.0	1.0	100n	1.0	50m	40	Δ	25p	PE	T05	A		
59#	BC116A	800m	200MΔ	8.0m	↑	45	40	5.0	50n	10	10	10m	70	Δ	6.0p	PE	T0105	A		
60#	BC126A	800m	200MΔ	3.0m	↑	40	40	5.0	600m	50n	10	10m	85	↑	7.0p	PE	T0105	A		
61#	BC287	800m	200MΔ	4.5m	SJ	60	60	5.0	1.0	500n	2.0	500m	20	Δ	13p	DPE	T05	∅		
62#	V745	800m	240MΔ	8.0m	SJ	50	40	5.0	1.0	100u	1.0	50m	95	↑	15p	PE	T039	A		
63#	SE8541	800m	250MΔ	4.5m	SJ	30	30	5.0	1.0	50n	1.0	150m	70	↑#	20p	DPL	T039	A		
64#	2N5042	800m	500MΔ	4.5m	SJ	40	40	5.0	1	0.5u	1.0	150m	40	↑#	35p	PE	T039	A		
65#	BC304	5.0		40m	SJ	80	45	7.0	1.0	10	10	150m	40	Δ	15p	PE	T039	A		
66#	2SA257	5.0	80MΔ		SJ	50	40	5.0	2.0	5.0u	2.0	200m	50	↑	40p	EM	T05	∅		
67#	2SA258	5.0	80MΔ		SJ	50	40	5.0	2.0	5.0u	2.0	100m	70	↑	40p	EM	T05	∅		
68#	2SA527	5.0	80MΔ		SJ	50	40	5.0	2.0	5.0u	2.0	200m	50	↑	40p	EM	T05	∅		
69#	2SA528	5.0	80MΔ		SJ	50	40	5.0	2.0	5.0u	2.0	100m	70	↑	40p	EM	T05	∅		

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN fab (Hz)	T M A X P (W/C)	ABS MAX RATINGS @25°C				MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION	L C O D E				
					BV _{ceo} (V)	BV _{ce0} (V)	BV _{ebo} (V)	I _c (A)		BIAS			COMMON EMITTER									
										V _{cb} (V)	I _e (A)	h _{fe}	hoe (mhos)	hie (Ω)	hre (X.0001)							
1#	2SC784	100m	500MΔ	1.0m	Δ	40	30	20	50u	6.0	1.0m	25	1Δ*	.65p	PE	R67a	B					
2#	2SC800	100m	600MΔ		Δ	30	25	4.0	10m	6.0	2.0m	80	1	.50p	PE	u23	C					
3#	2SC535	100m	700MΔ		Δ	30	20	4.0	20m	6.0	1.0m	35	1Δ	.90p	PE	u23a	C					
4#	2SC271	100m	800MΔ		Δ	25	12	3.0	20m	1.0u	6.0	2.0m	70	1p	PE	u23	C					
5#	2SC289	100m	1.1GΔ		Δ	25	12	3.0	10m	1.0u	6.0	2.0m	70	1p	PE	u23	C					
6#	2SC272	100m	1.2GΔ		Δ	25	12	3.0	20m	1.0u	6.0	2.0m	70	1p	PE	u23	C					
7#	BC155A	105m	500MΔ	1.3m	Δ	5.0	5.0	5.0	50m	100n	1.0	500u	85	Δ	PE	u30b	D					
8#	BC155B	105m	500MΔ	1.3m	Δ	5.0	5.0	5.0	50m	100n	1.0	500u	200	Δ	PE	u30b	D					
9#	BC155C	105m	500MΔ	1.3m	Δ	5.0	5.0	5.0	50m	100n	1.0	500u	470	Δ	PE	u30b	D					
10#	BFY89	105m	500MΔ	1.3m	Δ	25	15	15	100n	1.0	500u	40	Δ	PE	u30b	D						
11#	BFY89A	105m	500MΔ	1.3m	Δ	25	15	15	100n	1.0	500u	55	Δ	PE	u30b	D						
12#	2N1270	110m	769u		Δ	20			100m	.70u	10	2.0m	11	1.5p	PE	T09	A					
13#	BFS18	110m	200MΔ	1.1m	Δ	30	20	20	30m	100n	10	1.0m	35	1Δ	PE	u56	A					
14#	BFS18R	110m	200MΔ	2.0m	Δ	30	20	20	30m	100n	10	1.0m	35	1Δ	PE	u56	A					
15#	2SC70	110m	250MΔ		Δ	25	20	20	50m	50u	6.0	10m	60	5.0p	PE	T018	C					
16#	BFS19	110m	260MΔ	1.1m	Δ	30	20	20	30m	100n	10	1.0m	65	1Δ	PE	u56	A					
17#	BFS19R	110m	260MΔ	2.0m	Δ	30	20	20	30m	100n	10	1.0m	65	1Δ	PE	u56	A					
18#	BCW31	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	90	1	PE	u56	A					
19#	BCW31R	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	90	1	PE	u56	A					
20#	BCW32	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	150	1	PE	u56	A					
21#	BCW32R	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	150	1	PE	u56	A					
22#	BCW33	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	270	1	PE	u56	A					
23#	BCW33R	110m	300MΔ	1.1m	Δ	30	20	20	50m	100n	5.0	10u	270	1	PE	u56	A					
24#	BFS20	110m	450MΔ	1.1m	Δ	30	20	4.0	25m	100n	10	7.0m	85	1	PE	u56	A					
25#	BFS20R	110m	450MΔ	2.0m	Δ	30	20	4.0	25m	100n	10	7.0m	45	1Δ	PE	u56	A					
26#	BSV521	110m	500MΔ	1.1m	Δ	20	12	5.0	50m	100n	1.0	5.0m	25	1Δ	PE	u56	A					
27#	BSV521R	110m	500MΔ	1.1m	Δ	20	12	5.0	50m	100n	1.0	5.0m	25	1Δ	PE	u56	A					
28#	BFS17R	110m	1.0GΔ	1.1m	Δ	30	15	2.5	25m	10n	1.0	2.0m	20	1Δ	PE	u56	A					
29#	BFS17	110m	1.3GΔ	1.1m	Δ	25	15	2.5	25m	10n	1.0	2.5m	20	1Δ	PE	u56	A					
30#	2SC29	115m	100M	909u	Δ	40			25m	1.0u	10	25m	20	1Δ	PE	u56	A					
31#	2SC929	120m	300MΔ		Δ	15	10	5.0	30m	1.0u	6.0	1.0m	100	1	PE	T05	A					
32#	2SC930	120m	300MΔ		Δ	15	10	5.0	30m	1.0u	6.0	1.0m	80	1	PE	R145	D					
33#	2SC772t	120m	350MΔ		Δ	15		5.0	30m	1.0u	6.0	1.0m	45	1	PE	R145	D					
34#	2SC668	120m	550MΔ		Δ	15	3.0	3.0	30m	1.0u	6.0	1.0m	60	1	PE	R145	D					
35#	2SC674	120m	750MΔ		Δ	15	3.0	3.0	30m	1.0u	6.0	1.0m	80	1	PE	R145	D					
36#	2SC705	120m	800MΔ		Δ	15	3.0	3.0	30m	1.0u	6.0	1.0m	80	1	PE	R145	D					
37#	KD5000	125m		2.0m	Δ	20	10	2.0	15m	50m	1.0	3.0m	20	1Δ	PE	T72a	V					
38#	2S005	125m	30 Δ	1.0m	Δ	40			20m	1.0u	20	1.0m	100		GD	X705	A					
39#	2N1586	125m	5.0MΔ	2.0m	Δ	15	10	1.0	25m	1.0u	5.0	1.0m	9.0	Δ	200nb	50	2.0	1.6p	GD	T05	A	
40#	2N1587	125m	5.0MΔ	2.0m	Δ	30	20	1.0	25m	1.0u	5.0	1.0m	9.0	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
41#	2N1588	125m	5.0MΔ	2.0m	Δ	60	40	1.0	25m	1.0u	5.0	1.0m	9.0	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
42#	2N1589	125m	5.0MΔ	2.0m	Δ	15	10	1.0	25m	1.0u	5.0	1.0m	25	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
43#	2N1590	125m	5.0MΔ	2.0m	Δ	30	20	1.0	25m	1.0u	5.0	1.0m	25	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
44#	2N1591	125m	5.0MΔ	2.0m	Δ	60	40	1.0	25m	1.0u	5.0	1.0m	25	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
45#	2N1592	125m	5.0MΔ	2.0m	Δ	15	10	1.0	25m	1.0u	5.0	1.0m	70	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
46#	2N1593	125m	5.0MΔ	2.0m	Δ	30	20	1.0	25m	1.0u	5.0	1.0m	70	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
47#	2N1594	125m	5.0MΔ	2.0m	Δ	60	40	1.0	25m	1.0u	5.0	1.0m	70	Δ	1.5uZb	100	12	30pZ	GD	OV9a	A	
48#	2N264	125m	10M		Δ	45			20m	1.0u	5.0	10m	20	1Δ	1.5uZb	100	12	30pZ	GD	OV1	A	
49#	2N337	125m	20M	1.0m	Δ	45	30	1.0	20m	1.0u	20	1.0m	22	Δ	200nb	50	2.0	2.0p	GD	T05	A	
50#	JAN2N337t	125m	20MΔ	1.0m	Δ	45	45	1.0	20m	1.0u	20	1.0m	22	Δ	1.0uZb	80	20	3.0pZ	GD	T05	A	
51#	2N1104	125m	20MΔ	1.0m	Δ	45	35	1.0	20m	1.0u	20	1.0m	40	Δ	1.0uZb	80	20	3.0pZ	GD	T043	A	
52#	2S014	125m	20M	1.0m	Δ	40			20m	1.0u	20	1.0m	65	1	200nb	50	3.0	1.6p	GD	R30	A	
53#	TI493	125m	20M	1.2m	Δ	40	20	1.0	20m	2.0u	5.0	1.0m	40	1Δ	200n	30	2.0	2.0p	GD	T05	A	
54#	TI494	125m	20M	1.2m	Δ	40	20	1.0	20m	2.0u	5.0	1.0m	40	1Δ	200n	30	2.0	2.0p	GD	T05	A	
55#	TI495	125m	20M	1.2m	Δ	40	20	1.0	20m	2.0u	5.0	1.0m	120	1Δ	200n	30	2.0	2.0p	GD	T05	A	
56#	2N338	125m	30M	1.0m	Δ	45	30	1.0	20m	1.0u	20	1.0m	24	Δ	200n	50	3.0	2.0p	GD	T05	A	
57#	JAN2N338t	125m	30MΔ	1.0m	Δ	45	45	1.0	20m	1.0u	20	1.0m	40	Δ	1.0uZb	80	20	3.0pZ	GD	T05	A	
58#	JAN3N35	125m	70MΔ	714u	Δ	30	30	1.0	50u	20	1.3m	25			1.5p	GD	T012	GA				
59#	3N34	125m	100M	1.0m	Δ	30	30	1.0	20m	40u	20	1.3m	25		1.5p	GD	T012	GA				
60#	BSW69	125m	130MΔ	1.6m	Δ	150			50m	40u	20	4.0m	30	1Δ	1.5p	GD	T012	GA				
61#	3N35	125m	150M	1.0m	Δ	30	30	1.0	20m	40u	20	3.3m	25		1.5p	GD	T012	GA				
62#	BFX45t	125m	175MΔ	1.7m	Δ	30	20	5.0	100m	.07u	0.0	3.0m	45	1Δ	3p	PE	MM13	FF				
63#	BSX68t	125m	175MΔ	1.7m	Δ	30	15	5.0	100m	.07u	0.0	1.0m	30	1Δ	3p	PE	MM13	FF				
64#	BSX69t	125m	175MΔ	1.7m	Δ	30	20	5.0	100m	.07u	0.0	1.0m	60	1Δ	3p	PE	MM13	FF				
65#	2SC715t	125m	200MΔ		Δ	40			100m	1.0u	6.0	1.0m	80	1	3.0p	PE	R145	DD				
66#	2SC716t	125m	200MΔ		Δ	20			100m	1.0u	6.0	1.0m	80	1	3.0p	PE	R145	DD				
67#	BSW33t	125m	300MΔ	1.6m	Δ	40	32	5.0	100m	70n	0.0	10m	60	1Δ	3.0p	PE	MM13	FF				
68#	BSW34t	125m	300MΔ	1.6m	Δ	50	45	5.0	100m	70n	0.0	10m	60	1Δ	3.0p	PE	MM13	FF				
69#	BSW35t	125m	300MΔ	1.6m	Δ	60	60	5.0	100m	70n	0.0	10m	50	1Δ	3.0p	PE	MM13	FF				
70#	BSW58t	125m	400MΔ		Δ	40			500m	40u	1.0	10m	40	1Δ	4pZ	PE	MM13	FF				
71#	BSW59t	125m	500MΔ	1.7m	Δ	40	15	5.0	500m	40u	1.0	10m	60	1Δ	4pZ	PE	MM13	FF				
72#	BFS57P	125m	1.7G	1.0m	Δ	25	13	3.0	50m	10n	6.0	5.0m	20	1Δ	1.0pZ	PE	u17c	E				
73#	K5201C	125m	1.8GΔ	1.0m	Δ	25	12	2.5	.05u	1.0	3.0m	20	1Δ	1pZ	ET	u35	N					
74#	KD5201	125m	1.8GΔ	714u	Δ	25	12	2.5	.05u	1.0	3.0m	20	1Δ	1pZ	ET	X72	N					
75#	KD5204	125m	1.8GΔ	714u	Δ	25	12	2.5	.05u	1.0	3.0m	20	1Δ	1pZ	ET	X72	N					
76#	BFS58P	125m	2.4GZ	1.0m	Δ	25	13	3.0	50m	20n	6.0	5.0m	20	1Δ	1.0pZ	PE	u17c	E				
77#	2N12																					

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E A M P X	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C O A D E
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			COMMON EMITTER						
					(V)	(V)	(V)	(A)		Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
1#	PL1025	150m	1.0m	\$S	20	12	5.0	1.0u	.35	10m	40 Δ				5pZ	PEΔ	u50	E	
2#	PL1026	150m	1.0m	\$S	30	12	5.0	1.0u	.35	10m	30 Δ				4pZ	PEΔ	u50	E	
3#	PL1051	150m	1.0m	\$S	60	30	5.0	1.0u	10	1.0m	25 Δ				8pZ	PEΔ	u50	E	
4#	PL1052	150m	1.0m	\$S	75	40	6.0	1.0u	10	1.0m	25 Δ				8pZ	PEΔ	u50	E	
5#	PL1053	150m	1.0m	\$S	60	30	5.0	1.0u	10	1.0m	50 Δ				8pZ	PEΔ	u50	E	
6#	PL1054	150m	1.0m	\$S	75	40	6.0	1.0u	10	1.0m	50 Δ				8pZ	PEΔ	u50	E	
7#	PL1055	150m	1.0m	\$S	60	30	5.0	1.0u	10	1.0m	12 Δ				8pZ	PEΔ	u50	E	
8#	PL1061	150m	1.0m	\$S	45	45 *	5.0	5.0	10	10u	40 Δ				8pZ	PL	u50	E	
9#	PL1062	150m	1.0m	\$S	45	45 *	5.0	5.0	10	10u	100 Δ				8pZ	PL	u50	E	
10#	PL1063	150m	1.0m	\$S	60	60 *	6.0	5.0	10	10u	100 Δ				6pZ	PL	u50	E	
11#	PL1064	150m	1.0m	\$S	25	25 *	5.0	5.0	10	10u	180 Δ				8pZ	PL	u50	E	
12#	PL1065	150m	1.0m	\$S	60	60 *	6.0	5.0	10	10u	40 Δ				6pZ	PL	u50	E	
13#	PL1066	150m	1.0m	\$S	25	25 *	5.0	5.0	10	10u	40 Δ				8pZ	PL	u50	E	
14#	PL1067	150m	1.0m	\$S	25	25 *	5.0	5.0	10	10u	100 Δ				8pZ	PL	u50	E	
15#	PL1081	150m	1.0m	\$S	60	40 *	5.0	10	150m	20 Δ	#				8pZ	PL	u50	E	
16#	PL1082	150m	1.0m	\$S	60	40 *	5.0	10	150m	40 Δ	#				PL	u50	E	E	
17#	PL1083	150m	1.0m	\$S	75	50 *	7.0	10	150m	100 Δ	#				PL	u50	E	E	
18#	PL1084	150m	1.0m	\$S	75	50 *	7.0	10	150m	40 Δ	#				PL	u50	E	E	
19#	PL1085	150m	1.0m	\$S	120	100 *	7.0	10	150m	40 Δ	#				PL	u50	E	E	
20#	PL1111	150m	1.0m	\$S	30	15	3.0	1n	1.0	3.0m	20 Δ			1.7pZ	PE	u50	E		
21#	PL1112	150m	1.0m	\$S	30	15	3.0	10	10	3.0m	20 Δ			1.7pZ	PE	u50	E		
22#	PL1113	150m	1.0m	\$S	30	13	3.0	10	10	4.0m	20 Δ			2.5pZ	PE	u50	E		
23	JAN2N117	150m	1.0MΔ	\$S	30	1.0	1.0	1.0u	5.0	1.0m	9.0 Δ	1.5uZb	90 Z	5.0 Z	20 Z	OV6	F	F	
24	JAN2N118	150m	2.0MΔ	\$S	30	1.0	1.0	1.0u	5.0	1.0m	18 Δ	1.5uZb	90 Z	10 Z	20 Z	OV6	F	F	
25	JAN2N119	150m	2.0MΔ	\$S	30	1.0	1.0	1.0u	5.0	1.0m	37 Δ	1.5uZb	90 Z	15 Z	20 Z	OV6	F	F	
26	JAN2N333	150m	2.5MΔ	\$S	45	45	1.0	500n	5.0	1.0m	44 Z	1.2uZb	80 Z	10 Z	15pZ	T05	A	A	
27	JAN2N335	150m	2.5MΔ	\$S	45	45	1.0	500n	5.0	1.0m	90 Z	1.2uZb	80 Z	10 Z	15pZ	T05	A	A	
28	JAN2N336	150m	2.5MΔ	\$S	45	45	1.0	500n	5.0	1.0m	270 Z	1.2uZb	80 Z	10 Z	15pZ	T05	A	A	
29	2N3268	150m	2.5MΔ	\$S	45	45	1.0	25m	500n	5.0	40 Δ	1.2uZb	80 Z	10 Z	15pZ	T05	A	A	
30	2N117	150m	4.0M	\$S	45	1.0	25m	2.0u	5.0	1.0m	15	400nb	42	1.2	7.0p	G	OV9	A	
31	2N160	150m	4.0M	\$S	40	1.0	25m	10u	5.0	1.0m	15	400nb			7.0p	A	OV9	F	
32	2N160A	150m	4.0M	\$S	40	1.0	25m	10u	5.0	1.0m	15	400nb			7.0p	A	OV9	F	
33#	25001	150m	4.0MΔ	\$J	45	1.0	25m	30n	5.0	1.0m	14	400nb	42	1.2	7.0p	G	T05	F	
34#	25002	150m	4.0MΔ	\$J	45	1.0	25m	30n	5.0	1.0m	25	400nb	42	2.5	7.0p	G	T05	F	
35#	25004	150m	4.0MΔ	\$J	45	1.0	25m	30n	5.0	1.0m	50	400nb	42	4.0	7.0p	G	T05	F	
36	2N118	150m	5.0M	\$J	45	1.0	25m	2.0u	5.0	1.0m	29	400nb	42	2.5	7.0p	G	OV6	F	
37	2N161	150m	5.0M	\$S	40	1.0	25m	10u	5.0	1.0m	30	400nb			7.0p	A	OV9	F	
38	2N161A	150m	5.0M	\$S	40	1.0	25m	10u	5.0	1.0m	30	400nb			7.0p	A	OV9	F	
39	2N119	150m	6.0M	\$J	45	1.0	25m	2.0u	5.0	1.0m	63	400nb	42	4.0	7.0p	G	OV6	F	
40	2N163	150m	6.0M	\$S	40	1.0	25m	10u	5.0	1.0m	78				7.0p	A	OV9	F	
41	2N163A	150m	6.0M	\$S	40	1.0	25m	10u	5.0	1.0m	78				7.0p	A	OV9	F	
42	2N332	150m	6.0M	\$J	45	1.0	25m	2.0u	5.0	1.0m	15	500nb	55	2.0	7.0p	GD	T05	A	
43	2N120	150m	7.0M	\$J	45	1.0	25m	2.0u	5.0	1.0m	200	400nb	42	4.0	7.0p	G	OV6	F	
44	2N118A	150m	8.0M	\$S	45	1.0	25m	2.0u	5.0	1.0m	90 Z	1.2uZb	80 Z	10 Z	20pZ	G	OV6	A	
45	2N162	150m	8.0M	\$J	40	1.0	25m	10u	5.0	1.0m	28 Δ				20pZ	G	T022	F	
46	2N162A	150m	8.0M	\$J	40	1.0	25m	10u	5.0	1.0m	28 Δ				20pZ	G	T022	F	
47	2N333	150m	8.0M	\$J	45	1.0	25m	2.0u	5.0	1.0m	29	500nb	55	3.7	7.0p	GD	T05	A	
48	TI492	150m	8.0M	\$J	40	1.0	25m	2.0u	5.0	1.0m	30	500nb	55	3.7	10p	G	T05	A	
49	2N334	150m	10M	\$J	45	1.0	25m	2.0u	5.0	1.0m	54	500nb	55	3.5	7.0p	GD	T05	A	
50#	25003	150m	10MΔ	\$J	45	1.0	25m	30n	5.0	1.0m	25	400nb	42	2.0	7.0p	G	T05	A	
51#	BCY87*	150m	10MΔ	\$J	45	40	5.0	5.0n	10	50n	100 Δ			3.5p	PL*	L17u	A		
52#	BCY88*	150m	10MΔ	\$J	45	40	5.0	25n	10	.05m	100 Δ			3.5p	PL*	L17u	A		
53#	BCY89*	150m	10MΔ	\$J	45	40	5.0	30m	.01u	10	.05m	100 Δ			3.5p	PL*	L17u	A	
54	2N335	150m	11M	\$J	45	1.0	25m	2.0u	5.0	1.0m	63	300nb	55	6.0	10p	GD	T05	A	
55	2N1149	150m	12M	\$S	45	1.0	25m	2.0u	5.0	1.0m	13	400nb	42	1.2	7.0p	G	OV9	F	
56	2N336	150m	13M	\$J	45	1.0	25m	2.0u	5.0	1.0m	200	250nb	55	7.0	7.0p	GD	T05	A	
57	2N1150	150m	13M	\$S	45	1.0	25m	2.0u	5.0	1.0m	24	400nb	42	2.5	7.0p	G	OV9	F	
58	2N1151	150m	14M	\$J	45	1.0	25m	2.0u	5.0	1.0m	39	400nb	42	4.0	7.0p	GD	OV9	F	
59	2N1152	150m	15M	\$J	45	1.0	25m	2.0u	5.0	1.0m	49	400nb	42	4.0	7.0p	GD	OV9	F	
60	2N1309A	150m	15.5MΔ	\$J	35	3.0	300m	6.0u	1.0	10m	80 Δ				20pZ	Δ	T05	A	
61	2N1153	150m	16M	\$J	45	1.0	25m	2.0u	5.0	1.0m	99	400nb	42	4.0	7.0p	GD	OV9	F	
62	2N1205	150m	17MΔ	\$A	20	1.0	1.0	5.0u	10	2.0m	10 Δ				5.0p	G	T05	A	
63	2N263	150m	20M	\$S	45	30	1.0	1.0u	10	2.0m	30 Δ	1.0uZb	80 Z	20 Z	3.0 Z	OV9a	A	A	
64#	BFV370	150m	20MΔ	\$S	30	30	15	100m	.01u	5.0	1.0m	50 Δ			12pZ	PE	u34b	P	
65#	BFV380	150m	20MΔ	\$S	45	45	18	100m	.01u	5.0	1.0m	50 Δ			12pZ	PE	u34b	P	
66	2N1276	150m	30M	\$J	40	30	1.0	25m	1.0u	5.0	1.0m	14	370nb	44	2.4	2.0p	GD	T05	A
67	2N1277	150m	30M	\$J	40	30	1.0	25m	1.0u	5.0	1.0m	33	300nb	44	2.6	2.0p	GD	T05	A
68	2N1278	150m	30M	\$J	40	30	1.0	25m	1.0u	5.0	1.0m	66	180nb	44	2.3	2.0p	GD	T05	A
69#	25C267	150m	30MΔ	\$J	35	20	5.0	200m	1.0u	1.0	20m	40 Δ			10pZ	PE	u23a	C	
70	2N1279	150m	34M	\$J	40	30	1.0	25m	1.0u	5.0	1.0m	333	140nb	44	2.0	2.0p	GD	T05	A
71	2N1417	150m	34M	\$A	15	15	2.0	10u	6.0	1.0m	60	330nb	50	2.5	1.5p		T05	A	
72	2N1418	150m	34M	\$A	30	30	2.0	1.0u	6.0	1.0m	60	330nb	50	2.5	1.5p		T05	A	
73#	BFV14	150m	50MΔ	\$J	60	40	5.0	1.0u	10	150m	40 Δ				35pZ	DPL	u34b	P	
74	2N3247	150m	60M	\$A	60	45	10	50m	1.0n	5.0	1.0u	150 Δ	1.0uZb	28	6.0 Z	5.0pZ	PL	X16	P
75#	BFV17	150m	60MΔ	\$J	80	60	5.0	1.0u	5.0	5.0m	30 Δ				10pZ	PE	u34b	P	
76#	25C182	150m	90M	\$J	25	20	5.0	150m	1.0u	1.0	20m	80 Δ			6.5p	PE	u23a	C	
77#	25C268	150m	90M	\$J	60	60	5.0	30m	5.0u	1.0	1.0m	40 Δ			6.5p	PE	u23a	C	
78#	25C268A	150m	90M	\$J	80	80	5.0	30m	2.0u	1.0	1.0m	40 Δ			1.6p	PE	u23a	C	
79#	25C475	150m	100M	\$J	20	15	5.0	100m	1.0u	3.0	.50m	300 Δ	3.5u	15k	18		PE	u23	C
80#	25C476	150m	100M	\$J	20	15	5.0	100m	1.0u	3.0	.50m	350 Δ	3.8u	15k	20		PE	u23	C
81#	25C540	150m	100M	\$J	30	20	5.0	1											

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1. MAX. COLL. DISS. @25°C (W)	2. fab	DERATE IN FREE AIR W/°C	T M A M X P	ABS MAX RATINGS @25°C				MAX. lobo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						DESCRIPTION	L C O A D E		
						BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS		COMMON EMITTER			Cob (F)			STRUC TURE	DWG. No.
											Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)					
1#	BFV12	150m	250MΔ	1.0m	Δ	60	35	5.0	800m	.05u	100	1.0m	40	1Δ	10p	PE	u34b	P		
2#	BFV41	150m	250MΔ	1.0m	Δ	20	12	4.5	200m	1.0u	.350	10m	30	1Δ	5p	PEΔ	u34b	P		
3#	BFV45	150m	250MΔ	1.2m	Δ	35	15	5.0		.08u	1.00	10m	30	1Δ	5p	PEΔ	u34b	P		
4#	BFV54†	150m	250MΔ	1.2m	Δ	60	30	5.0		.50u	1.00	150m	30	1#Δ	8p	PE	u34b	P		
5#	BCW46	150m#	300M	2.0m	†	80	60	6.0	100m	10u	5.00	2.0m	240	Δ*	30u	PE	MM13	F		
6#	BCW47	150m#	300M	2.0m	†	50	45	6.0	100m	10u	5.00	2.0m	240	Δ*	30u	PE	MM13	F		
7#	BCW48	150m#	300M	2.0m	†	30	20	5.0	100m	10u	5.00	2.0m	240	Δ*	30u	PE	MM13	F		
8#	BCW49	150m#	300M	2.0m	†	30	20	5.0	100m	10u	5.00	2.0m	240	Δ*	30u	PE	MM13	F		
9#	BFV43†	150m	300MΔ	1.2m	Δ	30	12	4.0	200m	.50u	1.00	30m	30	1Δ	2.5p	PE	u34b	P		
10#	BFV44†	150m	300MΔ	1.2m	Δ	30	15	4.0	200m	.50u	1.00	30m	30	1Δ	5p	PE	u34b	P		
11#	BFV46†	150m	300MΔ	1.2m	Δ	35	15	5.0		.08u	1.00	100m	30	1Δ	5p	PE	u34b	P		
12#	2SC739	150m	350M	1.5m	†	25	12	4.0	20m	1.0u	6.00	1.0m	60	1#	1.5p	PE†	T092	D		
13	2N3493	150m	400MΔ	833u	Δ	12	8.0	5.0	25m	5#	.500	.50m	40	1Δ	.7p	PE	R96d	C		
14#	2SC269†	150m	400MΔ	1.2m	Δ	25	20	5.0	150m	1.0u	1.00	10m	90	†	3.5p	PE	u23a	G		
15#	2SC738	150m	400M	1.5m	†	25	12	4.0	20m	1.0u	6.00	1.0m	60	1#	1.5p	PE†	T092	C		
16#	BF252	150m	400M	1.0m	Δ	40	40	4.0		100n	1.00	2.0m	30	1Δ		DPL	T072	J		
17#	BFV42†	150m	400MΔ	1.2m	Δ	35	15	4.5	200m	.40u	1.00	10m	30	1Δ	4p	PE	u34b	P		
18#	BFV47	150m	400MΔ	1.2m	Δ	30	12	5.0	200m	.40u	1.00	10m	30	1Δ	4p	PE	u34b	P		
19#	BSV53P†	150m	400M	1.2m	†					1.00	1.00	10m	40	1Δ	4.0p	PE	u17c	E		
20#	BSV54P†	150m	400M	1.2m	†					1.00	1.00	10m	20	1Δ	4.0p	PE	u17c	E		
21	NPC167	150m	400M	1.0m	Δ	40	30	4.0	25m	.01u	100	4.0m	57		1.3p	PL	T072	J		
22#	PL4021†	150m	400MΔ	1.0m	Δ	40	15	* 4.5	200m	.40u	1.00	10m	20	1Δ	4p	PE	u51			
23#	2SC921	150m	450MΔ		Δ	25	12	4.0	10m	100n	3.00	500u	65	†	1.5p	PE	u23a	C		
24#	2SC605	150m	480M		Δ	30	30	4.0	20m	.20u	100	2.0m	60	†	1p	PL	u23a	C		
25#	2SC389	150m	500M	1.2m	†	20	15	3.0	20m	.10u	5.00	4.0m	50		1p	PL	T072	J		
26#	2SC657	150m	500M		Δ	18	18	3.0	30m	.20u	100	4.0m	50	†	1.1p	D	u37			
27#	2SC927	150m	500M		†	30	15	3.0	20m	1.0u	6.00	1.0m	80	†	1.0p	PL	T0104	J		
28#	2SC928	150m	500M		†	30	15	3.0	20m	1.0u	6.00	1.0m	80	†	1.0p	PL	T0104	J		
29#	2SC1035	150m	500M		†	30	15	3.0	20m	1.0u	6.00	1.0m	70	†	1.0p	PL	T0104	J		
30#	2SC1036	150m	500M		†	30	15	3.0	20m	1.0u	6.00	1.0m	70	†	1.0p	PL	T0104	J		
31#	BF288	150m	500M	1.0m	Δ	40	40	4.0	20m	50n	7.00	1.0m	65	1Δ		DPE	T072	J		
32#	BFV27†	150m	500MΔ	1.2m	Δ	15	6.0	4.0		.10u	1.00	30m	15	1#Δ	3p	PE	u34b	P		
33#	BFV28†	150m	500MΔ	1.7m	Δ	15	6.0	4.0	50m	10u	4.00	1.0m	15	1#Δ	3p	PE	u34b	P		
34#	BFV80	150m	500MΔ	1.2m	Δ	25	12	3.0	50m	.50u	1.00	3.0m	20	1Δ	1.7p	PE	u34b	P		
35#	PL4022†	150m	500MΔ	1.0m	Δ	40	15	* 4.5	200m	.40u	1.00	10m	40	1Δ	4p	PE	u51			
36#	PL4023†	150m	500MΔ	1.0m	Δ	40	15	4.5	200m	.40u	1.00	100m	20	1Δ#	4p	PE	u51			
37#	2SC606	150m	530M		Δ	30	30	4.0	20m	.20u	100	2.0m	60	†	1p	PL	u23a	C		
38#	2SC382	150m	550M	1.4m	†	40	40	4.0	50m	500n	100	4.0m	80		1.6p	PE	R67a	B		
39#	2SC463H	150m	550M		†	35	35	4.0	20m	100u	100	2.0m	5.5		6p	PE		C		
40#	BF200	150m	550M	1.0m	Δ	30	20	3.0	20m		100	3.0m	16	Δ	.90p	PE	T072	G		
41#	BF303	150m	550M	1.0m	Δ	40	30	3.0	50m		6.00	1.0m	140	†		PL	T072	C		
42#	BF304	150m	550M	1.0m	Δ	40	30	3.0	50m		6.00	1.0m	30	1Δ		PL	T072	C		
43#	2SC287A	150m	600MΔ		Δ	35	15	4.0	20m	.20u	100	5.0m	80	†	1p	PE	u23	C		
44#	2SC382G	150m	600M	1.5m	†	40	40	2.0	50m	.50u	100	4.0m	30	1Δ	1.5p	PE†	R67a	B		
45#	2SC382R	150m	600M	1.5m	†	40	40	2.0	50m	.50u	100	4.0m	30	1Δ	1.5p	PE†	R67a	B		
46#	2SC762	150m	600M	1.0m	Δ	30	20	3.0	20m	100u#	10	2.0m	13	1Δ	280ft	PL	T072	G		
47#	2SC997	150m	600M		Δ	40	30	25m		25n	100	4.0m	70	†	1.5p	PL	T072	G		
48	A481	150m	600M	1.0m	Δ	30	20	3.0	20m						28p	PL	T072	J		
49	BF181	150m	600M	1.0m	Δ	30	20	3.0	20m						.28p	PL	T072	J		
50#	BF251	150m	600M	1.0m	Δ	30	30	4.0		50n	100	4.0m	30	1Δ		DPL	T072	J		
51#	BF270	150m	600M	1.0m	Δ	40	40	4.0	20m		100	4.0m	50	†		PL	T072	J		
52#	BF302	150m	600M	1.0m	Δ	40	30	3.0	50m		6.00	1.0m	35	1Δ		PL	T072	C		
53#	BFV59	150m	600MΔ	1.3m	Δ	25	13	3.0	50m	.05u	100	4.0m	20	Δ	2.5p	PE	u34b	P		
54#	BFV63	150m	600M	1.0m	Δ	40	30	4.0		.50u	100	4.0m	70	1#	2p	DPL	T072	J		
55#	PL4112	150m	600MΔ	1.0m	Δ	30	15	3.0	200m	10n	1.00	3.0m	20	1Δ	2.0p	PE	u51			
56#	2SC707	150m	650M		Δ	20	20	3.0	20m	100u	100	2.0m	50	†	.40p	PE				
57#	2SC707H	150m	650M		Δ	20	20	2.0	20m	100u	100	2.0m	50	†	.40p	PE				
58#	2SC947	150m	650M	1.0m	Δ	25	20	3.0	20m	100u#	10	2.0m	20	†	330ft	PL	T072	G		
59	A482	150m	650M	1.0m	Δ	25	20	3.0	15m	50n	10	2.0m	16	†	1.1p	PE	T072	G		
60	A484	150m	650M	1.0m	Δ	30	20	3.0	20m	50n	10	3.0m	30	†	28p	PL	T072	G		
61#	BF182	150m	650M	1.0m	Δ	25	20	3.0	15m						.33p	PL	T072	G		
62#	BFV64	150m	650M	1.0m	Δ	40	40	4.0		.50u	100	4.0m	70	1#	.2p	DPL	T072	J		
63	BFX62	150m	650M	1.0m	Δ	30	40	4.0	12m		100	2.0m	40			PL	T072	J		
64#	2SC761	150m	675M	1.0m	Δ	30	20	3.0	20m	100u#	10	2.0m	13	1Δ	280ft	PL	T072	G		
65	BF180	150m	675M	1.0m	Δ	30	20	3.0	20m						.28p	PL	T072	J		
66#	BF260	150m	700M	1.0m	Δ	45	30	4.0	50m		6.00	1.0m	70	†		PL	T072	C		
67#	BF261	150m	700M	1.0m	Δ	40	30	4.0	50m		6.00	1.0m	70	†		PL	T072	C		
68#	BF273	150m	750M	1.4m	†	40	35	4.0	50m		7.00	10m	80	†	400ft	PE	T0106	C		
69#	BF274	150m	750M	1.4m	†	40	35	4.0	50m		7.00	10m	40	†	400ft	PE	T0106	C		
70#	2SC629	150m	800M		Δ	18	13	3.0	30m	.20u	3.00	1.0m	30	†	1.3p	D	u37			
71#	2SC948	150m	800M	1.0m	Δ	25	20	3.0	20m	100u#	10	3.0m	24	†	330ft	PL	T072	G		
72	A483	150m	800M	1.0m	Δ	25	20	3.0	15m	100n	10	3.0m	23	†	300ft	PE	T072	G		
73#	BF183	150m	800M	1.0m	Δ	25	20	3.0	15m						.33p	PL	T072	G		
74#	BF287	150m	800M	1.0m	Δ	40	40	4.0	20m	50n	100	2.0m	40	1Δ		DPE	T072	J		
75#	BFS11	150m	800M	1.0m	Δ	40	30	4.0	50m		6.00	1.0m	70	†		PE	T072	J		
76#	2SC663	150m	900M	1.2m	Δ	25	12	2.0	20m	.50u	100	10m	40	1#	1.4p	PE	R126			
77#	2SC740	150m	900M	1.2m	Δ	25	12	2.0	20m	.50u	100	10m	40	1#	1.4p	PE	R126			
78#	BF290	150m	900M	1.0m	Δ	40	40	4.0	20m	50n	100	3.0m	40	1Δ		DPE	T072	J		
79#	2SC392	150m	1.0G	1.4m	†	30	30	3.0	20m	500n	100	2.0	40	1Δ	350ft	PL	T072	G		
80#	2SC787	150m	1.0G	1.2m	†	25	20	3.0	20m	25n	100	2.0m	25	1Δ	300ft	PL	T072	G		
8																				

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	ABS MAX RATINGS @25°C							MAX. I _{cb0} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		LEAD
				M A M	E V _{cb0} (V)	V _{ce0} (V)	V _{be0} (V)	I _c (A)	BIAS			COMMON EMITTER			STRUC-TURE	DWG. No.					
									V _{cb} (V)	I _e (A)		h _{fe}	hoe (mhos)	hie (Ω)			hre (X.0001)				
1	2N4259	175m	1.1m	1.1m	40	30	2.5	100m	8.00	2.0m	70 Δ				550p	∅	R115	G			
2#	BSX38	175m*	200MΔ	1.7m	40	30	5.0	100m	5.00	1.0m	65 t#				5.0p	PL	TO18	∅			
3	SE5022	175m	300MΔ	1.1m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	∅			
4	SE5023	175m	300MΔ	1.1m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	∅			
5	SE5024	175m	300MΔ	1.2m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	G			
6	SE5050	175m	300MΔ	1.2m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	G			
7	SE5051	175m	300MΔ	1.2m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	G			
8	SE5020	175m	375MΔ	1.2m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	G			
9	SE5021	175m	375MΔ	1.2m	40	20	3.0		5.00	4.0m	40 t#				500f	DPL∅	TO72	G			
10#	BF222	175m	400M	1.1m	50	50	4.0	20m	1.00	7.00	2.0m	20 t#				40pt	DPE	TO72			
11	BF166	175m	500M	1.2m	40	40	3.0		1.00	120	2.5m	50 t#				40pt	DPL∅	TO72			
12	BF175	175m	500M	1.2m	40	40	3.0		1.00	120	2.5m	70 t#				40pt	DPL∅	TO72			
13	FT118	175m	500M	1.2m	40	20	3.0		0.50	100	2.0m	80 t#				13ps	DPL	TO72	J∅		
14	SE5052	175m	500M	1.2m	40	20	3.0		0.50	100	2.0m	80 t#				17ps	DPL∅	R96	G		
15#	BF161	175m	550M	1.2m	50	50	3.0	20m	0.50	240	1.5m	70 t#				1.2p	PL∅	TO72	G		
16	BFX31	175m	550M	1.0m	30	30	3.0		0.50	120	4.0m	80 t#				4pt	DPE∅	TO72			
17	BF155	175m	600M	1.2m	40	40	3.0		1.00	120	2.5m	70 t#				40pt	DPL∅	TO72			
18	40242	180m		1.2m	45	45	4.5	50m	0.20	6.00	1.0m	80 t#				50p	PL	TO104	G		
19	40243	180m		1.2m	45	45	4.5	50m	0.20	6.00	1.0m	80 t#				50p	PL	TO104	G		
20	40244	180m		1.2m	45	45	4.5	50m	0.20	6.00	1.0m	85 t#				60p	PL	TO104	G		
21	40245	180m		1.2m	45	45	4.5	50m	0.20	6.00	1.0m	130 t#				50p	PL	TO104	G		
22	40246	180m		1.2m	45	45	4.5	50m	0.20	6.00	1.0m	55 t#				50p	PL	TO104	G		
23	2SC402A	180m	140M		50			100m	20.00	3.00	1.0m	60 t#				2.8p	EM	u37			
24	2SC403A	180m	140M		50			100m	20.00	3.00	1.0m	60 t#				2.8p	EM	u37			
25	2SC631	180m	140M		25	25	6.0	100m	20.00	3.00	1.0m	350 t#				4.5p	EM	u37			
26	2SC632	180m	140M		40	40	6.0	100m	20.00	3.00	1.0m	350 t#				4.5p	EM	u37			
27	2SC633	180m	140M		25	25	6.0	100m	20.00	3.00	1.0m	90 t#				4.5p	EM	u37			
28	2SC634	180m	140M		40	40	6.0	100m	20.00	3.00	1.0m	90 t#				4.5p	EM	u37			
29#	BC167Δ	180m	300M	2.2m	45	45	6.0	100m	20.00	5.00	2.0m	330	30u	4.5k	2.0	4.5p	PE∅	TO92			
30#	BC168Δ	180m	300M	2.2m	45	45	6.0	100m	20.00	5.00	2.0m	330	30u	4.5k	2.0	4.5p	PE∅	TO92			
31#	BC169Δ	180m	300M	2.2m	45	45	6.0	100m	20.00	5.00	2.0m	330	30u	4.5k	2.0	4.5p	PE∅	TO92			
32	2N5181	180m	400MΔ	1.2m	45	3.0	5.0	100m	0.20	8.00	1.0m	27 tΔ				32ps		TO104	J		
33	2N5182	180m	400MΔ	1.2m	35	3.0	4.0	100m	0.30	8.00	1.0m	27 tΔ				34ps		TO104	J		
34#	2SC682	180m	550M		20	20	3.0	30m	100u	100	2.0m	5.5				47p	PE				
35#	2SC683	180m	550M		20	20	3.0	20m	100u	100	2.0m	5.5				47p	PE				
36#	AT342	180m	550M	1.2m	20	20	3.0	20m	100u	100	2.0m	35 #tΔ				47p	PLt	R103 a	G		
37#	AT343	180m	550M	1.2m	20	20	3.0	20m	100u	100	2.0m	35 #tΔ				47p	PLt	R103 a	G		
38#	AT345	180m	550MΔ	1.2m	45	45	3.0	20m	100u	100	2.0m	35 Δ				6.0p	PL	R103a	G		
39#	AT346	180m	550MΔ	1.2m	45	45	3.0	20m	100u	100	2.0m	35 Δ				6.0p	PL	R103a	G		
40	2N5180	180m	650MΔ	1.2m	30	15	2.0	50m	8.00	2.0m	20 tΔ				1ps		TO104	G			
41	40238	180m	800M	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	170 tΔ				5ps		TO104	G		
42	40239	180m	800M	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	100 tΔ				5ps		TO104	G		
43	40240	180m	800M	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	275 tΔ				5ps		TO104	G		
44	40475	180m	800M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	170 tΔ				.18ps		TO104	J∅		
45	40476	180m	800M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	100 tΔ				.18ps		TO104	J∅		
46	40477	180m	800M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	275 tΔ				.18ps		TO104	J∅		
47	40478	180m	800M	1.2m	45	3.0	5.0	50m	0.20	8.00	1.0m	40 tΔ				.20ps		TO104	J∅		
48	40479	180m	800M	1.2m	45	3.0	5.0	50m	0.20	8.00	1.0m	40 tΔ				.20ps		TO104	J∅		
49	40480	180m	800M	1.2m	45	3.0	5.0	50m	0.20	8.00	1.0m	27 tΔ				.20ps		TO104	J∅		
50	40481	180m	860M	1.2m	45	3.0	5.0	50m	0.20	8.00	1.0m	70 tΔ				.20ps		TO104	J∅		
51	40482	180m	860M	1.2m	45	3.0	5.0	50m	0.20	8.00	1.0m	27 tΔ				.20ps		TO104	J∅		
52	40472	180m	900M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	170 tΔ				.19ps		TO104	J∅		
53	40473	180m	900M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	275 tΔ				.19ps		TO104	J∅		
54	40474	180m	900M	1.2m	45	3.0	5.0	50m	1.00	8.00	1.0m	275 tΔ				.19ps		TO104	J∅		
55	40235	180m	1.0G	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	170 tΔ				5ps		TO104	G		
56	40236	180m	1.0G	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	275 tΔ				5ps		TO104	G		
57	40237	180m	1.0G	1.2m	45	4.5	5.0	50m	1.00	8.00	1.0m	275 tΔ				60p		TO104	G		
58	2N2711	200m	2.7m	#J	18	18	5.0	100m	500n	4.50	2.0m	30 tΔ	1.6k	1.0k		9.0p	PL∅	R67	B		
59	2N2712	200m	2.7m	#J	18	18	5.0	100m	500n	4.50	2.0m	75 tΔ	4.7k	2.5k		9.0p	PL∅	R67	B		
60	2N2713	200m	2.7m	#J	18	18	5.0	200m	500n	4.50	2.0m	30 tΔ	1.6m	1.0k		9.0p	PEΔ	R67	B		
61	2N2714	200m	2.7m	#J	18	18	5.0	200m	500n	4.50	2.0m	75 tΔ	4.7m	2.5k		9.0p	PEΔ	R67	B		
62	2N2715	200m	2.6m	#S	18	18	5.0	50m	50u	4.50	2.0m	30 Δ				5p		R67	B		
63	2N2716	200m	2.6m	#S	18	18	5.0	50m	50u	4.50	2.0m	80 Δ				5p		R67	B		
64	2N3390	200m	2.6m	#S	25	25	5.0	100m	100n	4.50	2.0m	400 Δ				10p		R67	B		
65	2N3391	200m	2.6m	#S	25	25	5.0	100m	100n	4.50	2.0m	250 Δ				10p		R67	B		
66	2N3391A	200m	2.6m	#S	25	25	5.0	100m	100n	4.50	2.0m	250 Δ				10p		R67	B		
67	2N3392	200m	2.6m	#S	25	25	5.0	100m	100n	4.50	2.0m	150 Δ				10p		R67	B		
68	2N3393	200m	2.6m	#S	25	25	5.0	100m	100n	4.50	2.0m	90 Δ									

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	MAX. RATINGS @25°C											TYPICAL h _{FE} PARAMETERS							Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E
		1] MAX. COLL. DISS. @25°C (W)	2] fab	DERATE IN FREE AIR W/°C	M E M P	ABS MAX RATINGS @25°C			Ic (A)	Ic @MAX Vcb (A)	BIAS			COMMON EMITTER									
						Vbcco (V)	Vbceo (V)	Vbebo (V)			Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)							
1	CS4021†	200m	350 Δ	2.0m	Δ	J	40	15	5.0	500n	4.00	30m	60	1#	1.5uZb	90	5.0	3.3p	E	R97a	A		
2	2N470	200m	8.0MΔ	1.2m	Δ	S	15	15	2.0	25m	5.0n	1.0m	10 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
3	2N471	200m	8.0MΔ	1.2m	Δ	S	30	30	2.0	25m	5.0n	1.0m	10 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
4	2N471A	200m	8.0MΔ	1.1m	Δ	A	30	30	2.0	25m	5.0n	1.0m	6.0 Δ	1.2uZb	70	5.0	20pZ		T05	A			
5	2N472	200m	8.0MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	10 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
6	2N472A	200m	8.0MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	6.0 Δ	600nb	70	5.0	20pZ		T05	A			
7	2N473	200m	8.0MΔ	1.2m	Δ	S	15	15	2.0	25m	5.0n	1.0m	10 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
8	2N474	200m	8.0MΔ	1.2m	Δ	S	30	30	2.0	25m	5.0n	1.0m	10 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
9	2N474A	200m	8.0MΔ	1.1m	Δ	A	30	30	2.0	25m	5.0n	1.0m	20 Δ	1.2uZb	70	5.0	20pZ	GD	T05	A			
10	2N475	200m	8.0MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	20 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
11	2N475A	200m	8.0MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	35	600nb	70	5.0	20pZ		T05	A			
12	2N479A	200m	8.0MΔ	1.1m	Δ	A	30	30	2.0	25m	5.0n	1.0m	70	1.2uZb	70	5.0	20pZ	GD	T05	A			
13	2N480A	200m	8.0MΔ	1.1m	Δ	A	45	45	2.0	25m	5.0n	1.0m	70	1.2uZb	45	5.0	20pZ	GD	T05	A			
14	2N542A	200m	8.0MΔ	1.1m	Δ	A	30	30	2.0	25m	5.0n	1.0m	80 Δ	1.0uZb	45	5.0	20pZ		T05	A			
15	2N543A	200m	8.0MΔ	1.1m	Δ	A	45	45	2.0	25m	5.0n	1.0m	140	600nb	50	5.0	20pZ		T05	A			
16	2N476	200m	12MΔ	1.2m	Δ	S	15	15	2.0	25m	5.0n	1.0m	30 Δ	1.5uZb	90	5.0	10pZ		T05	A			
17	2N477	200m	12MΔ	1.2m	Δ	S	30	30	2.0	25m	5.0n	1.0m	30 Δ	1.5uZb	90	5.0	10pZ		T05	A			
18	2N478	200m	20MΔ	1.2m	Δ	S	15	15	2.0	25m	5.0n	1.0m	40 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
19	2N479	200m	20MΔ	1.2m	Δ	S	30	30	2.0	25m	5.0n	1.0m	40 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
20	2N480	200m	20MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	40 Δ	1.5uZb	90	5.0	8.0pZ		T05	A			
21	2N1674	200m	20MΔ	1.2m	Δ	S	45	45	2.0	25m	5.0n	1.0m	50 Δ	1.5uZb	90	5.0	20pZ		T05	A			
22#	BC114	200m	20MΔ	2.0m	Δ	J	30	25	6.0	30m	0.5u	100	0.5m	200	1	1.0uZb	4pZ	DPL	R97a	A			
23	EN930	200m	30MΔ	2.0m	Δ	J	45	45	5.0	30m	5.0n	1.0m	600	1.0uZb	32	6.0	8.0pZ	DPE	T0106	A			
24	LID929	200m	30MΔ	1.6m	Δ	J	45	45	5.0	30m	2.0n	5.0n	1.0m	60	Δ	1.0uZb	8.0pZ	DPE	T0122	P			
25	LID930	200m	30MΔ	1.6m	Δ	J	45	45	5.0	30m	2.0n	5.0n	1.0m	150	Δ	1.0uZb	8.0pZ	DPE	T0122	P			
26	PL4061	200m	30MΔ	1.3m	Δ	S	45	45	5.0	30m	10n	5.0n	100u	40	Δ	1.0uZb	8.0pZ	DPE	u51	A			
27#	PL4062	200m	30MΔ	1.3m	Δ	S	45	45	5.0	30m	10n	5.0n	100u	100	Δ	1.0uZb	8.0pZ	DPE	u51	A			
28	TD101*	200m	30MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	120	Δ	200nbZ	32	8.0pZ	PL*	L2z	A		
29	TD102*	200m	30MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	120	Δ	200nbZ	32	8.0pZ	PL*	L2z	A		
30	TD201*	200m	30MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	120	Δ	200nbZ	32	8.0pZ	PL*	L2z	A		
31	TD202*	200m	30MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	120	Δ	200nbZ	32	8.0pZ	PL*	L2u	A		
32	2N541	200m	39MΔ	1.1m	Δ	A	15	15	2.0	500n	6.0n	1.0m	130	150nbZ	45	3.6	2.4p	GD	T05	A			
33	2N542	200m	39MΔ	1.1m	Δ	A	30	30	2.0	500n	6.0n	1.0m	130	150nbZ	45	3.6	2.4p	GD	T05	A			
34	2N543	200m	39MΔ	1.1m	Δ	A	45	45	2.0	500n	6.0n	1.0m	130	150nbZ	45	3.6	2.4p	GD	T05	A			
35	2N3565	200m	40MΔ	2.0m	Δ	S	30	25	6.0	50m	0.5u	5.0n	1.0m	120	Δ	35uZ	20kZ	4pZ	PE	R97a	A		
36	2N4966	200m	40MΔ	2.0m	Δ	J	50	40	6.0	30m	25n	5.0n	1.0m	500	Δ	1.0uZb	32	6.0	6.0pZ		T0106	A	
37	2N4967	200m	40MΔ	2.0m	Δ	J	50	40	6.0	30m	25n	5.0n	1.0m	950	Δ	1.0uZb	32	6.0	6.0pZ		T0106	A	
38	2N4968	200m	40MΔ	2.0m	Δ	J	30	25	6.0	30m	50n	5.0n	1.0m	500	Δ	1.0uZb	32	6.0	6.0pZ		T0106	A	
39	2N5133	200m	40MΔ	2.0m	Δ	J	20	18	3.0	50m	0.5u	5.0n	1.0m	50	Δ	1.0uZb	32	6.0	6.0pZ		T0106	A	
40	3N1200	200m	40MΔ	1.3m	Δ	S	30	30	2.0	10m	0.1u	100	1.0m	100	Δ	1.0uZb	10pZ	5pZ		T072	GC		
41	3N1210	200m	40MΔ	1.3m	Δ	S	30	30	2.0	10m	0.1u	100	1.0m	100	Δ	1.0uZb	10pZ	5pZ		T072	GC		
42	JAN3N1270	200m	40MΔ	2.0m	Δ	J	30	30	2.0	20m	10n	5.0n	1.0m	70	Δ	4.0pZ	10pZ	5pZ		T072	GC		
43	A1109	200m	40MΔ	2.0m	Δ	J	45	45	5.0	10u	0.1u	5.0n	1.0m	70	Δ	8pZ	10pZ	5pZ	PL	T018	A		
44	A1341	200m	40MΔ	1.6m	Δ	J	75	75	5.0	0.1u	0.1u	5.0n	50	Δ	50	Δ	8pZ	10pZ	5pZ	PL	T018	A	
45	BC132	200m	40MΔ	2.0m	Δ	J	30	25	6.0	0.5u	5.0n	1.0m	280	11u	7.5k	3.0	2.2p	PL	R97a	A			
46	CS4003	200m	40MΔ	2.0m	Δ	J	30	25	6.0	50n	100	8.0m	150	10u	7.0k	5.0	4.0pZ	E	T0106	A			
47	CS4060	200m	40MΔ	2.0m	Δ	J	40	40	5.0	10n	5.0n	1.0m	50	Δ	50	Δ	6.0pZ		R124	A			
48	CS4061	200m	40MΔ	2.0m	Δ	J	40	40	5.0	10n	5.0n	1.0m	250	10u	7.0k	5.0	6.0pZ		R124	A			
49	S15650	200m	40MΔ	2.0m	Δ	J	30	25	6.0	0.5u	100	1.0m	150	11u	7.5k	3.0	4pZ	DPL	T0106	A			
50	SE4001	200m	40MΔ	2.0m	Δ	J	30	25	6.0	20u	5.0n	1.0m	280	11u	7.5k	3.0	4pZ	DPL	R124	A			
51#	C407	200m	50MΔ	2.0m	Δ	J	120	120	5.0	20u	100	3.0m	18	Δ	18	Δ	4pZ	DPL	R97	A			
52	CS4062	200m	50MΔ	2.0m	Δ	J	60	60	5.0	10n	5.0n	1.0m	350	90nb	26	6.0pZ		R124	A				
53	TD100*	200m	50MΔ	1.5m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	350	90nb	26	5.0p	PL*	L2u	A			
54	TD200*	200m	50MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	350	90nb	26	5.0p	PL*	L2z	A			
55	TD250*	200m	50MΔ	1.6m	Δ	J	60	30	5.0	500m	10n	5.0n	1.0m	350	90nb	26	5.0p	PL*	L2z	A			
56	2N2453*	200m	60MΔ	1.1m	Δ	J	60	30	7.0	50m	5.0n	5.0n	1.0m	150	Δ	30uZ	5.0k	6.0pZ	*	L2t	A		
57	2N2453A*	200m	60MΔ	1.1m	Δ	J	60	30	7.0	50m	5.0n	5.0n	1.0m	150	Δ	30uZ	5.0k	6.0pZ	*	L2t	A		
58	2N2903*	200m	60MΔ	1.1m	Δ	J	60	30	7.0	50m	0.1u	5.0n	1.0m	150	Δ	30uZ	1.0k	6	8pZ	*	L2t	A	
59	2N2903A*	200m	60MΔ	1.1m	Δ	J	60	30	7.0	50m	0.1u	5.0n	1.0m	150	Δ	30uZ	1.0k	6	8pZ	*	L2t	A	
60	2N3843	200m	60MΔ	2.7m	Δ	S	30	30	4.0	100m	50u	4.5n	2.0m	20	Δ	4pZ	4pZ	4pZ		T098	B		
61	2N3843A	200m	60MΔ	2.7m	Δ	S	30	30	4.0	100m	50u	4.5n	2.0m	40	Δ	4pZ	4pZ	4pZ		T098	B		
62	A640LS*	200m	60MΔ	2.0m	Δ	J	30	30	5.0	30m	10u	5.0n	0.1m	100	Δ	3.5p	PL	ZA26		B			
63	A641LS*	200m	60MΔ	2.0m	Δ	J	30	30	5.0	30m	10u	5.0n	0.1m	200	Δ	3.5p	PL	ZA26		B			
64	A642LS*	200m	60MΔ	2.0m	Δ	J	30	30	5.0	30m	10u	5.0n	0.1m	400	Δ	3.5p	PL	ZA26		B			
65	A649L*	200m	60MΔ	2.0m	Δ	J	30	30	5.0	30m	1.0n	5.0n	10u	200	Δ	3.5p	PL	X56A		A			
66	A649S*	200m	60MΔ	2.0m	Δ	J	30	30	5.0	30m	1.0n	5.0n	10u	200	Δ	3.5p	PL	X56		A			
67	BC113	200m	60MΔ	2.0m	Δ	J	30	25	6.0	0.5u	5.0n	1.0m	330	15u	8.0k	32	2.0p	DPL	R97a	A			
68#	C450	200m	60MΔ	2.0m	Δ	J	40	40	4.0	100m	10u	5.0n	1.0m	100	Δ	6pZ	PL	R97a		A			
69	CS3843	200m	60MΔ	2.7m	Δ	J	30	30	4.0	100m	50u	4.5n	2.0m	20	Δ	4.0p	DPL	R97a		A			
70	EN2484	200m	60MΔ	2.0m	Δ	J	60	60	6.0	50m	0.5u	5.0n	1.0m	900	1#Z								

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1] MAX. COLL. DISS. @25°C (W)	2] DERATE IN FREE AIR W/°C	M E A M P	ABS MAX RATINGS @25°C				MAX. lcho @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRUC-TURE	DWG. No.	L C E A D E		
					BVcbo (V)	BVcevo (V)	Ic (A)	BIAS			COMMON EMITTER										
								Vcb (V)		le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)							
1	MPS3646†	200m	350mΔ	2.0m	†J	40	15	5.0	200m	50nΔ	4.0Δ	30mΔ	30	†Δ							
2	SE1001	200m	350mΔ	2.0m	†J	45	45	4.0		50nΔ	100Δ	10mΔ	110		25u	900	1.2	3.5pΔ	EA DPLΔ	TO92	A
3	SE1002	200m	350mΔ	2.0m	†J	45	45	4.0		500nΔ	100Δ	10mΔ	145		35u	1.1k	1.3	3.5pΔ	DPLΔ	TO106	A
4	SE3646†	200m	350mΔ	2.0m	†J	40	15	5.0		500nΔ	4.0Δ	30mΔ	60	†Δ						TO106	A
5	2SC864	200m	360mΔ	1.6m	†J	40	30	4.0	25m	1nΔ	100Δ	7.0mΔ	39	†Δ						TO72	A
6	2N3564	200m	400mΔ	2.0m	†S	30	15	4.0	100m	0.5uΔ	100Δ	15mΔ	20	#†Δ		100				R97a	G
7	2N3688	200m	400mΔ	2.0m	†J	40	40	4.0	30m	50uΔ	100Δ	4.0mΔ	30	†Δ						R110	A
8	2N3689	200m	400mΔ	2.0m	†J	40	40	4.0	30m	50uΔ	100Δ	30	†Δ							R110	A
9	2N3690	200m	400mΔ	2.0m	†J	40	40	4.0	30m	50uΔ	100Δ	4.0mΔ	30	†Δ						R110	A
10	2N4274†	200m	400mΔ	2.0m	†J	30	12	4.5	100m	10uΔ†	1.0Δ	100mΔ	18	#†Δ						R110	A
11	2N4275†	200m	400mΔ	2.0m	†J	40	15	4.5	100m	10uΔ†	1.0Δ	100mΔ	18	#†Δ						R110	A
12	2N4294†	200m	400mΔ	1.6m	†S	30	12	4.5	200m	40uΔ	1.0Δ	10mΔ	120	†Δ						u29	A
13#	2SC484	200m	400mΔ	1.1m	†J	30	12	2.0	20m	500nΔ	6.0Δ	1.0mΔ	40							R103a	B
14#	2SC785	200m	400mΔ	1.1m	†J	30	12	2.0	20m	500nΔ	6.0Δ	1.0mΔ	40							R103a	B
15#	2SC752G†	200m	400mΔ	2.0m	†J	40	15	5.0	200m	25uΔ	1.0Δ	10mΔ	20	†Δ*						R67a	B
16#	2SC980	200m	400mΔ	2.0m	†J	70	50	5.0	100m	1.0uΔ	1.0Δ	10mΔ	70	†						R67a	B
17#	2SC980A/G	200m	400mΔ	2.0m	†J	90	70	5.0	100m	500nΔ	1.0Δ	10mΔ	40	†						MM10	B
18#	BF196	200m*	400mΔ	2.5m	†J	40	30	4.0	25m		10	4.0m	80	†						MM10	C
19#	BFX18	200m	400mΔ	1.1m	†J	35	35	4.0		50nΔ	120Δ	3.0mΔ	20	†Δ						TO118	G
20#	BFX19	200m	400mΔ	1.1m	†J	35	35	4.0		50nΔ	120Δ	3.0mΔ	20	†Δ						RO38	G
21#	BFX20	200m	400mΔ	1.1m	†J	35	35	4.0		50nΔ	120Δ	3.0mΔ	20	†Δ						TO118	G
22#	BFX21	200m	400mΔ	1.1m	†J	35	35	4.0		50nΔ	120Δ	3.0mΔ	20	†Δ						TO118	G
23#	EN3011†	200m	400mΔ	2.0m	†J	30	35	5.0		4uΔ	.35Δ	1.0mΔ	30	#†Δ						TO106	A
24	S15657	200m	400mΔ	2.0m	†J	40	15	4.0		0.5uΔ	.75Δ	2.0mΔ	200	†Δ						TO106	G
25	2N4135	200m	425mΔ	1.1m	†J	30	30	3.0	30m	0.5uΔ	5.0Δ	4.0mΔ	120	†Δ						TO72	A
26	2N5130	200m	450mΔ	2.0m	†J	30	12	1.5	50m	0.5uΔ	100Δ	8.0mΔ	20	†Δ						TO106	A
27	2N4295†	200m	500mΔ	1.6m	†S	40	15	5.0	200m	10uΔ	1.0Δ	10mΔ	120	†Δ						u29	A
28#	2SC384	200m	500mΔ	2.0m	†J	20	18	2.0	50m	50nΔ	6.0Δ	1.0m	50	†*						R67a	B
29#	2SC933†	200m	500mΔ	2.0m	†J	50	30	5.0	300m	1.0u	5.0Δ	20mΔ	100	†						TO104	B
30#	2SC934†	200m	500mΔ	2.0m	†J	50	30	5.0	300m	1.0u	5.0Δ	20mΔ	100	†						TO104	B
31	D1666	200m	500mΔ	2.6m	†J	30	12	3.0	25m	50nΔ	100Δ	5.0mΔ	20	†Δ						TO98	B
32	EN2369A†	200m	500mΔ	2.0m	†J	40	40	4.5	200m	40uΔ	.35Δ	1.0mΔ	40	#†Δ						TO106	A
33#	NKT35219	200m	500mΔ	1.1m	†J	20	15	3.0	50m	10uΔ	100Δ	1.0mΔ	20	†Δ						TO72	G
34	TIS56	200m	500mΔ	1.3m	†A	30	20	3.0	30m	.05uΔ	100Δ	4.0mΔ	20	†Δ						TO72	A
35	TIS57	200m	500mΔ	1.3m	†A	30	20	3.0	30m	.05uΔ	100Δ	4.0mΔ	20	†Δ						TO72	A
36#	BF197	200m*	500mΔ	2.5m	†J	40	30	4.0	25m		10	7.0m	85	†						MM10	A
37	2N917A	200m	800mΔ	1.1m	†S	30	15	3.0		1nΔ	1.0Δ	3.0mΔ	20	#†Δ						TO72	G
38	2N918	200m	800mΔ	1.1m	†J	30	15	3.0	50m	.01uΔ	1.0Δ	3.0mΔ	20	†Δ						TO72	G
39	JAN2N918	200m	800mΔ	1.1m	†J	30	15	3.0	50m	10nΔ	1.0Δ	3.0mΔ	20	†Δ						TO72	G
40	2N2865	200m	800mΔ	1.1m	†S	25	15	3.0	50m	.01uΔ	100Δ	4.0mΔ	20	†Δ						TO72	A
41	2N3563	200m	800mΔ	2.0m	†S	30	12	2.0	50m	.05uΔ	100Δ	8.0mΔ	20	#†Δ						R97a	A
42	2N4252	200m	800mΔ	1.3m	†S	30	18	4.0	50m	.05uΔ	100Δ	2.0mΔ	50	†Δ						TO72	G
43	2N4253	200m	800mΔ	1.3m	†S	30	18	4.0	50m	.05uΔ	100Δ	2.0mΔ	30	†Δ						TO72	G
44	2N4292	200m	800mΔ	1.6m	†S	30	15	3.0	50m	.50uΔ	1.0Δ	3.0mΔ	20	†Δ						u29	G
45	2N4293	200m	800mΔ	1.6m	†S	30	15	3.0	50m	.50uΔ	1.0Δ	3.0mΔ	20	†Δ						u29	G
46#	2SC375	200m	800mΔ	2.0m	†J	20	12	2.0	50m	500nΔ	100Δ	8.0m	100	†						R67a	B
47#	2SC386A	200m	800mΔ	2.0m	†J	20	15	3.0	20m	50nΔ	3.0Δ	8.0mΔ	40	†						R67a	B
48#	2SC786	200m	800mΔ	2.0m	†J	20	12	2.0	20m	50uΔ	5.0Δ	4.0mΔ	50	†						TO72	G
49#	AT338	200m	800m	2.0m	†J	30	19	4.0	50m	50uΔ	100Δ	1.0mΔ	40	†						MM12a	D
50#	AT340	200m	800m	2.0m	†J	30	19	4.0	50m	500nΔ	100Δ	1.0mΔ	40	†						TO104	G
51#	BF160	200m	800mΔ	2.0m	†J	30	12	2.0		10uΔ	100Δ	3.0mΔ	50	#†						R97a	A
52	BF162	200m	800mΔ	2.0m	†J	40	40	4.0		10uΔ	100Δ	4.0mΔ	70	#†						R97a	A
53	BF163	200m	800mΔ	2.0m	†J	40	40	4.0		10uΔ	100Δ	4.0mΔ	70	#†						R97a	A
54	BF164	200m	800mΔ	2.0m	†J	40	40	4.0		10uΔ	100Δ	4.0mΔ	70	#†						R97a	A
55	MD1T918	200m	800mΔ	1.1m	†A	30	15	3.0	50m	10nΔ	100Δ	4.0mΔ	6.0	†Δ						TO122	P
56#	NKT16229	200m	800mΔ	1.1m	†J	30	15	3.0	50m	0.1uΔ	100Δ	1.0mΔ	20	†Δ						TO72	G
57	NPC188	200m	800mΔ	1.3m	†A	50	50	5.0	50m	0.1uΔ	200Δ	10mΔ	25	†Δ						TO72	J
58	SE5001	200m	800mΔ	2.0m	†J	40	40	4.0		50uΔ	100Δ	4.0mΔ	70	†						TO106	A
59	SE5002	200m	800mΔ	2.0m	†J	40	40	4.0		50uΔ	100Δ	4.0mΔ	70	†						TO106	A
60	SE5003	200m	800mΔ	2.0m	†J	40	40	4.0		50uΔ	100Δ	4.0mΔ	70	†						TO106	A
61	JAN2N2708	200m	700mΔ	1.1m	†J	35	20	3.0	50m	10nΔ	150Δ	2.0mΔ	30	†Δ						TO72	G
62	2N3662	200m	700mΔ	2.6m	†S	18	12	3.0	25m	50uΔ	100Δ	8.0mΔ	20	†Δ						TO98	B
63	2N3663	200m	700mΔ	2.6m	†S	30	12	3.0	25m	50uΔ	100Δ	8.0mΔ	20	†Δ						TO98	B
64#	BF273C	200m	700mΔ	2.0m	†	25	25	4.0	50m	100uΔ	100Δ	1.0mΔ	95	†						TO106	C
65#	BF273D	200m	700mΔ	2.0m	†	25	25	4.0	50m	100uΔ	100Δ	1.0mΔ	95	†						TO106	C
66#	BF274B	200m	700mΔ	2.0m	†	25	25	4.0	50m	100uΔ	100Δ	1.0mΔ	170	†						TO106	C
67#	BF274C	200m	700mΔ	2.0m	†	25	25	4.0	50m	100uΔ	100Δ	1.0mΔ	95	†						TO106	C
68#	ZT2708	200m	700mΔ	1.1m	†J	35	20	3.0		100uΔ	150Δ	1.0mΔ	30	†Δ						TO72	C
69#	2N3478	200m	750mΔ	1.1m	†S	30	15	2.0		.01uΔ	150Δ	2.0mΔ	30	†Δ						TO72	C
70	2N3932	200m	750mΔ	1.1m	†S	30	20	2.5		.01uΔ	8.0Δ	2.0mΔ	50	†Δ						TO104	G
71	2N3933	200m	750mΔ	1.1m	†S	40	30	2.5		.01uΔ	8.0Δ	2.0mΔ	60	†Δ						R115	G
72	2N917	200m	800mΔ	1.1m	†J	30	15	3.0		.00uΔ	1.0Δ	3.0mΔ	20	†Δ						R115	G
73#	2SC397	200m	800mΔ	1.3m	†J	20	12	2.0	50m	50uΔ	100Δ	8.0m	80							TO72	G
74#	2SC602	200m	800mΔ	2.0m	†J	30	20	3.0	30m	1.0uΔ	6										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C				3 ABS MAX RATINGS @25°C				4 TYPICAL 'h' PARAMETERS					Cob (F)	5 DESCRIPTION		L C O D E		
			fab	IN	M E	T	BVcbo	BVceo	BVebo	Ic	MAX. Icb0 @MAX Vcb	BIAS			COMMON EMITTER			STRUC-TURE		DWG. No.	
												Vcb	Ic	hfe	hoe		hie				hre
1	K2113	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
2	K2114	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
3	K2115	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
4	K2116	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
5	K2117	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
6	K2118	200m	1.0G	1.1m	1.1m	30	15	2.5	10m	1.0G	3.0m	30	Δ			1.0pZ	∅	T072	G		
7	K2119	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
8	K2120	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
9	K2121	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
10	K2122	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
11	K2123	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
12	K2124	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
13	K2125	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
14	K2126	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
15	K2127	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.0pZ	∅	T072	G		
16	K2601C	200m∅	1.0G	2.0m	2.0m	20	10	2.0	20m	1.0u	1.0G	3.0m	50	†		2pZ	∅	u35			
17	K2602C	200m∅	1.0G	2.0m	2.0m	20	10	2.0	20m	1.0u	1.0G	3.0m	50	†		2pZ	∅	u35			
18	K2603C	200m∅	1.0G	2.0m	2.0m	20	10	2.0	20m	1.0u	1.0G	3.0m	50	†		2pZ	∅	u35			
19	K2604C	200m∅	1.0G	2.0m	2.0m	20	10	2.0	20m	1.0u	1.0G	3.0m	50	†		2pZ	∅	u35			
20	K2615	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.5pZ	∅	T072	G		
21	K2616	200m	1.0G	1.1m	1.1m	30	12	2.0	300m	1.0G	3.0m	20	Δ			1.5pZ	∅	T072	G		
22	MM8006	200m	1.0G	1.1m	1.1m	30	15	2.5	20m	1.0u	6.0G	1.0m	25	†Δ		1.1p	∅	T072	G		
23	MM8007	200m	1.0G	1.1m	1.1m	30	15	2.5	20m	1.0u	6.0G	1.0m	25	†Δ		1.1p	∅	T072	G		
24#	ZT2857	200m	1.0G	1.1m	1.1m	30	15	2.5	20m	0.1u	6.0G	2.0m	50	†		1.8pZ	∅	T072	G		
25#	ZTX325	200m	1.0G	1.3m	1.3m	30	15	2.5	50m	1.0u	1.0G	2.0m	25	†Δ		800ftZ	∅	X59	F		
26#	ZTX326	200m	1.0G	1.3m	1.3m	25	12	2.5	50m	1.0u	1.0G	2.0m	25	†Δ		800ftZ	∅	X59	F		
27#	ZSC313	200m	1.1G	1.2m	1.2m	30	19	2.0	50m	0.5u	1.0G	1.0m	40	†		1.0p	∅	R92b	H		
28#	ZSC684	200m	1.1G	1.1m	1.1m	30	19	2.0	50m	0.5u	1.0G	1.0m	40	†		1.1p	∅				
29#	ZSC717	200m	1.1G	1.1m	1.1m	30	19	2.0	50m	0.5u	1.0G	1.0m	11			1.0p	∅				
30	A490	200m	1.1G	1.1m	1.1m	30	15	2.5	25m	1.0u	1.0G	2.0m	25	†Δ		1.5pZ	∅	T072	G		
31	2N2708	200m	1.2G	1.1m	1.1m	35	20	3.0	50m	0.1u	15	2.0m	180	†		1pZ	∅				
32	2N3571	200m	1.2G	1.1m	1.1m	25	15	3.0	50m	0.1u	6.0G	5.0m	20	Δ			∅				
33	2N3880	200m	1.2G	1.1m	1.1m	30	15	2.5	50m	0.05u	6.0G	3.0m	50	†		75pZ	∅				
34	40295	200m	1.2G	1.1m	1.1m	35	20	3.0	40m	0.1u	2.0G	2.0m	200	†		1pZ	∅				
35#	BFX89	200m	1.2G	1.1m	1.1m	30	15	2.5	25m	0.1u	1.0G	2.0m	25	†Δ		6pZ	∅				
36	2N3953	200m	1.3G	1.1m	1.1m	30	15	2.5	30m	0.1u	6.0G	2.0m	40	†		1.8pZ	∅				
37	2N5024	200m	1.3G	1.1m	1.1m	30	15	3.0	15m	0.1u	1.0G	1.0m	25	†Δ		1.5pZ	∅				
38	2N5053	200m	1.3G	1.1m	1.1m	30	15	3.0	25m	0.1u	5.0G	2.0m	25	†Δ		1.5pZ	∅				
39#	ZSC568	200m	1.3G	1.1m	1.1m	30	15	3.0	20m	0.5u	6.0G	2.0m	80			65pZ	∅				
40#	ZSC612	200m	1.3G	1.3m	1.3m	35	15	2.0	20m	1.0u	1.0G	2.0m	80			2pZ	∅				
41	K2109A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
42	K2110A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
43	K2111A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
44	K2112A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
45	K2113A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
46	K2114A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
47	K2115A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
48	K2116A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
49	K2117A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
50	K2118A	200m	1.4G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
51	K2119A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
52	K2120A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
53	K2121A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
54	K2122A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
55	K2123A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
56	K2124A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
57	K2125A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
58	K2126A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
59	K2127A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.0pZ	∅				
60	K2615A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.5pZ	∅				
61	K2616A	200m	1.4G	1.1m	1.1m	30	12	2.0	300m	1.0G	1.0G	3.0m	20	Δ		1.5pZ	∅				
62	2N3570	200m	1.5G	1.1m	1.1m	30	15	3.0	50m	0.1u	6.0G	5.0m	20	Δ			∅				
63	2N5054	200m	1.5G	1.1m	1.1m	30	15	3.0	25m	0.1u	5.0G	5.0m	25	†		1pZ	∅				
64	TIXS10	200m	1.5G	1.1m	1.1m	30	13	3.0	50m	0.1u	6.0G	5.0m	20	Δ		1.7pZ	∅				
65	K5001	200m	1.6G	1.1m	1.1m	25	12	2.5	20m	0.05u	1.0G	3.0m	100	†		1pZ	∅				
66	K5002	200m	1.6G	1.1m	1.1m	25	12	2.5	20m	0.05u	1.0G	3.0m	100	†		1pZ	∅				
67	K5003	200m	1.6G	1.1m	1.1m	25	12	2.5	20m	0.05u	1.0G	3.0m	100	†		1pZ	∅				
68#	BFS57	200m∅	1.7G	1.6m	1.6m	25	15	3.0	50m	1.0u	6.0G	5.0m	20	Δ		600f	∅				
69#	K2109B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
70	K2110B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
71	K2111B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
72	K2112B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
73	K2113B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
74	K2114B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
75	K2115B	200m	1.7G	1.1m	1.1m	30	15	2.5	10m	1.0G	1.0G	3.0m	30	Δ		1.0pZ	∅				
76	K2116B	200m	1.7G	1.1m	1.1m	30	15														

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E T A M P	ABS MAX RATINGS @ 25°C				MAX. lco @ MAX Vcb (V)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L C O D E
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			COMMON EMITTER				STRUCTURE	DWG. No.	
										Vcb (V)	Ic (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				
1#	BF195	220m	200MSΔ	2.2m	↑	30	20	30m	100	1.0m	67 ↑					PE1	MM10	C	
2#	BF255Δ	220m	200MS	2.2m	↑	30	20	30m	100	1.0m	67 ↑				850ft	PE1	X64b	C	
3#	BF333	220m	200MS	2.2m	↑	30	20	30m	100	1.0m	67 ↑					PE1	MM10	C	
4#	BC167	220m	250MSΔ	2.2m	↑	45	45	5.0	100m	5.0	2.0m	125 Δ*				PE1	X73	D	
5#	BC168	220m	250MS	2.2m	↑	20	20	5.0	100m	5.0	2.0m	125 Δ*				PE1	X73	D	
6#	BC237	220m	250MS	2.2m	↑	45	45	5.0	100m	5.0	2.0m	125 Δ*				PE1	X73	A	
7#	BC238	220m	250MS	2.2m	↑	20	20	5.0	100m	5.0	2.0m	125 Δ*				PE1	X73	A	
8#	PL40511	220m	250MSΔ	1.5m	↑	60	30	5.0	800m	10n	1.0m	30 Δ			8p	PE1	u51	A	
9#	PL40521	220m	250MSΔ	1.5m	↑	75	40	6.0	800m	10n	1.0m	30 Δ			8p	PE1	u51	A	
10#	PL40531	220m	250MSΔ	1.5m	↑	60	30	5.0	800m	10n	1.0m	25 Δ			8p	PE1	u51	A	
11#	PL40551	220m	250MSΔ	1.5m	↑	60	30	5.0	800m	10n	1.0m	50 Δ			8p	PE1	u51	A	
12#	BF194	220m	260MS	2.2m	↑	30	20	30m	100	1.0m	115 ↑					PE1	MM10	C	
13#	BF254Δ	220m	260MS	2.2m	↑	30	20	5.0	30m	100	1.0m	115 ↑			850ft	PE1	X64b	C	
14#	BF332	220m	260MS	2.2m	↑	30	20	5.0	30m	100	1.0m	115 ↑				PE1	MM10	C	
15#	BC147Δ	220m	300MS	2.2m	↑	45	45	6.0	100m	20n	5.0	330			30u	PE1	MM10	C	
16#	BC147	220m	300MS	2.2m	↑	50	45	6.0	100m	5.0u	5.0	2.0m	210 *		18u	PE1	MM11	A	
17#	BC147A	220m	300MS	2.2m	↑	50	45	6.0	100m	5.0u	5.0	2.0m	220		18u	PE1	MM10	A	
18#	BC147B	220m	300MS	2.2m	↑	50	45	6.0	100m	5.0u	5.0	2.0m	330		30u	PE1	MM10	A	
19#	BC148Δ	220m	300MS	2.2m	↑	30	20	5.0	100m	20n	5.0	2.0m	330		30u	PE1	MM10	A	
20#	BC148	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	210 *		18u	PE1	MM11	A	
21#	BC148A	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	220		18u	PE1	MM10	A	
22#	BC148B	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	330		30u	PE1	MM10	A	
23#	BC148C	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	600		60u	PE1	MM10	A	
24#	BC149A	220m	300MS	2.2m	↑	30	20	5.0	100m	20n	5.0	2.0m	330		30u	PE1	MM10	A	
25#	BC149	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	210 *		18u	PE1	MM11	A	
26#	BC149B	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	330		30u	PE1	MM10	A	
27#	BC149C	220m	300MS	2.2m	↑	30	20	5.0	100m	5.0u	5.0	2.0m	600		60u	PE1	MM10	A	
28#	BC169	220m	300MS	2.2m	↑	20	20	5.0	100m	1.0n	5.0	2.0m	240 Δ*			PE1	X73	D	
29#	BC239	220m	300MS	2.2m	↑	20	20	5.0	100m	1.0n	5.0	2.0m	240 Δ*			PE1	X73	D	
30#	PL40541	220m	300MSΔ	1.5m	↑	75	40	6.0	800m	10n	1.0m	50 Δ			8p	PE1	u51	A	
31#	SE60221	220m	400MS	2.2m	↑	60	60	6.5	1	10u	100	1.0m	100 ↑		11p	DPEΔ	TO106	A	
32#	SE60231	220m	400MS	2.2m	↑	80	80	6.5	1	10u	100	1.0m	120 ↑		11p	DPEΔ	TO106	A	
33#	MMT70	225m	2.0m	1.8m	↑	25	20	5.0	50m	50n	5.0	2.0m	150 Δ		8.0p	AN	u43	C	
34#	MMT761	225m	30MSΔ	1.8m	↑	30	20	5.0	200m	100n	1.0	50m	30 Δ		5.0p	AN	u43	C	
35#	A3T929	225m	30MSΔ	1.8m	↑	45	45	6.0	50m	.01u	5.0	1.0m	60 Δ		40u	PLT	u44	A	
36#	A3T930	225m	30MSΔ	1.8m	↑	45	45	6.0	50m	.01u	5.0	1.0m	150 Δ		60u	PLT	u44	A	
37#	A3T248A	225m	60MSΔ	1.8m	↑	60	60	6.0	50m	.01u	5.0	1.0m	150 Δ		100u	PLT	u44	A	
38#	MMT930	225m	60MSΔ	2.0m	↑	60	45	6.0	50m	10n	5.0	1.0m	150 Δ		6p	AN	u43	A	
39#	MMT248A	225m	60MSΔ	2.0m	↑	60	60	6.0	50m	10n	5.0	1.0m	250 Δ		6p	AN	u43	D	
40#	25C28	225m	100M	1.8m	↑	40	30	5.0	200m	1.0u	100	1.0m	30		4.0p	ME	TO5	D	
41#	MMT2221	225m	200MSΔ	2.0m	↑	60	30	5.0	500m	50n	100	1.0m	50 Δ		3.5p	AN	u43	D	
42#	MMT39031	225m	250MSΔ	2.0m	↑	60	40	6.0	200m	.05u	100	1.0m	100		10u	AN	u23c	F	
43#	A3T2221	225m	300MS	1.8m	↑	60	30	5.0	500m	.01u	100	1.0m	25 Δ		100u	PE1	u44	A	
44#	A3T2221A	225m	300MS	1.8m	↑	75	40	6.0	500m	.01u	100	1.0m	35 Δ		100u	PE1	u44	A	
45#	MMT39041	225m	300MSΔ	2.0m	↑	60	40	6.0	200m	.05u	100	1.0m	200		10u	AN	u23c	F	
46#	A3T22221	225m	350MS	1.8m	↑	60	30	5.0	500m	.01u	100	1.0m	50 Δ		200u	PE1	u44	A	
47#	A3T2222A	225m	350MS	1.8m	↑	75	40	6.0	500m	.01u	100	1.0m	75 Δ		200u	PE1	u44	A	
48#	MMT30141	225m	350MSΔ	2.0m	↑	40	20	5.0	200m	100n	4.0	30m	50 Δ#		5.0p	AN	u43	D	
49#	A3T30111	225m	400MSΔ	1.8m	↑	30	12	5.0	200m	.40u	35	10m	30 Δ#		4p	PE1	u44	A	
50#	MMT721	225m	400MSΔ	2.0m	↑	10	10	4.0	200m	100n	2.0	10m	30 Δ		6.0p	AN	u43	C	
51#	A3T918	225m	60MSΔ	1.8m	↑	30	15	3.0	50m	.01u	1.0	3.0m	20 Δ		3p	PE1	u44	A	
52#	MMT918	225m	60MSΔ	2.0m	↑	30	15	3.0	50m	.01u	1.0	3.0m	20 Δ#		3p	AN	u43	D	
53#	MMT74	225m	1.0G	2.0m	↑	20	12	3.0	40m	100n	1.0	3.0m	25 Δ		1.0p	AN	u43	C	
54#	MMT2857	225m	1.3G	2.0m	↑	30	15	3.0	40m	50n	1.0	3.0m	30 Δ		1p	AN	u43	D	
55#	MMT3960A1	225m	2.0G	2.0m	↑	15	8.0	3.0	3.0	50n	1.0	10m	30 Δ#		1.3p	AN	u43	D	
56#	BSW881	230m*	200MSΔ	2.9m	↑	35	30	5.0	100m	.05u	1.0	10m	100 Δ*		6p	PE1	X73	C	
57#	BSW891	230m*	200MSΔ	2.9m	↑	35	30	5.0	100m	.05u	1.0	10m	100 Δ*		6p	PE1	X73	A	
58#	BSX811	230m*	200MSΔ	2.9m	↑	35	30	5.0	100m	.05u	1.0	10m	100 Δ*		6p	PE1	MM11	A	
59#	BFX60	230m	550MS	1.5m	↑	40	25	4.0	25m	.01u	100	7.0m	88		2.0p	PE	TO72	J	
60#	NPC173	230m	600MS	1.5m	↑	40	25	4.0	25m	.01u	100	7.0m	88		2.0p	PL	TO72	J	
61#	BFX59	230m	900MS	1.5m	↑	30	20	3.0	100m	.01u	100	20m	75		.3p	PE	TO72	G	
62#	BFW70	240m	750MS	1.6m	↑	30	30	4.0	4.0	100	100	10m	75 #		.3p	PE	TO72	G	
63#	BF271	240m	1.0G	1.6m	↑	40	40	4.0	30m	50n	150	10m	55 Δ		1.5p	DPE	TO72	A	
64#	BFS55	240m*	3.0G	1.4m	↑	15	3.5	5.0	50m	50n	8.0	25m	30 Δ		1.5p	PE	TO72	A	
65#	2N1990R	250m	2.0m	2.5m	↑	100	3.0	3.0	200m	1u	50	2.0m	25 Δ			PE	TO18	A	
66#	25C815	250m	2.5m	2.5m	↑	60	45	5.0	200m	200n	100	10m	80 ↑			PE	TO92	B	
67#	25C900	250m			↑	30	25	5.0	20m	50n	3.0	500u	250 ↑		20u	PE	TO92	B	
68#	25C923	250m			↑	30	25	5.0	20m	50n	3.0	500u	250 ↑		20u	PE	TO92	B	
69#	25C924	250m			↑	30	15	5.0	50m	100n	3.0	500u	100 ↑		20u	PE	TO92	B	
70#	25D227	250m			↑	30	15	5.0	300m	100n	1.0	3							

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	T M E X P	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL h _{FE} PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUC-TURE	DWG. No.	C O D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			hoe (mhos)	hie (Ω)	hre (X.0001)					
										Vcb	le	hfe								
1#	BSV51	250m	50mSΔ	2.0m	ΔJ	100	80 *	7.0	200m#	100m∅	2.0∅	15m∅	30 Δ				PE†	MM11	A	
2#	2N2972	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	60 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
3#	2N2973	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	150 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
4#	2N2974*	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	60 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
5#	2N2975*	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	150 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
6#	2N2976*	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	60 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
7#	2N2977*	250m	60mSΔ	1.4m	ΔJ	45	45	6.0	30m	10m	5.0∅	10u∅	150 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
8#	2N2978*	250m	60mSΔ	1.4m	ΔJ	60	60	6.0	30m	2.0m∅	5.0∅	10u∅	60 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
9#	2N2979*	250m	60mSΔ	1.4m	ΔJ	60	60	6.0	30m	2.0m∅	5.0∅	10u∅	150 Δ	1.0u∅	32 ∅		6.0p∅	L2j		
10#	2N2980*	250m	60mSΔ	1.4m	ΔJ	100	60	7.0	500m	2.0m∅	5.0∅	1.0m∅	50 Δ	20u∅	5.0k∅		15p∅	L2j		
11#	ME4001	250m	60mSΔ	2.0m	ΔJ	30		8.0	100m	0.5u∅	1.0∅	1.0m∅	60 Δ			3p∅	DP†	TO106	A	
12#	ME4002	250m	60mSΔ	2.0m	ΔJ	30		8.0	100m	0.5u∅	1.0∅	1.0m∅	200 Δ			3p∅	DP†	TO106	A	
13#	ME4003	250m	60mSΔ	2.0m	ΔJ	30		8.0	100m	0.5u∅	1.0∅	1.0m∅	300 Δ			3p∅	DP†	TO106	A	
14#	2N3793	250m	100mSΔ	2.5m	ΔS	40	20	5.0	500m	50u∅	1.0∅	1.0m∅	10 Δ			10p∅	u29			
15#	2N3794	250m	100mSΔ	2.5m	ΔS	40	20	5.0	500m	50u∅	1.0∅	1.0m∅	35 Δ			10p∅	u29			
16#	AT329	250m	100mSΔ	2.5m	ΔJ	20	20	5.0	250m	50u	2.0∅	15m∅	60 #†Δ			6.0p	PL†	MM12a	D	
17#	AT328	250m	100mSΔ	2.5m	ΔJ	20	20	5.0	250m	50u	2.0∅	150m∅	60 Δ			6.0p	PL†	MM12a	D	
18#	ME1075	250m	100mSΔ	2.0m	ΔJ	75		4.0		50u∅	1.0∅	10m∅	20 Δ			4p∅	DP†	TO106	A	
19#	2SC368	250m	150mSΔ	1.7m	ΔJ	25	25 §	5.0	100m	10u∅	1.0∅	1.0m	250 †			1.5p	PE	TO18		
20#	2SC689	250m	150mSΔ	1.7m	ΔJ	50	25 §	5.0	30m	10u∅	3.0∅	500u∅	115 †			1.5p	PE	TO92	B	
21#	2N957	250m	200mSΔ	2.0m	ΔJ	40	20	5.0	100m	10u∅	5.0∅	10m∅	45 †#Δ			6p∅	PE	TO18	A∅	
22#	2N3825	250m	200mSΔ	2.5m	ΔS	30	15	4.0	100m	10u∅	1.0∅	2.0m∅	20 Δ			3.5p∅	∅	X20		
23#	2SC395A†	250m	200mSΔ	2.0m	ΔJ	20	12	5.0	400m	1.0u∅	1.0∅	1.0m∅	60 †			4.0p	PE	TO18	A∅	
24#	2SC714†	250m	200mSΔ	2.5m	ΔJ	70	40	5.0	200m	10u∅	6.0∅	1.0m∅	60 †#			7.0p	PE†	TO92	D	
25#	2SC944†	250m	200mSΔ	2.5m	ΔJ	60	40	5.0	100m	10u∅	2.0∅	2.0m∅	60 Δ			3.0p∅	PE	TO92	B	
26#	MD2218AF*	250m	200mSΔ	1.5m	ΔJ	75	40	6.0	600m	15#	1.0∅	150m∅	40 †#Δ			8.0p∅	ANΔ	L17d		
27#	MD2218F*	250m	200mSΔ	1.5m	ΔJ	60	30	6.0	600m	20#	1.0∅	150m∅	40 †#Δ			8.0p∅	ANΔ	L17d		
28#	ME1001	250m	200mSΔ	2.0m	ΔJ	45		4.0		0.5u∅	1.0∅	1.0m∅	40 Δ			3p∅	DP†	TO106	F	
29#	ME1002	250m	200mSΔ	2.0m	ΔJ	45		4.0		0.5u∅	1.0∅	1.0m∅	100 Δ			3p∅	DP†	TO106	F	
30#	ME2001	250m	200mSΔ	2.0m	ΔJ	35		4.0	100m	0.5u∅	1.0∅	1.0m∅	40 Δ			5p∅	DP†	TO106	A	
31#	ME2002	250m	200mSΔ	2.0m	ΔJ	35		4.0	100m	0.5u∅	1.0∅	1.0m∅	100 Δ			5p∅	DP†	TO106	A	
32#	SE1010	250m	200mSΔ	2.0m	ΔJ	30		4.0		50u∅	1.0∅	2.0m∅	35 †#			3.5p∅	DPE	TO106		
33#	AT26	250m	220mSΔ	2.5m	ΔJ	30	25	6.0	30m	10u	1.0∅	1.0m	60 #†Δ			2.8p	PE†	MM12a	D	
34#	AT327	250m	220mSΔ	2.5m	ΔJ	30	25	6.0	30m	10u	1.0∅	1.0m	200 #†Δ			2.8p	PE†	MM12a	D	
35#	AT328	250m	220mSΔ	2.5m	ΔJ	30	25	6.0	30m	10u	1.0∅	1.0m	200 #†Δ			2.8p	PE†	MM12a	D	
36#	AT330	250m	220mSΔ	2.5m	ΔJ	30	25	6.0	30m	10u	1.0∅	1.0m	60 #†Δ			2.8p	PE†	MM12a	A	
37#	AT337	250m	220mSΔ	2.5m	ΔJ	30	25	6.0	30m	10u∅	1.0∅	1.0m	350 †#			2.8p	PE†	MM12a	D	
38#	AT38	250m	230mSΔ	2.5m	ΔJ	45	30	5.0	30m	50u∅	1.2∅	2.0m∅	40 #†Δ			3.5p	PL†	MM12a	D	
39#	AT319	250m	230mSΔ	2.5m	ΔJ	45	30	5.0	30m	50u∅	1.2∅	2.0m∅	40 #†Δ			3.5p	PL†	MM12a	D	
40#	AT321	250m	230mSΔ	2.5m	ΔJ	45	30	5.0	30m	50u∅	1.2∅	2.0m∅	100 #†Δ			3.5p	PL†	MM12a	D	
41#	AT322	250m	230mSΔ	2.5m	ΔJ	35	20	5.0	30m	50u∅	1.2∅	2.0m∅	40 #†Δ			3.5p	PL†	MM12a	D	
42#	AT323	250m	230mSΔ	2.5m	ΔJ	35	20	5.0	30m	50u∅	1.2∅	2.0m∅	40 #†Δ			3.5p	PL†	MM12a	D	
43#	AT324	250m	230mSΔ	2.5m	ΔJ	35	20	5.0	30m	50u∅	1.2∅	2.0m∅	100 #†Δ			3.5p	PL†	MM12a	D	
44#	AT325	250m	230mSΔ	2.5m	ΔJ	35	20	5.0	30m	50u	1.2∅	2.0m∅	20 #†Δ			3.5p	PL†	MM12a	D	
45#	AT325	250m	230mSΔ	2.5m	ΔJ	35	20	5.0	30m	50u	1.2∅	2.0m∅	20 #†Δ			3.5p	PL†	MM12a	D	
46#	AT339	250m	230mSΔ	2.5m	ΔJ	60	60	5.0	100m	100m	1.2∅	2.0m∅	100			3.5p∅	PL	MM12a	D	
47#	AT311	250m	230mSΔ	2.5m	ΔJ	45	40	5.0	30m	500m∅	1.2∅	2.0m∅	100 Δ#			3.5p∅	PL†	MM12a	D	
48#	AT347	250m	230mSΔ	2.5m	ΔJ	50	50	5.0	100m	100m	1.2∅	2.0m∅	40 Δ			3.5p∅	PL	MM12a	D	
49#	AT348	250m	230mSΔ	2.5m	ΔJ	45	45	5.0	100m	100m	1.2∅	2.0m∅	40 Δ			3.5p∅	PL	MM12a	D	
50#	AT349	250m	230mSΔ	2.5m	ΔJ	45	45	5.0	100m	100m	1.2∅	2.0m∅	100 Δ			3.5p∅	PL	MM12a	D	
51#	2SC105	250m	250mSΔ	2.5m	ΔJ	30	30 §	5.0	80m	5m∅	1.0∅	1.0m	60 †			4.0p	PE	TO18		
52#	2SC619†	250m	250mSΔ	2.5m	ΔJ	30	25	5.0	200m	1.0u∅	6.0∅	1.0m∅	110 †#			7.0p	PE†	TO92	D	
53#	2SC620	250m	250mSΔ	2.5m	ΔJ	50	30	5.0	200m	1.0u∅	6.0∅	1.0m∅	90 †#			7.0p	PE†	TO92	D	
54#	2SC773	250m	250mSΔ	2.5m	ΔJ	50	30	5.0	200m	1.0u∅	6.0∅	1.0m∅	35 †#Δ			7.0p	PE†	TO92	D	
55#	2SC638	250m	250mSΔ	2.5m	ΔJ	50	25	5.0	30m	200m∅	3.0∅	500u∅	75 †#			1.8p	∅	TO92	B	
56#	2SC839	250m	250mSΔ	2.5m	ΔJ	50	25	5.0	30m	200m∅	3.0∅	500u∅	75 †#			2.5p	∅	TO92	B	
57#	MD2219AF*	250m	250mSΔ	1.5m	ΔJ	75	40	6.0	600m	15#	1.0∅	150m∅	100 †#Δ			8.0p∅	ANΔ	L17d		
58#	MD2219F*	250m	250mSΔ	1.5m	ΔJ	60	30	6.0	600m	20#	1.0∅	150m∅	100 †#Δ			8.0p∅	ANΔ	L17d		
59#	MD3725F*	250m	250mSΔ	1.5m	ΔJ	65	40	6.0		1.7u∅	1.0∅	100m∅	50 †#			10p∅	ANΔ	L2f		
60#	2SC4001	250m	300mSΔ	1.7m	ΔJ	30	18	5.0	100m	50u∅	1.0∅	1.0m	30 †#			4.0p	PE	TO18	A∅	
61#	A747A	250m	300mSΔ	2.5m	ΔJ	50	45	6.0	100m	5.0u∅	5.0∅	2.0m∅	220	18u	2.7k	1.5	2.5p	PL	MM10	A
62#	A747B	250m	300mSΔ	2.5m	ΔJ	50	45	6.0	100m	5.0u∅	5.0∅	2.0m∅	330	30u	4.5k	2.0	2.5p	PL	MM10	A
63#	A748B	250m	300mSΔ	2.5m	ΔJ	30	20	5.0	100m	5.0u∅	5.0∅	2.0m∅	330	30u	4.5k	2.0	2.5p	PL	MM10	A
64#	A748C	250m	300mSΔ	2.5m	ΔJ	30	20	5.0	100m	5.0u∅	5.0∅	2.0m∅	600	60u	8.7k	3.0	2.5p	PL	MM10	A
65#	A749B	250m	300mSΔ	2.5m	ΔJ	30	20	5.0	100m	5.0u∅	5.0∅	2.0m∅	330	30u	4.5k	2.0	2.5p	PL	MM10	A
66#	A749C	250m	300mSΔ	2.5m	ΔJ	30	20	5.0	100m	5.0u∅	5.0∅	2.0m∅	600	60u	8.7k	3.0	2.5p	PL	MM10	A
67#	MD708AF*	250m	300mSΔ	1.5m	ΔJ	40	15	5.0	200m	0.2u∅	1.0∅	1.0m∅	40 Δ#			5p∅	ANΔ	TO89		
68#	MD708BF*	250m	300mSΔ	1.5m	ΔJ	40	15	5.0	200m	0.2u∅	1.0∅	1.0m∅	40 Δ#			5p∅	ANΔ	TO89		
69#	MD708F*	250m	300mSΔ	1.5m	ΔJ	40	15	5.0	200m	0.2u∅	1.0∅	1.0m∅	40 Δ#			5p∅	ANΔ	TO89		
70#	ME9021†	250m	300mSΔ	2.0m	ΔJ	40	40 ∅	5.0	200m	0.5u∅	1.1∅	1.0m∅	30 Δ			6p∅	PE†	TO106	A	
71#	ME9022†	250m	300mSΔ	2.0m	ΔJ	25	25	5.0	200m	0.5u∅	1.									

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 fab (Hz)	DERATE IN FREE AIR W/°C	T M E A M X P	ABS MAX RATINGS @25°C				MAX. lcho @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION STRUCTURE	DWC No.	L C O A D E			
						BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS							COMMON EMITTER		
											Vcb (V)	Ic (A)	hfe					hoe (mhos)	hie (Ω)	hre (X.0001)
1	CS3662	250m	700MΔ	2.0m	\$J	30	12	3.0	25m	50μ	100	8.0m	20 Δ	1.7pZ	DPL	T0106	A			
2	CS3663	250m	700MΔ	2.0m	\$J	18	12	3.0	25m	50μ	100	8.0m	20 Δ	1.7pZ	DPL	T0106	A			
3	2SC40	250m	750MΔ	2.0m	\$J	25	15	3.0	50m	100μ	8.0	1.0m	50	2.3p	ME	T018	A			
4	PMT1767	250m	750MΔ	2.0m	\$J	25	15	5.0	200m	50μ	3.0	10m	5.0	3.5p	DP	ZA8	A			
5	ME3002	250m	900MΔ	2.0m	\$J	30	10	3.0	100m	05μ	100	8.0m	20 Δ	2pZ	PE	T0106	A			
6	2N4251†	250m	1.3GΔ	1.4m	\$J	15	10	4.5	100m	1.0μ	5.0	10m	32 Δ	2pZ	PE	T046	A			
7	MT1061	250m	1.3GΔ	1.7m	\$J	30	14	4.0	80m	05μ	5.0	5.0m	45 †	.85p\$	PE	T072	A			
8	MT1061A	250m	1.5GΔ	1.7m	\$J	30	14	4.0	80m	05μ	5.0	5.0m	75 †	.85p\$	PE	T072	A			
9	MT1063	250m	1.5GΔ	1.7m	\$J	30	14	4.0	80m	05μ	5.0	5.0m	75 †	1.2p\$	PE	u49	A			
10	A430	250m	1.8GΔ	1.4m	\$J	20	10	2.5	50m	50n	5.0	25m	25 Δ	.8p†	PE	T072	G			
11	BFW30	250m	1.8GΔ	1.4m	\$J	20	10	2.5	50m	50n	5.0	50	25 Δ	800n†	PE	T072	G			
12	2SC1090	250m	3.0GΔ	700m	\$J	20	12	3.0	50m	1.0μ	1.0	30m	30 Δ	1.5pZ	PE	u78	G			
13	V858	250m	3.0GΔ	1.4m	\$J	20	12	3.0	50m	1.0μ	5.0	20m	100 †	1.2p	PE	X89	R			
14	2N5761	250m	3.7GΔ	2.0m	\$S	20	15	3.0	30m	500n	100	10m	30 Δ	500f\$Z	PE	X80a	S			
15	BF240	255m	400MΔ	2.6m	\$J	40	40	4.0	25m		100	1.0m	66 Δ	.95p	PE	X76	C			
16	BF241	255m	400MΔ	2.6m	\$J	40	40	4.0	25m		100	1.0m	35 Δ	.95p	PE	X76	C			
17	BFY85*	260m			\$J	45	45	5.0	100m	.01u			50 Δ		PE	L2t				
18	BFY86*	260m			\$J	45	45	5.0	100m	.01u			50 Δ		PE	L2t				
19	BCY59	260m	50.MΔ	2.0m	\$J	45	45	5.0	100m	10n	.50	.01m	100		PE	T018				
20	BFY80	260m	50.MΔ	2.0m	\$J	100	90	3.0	50m	10μ	100	2.0m	30 Δ		PL	T018				
21	BSY62	260m*	200MΔ	2.0m	\$J	25	15	5.0	200m	50μ	1.0	10m	40 †		PE	T018				
22	FT107A	260m	200MΔ	2.0m	\$J	60	60	8.0	50m	2.0n	100	1.0m	335	24u	2.5p\$	PE	T018	A		
23	FT107B	260m	260MΔ	2.0m	\$J	45	45	8.0	50m	2.0n	100	1.0m	1.0k	74u	2.5p\$	DPE	T018	A		
24	FT107C	260m	280MΔ	2.0m	\$J	30	30	8.0	50m	2.0n	100	1.0m	1.6k	120u	2.5p\$	DPE	T018	A		
25	A473	260m	550MΔ	1.5m	\$J	40	25	4.0	25m	100n	10	7.0m	90 †	2.1p	PE	T072	J			
26	BF173	260m	550MΔ	1.5m	\$J	40	25	4.0	25m	100n	10	7.0m	88		PL	T072	J			
27	BF562	260m*	580MΔ	1.5m	\$J	40	25	4.0	25m	100n	2.0	20	15 Δ		PE	T072	J			
28	TP4274†	280m	400MΔ		\$J		12				1.0	10m	35 †	4p\$	PE	X93	A			
29	TP4275†	280m	400MΔ		\$J		15				1.0	10m	35 †	4p\$	PE	X93	A			
30	2N1990W	300m		3.0m	\$J	100	75	5.0		1.0μ	.50	2.0m	25 Δ		PE	R110	A			
31	2S741A	300m			\$J	30	30	3.0	50m	100u	5.0	3.0m	5.0 Δ		PL	T018				
32	2S742A	300m			\$J	75	75	3.0	50m	100u	5.0	3.0m	5.0 Δ		PL	T018				
33	2S743A	300m			\$J	115	115	3.0	50m	100u	5.0	3.0m	5.0 Δ		PL	T018				
34	2S744A	300m			\$J	30	30	3.0	50m	100u	5.0	3.0m	20 Δ		PL	T018				
35	2S745A	300m			\$J	75	75	3.0	50m	100u	5.0	3.0m	20 Δ		PL	T018				
36	2S746A	300m			\$J	115	115	3.0	50m	100u	5.0	3.0m	20 Δ		PL	T018				
37	2SC538	300m		2.0m	\$J	25	25	5.0	50m	01u	5.0	2.0m	250		PE	T018	A			
38	2SC538A	300m		2.0m	\$J	45	45	5.0	50m	01u	5.0	2.0m	250		PE	T018	A			
39	2SC539	300m		2.0m	\$J	25	25	5.0	50m	01u	5.0	2.0m	250		PE	T018	A			
40	2SC689H†	300m		2.0m	\$J	40	15	5.0		25μ	1.0	10m	40 Δ	3.5p	PE	T018	A			
41	2SC913†	300m		8.3m	\$J	40	35	5.0	300m	.10u	1.0	30m	45 Δ	5.0pZ	PE	T018	A			
42	2SC914†	300m			\$J						1.0	30m	45 Δ	5.0pZ	PE	T018	A			
43	2SC915†	300m			\$J						1.0	30m	45 Δ	5.0pZ	PE	T018	A			
44	2SC1071†	300m			\$J						1.0	30m	40 Δ	5.0pZ	PE	T018	A			
45	BF120	300m		2.0m	\$J		220	5.0	50m	200n	10	10m	20 Δ		PE	T018	A			
46	BF599	300m		2.0m	\$J	120	90	5.0		100u	1.0	20m	20 †		PE	T018	A			
47	CS2484	300m		2.0m	\$J	60	60	6.0	50m	10n	5.0	1.0	150 Δ	40uZ	24kZ	8.0	6.0pZ	T0106	A	
48	CS3414	300m		2.4m	\$J	25	25	5.0	500m	10u	4.5	2.0m	75 Δ		DPL	R97a	A			
49	CS3415	300m		2.4m	\$J	25	25	5.0	500m	10u	4.5	2.0m	180 Δ		DPL	R97a	A			
50	CS3416	300m		2.4m	\$J	50	50	5.0	500m	10u	4.5	2.0m	75 Δ		DPL	R97a	A			
51	CS3417	300m		2.4m	\$J	50	50	5.0	500m	10u	4.5	2.0m	180 Δ		DPL	R97a	A			
52	CS5249	300m		2.3m	\$J	70	50	5.0	100m	30n	5.0	2.0	400 Δ	4.0p\$Z	PE	T0106	B			
53	GI2711	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	120 Z	12pZ	PE	R97d				
54	GI2712	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	300 Z	12pZ	PE	R97d				
55	GI2713	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	120 Z	5pZ	PE	R97d				
56	GI2714	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	300 Z	5pZ	PE	R97d				
57	GI2715	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	120 Z	5pZ	PE	R97d				
58	GI2716	300m		3.0m	\$J	18	18	5.0		50u	4.5	2.0m	300 Z	5pZ	PE	R97d				
59	GI3707	300m		3.0m	\$J	30	30			.10u	5.0	.10m	100 Δ		PE	T018	A			
60	GI3708	300m		3.0m	\$J	30	30			.10u	5.0	.10m	45 Δ		PE	T018	A			
61	GI3709	300m		3.0m	\$J	30	30			.10u	5.0	.10m	45 Δ		PE	T018	A			
62	GI3710	300m		3.0m	\$J	30	30			.10u	5.0	.10m	90 Δ		PE	T018	A			
63	GI3711	300m		3.0m	\$J	30	30			.10u	5.0	.10m	180 Δ		PE	T018	A			
64	MD8001*	300m		1.7m	\$J		40	4.0	30m	05μ	100	1.0m	100 Δ	3.0p	EA*	L2v				
65	MD8002*	300m		1.7m	\$J		50	4.0	30m	05μ	100	1.0m	100 Δ	3.0p	EA*	L2v				
66	MD8003*	300m		1.7m	\$J		60	4.0	30m	05μ	100	1.0m	100 Δ	3.0p	EA*	L2v				
67	ZTX341	300m		3.0m	\$A	100	100	5.0	100m	500n*	1.0	2.0m	30 Δ		PL	X59	F			
68	ZTX342	300m		3.0m	\$A	120	120	5.0	100m	500n*	1.0	2.0m	30 Δ		PL	X59	F			
69	PBC182	300m	150 \$Δ	3.0m	\$J	60	50	5.0	200m	10u	5.0	2.0m	100 Δ	5.0p	PE	T098	B			
70	PBC183	300m	150 \$Δ	3.0m	\$J	45	30	5.0	200m	10u	5.0	2.0m	100 Δ	5.0p	PE	T098	B			
71	PBC184	300m	150 \$Δ	3.0m	\$J	45	30	5.0	200m	10u	5.0	2.0m	250 Δ	5.0p	PE	T098	B			
72	2N4879*	300m	15MΔ	1.7m	\$S	55	55	7.0	10m	.1n	5.0	1.0m	175 Δ	8p\$	PE*	L2p				
73	2N4880*	300m	15MΔ	1.7m	\$S	45	45	7.0	10m	.1n	5.0	1.0m	100 Δ	8p\$	PE*	L2p				
74	2N2432	300m	20MΔ	2.0m	\$S	30	30	15	100m	01u	5.0	1.0m	50 Δ	12pZ	PE	T018	A			
75	2N2432A	300m	20MΔ	2.0m	\$S	45	45	18	100m	01u	5.0	1.0m	50 Δ	12pZ	PE	T018	A			
76	2N4138	300m	20MΔ	2.0m	\$S	30	30	15	100m	01u	5.0	1.0m	50 Δ	12pZ	PE	T046	A			
77	2N4878*	300m	20MΔ	1.7m	\$S	60	60	7.0	10m	.1n	5.0	1.0m	225 Δ	8p\$	PE*	L2p				
78	BFV89	300m	20MΔ	2.0m	\$S	30	30	15	100m	01u	5.0	1.0m	50 Δ	12pZ	PE	u26a	B			
79	BFV89A	300m	20MΔ	2.0m	\$S	45	45	18	100m	01u	5.0	1.0m	50 †	12pZ	PE	u26a	B			
80	2N754	300m	30MΔ	3.0m	\$S	60	60	3.0	50m	1.0u	100	5.0m	20 Δ	10pZ	PE	T018	A			
81	2N755	300m	30MΔ	3.0m	\$S	100	80	3.0	50m	1.0u	100	5.0m	20 Δ	10pZ	PE	T018	A			
82	2N839	300m	30MΔ	3.0m	\$J	45	45	2.0	50m	1.0u	5.0	1.0m	20 Δ	1.2uZb	80	15pZ	T018	A		
83	2N840	300m	30MΔ	3.0m	\$J	45	45	2.0	50m	1.0u	5.0	1.0m	40 Δ	1.2uZb	80	15pZ	T018	A		
84	2N842	300m	30MΔ	2.0m	\$J	45	45	2.0	50m	1.0u	5.0	1.0m	20 Δ	350n	40	6.0p	ME	T018	A	
85	2N929	300m	30MΔ	2.0m	\$J	45	45	5.0	30m	10u										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FAB FREE AIR W/°C	TEMPERATURE M E M P	ABS MAX RATINGS @25°C					MAX. I _{cb} @M _{cb} V _{cb}	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L C O D E
					V _{ce}	V _{ceo}	V _{ce}	I _c	BIAS			COMMON EMITTER			STRUCTURE	DWG. No.				
									V _{cb}		I _e	h _{fe}	h _{oe}	h _{ie}				h _{re}		
1	JAN2N2642*	300m	32m	2.0m	5S	45	45	5.0	30m	10n	5.00	1.0m	130 Δ	1.0uZb	32 Z	6.0 Z	8.0pZ	∅	L2b	A∅
2	2N841	300m	40MΔ	3.0m	5S	45	45	2.0	50m	1.0u	5.00	1.0m	80 Δ	1.2uZb	80		15pZ	ME1	TO18	A∅
3	2N841/46	300m	40MΔ	2.3m	5J	45	45	2.0	50m	1.0u	5.00	1.0m	140	350nb	40	2.0	8.0p	ME1	TO18	A∅
4	2N843	300m	40MΔ	2.0m	5S	45	45	2.0	50m	1.0u	5.00	1.0m	40 Δ	350nb	40	2.0	6.0p	MEΔ	TO18	A∅
5	2N1389	300m	40M	2.0m	5J	50	50	1.5	50m	5.0u∅	5.00	1.0m	100m	10n			4.0p	PD∅	TO5	A
6	JAN2N2432	300m	40MΔ	1.7m	5S	30	30		100m	10n∅	5.00	1.0m	80 tΔ				12pZ	Δ	TO18	A∅
7	JAN2N2432A	300m	40MΔ	1.7m	5S	45	45		100m	10n∅	5.00	1.0m	80 tΔ				12pZ	Δ	TO18	A∅
8	2N3566	300m	40MΔ	3.0m	5S	40	30	5.0	200m	0.5u∅	1.00	1.0m	150 t#Δ				25pZ	PE	R97	A
9	2N5135	300m	40MΔ	2.9m	5J	40	30	4.0	200m	3.0u∅	1.00	1.0m	50 t#Δ				25pZ	PE	TO105	A
10	2N5137	300m	40MΔ	2.9m	5J	30	20	3.0	500m	1.0u∅	1.00	1.0m	20 t#Δ				35pZ		TO106	A
11	BC115	300m	40MΔ	3.0m	5J	40	30	5.0	100m	1.0u∅	1.00	1.0m	200 t#				12p	DPL	R97	A
12#	BC117	300m	40MΔ	3.0m	5J	120	120	5.0	100m	1.0u∅	1.00	1.0m	30 tΔ				6.0p	DPL	R97	A
13	BC125	300m	40MΔ	3.0m	5J	50	30	5.0	100m	0.5u∅	1.00	1.0m	20 tΔ				12p	DPE	R97	A
14#	BC125A	300m	40MΔ	3.0m	5J	50	40	5.0	100m	0.5u∅	1.00	1.0m	75 t				12p	PE	TO105	A
15#	BC145	300m	40MΔ	3.0m	5J	120	120	5.0	100m	1.0u∅	1.00	1.0m	30 tΔ				6.0p	PE	R97	A
16#	BSY89∅	300m	40MΔ	2.0m	5J	25	18	7.0	100m	0.1u∅	5.00	1.0m	150 tΔ				15pZ	PE	TO18	A∅
17#	FT023	300m	40MΔ	2.5m	5S	50	30	6.0	300m	100u	150	6.0m	20 Δ	50u	650		40p		TO46	
18#	FT024	300m	40MΔ	2.5m	5S	50	30	6.0	300m	100u	150	6.0m	45 Δ	50u	650		40p		TO46	
19#	HT400	300m	40MΔ	2.0m	5A	20	20	5.0	50m	200n∅	1.00	1.0m	14 tΔ	b	30		20pZ	PL	TO18	
20#	HT401	300m	40MΔ	2.0m	5A	20	20	5.0	50m	200n∅	1.00	1.0m	35 tΔ	b	30		20pZ	PL	TO18	
21	SE6001	300m	40MΔ	3.0m	5J	40	30	5.0	50m	5.0u∅	1.00	1.0m	50 t#Δ				25pZ	PL	TO105	
22	SE6002	300m	40MΔ	3.0m	5J	40	30	5.0	50m	5.0u∅	1.00	1.0m	150 t#Δ				25pZ	PL	TO105	
23	2N2693t	300m	42MΔ	2.0m	5S	45	30	10	50m	0.1u∅	1.00	0.1m	40 tΔ				5pZ		TO18	A∅
24	2N2694t	300m	42MΔ	2.0m	5S	45	20	10	50m	0.1u∅	1.00	0.1m	20 tΔ				5pZ		TO18	A∅
25	JAN2N929	300m	45MΔ	2.0m	5J	60	45	6.0	30m	10n∅	5.00	1.0m	60 Δ	1.0uZb	32 Z	6.0 Z	8.0pZ	∅	TO18	A∅
26#	BFX92	300m	45MΔ	2.0m	5J	50	45	6.0	30m	10n∅	5.00	1.0m	60 Δ	1.0uZb	32 Z	6.0 Z	5.0p	DPL∅	TO18	A∅
27#	BFX93	300m	45MΔ	2.0m	5J	50	45	6.0	30m	10n∅	5.00	1.0m	150 Δ	1.0uZb	32 Z	6.0 Z	5.0p	DPL∅	TO18	A∅
28	2N844	300m	50MΔ	2.0m	5J	60	60	3.0	50m	1.0u	1.00	1.0m	80	350nb	40	2.0	6.0pZ	MEΔ	TO18	A∅
29	2N845	300m	50MΔ	2.0m	5J	100	80	3.0	50m	1.0u	1.00	1.0m	80	350nb	40	2.0	6.0pZ	MEΔ	TO18	A∅
30	2N1387t	300m	50MΔ	2.0m	5J	30	30	3.0	50m	1.0u	5.00	1.0m	30 t				4.0p	PD	TO5	A
31	2N2356A∅	300m	50MΔ	1.7m	5S	25	7.0	7.0	500m	0.1u	5.00	1.0m	2.5 Δ				20pZ		L6	
32	2N2480*	300m	50MΔ	1.7m	5J	75	40	5.0	500m	0.5u∅	5.00	1.0m	30 tΔ				20pZ	*∅	L2t	
33	2N2480A*	300m	50MΔ	1.7m	5J	80	40	5.0	500m	0.2u∅	5.00	1.0m	50 Δ	16uZ	5.0kZ		18pZ	*∅	L2t	
34	D12X043t	300m	50MΔ	1.7m	5J	80	50	8.0	100m	1.0u∅	1.00	1.0m	40 tΔ				20pZ	PE	TO5	
35	D12X047	300m	50MΔ	1.7m	5J	45	25	5.0	100m	1.0u∅	1.00	1.0m	20 tΔ				20pZ	PE	TO5	
36	EN697	300m	50MΔ	3.0m	5J	60	30	5.0	100m	1.0u∅	5.00	1.0m	25 Δ	500nZb	34 Z	5.0 Z	35pZ	DPL	TO105	A∅
37	MPSA10	300m	50MΔ	2.7m	5J	40	40	4.0	100m	10n	1.00	5.0m	40 tΔ*				4.0pZ	AN	TO92	A
38	TRS3011	300m	50MΔ	2.0m	5A	300	300	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO46	
39	TRS3012	300m	50MΔ	2.0m	5A	300	300	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO18	
40	TRS3501	300m	50MΔ	2.0m	5A	350	350	6.0	300	2.0u∅	4.00	5.0m	60 t#				14p		TO46	
41	TRS3502	300m	50MΔ	2.0m	5A	350	350	6.0	300	2.0u∅	4.00	5.0m	60 t#				14p		TO18	
42	TRS4001	300m	50MΔ	2.0m	5A	400	400	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO46	
43	TRS4002	300m	50MΔ	2.0m	5A	400	400	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO18	
44	TRS4501	300m	50MΔ	2.0m	5A	450	450	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO46	
45	TRS4502	300m	50MΔ	2.0m	5A	450	450	6.0	300	2.0u∅	4.00	5.0m	65 t#				14p		TO18	
46	TRS5011	300m	50MΔ	2.0m	5A	500	500	6.0	300	2.0u∅	5.00	5.0m	65 t#				14p		TO46	
47	TRS5012	300m	50MΔ	2.0m	5A	500	500	6.0	300	2.0u∅	5.00	5.0m	65 t#				14p		TO18	
48	TRS5501	300m	50MΔ	2.0m	5A	550	550	6.0	300	1.0u∅	5.00	5.0m	60 t#				14p		TO46	
49	TRS5502	300m	50MΔ	2.0m	5A	550	550	6.0	300	1.0u∅	5.00	5.0m	60 t#				14p		TO18	
50	TRS6011	300m	50MΔ	2.0m	5A	600	600	6.0	300	1.0u∅	5.00	5.0m	65 t#				14p		TO46	
51	TRS6012	300m	50MΔ	2.0m	5A	600	600	6.0	300	1.0u∅	5.00	5.0m	65 t#				14p		TO18	
52	2N2910*	300m	55MΔ	1.7m	5J	45	25	7.0	50m	10n∅	5.00	1.0m	65 tΔ	1.0uZb	32 Z	8.0 Z	12pZ	∅	L2b	A∅
53	2N780	300m	60MΔ	2.0m	5S	45	45	5.0	50m	0.1u∅	5.00	5.0m	35 tΔ				4pZ	PD	TO5	A
54	2N1386t	300m	60MΔ	2.0m	5J	25	25	3.0	50m	1.0u∅	5.00	1.0m	45 t				4.0p	PD	TO5	A
55	2N2586	300m	60MΔ	2.0m	5S	60	45	6.0	30m	2.0n	5.00	1.0m	80 tΔ	45u	11		6.0p	PL∅	TO18	A∅
56	2N2652*	300m	60MΔ	1.7m	5J	100	60	7.0	500m	10n∅	5.00	1.0m	50 Δ	50uZ	10k		15pZ	∅	L2t	
57	2N2652A*	300m	60MΔ	1.7m	5J	100	60	7.0	500m	2.0n∅	5.00	1.0m	50 Δ	50uZ	10kZ		15pZ	∅	L2t	
58	2N2913*	300m	60MΔ	2.8m	5J	45	45	6.0	30m	10n	5.00	1.0m	60 tΔ	1.0uZb	32 Z		6.0pZ	∅	L2t	
59	2N2914*	300m	60MΔ	2.8m	5J	45	45	6.0	30m	10n	5.00	1.0m	150 tΔ	1.0uZb	32 Z		6.0pZ	∅	L2t	
60	2N2915*	300m	60MΔ	1.7m	5J	45	45	6.0	30m	10n	5.00	1.0m	60 tΔ	1.0ub	32		6.0pZ	∅	L2t	
61	2N2915A*	300m	60MΔ	1.7m	5J	45	45	6.0	30m	10n	5.00	1.0m	150 tΔ	100nZb	37 Z		6.0pZ	*	L2t	
62	2N2916*	300m	60MΔ	2.8m	5J	45	45	6.0	30m	10n	5.00	1.0m	150 tΔ	1.0uZb	32 Z		6.0pZ	*	L2t	

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @ 25°C (W)	2 DERATE IN FREE AIR (Hz)	T M A M X P	ABS. MAX. RATINGS @ 25°C			MAX. I _{cb} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L E A O D E				
					V _{cb} (V)	V _{ceo} (V)	V _{be} (V)		I _c (A)	BIAS			COMMON EMITTER			STRUC-TURE	DWG. No.					
											V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	f _T (X.0001)						
1	A310	300m	80MΔ	2.0m	Δ	135	40	3.0	50	10	10m	20	Δ				4p	PL	TO5	A		
2	BC136	300m	80MΔ	3.0m	Δ	60	40	5.0	0.05	10	10m	85		35u	400	1.0	12p	PE	R97	A		
3	BFW57	300m	80MΔ	3.0m	Δ	80	60	6.0	500m	50	10m	110		20u	400	1.0	7.0p	PE	MM10	A		
4	BFW58	300m	80MΔ	3.0m	Δ	80	60	6.0	500m	50	10m	75		20u	400	1.0	7.0p	PE	MM10	A		
5	BFW59	300m	80MΔ	3.0m	Δ	40	35	6.0	500m	50	10m	110		20u	400	1.0	7.0p	PE	MM10	A		
6	BFW60	300m	80MΔ	3.0m	Δ	40	35	6.0	500m	50	10m	75		20u	400	1.0	7.0p	PE	MM10	A		
7	2N2569	300m	100MΔ	2.0m	Δ	20		5.0	100m	0.1u	10	10m	50	Δ			10p	PE	TO18	A	Δ	
8	2N2570	300m	100MΔ	2.0m	Δ	20		5.0	100m	0.1u	10	10m	50	Δ			10p	PE	TO18	A	Δ	
9	2N2722*	300m	100MΔ	1.7m	Δ	45	45	5.0	40m	1.0m	5.0	100u	100	Δ	1.0u	32	6.0	6.0p	*	TO18 L2t	A	Δ
10	2N2938†	300m	100M	2.0m	Δ	25	13	5.0	500m	35	10m	125	†				3.5p	PE	TO52	A		
11	2SC587	300m	100M	2.0m	Δ	45	35	5.0	30m	0.1u	10	2.0m	300				6p	PE	TO18	A		
12	2SC587A	300m	100M	2.0m	Δ	45	35	5.0	30m	0.1u	10	2.0m	300				6p	PE	TO18	A		
13	BC110	300m	100M	2.0m	Δ	80	80	8.0	50m	1.0	1.0m	35	Δ				4.0p	PE	TO18	A		
14	BC170A	300m	100M	3.0m	Δ	20	20	5.0	100m	1.0	1.0m	80	Δ				4.0p	PE	X64	A		
15	BC170B	300m	100M	3.0m	Δ	20	20	5.0	100m	1.0	1.0m	80	Δ				4.0p	PE	X64	A		
16	BC170C	300m	100M	3.0m	Δ	20	20	5.0	100m	1.0	1.0m	200	Δ				4.0p	PE	X64	A		
17	BCY42	300m	100MΔ	5.0m	Δ	40	25	5.0	100m	25n	5.0	1.0m	45	Δ			6p	PE	TO18	A	Δ	
18	BCY43	300m	100MΔ	5.0m	Δ	40	20	5.0	100m	25n	5.0	1.0m	75	Δ			6p	PE	TO18	A	Δ	
19	BSY79	300m	100M	2.0m	Δ	120		5.0	30m	0.5u	1.0	1.0m	30	Δ			4.0p	PE	TO18	A	Δ	
20	CS3704	300m	100MΔ	2.4m	Δ	50	30	5.0	800m	1.0u	2.0	50m	100	#	Δ		12p	DPL	TO106	A		
21	CS3705	300m	100M	2.4m	Δ	50	30	5.0	800m	1.0u	2.0	50m	150	†			12p	DPL	R97a	A		
22	CS3706	300m	100M	2.4m	Δ	50	30	5.0	800m	1.0u	2.0	50m	600	†			12p	DPL	R97a	A		
23	CS5449	300m	100MΔ	2.3m	Δ	50	30	5.0	800m	100n	2.0	50	100	#	Δ		12p		TO106	A		
24	CS5450	300m	100MΔ	2.3m	Δ	50	30	5.0	800m	100n	2.0	50	50	#	Δ		12p		TO106	A		
25	CS5451	300m	100MΔ	2.3m	Δ	40	20	5.0	800m	100n	2.0	50	50	#	Δ		12p		TO106	A		
26	FOS100	300m	100MΔ	2.0m	Δ	15	15	4.5	100m	5.0	10m	50	50	†			8.0p	PE	TO18	A	Δ	
27	GI3704	300m	100MΔ	3.0m	Δ	50	30	5.0	100m	1.0u	2.0	50m	300	†			12p	PE	R97d	A		
28	GI3705	300m	100MΔ	3.0m	Δ	50	30	5.0	100m	1.0u	2.0	50m	150	†			12p	PE	R97d	A		
29	GI3706	300m	100MΔ	3.0m	Δ	40	20	5.0	100m	1.0u	2.0	50m	300	†			12p	PE	R97d	A		
30	NKT10419	300m	100M	2.0m	Δ	25	25	5.0	100m	0.1u	10	10m	120	†			4.0p		TO18	A	Δ	
31	NKT10519	300m	100M	2.0m	Δ	25	25	5.0	100m	0.1u	10	10m	240	†			4.0p		TO18	A	Δ	
32	ZT401	300m	110M	2.5m	Δ	20	20	6.0	50m	500n	6.0	1.0m	30		2.5u	1.3k	1.1	5.0p		TO18	A	Δ
33	ZT411	300m	110M	2.5m	Δ	20	20	6.0	50m	500n	6.0	1.0m	30		2.5u	1.3k	1.1	5.0p		TO18	A	Δ
34	ZT421	300m	110M	2.5m	Δ	45	45	6.0	50m	500n	6.0	1.0m	50		2.5u	1.6k	1.1	5.0p		TO18	A	Δ
35	ZT431	300m	110M	2.5m	Δ	45	45	6.0	50m	500n	6.0	1.0m	50		2.5u	1.6k	1.1	5.0p		TO18	A	Δ
36	ZT441	300m	110M	2.5m	Δ	45	45	6.0	50m	500n	6.0	1.0m	65		2.5u	2.0k	1.1	5.0p		TO18	A	Δ
37	ZTX107	300m	115M	3.0m	Δ	45	45	5.0	100m	200n	5.0	2.0m	125	Δ*	30u	4.8k	4.1	4.5p	PL	X59	F	
38	ZTX108	300m	115M	3.0m	Δ	20	20	5.0	100m	200n	5.0	2.0m	125	Δ*	30u	4.8k	4.1	4.5p	PL	X59	F	
39	ZTX109	300m	115M	3.0m	Δ	20	20	5.0	100m	200n	5.0	2.0m	240	Δ*	40u	7.3k	6.4	4.5p	PL	X59	F	
40	JAN2N930	300m	120MΔ	2.0m	Δ	60	45	6.0	30m	10n	5.0	1.0m	150	Δ	1.0u	32	6.0	8.0p		TO18	A	Δ
41	2SC367G	300m	120M	3.0m	Δ	40	20	5.0	400m	500n	1.0	10m	70	†			10p	PE	R67a	B		
42	MPSA20	300m	125MΔ	2.7m	Δ	40	40	4.0	100m	100n	1.0	5.0m	40	Δ*			4.0p	AN	TO92	A		
43	2SC402B	300m	140M	3.0m	Δ	50	25	4.0	100m	200n	3.0	1.0m	32	Δ			3.5p	ME	u37	A		
44	2SC403B	300m	140M	3.0m	Δ	50	25	4.0	100m	200n	3.0	1.0m	20	Δ			2.7p	ME	u37	A		
45	BSY73	300m	145M	2.0m	Δ	25	18	5.0	100m	10u	1.0	1.0m	35	Δ	4.5u	2.5k	60	6.0p	PE	TO18	A	Δ
46	BSY75	300m	145M	2.0m	Δ	40	32	7.0	250m	0.5u	1.0	1.0m	35	Δ	4.0u	2.5k	60	5.0p	PE	TO18	A	Δ
47	BSY77	300m	145M	2.0m	Δ	80	64	7.0	250m	0.5u	1.0	1.0m	35	Δ	3.6u	2.5k	50	4.0p	PE	TO18	A	Δ
48	2N702	300m	150M	2.0m	Δ	25	25	5.0	50m	5.0u	5.0	10m	40	†			3.0p	ME	TO18	A	Δ	
49	2N703	300m	150M	2.0m	Δ	25	25	5.0	50m	5.0u	5.0	10m	70	†			3.0p	ME	TO18	A	Δ	
50	2SC316	300m	150M	2.0m	Δ	32	32	5.0	30m	0.1u	5.0	2.0m	350				10p	PL	TO18	A	Δ	
51	2SC366G†	300m	150M	3.0m	Δ	60	40	5.0	400m	50u	1.0	100m	30	Δ*			10p	PE	R67a	B		
52	2SC499	300m	150M	3.0m	Δ	100	100	2.0	20m	1.0u	12	20m	80				3.5p	PL	R67a	B		
53	2SC734	300m	150M	3.0m	Δ	70	50	5.0	150m	1.0u	1.0	20m	40	Δ*			5.0p	PE	R67a	B		
54	2SC943	300m	150MΔ	2.4m	Δ	60	40	8.0	200m	500n	1.0	10m	80	Δ			3.0p	PE	TO18	A	Δ	
55	2SC1033	300m	150M	3.0m	Δ	200	150	5.0	10m	2.0u	10	5.0m	30	Δ			3.5p	DPL	TO18	A	Δ	
56	2SC1033A	300m	150M	3.0m	Δ	250	200	5.0	10m	2.0u	10	5.0m	20	Δ			3.5p	DPL	TO18	A	Δ	
57	BC107	300m	150M	5.0u	#	50	50	6.0	200m	15n	5.0	2.0m	300		20u	3.0k	3.6		PE	TO18	A	
58	BC108	300m	150M	5.0u	#	30	30	6.0	200m	15n	5.0	2.0m	400		30u	4.0k	5.6		PE	TO18	A	
59	BC109	300m	150M	5.0u	#	30	30	6.0	200m	15n	5.0	2.0m	500		40u	6.0k	7.0		PE	TO18	A	
60	BC182	300m	150MΔ	3.0m	Δ	60	50	5.0	200m	15n	5.0	2.0m	480	†			5p	PE	TO18	A		
61	BC182A	300m	150MΔ	3.0m	Δ	60	50	5.0	200m	15n	5.0	2.0m	260	†			5.0p	PE	TO18	A		
62	BC182B	300m	150MΔ	3.0m	Δ	60	50	5.0	200m	15n	5.0	2.0m	500	†			5.0p	PE	TO18	A		
63	BC182L	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	125	Δ			5.0p	PE	X20	B		
64	BC183	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	850	†			5p	PE	TO18	A		
65	BC183A	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	260	†			5.0p	PE	TO18	A		
66	BC183B	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	500	†			5.0p	PE	TO18	A		
67	BC183L	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	125	Δ			5.0p	PE	X20	B		
68	BC184	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15u	5.0	2.0m	250	Δ†			5p	PE	TO18	A		
69	BC184B	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	500	†			5.0p	PE	TO18	A		
70	BC184L	300m	150MΔ	3.0m	Δ	45	30	5.0	200m	15n	5.0	2.0m	240	Δ			5.0p	PE	X20	B		
71	BC267	300m	150M	10u	#	50	50															

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/C (Hz)	MAMP	ABS MAX RATINGS @25°C					MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L C O E A D E
					V _{bc} (V)	V _{ceo} (V)	V _{be} (V)	I _c (A)	BIAS			COMMON EMITTER			STRUC-TURE	Dwg. No.				
									V _{cb} (V)		I _e (A)	h _{fe}	hoe (mhos)	hie (Ω)				hre (X.0001)		
1#	2SC856	300m	180MS	2.0m	150	150	5.0	1.0m	6.00	10m	30	Δ				1.0p	P	TO1		
2#	2SC917	300m	180MS	2.0m	40	40	3.0	100u	100	10m	8.0					1.0p	AN	TO1		
3#	MPSH04	300m	180MS	2.7m	80	80	4.0	100m	50m	100	120	Δ			2.0u	AN	TO92	A		
4	MPSH05	300m	180MS	2.7m	80	80	4.0	100m	50m	100	150	Δ			2.0u	AN	TO92	A		
5	SA2710*	300m	180MS	2.0m	60	50	6.0	2n	5.00	0.1m	40	Δ			3p	*	L2t			
6	SA2711*	300m	180MS	2.0m	60	50	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
7	SA2712*	300m	180MS	2.0m	60	50	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
8	SA2713*	300m	180MS	2.0m	60	50	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
9	SA2714*	300m	180MS	2.0m	60	50	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
10	SA2715*	300m	180MS	2.0m	50	30	6.0	2n	5.00	0.1m	40	Δ			3p	*	L2t			
11	SA2716*	300m	180MS	2.0m	50	30	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
12	SA2717*	300m	180MS	2.0m	50	30	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
13	SA2718*	300m	180MS	2.0m	50	30	6.0	2n	5.00	0.1m	150	Δ			3p	*	L2t			
14	SA2725*	300m	180MS	2.0m	50	25	6.0	2n	5.00	0.1m	200	Δ			3p	*	L2t			
15#	JAN2N706†	300m	200MS	2.0m	25	15	5.0	100n	1.00	10m	30	Δ			6.0p		TO18	A0		
16	2N706A†	300m	200MS	2.0m	25	15	5.0	10u	1.00	10m	20				3.5p	ME	TO18	A0		
17	2N783†	300m	200MS	2.0m	40	20	5.0	200m	2.50	1.00	20	Δ			3.5p		TO18	A0		
18	2N784†	300m	200MS	2.0m	30	15	5.0	200m	2.50	1.00	25	Δ			3.5p		TO18	A0		
19	2N1708†	300m	200MS	2.0m	25	20	3.0	200m	25n	1.00	10m	20	Δ		6.0p	PE	TO46	A0		
20	2N2205†	300m	200MS	2.0m	25	20	3.0	200m	25n	1.00	10m	20	Δ		6.0p	PE	TO18	A0		
21	2N2206†	300m	200MS	6.6m	25	20	3.0	200m	25n	1.00	10m	90			6.0p	PE	TO46	A0		
22	2N5129	300m	200MS	3.0m	15	12	3.0	500m	0.50	1.00	50m	35	Δ		10p		TO106	A		
23#	2SC478	300m	200MS	1.7m	50	50	1.5	120m	1.00	120	20	†			4.0p	PE	TO18	A		
24#	2SC896	300m	200MS	2.0m	55	30	5.0	200m	1.00	100	50	†			3.5p	PE	TO46	A0		
25#	BC174A	300m	200MS	3.0m	64	64	5.0	100m	15n	5.00	2.0m	125	Δ	18u	2.7k	1.5	4.0p	PE†	X64	A
26#	BC174B	300m	200MS	3.0m	64	64	5.0	100m	15n	5.00	2.0m	240	Δ	30u	4.5k	2.0	4.0p	PE†	X64	A
27#	BC190A	300m	200MS	2.0m	70	64	5.0	100m	15n	5.00	2.0m	125	Δ	18u	2.7k	1.5	4.5p	PE†	TO18	A0
28#	BC190B	300m	200MS	2.0m	70	64	5.0	100m	15n	5.00	2.0m	240	Δ	30u	4.5k	2.0	4.5p	PE†	TO18	A0
29#	BF255%	300m	200MS	3.0m	30	20	5.0	30m	5.00	100	67	†			850ft	PE†	X93	C		
30#	BFY37	300m	200MS	2.0m	25	20	5.0	100m	10u	100	35	Δ			2.3p	PL	TO18			
31#	BSX24	300m	200MS	2.0m	32	32	5.0	100m	0.50	5.00	50m	35	Δ		5.0p	PE	TO18			
32#	BSX66†	300m	200MS	2.0m	30	20	5.0	100m	0.1u	0.0	10m	40	Δ		5p	PE	TO18	A0		
33#	BSX67†	300m	200MS	2.0m	30	20	5.0	100m	0.1u	0.0	10m	60	Δ		5p	PE	TO18	A0		
34#	BSX89†	300m	200MS	2.0m	25	15	5.0	500m	5.00	1.00	10m	20	†		2.5p	DPE	TO18	A0		
35#	BSY26†	300m	200MS	2.0m	20	15	6.0	100m	25n	2.00	10m	20	Δ		6.0p	PE	TO18	A0		
36#	BSY27†	300m	200MS	2.0m	20	15	6.0	100m	25n	2.00	10m	40	Δ		6.0p	PE	TO18	A0		
37#	BSY95A	300m	200MS	2.0m	20	15	5.0	100m	0.5u	1.00	10m	50	Δ		6p	PEΔ	TO18	A0		
38	SA2644*	300m	200MS	2.0m	50	25	5.0	5.0n	5.00	100u	100	†			5.0p	E*	L2b	A0		
39	SA2648*	300m	200MS	2.0m	50	25	5.0	5.0n	5.00	100u	100	†			5.0p	E*	L2b	A0		
40#	ZT80†	300m	200MS	2.4m	25	25	4.0	500m	5.00	6.00	10m	55		5.3u	2.4k	1.5	4.5p	PL	TO18	A0
41#	ZT81†	300m	200MS	2.4m	45	35	4.0	500m	5.00	6.00	10m	55		5.3u	2.4k	1.5	4.5p	PL	TO18	A0
42#	ZT82†	300m	200MS	2.4m	45	35	4.0	500m	5.00	6.00	10m	90		5.9u	3.2k	1.8	4.5p	PL	TO18	A0
43#	ZT83†	300m	200MS	1.8m	60	45	5.0	500m	0.5u	6.00	10m	55		5.3u	2.4k	1.5	4.5p	PL	TO18	A0
44#	ZT84†	300m	200MS	1.8m	60	45	5.0	500m	0.5u	6.00	10m	90		5.9u	3.2k	1.8	4.5p	PL	TO18	A0
45#	ZT86†	300m	200MS	1.8m	100	80	5.0	500m	0.5u	6.00	10m	55		5.3u	2.4k	1.5	4.5p	PL	TO18	A0
46#	ZT87†	300m	200MS	2.4m	25	25	4.0	500m	5.00	6.00	10m	90		5.9u	3.2k	1.8	4.5p	PL	TO18	A0
47#	ZT88†	300m	200MS	1.8m	100	80	5.0	500m	0.5u	6.00	10m	90		5.9u	3.2k	1.8	4.5p	PL	TO18	A0
48	ZT89†	300m	200MS	1.7m	70	70	5.0	500m	500n	6.00	10m	90		5.9u	3.2k	1.8	4.5p	PL	TO18	A0
49#	ZT110†	300m	200MS	2.5m	25	25	4.0	500m	500n	6.00	10m	55		5.3m	2.4k	1.5	4.5p	PL	TO46	
50#	ZT111†	300m	200MS	2.5m	45	35	4.0	500m	500n	6.00	10m	55		5.3m	2.4k	1.5	4.5p	PL	TO46	
51#	ZT112†	300m	200MS	2.5m	45	35	4.0	500m	500n	6.00	10m	90		5.9m	3.2k	1.8	4.5p	PL	TO46	
52#	ZT113†	300m	200MS	1.7m	60	45	5.0	500m	50n	6.00	10m	55		5.3m	2.4k	1.5	4.5p	PL	TO46	
53#	ZT114†	300m	200MS	1.7m	60	45	5.0	500m	50n	6.00	10m	90		5.9m	3.2k	1.8	4.5p	PL	TO46	
54#	ZT116†	300m	200MS	1.7m	100	80	5.0	500m	50n	6.00	10m	55		5.3m	2.4k	1.5	4.5p	PL	TO46	
55#	ZT117†	300m	200MS	2.5m	25	25	4.0	500m	500n	6.00	10m	90		5.9m	3.2k	1.8	4.5p	PL	TO46	
56#	ZT118†	300m	200MS	1.7m	100	80	5.0	500m	50n	6.00	10m	90		5.9m	3.2k	1.8	4.5p	PL	TO46	
57#	ZT119†	300m	200MS	1.7m	70	70	5.0	500m	50n	6.00	10m	90		5.9m	3.2k	1.8	4.5p	PL	TO46	
58#	ZT706	300m	200MS	2.0m	25	20	3.0	500n	1.00	10m	20	†			5.0p	PL	TO18			
59#	ZT706A†	300m	200MS	2.0m	25	20	3.0	500n	1.00	10m	20	†			5.0p	PL	TO18			
60#	ZT1708†	300m	200MS	2.0m	25	20	3.0	200m	25n	1.00	10m	20	Δ		6.0p	PE	TO46			
61#	ZT2205†	300m	200MS	2.0m	25	20	3.0	200m	25n	1.00	10m	20	Δ		6.0p	PE	TO18			
62#	ZT2206†	300m	200MS	2.0m	25	20	3.0	200m	25n	1.00	10	40	Δ		6.0p	PL	TO46			
63#	ZTX310†	300m	200MS	3.0m	25	20	3.0	200m	200n	1.00	10	20	Δ		6.0p	PL	X59	F		
64#	ZTX311†	300m	200MS	3.0m	20	15	5.0	200m	200n	350	10m	30	Δ		6.0p	PL	X59	F		
65#	BSY80	300m	210MS	2.0m	25	18	5.0	100m	1.0u	1.00	200	Δ	15u	12k	1.5	6.0p	PE	TO18	A0	
66#	BFY18†	300m	245MS	2.0m	40	25	3.0	100m	10u	9.00	10m	64			3.8p	PL	TO5			
67	2N2256†	300m	250MS	2.0m	7.0	7.0	1.0	100m	10u	1.00	10m	30	†		4.0p	ME	TO18	A		
68	2N2257†	300m	250MS	2.0m	7.0	7.0	1.0	100m	10u	1.00	10m	50	†		4.0p	ME	TO18	A		
69	2N1140†	300m	250MS	3.0m	60	30	5.0	200m	50u	100	150m	120	Δ		8.0p	PE	R110	A		
70	2N1414†	300m	250MS	3.0m	60	30	5.0	200m	50u	100	150m	300	Δ		8.0p	PE	R110	A		
71	2N4227†	300m	250MS	3.0m	60	30	5.0	200m	50u	100	150m	150	Δ		8.0p	PE	R110	A		
72#	2S512	300m	250MS	2.0m	25	12	5.0	50u	1.00	10m	50	†			6p	PE	TO18			
73#	AT400	300m	250MS	2.4m	50	30	5.0	500m	200n	100	150m	30	Δ		8.0p	PE	MM12d			
74#	AT401	300m	250MS	2.4m	50	30	5.0	500m	200n	100	150m	100	Δ		8.0p	PE	MM12d			
75#	AT402	300m	250MS	2.4m	50	45	5.0	500m	200n	100	150m	30	Δ		8.0p	PE	MM12d			
76#	AT403	300m	250MS	2.4m	50	45	5.0	500m	200n	100	150m	100	Δ		8.0p	PE	MM12d			
77#	AT404	300m	250MS	2.4m	50	30														

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	MAX. COLL. DISS. @25°C (W)	DERATE IN FREE AIR W/°C (Hz)	TEMP. RANG. M A X P	ABS MAX RATINGS @25°C				MAX. I _{cb0} @V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION	L E C O D E	
					V _{bc0} (V)	V _{ceo} (V)	V _{ebo} (V)	I _c (A)		BIAS			COMMON EMITTER						
										V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)	h _{re} X.0001				
1	40405	300m	300mΔ	2.0m	Δ	18	8.0	500m	1500	1.00	20	100	20	1.0	3.5p	PE	TO52	A	
2	40519	300m	300mΔ	2.0m	Δ	16	5.0	500m	25n	1.00	50	20	1.0	3.5p	PE	TO52	A		
3	40637	300m	300mΔ	2.0m	Δ	30	5.0	100m						3.0p	PE	TO52	A		
4	A134	300m	300m	3.0m	Δ	90	50	100m	1500	5.00	2.0	400	400	4.5k	3.0	2.5p	PE	R97b	F
5	A135	300m	300m	3.0m	Δ	90	50	100m	1500	5.00	2.0	650	600	8.5k	4.0	2.5p	PE	R97b	F
6	A136	300m	300m	3.0m	Δ	90	50	100m	1500	5.00	2.0	900	900	15k	5.5	2.5p	PE	R97b	F
7	A137	300m	300m	3.0m	Δ	45	30	100m	1500	5.00	2.0	400	400	4.5k	3.0	2.5p	PE	R97b	F
8	A138	300m	300m	3.0m	Δ	45	30	100m	1500	5.00	2.0	650	600	8.5k	4.0	2.5p	PE	R97b	F
9	A139	300m	300m	3.0m	Δ	45	30	100m	1500	5.00	2.0	900	900	15k	5.5	2.5p	PE	R97b	F
10	A157A	300m	300mΔ	2.0m	Δ	50	45	100m	1500	5.00	2.0	220	180	2.7k	1.5	2.5p	PE	TO18	A
11	A157B	300m	300mΔ	2.0m	Δ	50	45	100m	1500	5.00	2.0	330	300	4.5k	2.0	2.5p	PE	TO18	A
12	A158B	300m	300mΔ	2.0m	Δ	30	20	100m	1500	5.00	2.0	330	300	4.5k	2.0	2.5p	PE	TO18	A
13	A158C	300m	300mΔ	2.0m	Δ	30	20	100m	1500	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	TO18	A
14	A159B	300m	300mΔ	2.0m	Δ	30	20	100m	1500	5.00	2.0	330	300	4.5k	2.0	2.5p	PE	TO18	A
15	A159C	300m	300mΔ	2.0m	Δ	30	20	100m	1500	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	TO18	A
16	AT406	300m	300m	2.4m	Δ	50	30	500m	2000	1.00	50	100	100	2.7k	1.5	8.0p	PE	MM12A	A
17	AT407	300m	300m	2.4m	Δ	50	30	500m	2000	1.00	50	180	180	2.7k	1.5	8.0p	PE	MM12A	A
18	BC107A	300m	300mΔ	2.0m	Δ	45	45	100m	15n	5.00	2.0	280	280	4.8k	2.0	3.7p	PE	R18	0
19	BC107B	300m	300mΔ	2.0m	Δ	45	45	100m	15n	5.00	2.0	280	280	4.8k	2.0	3.7p	PE	R18	0
20	BC108A	300m	300mΔ	3.3m	Δ	20	20	100m	15n	5.00	2.0	280	280	4.8k	2.0	3.7p	PE	R18	0
21	BC108B	300m	300mΔ	2.0m	Δ	20	20	100m	15n	5.00	2.0	280	280	4.8k	2.0	3.7p	PE	R18	0
22	BC108C	300m	300mΔ	2.0m	Δ	20	20	100m	15n	5.00	2.0	520	520	8.7k	3.0	3.7p	PE	R18	0
23	BC109B	300m	300mΔ	2.0m	Δ	20	20	100m	15n	5.00	2.0	290	290	4.9k	2.0	3.7p	PE	R18	0
24	BC109C	300m	300mΔ	2.0m	Δ	20	20	100m	15n	5.00	2.0	520	520	8.7k	3.0	3.7p	PE	R18	0
25	BC173B	300m	300mΔ	3.0m	Δ	20	5.0	100m	15n	5.00	2.0	240	240	4.5k	2.0	4.0p	PE	X64	A
26	BC173C	300m	300mΔ	3.0m	Δ	20	5.0	100m	15n	5.00	2.0	450	450	8.7k	3.0	4.0p	PE	X64	A
27	BC207A	300m	300mΔ	3.0m	Δ	45	45	100m	15n	5.00	2.0	200	200	2.7k	1.5	2.5p	PE	R110	A
28	BC207B	300m	300mΔ	3.0m	Δ	45	45	100m	15n	5.00	2.0	330	300	4.8k	2.0	2.5p	PE	R110	A
29	BC208A	300m	300mΔ	3.0m	Δ	20	20	100m	15n	5.00	2.0	200	200	2.7k	1.5	2.5p	PE	R110	A
30	BC208B	300m	300mΔ	3.0m	Δ	20	20	100m	15n	5.00	2.0	330	300	4.8k	2.0	2.5p	PE	R110	A
31	BC208C	300m	300mΔ	3.0m	Δ	20	20	100m	15n	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	R110	A
32	BC209B	300m	300mΔ	3.0m	Δ	20	20	100m	15n	5.00	2.0	330	300	4.8k	2.0	2.5p	PE	R110	A
33	BC209C	300m	300mΔ	3.0m	Δ	20	20	100m	15n	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	R110	A
34	BC237*	300m	300mΔ	3.0m	Δ	50	45	100m	1500	5.00	2.0	125	125	2.7k	1.5	2.5p	PE	X93	A
35	BC237A	300m	300mΔ	3.0m	Δ	50	45	100m	1500	5.00	2.0	220	220	4.5k	2.0	2.5p	PE	X93	A
36	BC237B	300m	300mΔ	3.0m	Δ	50	45	100m	1500	5.00	2.0	330	300	4.5k	2.0	2.5p	PE	X93	A
37	BC238*	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	125	125	2.7k	1.5	2.5p	PE	X93	A
38	BC238A	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	220	220	4.5k	2.0	2.5p	PE	X93	A
39	BC238B	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	330	300	4.5k	2.0	2.5p	PE	X93	A
40	BC238C	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	X93	A
41	BC239A	300m	300mΔ	2.2m	Δ	30	20	100m	2000	5.00	2.0	330	330	4.5k	2.0	4.5p	PE	X64a	A
42	BC239*	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	240	240	2.7k	1.5	2.5p	PE	X93	A
43	BC239B	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	330	330	4.5k	2.0	2.5p	PE	X93	A
44	BC239C	300m	300mΔ	3.0m	Δ	30	20	100m	1500	5.00	2.0	600	600	8.7k	3.0	2.5p	PE	X93	A
45	BCW54	300m	300mΔ	2.0m	Δ	64	64	100m	15n	5.00	2.0	220	220	2.7k	1.5	3.7p	PE	TO18	A
46	BCW55	300m	300mΔ	2.0m	Δ	64	64	100m	15n	5.00	2.0	330	300	4.5k	2.0	3.7p	PE	TO18	A
47	BF165	300m	300mΔ	3.0m	Δ	30	15	4.0	100	1.00	100	35	35	1.5p	DPL	R97	0		
48	BFV83	300m	300mΔ	588u	Δ	40	15	5.0	25n	1.00	500	15	15	6.0p	PE	u26a	B		
49	BFV83At	300m	300mΔ	588u	Δ	40	20	5.0	25n	1.00	100	30	30	6.0p	PE	u26a	B		
50	BSW421	300m	300mΔ	3.0m	Δ	25	25	5.0	50u	4.50	2.0	130	130	4.0p	PE	R110	A		
51	BSW42At	300m	300mΔ	3.0m	Δ	50	50	7.0	50u	4.50	2.0	130	130	4.0p	PE	R110	A		
52	BSW431	300m	300mΔ	3.0m	Δ	25	25	5.0	50u	4.50	2.0	300	300	4.0p	PE	R110	A		
53	BSW43At	300m	300mΔ	3.0m	Δ	50	50	7.0	50u	4.50	2.0	300	300	4.0p	PE	R110	A		
54	BSX511*	300m	300mΔ	2.0m	Δ	25	25	5.0	500n	4.50	2.0	130	130	8.0p	PE	TO18	0		
55	BSX51At	300m	300mΔ	2.0m	Δ	50	50	7.0	500n	4.50	2.0	130	130	8.0p	PE	TO18	0		
56	BSX52*	300m	300mΔ	2.0m	Δ	25	25	5.0	500n	4.50	2.0	300	300	8.0p	PE	TO18	0		
57	BSX52At	300m	300mΔ	2.0m	Δ	50	50	7.0	500n	4.50	2.0	300	300	8.0p	PE	TO18	0		
58	BSX90*	300m	300mΔ	2.0m	Δ	20	12	5.0	1.0u	350	10m	20	20	5p	DPE	TO18	A		
59	BSX91*	300m	300mΔ	2.0m	Δ	20	12	5.0	1.0u	350	10m	40	40	5p	DPE	TO18	A		
60	BSY17	300m*	300mΔ	2.0m	Δ	20	12	5.0	25n	350	10m	40	40	5p	PE	TO18	A		
61	BSY18	300m*	300mΔ	2.0m	Δ	20	12	5.0	25n	350	10m	80	80	5.0p	PE	TO18	A		
62	BSY63	300m*	300mΔ	2.0m	Δ	40	15	5.0	25n	1.00	10m	75	75	6.0p	PE	TO18	A		
63	FOS101	300m	300mΔ	2.0m	Δ	25	25	5.0	100m	6.00	10m	50	50	6.0p	PE	TO18	A		
64	MD708*	300m	300mΔ	1.9m	Δ	40	15	5.0	200n	1.00	10m	40	40	5.0p	ANA	L66a	0		
65	MD708A*	300m	300mΔ	1.9m	Δ	40	15	5.0	200n	1.00	10m	40	40	5.0p	ANA	L66a	0		
66	MD708B*	300m	300mΔ	1.9m	Δ	40	15	5.0	200n	1.00	10m	40	40	5.0p	ANA	L66a	0		
67	QD100-71*	300m	300mΔ	1.7m	Δ	25	15	6.5	1.0n	5.00	10u	150	150	3.0p	*	L2p	0		
68	STE400	300m	300mΔ	3.0m	Δ	40	30	5.0	.05u	1.00	2.0m	150	150	3p	R97d	0			
69	STE401	300m	300mΔ	3.0m	Δ	30	25	5.0	.05u	1.00	2.0m	360	360	3p	R97d	0			
70	2N706†	300m	320mΔ	2.0m	Δ	25	20	3.0	.05u	1.00	10m	20	20	6p	D	TO18	A		
71	BSY70	300m	320mΔ	2.0m	Δ	25	20	3.0	50n	1.00	10m	20	20	6p	Δ	TO18	0		
72	2S131	300m	350m	2.0m	Δ	15	12	5.0	1.0u	1.00	10m	40	40	6.0p	Δ	TO18	0		
73	2SC54†	300m	350mΔ	2.3m	Δ	40	35	5.0	30n	6.00	1.0	50	50	3.5p	E	TO18	0		
74	2SC98†	300m	350mΔ	2.3m	Δ	20	15	5.0	10u	350	10m	45	45	4.0p	PL	TO18	A		
75	2SC99†	300m	350mΔ	2.3m	Δ	20	15	5.0	10u	350	10m	80	80	4.0p	PE	TO18	A		
76	2SC172	300m	350mΔ	2.0m	Δ	25	20	5.0	10u	6.00	10m	60	60	4.5p</					

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	T A M E X P	ABS MAX RATINGS @25°C				MAX. lcbp @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	L C E O D E				
					BVcbo (V)	BVceo (V)	BVebo (V)	lc (A)		Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)				STRUC-TURE	DWG. No.		
1	QD104-71*	300m	400mSΔ	1.7m	S	45	45	6.5	20m	200p	5.0p	10u	200	1Δ	40u	2.0p	*	L2p	A			
2	S15658	300m	400mSΔ	3.0m	J	40	15	4.0		.05u	10p	15m	70	1#	4p	DPE	TO106	A				
3	SE60201	300m	400mSΔ	5.9m	J	60	60	6.5	1	1.0u	10p	100	100		11p	DPEΔ	TO105	A				
4	SE60211	300m	400mSΔ	5.9m	J	80	80	6.5	1	1.0u	10p	100	100		11p	DPEΔ	TO5	A				
5#	ZTX3121	300m	400mSΔ	3.0m	S	30	12	5.0	500m#	200p	1.0p	10m	40	1Δ	4.0p	PL	X59	F				
6	2N8351	300m	450mS	2.0m	S	25	20	3.0	200m	.50u	1.0p	10m	40	1#	2.8p	PL	TO18	A				
7#	2SC5951	300m	450mS	2.0m	J	30	20	5.0	200m	1.0u	1.0p	10m	80	1#	6p	PE	TO18	A				
8	2N8341	300m	500mS	2.0m	J	40	30	5.0	200m	.50u	1.0p	10m	40	1#	2.8p	PE	TO18	A				
9	2N44491	300m	500mSΔ	1.7m	S	15	15	4.5	200m	.40u	3.5p	10m	40	1#Δ	4p	PE	TO46	A				
10	JAN2N44491	300m	500mSΔ	1.7m	J	40	15	4.5	30u	1.0p	1.0p	10m	40	1Δ	4.0p	PE	TO46	A				
11#	2SC79	300m	500mS	2.0m	J	15	15	3.0	50m	1.0u	6.0p	1.0m	50		2.3p	PE	TO18	A				
12#	BFV87A1	300m	500mSΔ	588u	J	40	40	4.5	500m	.40u	1.0p	10m	40	1#Δ	4p	PE	u26a	B				
13#	BFV87B1	300m	500mSΔ	588u	J	40	40	4.5	200m	.30u	3.5p	30m	40	1#Δ	4p	PE	u26a	B				
14#	ZTX3131	300m	500mSΔ	3.0m	S	40	15	5.0	500m#	200p	1.0p	10m	40	1Δ	4.0p	PL	X59	F				
15#	ZTX3141	300m	500mSΔ	3.0m	S	40	15	5.0	500m#	200p	1.0p	10m	40	1Δ	4.0p	PL	X59	F				
16	2N4104	300m	540mSΔ	2.0m	S	60	60	10	50m	.01u	5.0p	1.0m	1.4k		60u	42k	8	4.5p	PE	TO18	A	
17#	2SC6011	300m	580mS	1.7m	J	40	15	5.0	100m	1.0u	1.0p	10m	60	1#	4p	PE	TO18	A				
18	2N849	300m	600mSΔ	2.0m	J	25	15	5.0	50m	10u	1.0p	10m	40	1#	5p	PE	u4					
19	2N850	300m	600mSΔ	2.0m	J	25	15	5.0	50m	10u	1.0p	10m	80	1#	5p	MEΔ	u4					
20	2N30101	300m	600mSΔ	1.7m	J	15	6.0	4.0	50m	10u	3.0p	1.0m	15	1Δ	3p	*	TO18	A				
21	2N3423*	300m	600mSΔ	1.7m	J	30	15	3.0	50m	.01u	4.0p	3.0m	20	1Δ	1.7p	*	L2t					
22	2N3424*	300m	600mSΔ	1.7m	J	30	15	3.0	50m	.01u	3.0p	3.0m	20	1Δ	1.7p	*	L2t					
23	2N3544	300m	600mSΔ	2.0m	S	25	25	3.0	100m	1.0u	10p	10m	25	1Δ	2.5p	*	TO18	A				
24	BSX44	300m	600mSΔ	1.7m	S	15		4.0	200m#			20m	30	1Δ		PE	TO18	A				
25	FT7091	300m	600mSΔ	1.7m	J	40	20	5.0		.50u	10p	10m	60	1#	3p	PE	TO18	A				
26	G13794	300m	600mSΔ	3.0m	J	40	15	5.0	50m	10u	5.0p	1.0m	50	1#	10p	AN	TO18	A				
27	MD918*	300m	600mSΔ	1.9m	J	30	15	5.0	50m	10u	5.0p	1.0m	50	1#	3.0p	AN	L66a					
28	MD918A*	300m	600mSΔ	1.9m	J	30	15	5.0	50m	10u	5.0p	1.0m	50	1#	3.0p	AN	L66a					
29	MD918B*	300m	600mSΔ	1.9m	J	30	15	5.0	50m	10u	5.0p	1.0m	50	1#	3.0p	AN	L66a					
30	MM1941	300m	600mSΔ	2.0m	J	30	30	3.0	200m	.10u	1.0p	10m	50	1#	2.5p	E	TO18	A				
31	SE5030A	300m	600mSΔ	2.7m	J	45	40	4.5		50u	15p	7.0m	80	1#	280f	DPE	R124d					
32#	ZT7091	300m	600mSΔ	1.7m	J	15	6.0	4.0		.05u	50p	10m	55	1#	3p	PL	TO18	C				
33#	ZT24751	300m	600mSΔ	1.7m	J	15	6.0	4.0		.05u	40p	20m	50	1#	2.4p	PL	R64					
34	2N7091	300m	800mS	1.7m	J	15	6.0	4.0		.05u	50p	10m	55	1#	3p	PL	TO18	A				
35	2N709A1	300m	800mS	1.7m	J	15	6.0	4.0		5.0p	50p	10m	60	1#	3.0p	PE	TO18	A				
36	2N24751	300m	800mS	1.7m	J	15	6.0	4.0		10u	40p	20m	50	1#	2.4p	PE	R64					
37	2N2615	300m	800mSΔ	1.7m	J	30	15	3.0		1u	1.0p	3.0m	20	1#Δ	2.8p	PL	TO18	A				
38#	BSX271	300m	800mS	1.7m	J	15	6.0	4.0		10u	40p	10m	80	1#	2.3p	DPE	TO18	A				
39	2N851	300m	900mSΔ	2.0m	J	20	12	5.0	200m	10u	3.5p	10m	40	1#	5p	EA	TO50	C				
40	2N852	300m	900mSΔ	2.0m	J	20	12	5.0	200m	10u	3.5p	10m	80	1#	5p	EA	TO50	C				
41	2N2616	300m	900mSΔ	1.7m	J	30	15	3.0	50m	.01u	1.0p	3.0m	50	1#	2.4p	PE	TO18	A				
42	2N2729	300m	900mSΔ	1.7m	J	30	15	3.0	50m	.01u	1.0p	3.0m	50	1#	2.4p	PE	TO46	A				
43	2N5200S	300m	900mSΔ	1.7m	J	20	20	4.5	100m	.01u	5.0p	.50m	45	1#	2.5p	*	TO46	A				
44#	BFY78	300m	900mS	1.7m	J	25	12	3.0	50m	.02u	1.0p	3.0m	50	1#	2.4p	DPE	TO18	A				
45#	2N27841	300m	1.0G	1.7m	J	15	6.0	4.0		5u	50p	10m	120	1#	3p	PE	TO18	A				
46#	BFW98	300m	1.0G	1.7m	J	36	18	4.0		6.0p	50m	35	1#	2.5p	PE	MT59e	GC7					
47	K2101	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
48	K2102	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
49	K2103	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
50	K2104	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
51	K2105	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
52	K2106	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
53	K2107	300m	1.0G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
54	K2108	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	1.0p	TO50	C					
55	K2523	300m	1.0G	1.7m	J	20	10	2.0		.30u	1.0p	3.0m	20	1#	1.5p	TO72	G					
56	K2601	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	1.5p	TO50	C					
57	K2602	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	1.5p	TO50	C					
58	K2603	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	1.5p	TO50	C					
59	K2604	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	1.5p	TO50	C					
60	K2610	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	2.0p	TO18	A					
61	K2611	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	2.0p	TO18	A					
62	K2612	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	2.0p	TO18	A					
63	K2613	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	2.0p	TO18	A					
64	K2614	300m	1.0G	1.7m	J	20	10	2.0		100p	1.0p	3.0m	20	1#	2.0p	TO18	A					
65	2N5201S	300m	1.1G	1.7m	J	20	20	4.5	100m	.01u	5.0p	.50m	65	1#	2.5p	*	TO46	A				
66	2N36331	300m	1.3G	1.7m	J	15	6.0	4.0	50m	5.0p	50p	10m	50	1#	2.5p	PE	TO18	A				
67#	BFX53	300m	1.3G	2.5m	J	20	12	2.5	25m	10p	1.0p	25m	15	1#	900f	PE	u88	C				
68	K2501	300m	1.3G	1.7m	J	25	10	2.0		.10u	1.0p	8.0m	20	1#	2p	PE	TO18	A				
69	K2524	300m	1.3G	1.7m	J	20	10	2.0		.30u	1.0p	3.0m	20	1#	1.5p	TO72	A					
70	MT1060	300m	1.3G	2.0m	J	30	14	4.0	80m	.05u	5.0p	5.0m	45	1#	1p	PE	TO46	A				
71	A215	300m	1.4G	1.7m	J	40	25	3.0	150m	10u	5.0p	50m	25	1#	3.5p	PE	TO46	A				
72	K2101A	300m	1.4G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
73	K2102A	300m	1.4G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
74	K2103A	300m	1.4G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0p	TO50	C					
75	K2104A	300m	1.4G	1.7m	J	30	10	2.5		10p	1.0p	3.0m	30	1#	1.0							

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 fab (Hz)	DERATE IN AIR				ABS MAX RATINGS @25°C				TYPICAL h _{FE} PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION	L E O A D E	
				FREE AIR W/°C	M A P	V _{ce} (V)	I _c (A)	V _{ce} (V)	I _c (A)	V _{ce} (V)	I _c (A)	BIAS			hoe (mhos)	hie (Ω)	hre (X.0001)				
												V _{cb} (V)	I _c (A)	h _{FE}							
1#	2SC985A	300m	3.7Gs	590m	15	30	3.0	40m	500n	100	15m	30	1A	1.0	4p	4p	4p	PE	X80	GJ	
2	2N5088	310m		3.6m	15	30	3.0	50m	0.5u	5.0	1.0m	350	Δ					AN	T092	A	
3	2N5089	310m		3.6m	15	30	3.0	50m	0.5u	5.0	1.0m	350	Δ				AN	T092	A		
4	CS5088	310m		3.6m	15	30	3.0	50m	50n	5.0	1.0m	450	Δ				AN	T0106	A		
5	CS5089	310m		3.6m	15	30	3.0	50m	50n	5.0	1.0m	450	Δ				AN	T0106	A		
6	MPS2711	310m		2.9m	15	18	5.0					30	1A				AN	T092	A		
7	MPS2712	310m		2.9m	15	18	5.0					75	1A				AN	T092	A		
8	MPS2715	310m		2.9m	15	18	5.0					30	1A				AN	T092	A		
9	MPS2716	310m		2.9m	15	18	5.0					30	1A				AN	T092	A		
10	MPS3392	310m		2.9m	15	25	5.0					300	1A				AN	T092	A		
11	MPS3393	310m		2.9m	15	25	5.0					180	1A				AN	T092	A		
12	MPS3394	310m		2.9m	15	25	5.0					170	1A				AN	T092	A		
13	MPS3395	310m		2.9m	15	25	5.0					150	1A				AN	T092	A		
14	MPS3396	310m		2.9m	15	25	5.0					90	1A				AN	T092	A		
15	MPS3397	310m		2.9m	15	25	5.0					500	1A				AN	T092	A		
16	MPS3398	310m		2.9m	15	25	5.0					800	1A				AN	T092	A		
17	MPS3707	310m		2.9m	15	30	6.0					400	1A				AN	T092	A		
18	MPS3708	310m		2.9m	15	30	6.0					660	1A				AN	T092	A		
19	MPS3709	310m		2.9m	15	30	6.0					165	1A				AN	T092	A		
20	MPS3710	310m		2.9m	15	30	6.0					330	1A				AN	T092	A		
21	MPS3711	310m		2.9m	15	30	6.0					180	1A				AN	T092	A		
22	MPS6511	310m		2.8m	15	30	20	3.0	100m	0.5u	100	10m	25	1A				EA	T092	A	
23	MPS6544	310m		2.9m	15	60	4.0											AN	T092	A	
24	MPS6545	310m		2.9m	15	60	4.0											AN	T092	A	
25	MPS6564	310m		2.9m	15	45	5.0					25	1A					AN	T092	A	
26	MPS6567	310m		2.9m	15	40	5.0					25	1A					AN	T092	A	
27	2N5209	310m	30MSΔ	2.8m	15	50	4.5	50m	50n	5.0	1.0m	150	Δ					AN	T092	A	
28	2N5210	310m	30MSΔ	2.8m	15	50	4.5	50m	50n	5.0	1.0m	250	Δ					AN	T092	A	
29	2N5225	310m	50MSΔ	2.8m	15	25	4.0	500m	30u	100	50m	30	Δ					AN	T092	A	
30	MPSL01	310m	60MSΔ	2.8m	15	140	120	5.0	600m	1.0u	100	1.0m	30	Δ				AN	T092	A	
31	MPS-A09	310m	80MSΔ	2.8m	15	50	5.0	50m	1.0u	5.0	1.0m	100	Δ					AN	T092	A	
32	2N5220	310m	100MSΔ	2.8m	15	15	3.0	500m	1.0u	100	50m	30	Δ					AN	T092	A	
33	2N5550	310m	100MSΔ	2.8m	15	160	140	6.0	800m	100n	100	1.0m	50	Δ				AN	T092	A	
34	2N5551	310m	100MSΔ	2.8m	15	180	160	6.0	800m	100n	100	1.0m	50	Δ				AN	T092	A	
35	MPS3704	310m	100MSΔ	2.8m	15	50	30	5.0	800m	1.0u	100	50m	100	1A#				AN	T092	A	
36	MPS3705	310m	100MSΔ	2.8m	15	50	30	5.0	800m	1.0u	100	50m	100	1A#				AN	T092	A	
37	MPS3706	310m	100MSΔ	2.8m	15	40	20	5.0	800m	1.0u	100	50m	30	1A#				AN	T092	A	
38	2N5219	310m	150MSΔ	2.8m	15	20	15	3.0	100m	1.0u	100	2.0m	35	1A				AN	T092	A	
39	2N5223	310m	150MSΔ	2.8m	15	25	20	3.0	100m	1.0u	100	2.0m	35	1A				AN	T092	A	
40	MPS6571	310m	175MSΔ	2.8m	15	20	20	3.0	50m	5.0	100u	250	Δ					AN	T092	A	
41	2N4400†	310m	200MSΔ	2.8m	15	60	40	6.0	600m	1.0u	100	20	Δ					AN	T092	A	
42	MPS706†	310m	200MSΔ	2.8m	15	15	3.0					20	Δ					AN	T092	A	
43	MPS706A†	310m	200MSΔ	2.8m	15	25	15	5.0	500m	1.0u	100	20	1A#					AN	T092	A	
44	MPS3693	310m	200MSΔ	2.8m	15	45	45	4.0	500m	1.0u	100	20	1A#					EA	T092	A	
45	MPS3694	310m	200MSΔ	2.8m	15	45	45	4.0	500m	1.0u	100	20	1A#					EA	T092	A	
46	MPS6565	310m	200MSΔ	2.9m	15	60	4.0					100	1A					AN	T092	A	
47	MPS6566	310m	200MSΔ	2.9m	15	60	4.0					100	1A					AN	T092	A	
48	MPSA13	310m	200MSΔ	2.8m	15	30	30	10	300m	100n	5.0	10m	5.0k	1A					AN	T092	A
49	MPSA14	310m	200MSΔ	2.8m	15	30	30	10	300m	100n	5.0	10m	10k	1A					AN	T092	A
50	2N3903†	310m	250MSΔ	2.8m	15	60	40	6.0	200m	0.5u	100	1.0m	50	Δ					AN	T092	A
51	2N4123	310m	250MSΔ	2.8m	15	40	30	5.0	200m	0.5u	100	2.0m	50	Δ					AN	T092	A
52	2N4401†	310m	250MSΔ	2.8m	15	60	40	6.0	600m	1.0u	100	1.0m	40	Δ					AN	T092	A
53	2N5224†	310m	250MSΔ	2.8m	15	25	12	5.0	100m	1.0u	100	1.0m	40	Δ					AN	T092	A
54	CS3903†	310m	250M	2.8m	15	60	40	6.0	200m	0.5u	100	1.0m	40	Δ					AN	T092	A
55	CS4123	310m	250MSΔ	2.8m	15	40	30	5.0	200m	50n	100	2.0m	50	Δ					AN	T092	A
56	EN3903†	310m	250MSΔ	2.8m	15	60	40	5.5	200m	50n	100	2.0m	50	Δ					AN	T092	A
57	MPS2713†	310m	250MSΔ	2.8m	15	18	18	5.0	200m	50n	4.5	2.0m	120	1A					AN	T092	A
58	MPS2714†	310m	250MSΔ	2.8m	15	18	18	5.0	200m	50n	4.5	2.0m	300	1A					AN	T092	A
59	MPS6512	310m	250MSΔ	2.8m	15	40	30	4.0	100m	0.5u	100	2.0m	50	1A					AN	T092	A
60	MPS6513	310m	250MSΔ	2.8m	15	40	30	4.0	100m	0.5u	100	2.0m	90	1A					AN	T092	A
61	2N3904†	310m	300MSΔ	2.8m	15	60	40	6.0	200m	0.5u	100	1.0m	100	Δ					AN	T092	A
62	2N4124	310m	300MSΔ	2.8m	15	30	25	5.0	200m	0.5u	100	2.0m	120	Δ					AN	T092	A
63	2N4264†	310m	300MSΔ	2.8m	15	30	15	6.0	200m	1.1u	100	1.0m	40	1A					AN	T092	A
64	2N4265†	310m	300MSΔ	2.8m	15	30	12	6.0	200m	1.1u	100	1.0m	100	1A					AN	T092	A
65	2N4409	310m	300MSΔ	2.9m	15	80	50	5.0	250m	0.1u	1.0	10m	400	1A					AN	T092	A
66	2N4410	310m	300MSΔ	2.9m	15	120	80	5.0	250m	0.1u	1.0	10m	400	1A					AN	T092	A
67	CS3904†	310m	300MSΔ	2.8m	15	60	40	6.0	200m	0.5u	100	1.0m	100	Δ					AN	T092	A
68	CS4124	310m	300MSΔ	2.8m	15	30	25	5.0	200m	50n	100	2.0m	120	Δ					AN	T092	A
69	CS4409	310m	300M	2.8m	15	80	50	5.0	250m	0.1u	1.0	10m	400</								

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR (Hz)	TEMPERATURE (°C)	ABS MAX RATINGS @25°C					MAX. I _{cb} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION	LEAD CODE					
					V _{cb} (V)	V _{ce} (V)	V _{eb} (V)	I _c (A)	BIAS			COMMON EMITTER									
									V _{cb} (V)		I _e (A)	h _{fe}	h _{oe} (mhos)				h _{ie} (Ω)	h _{re} (X.0001)			
1	2N5028T	320m	250MΔ	3.4m	40	30	5.0	350m	.25u	1.0	150m	100	1#Δ		T098	B					
2	2N3605A1	320m	300MΔ	3.3m	40	15	5.0	200m	25n	1.0	10m	30	1Δ		T098	B					
3	2N3606A1	320m	300MΔ	3.3m	40	15	5.0	200m	25n	1.0	10m	30	1Δ		T098	B					
4	2N5232	330m		3.3m	70	50	5.0	100m	.03u	5.0	2.0m	250	Δ		T098	B					
5	2N5232A	330m		3.3m	70	50	5.0	100m	.03u	5.0	2.0m	250	Δ		T098	B					
6	2N5233	330m		3.3m	80	60	6.0	100m	.03u	10	10m	100	Δ		T098	B					
7	2N5234	330m		3.3m	80	60	6.0	100m	.03u	10	10m	250	Δ		T098	B					
8	2N5235	330m		3.3m	80	60	6.0	100m	.03u	10	10m	400	Δ		T098	B					
9	2N5249	330m		3.3m	70	50	5.0	100m	.03u	5.0	2.0m	400	Δ		T098	B					
10	2N5249A	330m		3.3m	70	50	5.0	100m	.03u	5.0	2.0m	400	Δ		T098	B					
11	2N5309	330m		3.3m	70	50	5.0	100m	.01u	5.0	.01m	66	Δ		T098	B					
12	2N5310	330m		3.3m	70	50	5.0	100m	.01u	5.0	.01m	110	Δ		T098	B					
13	2N5311	330m		3.3m	70	50	5.0	100m	.01u	5.0	.01m	250	Δ		T098	B					
14#	BF121	330m	350MΔ	3.3m	30	4.0	25m		10	4.0m	30	1Δ		220ft	PLT	X65a	A				
15#	BF127	330m	350MΔ	3.3m	30	4.0	25m		10	4.0m	30	1Δ		220ft	PLT	X65a	A				
16#	BF125	330m	450MΔ	3.3m	30	4.0	30m		10	7.0m	35	1Δ		300ft	PE	X65a	A				
17#	BF123	330m	550MΔ	3.3m	30	4.0	30m		10	7.0m	35	1Δ		300ft	PE	X65a	A				
18#	2C415*	340m	100MΔ	2.3m	45	6.0	30m	.01u	5.0	10m	250	1		DPL	Ø	L2b	A				
19	2N5456T	340m	450MΔ	1.9m	25	25	4.5	300m	50n	1.0	10m	30	1Δ		6p	Ø	T052	A			
20#	2SC727	350m	20MΔ	2.3m	100	100	3.0	100m	1.0u	4.0	10m	90	*	12u	D	T018	A				
21#	2SC728T	350m	20MΔ	2.3m	100	200	6.0	100m	1.0u	4.0	10m	90	*		D	T018	A				
22#	BFS36	350m	30MΔ	2.3m	45	45	5.0	500m	10n	5.0	10u	100	1Δ		8.0p	Ø	u53	F			
23#	BFS36A	350m	30MΔ	2.3m	30	30	5.0	500m	10n	5.0	100u	100	1Δ		8.0p	Ø	u53	F			
24	2N3246	350m	60M	2.0m	60	45	10	50m	1.0n	5.0	1.0u	150	1Δ	1.0u	Ø	T018	A				
25#	BFS42	350m	60MΔ	2.3m	60	30	5.0	1.0 #	100n	10	10m	25	Δ		25p	Ø	u53	F			
26#	BFS43	350m	60MΔ	2.3m	60	30	5.0	1.0 #	100n	10	10m	35	Δ		25p	Ø	u53	F			
27	2N2509	350m	80M	2.0m	125	80	7.0	10u	5.0	10	10m	40	1Δ		6.0p	Ø	T018	A			
28	2N2510	350m	80M	2.0m	100	65	7.0	10u	5.0	10	150	1Δ		6.0p	Ø	T018	A				
29	2N2511	350m	80M	2.0m	80	50	7.0	10u	5.0	10	240	1Δ		6.0p	Ø	T018	A				
30#	2SC283	350m	80MΔ	2.3m	50	20	5.0	100m	.10u	8.0	10m	170			10p	Ø	T01	A			
31#	2SC317HT	350m	100MΔ	2.3m	70	50	5.0	100m	.10u	6.0	10m	80	*		DPM	Ø	T01	A			
32#	ZT201	350m	110MΔ	2.7m	20	20	6.0	50m	50n	6.0	1.0m	30		2.5u	1.3k	1.1	5.0p	Ø	T05	Ø	
33#	ZT211	350m	110MΔ	2.7m	20	20	6.0	50m	50n	6.0	1.0m	30		2.5u	1.3k	1.1	5.0p	Ø	T05	Ø	
34#	ZT221	350m	110MΔ	2.7m	45	45	6.0	50m	50n	6.0	1.0m	50		2.5u	1.6k	1.1	5.0p	Ø	T05	Ø	
35#	ZT231	350m	110MΔ	2.7m	45	45	6.0	50m	50n	6.0	1.0m	50		2.5u	1.6k	1.1	5.0p	Ø	T05	Ø	
36#	ZT241	350m	110MΔ	2.7m	45	45	6.0	50m	50n	6.0	1.0	65		2.5u	2.0k	1.1	5.0p	Ø	T05	Ø	
37#	ZT60T	350m	120MΔ	2.7m	25	25	4.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
38#	ZT611	350m	120MΔ	2.7m	45	35	4.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
39#	ZT62T	350m	120MΔ	2.7m	45	35	4.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
40#	ZT63T	350m	120MΔ	2.0m	60	45	5.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
41#	ZT64T	350m	120MΔ	2.0m	60	45	5.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
42#	ZT66T	350m	120MΔ	2.0m	100	80	5.0	500m	50n	6.0	1.0	55			8.0p	Ø	T05	Ø			
43	2N2353	350m	130MΔ	2.0m	45	25	5.0	1.0	100n	10	150m	20	1Δ	230nb	6.0	1.1	20p	Ø	T046	A	
44	2N2353A	350m	130MΔ	2.0m	45	25	5.0	1.0	100n	10	150m	20	1Δ	230nb	6.0	1.1	20p	Ø	T046	A	
45#	BFS38	350m	150MΔ	2.3m	45	35	5.0	500m	50n	6.0	100u	20	1Δ		5.0p	Ø	u53	F			
46#	BFS38A	350m	150MΔ	2.3m	25	25	5.0	500m	50n	6.0	10m	50	1Δ		5.0p	Ø	u53	F			
47#	BFS39	350m	150MΔ	2.3m	60	45	5.0	500m	50n	6.0	10m	40	1Δ		5.0p	Ø	u53	F			
48#	BFX50T	350m	150MΔ	2.0m	80	35	6.0	1.0	100n	10	150m	30	1Δ		12p	PE	T018	A			
49#	BFX52T	350m	150MΔ	2.0m	40	20	6.0	1.0	100n	10	150m	30	1Δ		12p	PE	T018	A			
50	2N2317H	350m	160M	2.3m	75	7.0	100m	.01u	10	150m	80	1		18p	PL	T046	A				
51#	2SC283H	350m	180MΔ	2.3m	50	20	5.0	100m	.10u	6.0	10m	90			10p	Ø	T01	A			
52#	2SC282	350m	200M	3.0m	30	20	5.0	100m	1.0u	6.0	10m	60	1Δ		10p	PM	T01	A			
53#	2SC284	350m	200M	3.0m	70	35	5.0	100m	1.0u	6.0	10m	35	1Δ		10p	PM	T01	A			
54	2N3641	350m	250MΔ	3.5m	60	30	5.0	500m	50n	10	150m	40	1Δ		8.0p	Ø	R97	A			
55	2N3642	350m	250MΔ	3.5m	60	45	5.0	500m	50n	10	150m	40	1Δ		8.0p	Ø	R97	A			
56	2N3643	350m	250MΔ	3.5m	60	30	5.0	500m	50n	10	150m	100	1Δ		8.0p	Ø	R97	A			
57	EN2219	350m	250MΔ	3.6m	60	30	5.0	800m	.05u	10	10m	35	1Δ		8p	Ø	T0105	A			
58	2N4072	350m	300MΔ	2.0m	40	20	4.0	100m	.10u	2.0	25m	10	1Δ		4p	Ø	T018	A			
59	2N4955*	350m	300MΔ	3.4m	30	25	5.0	30m	.01u	5.0	1.0m	10k	1	40u	Ø	30k	8	6p	Ø	L2s	A
60#	BSV35A1	350m	300MΔ	2.3m	25	20	5.0	500m	50n	1.0	10m	20	1Δ		6.0p	Ø	u53	F			
61#	2SC1311	350m	350MΔ	2.3m	40	30	5.0	300m	.05u	1.0	10m	60			4.0p	PE	T018	A			
62#	2SC1321	350m	350MΔ	2.3m	20	20	5.0	300m	.05u	1.0	10m	60			4.0p	PE	T018	A			
63#	2SC1331	350m	350MΔ	2.3m	20	20	5.0	300m	.05u	1.0	10m	60			4.0p	PE	T018	A			
64#	2SC1341	350m	350MΔ	2.3m	40	30	5.0	300m	.02u	1.0	10m	60			4.0p	PE	T018	A			
65#	2SC1351	350m	350MΔ	2.3m	20	20	5.0	300m	.02u	1.0	10m	60			4.0p	PE	T018	A			
66#	2SC1361	350m	350MΔ	2.3m	80	60	5.0	300m	.02u	1.0	10m	60			4.0p	PE	T018	A			
67#	2SC1371	350m	350MΔ	2.3m	25	25	5.0	300m	.02u	1.0	10m	50	1		4.0p	PE	T018	A			
68#	2SC203	350m	350MΔ	2.3m	40	20	5.0	200m	.02u	6.0	1.0m	60			4.0p	PE	T018	A			
69#	2SC204	350m	350MΔ	2.3m	40	20	3.0	200m	.02u	6.0	1.0m	60			4.0p	PE	T018	A			
70#	2SC205	350m	350MΔ	2.3m	80	5.0	200m	.02u	6.0	1.0m	60				4.0p	PE	T018	A			
71#	2SC230	350m	350MΔ	2.3m	80	3.0	200m	.02u	6.0	1.0m	60				4.0p	PE	T018	A			
72#	2SC237	350m	450MΔ	2.3m	25	300m	.05u	6.0	1.0m	80					5.0p	PE	T018	A			
73#	2SC239	350m	450MΔ	2.3m	35	300m	.05u	6.0	1.0m	80					5.0p	PE	T018	A			
74#	BSV35T	350m	500MΔ	2.3m	40	15	5.0	500m	400n	1.0	10m	40	1Δ		4.0p	Ø	u53	F			
75#	BFS46	350m	600MΔ	2.3m	30	15	3.0	500m	10n	1.0	3.0m	20	1Δ		1.7p	Ø	u53	F			
76#	BFS46A	350m	600MΔ	2.3m	30	15	3.0	500m	10n	1.0	3.0m	20	1Δ		1.7p	Ø	u53	F			
77#	BSV36T	350m	600MΔ	2.3m	15	6.0	4.0	500m	50n	4.0	2.0m	30	1Δ		3.0p	Ø	u53	F			
78#	BF311	350m	750MΔ	3.0m	35	25	4.0	40m	50n	10	15m	40	1Δ		3p	Ø	X76	C			
79#	BFS85	350m	1.0GΔ	2.0m	25	12	2.5	50m	1.0u	1.0	2.0m	25	1Δ		800ft	Ø	u76	F			
80#	BFS88	350m	1.0GΔ	2.3m	30	15	2.5	50m	1.0u	1.0	2.0m	25	1Δ		800ft	Ø	u76	F			
81	K2																				

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1] COLL. DISS. @25°C (W)	2] fab (Hz)	DERATE IN FREE AIR W/°C	TEMPERATURE M A M P	ABS MAX RATINGS @25°C				MAX. I _{cb0} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS				COMMON EMITTER	Cob (F)	DESCRIPTION	L C O D E		
						V _{bcvo} (V)	V _{bcceo} (V)	V _{bebo} (V)	I _c (A)		V _{cb} (V)	I _e (A)	h _{fe}	hoe (mhos)					hie (Ω)	hre (X.0001)
1#	BC290B	360m		2.0m	\$J	45	40	6.0	100m	5.0uA	5.0	1.0m	350	16u	9.0k	3.5	2.8p	PLØ	T018	A
2#	BC290C	360m		2.0m	\$J	45	40	6.0	100m	5.0uA	5.0	1.0m	550	22u	15k	5.3	2.8p	PLØ	T018	A
3#	BF237	360m		2.9m	\$S	45	30	4.0	30m	1.0u	100	1.0m	30					PL	X55	A
4	BF238	360m		2.9m	\$S	45	30	4.0	30m	1.0u	100	1.0m	70					PE	X55	A
5	CS4424	360m		2.9m	\$J	40	40	5.0	500m	1.0u	4.5	2.0m	180					PEΔ	R97a	P
6	LDS207Ø	360m		2.9m	\$J	20	10	5.0	30m	1.0u	5.0	1.0m	75					PEΔ	u34	A
7	MM2483	360m	12MΔ	2.1m	\$J	60	60	6.0	50m	0.1u	5.0	1.0m	80	50uZ	24kZ	25 Z	6pZ	EAØ	T018	A
8	2N2484A	360m	15MΔ	2.0m	\$J	60	60	6.0	50m	0.1u	5.0	1.0m	150	40uZ	24kZ	8.0 Z	6pZ	Ø	T018	AØ
9	MM2484	360m	15MΔ	2.1m	\$J	60	60	6.0	50m	0.1u	5.0	1.0m	150	50uZ	24kZ	25 Z	6pZ	EAØ	T018	A
10	A130	360m	20MΔ	2.0m	\$J	90	80	4.0	50m	0.1u	5.0	1.0m	20				20pZ	PL	T05	A
11	A132	360m	30MΔ	2.0m	\$J	90	80	4.0	50m	0.1u	5.0	1.0m	20				20pZ	PL	T05	A
12	2N30371	360m	50MΔ	2.4m	\$S	120	70	7.0	500m	0.1u	100	1.0m	30	100uZ	700 Z		15pZ	Ø	T050	A
13	2N30381	360m	50MΔ	2.4m	\$S	100	60	7.0	500m	0.1u	100	1.0m	60	200uZ	1.5kZ		15pZ	Ø	T050	A
14#	BSX25	360m	50MΔ	2.1m	\$J	60	40	5.0	50m	0.05u	100	5.0m	30				25pZ	PL	T018	Ø
15#	BSY93	360m	50MΔ	2.0m	\$J	60	40	5.0	50m	0.2u	200	1.0m	50				25pZ	PLΔ	T018	Ø
16	TZ81	360m	50MΔ	2.8m	\$J	60	30	5.0	500m	1.0n	5.0	1.0m	350	90nb	26	3.0	5.0p	PLØ	T098	B
17	TZ82	360m	50MΔ	2.8m	\$J	60	30	5.0	500m	1.0n	5.0	1.0m	250	90nb	26	3.0	5.0p	PLØ	T098	B
18#	BFY76	360m	55MΔ	2.0m	\$J	45	45	6.0	50m	2.0n	5.0	1.0m	300	11u	8.0k		3.5p	DPLØ	T018	AØ
19	JAN2N2484	360m	60MΔ	2.0m	\$J	60	60	6.0	50m	1.0u	5.0	1.0m	250	40uZ	24kZ	8.0 Z	5.0pZ	Ø	T018	A
20	2N3077	360m	60MΔ	2.0m	\$J	60	60	7.0	50m	0.1u	5.0	0.1m	80				6pZ	PLØ	T018	AØ
21	2N3078	360m	60MΔ	2.0m	\$J	60	60	7.0	50m	0.1u	5.0	0.1m	25				6pZ	PL	T018	AØ
22	2N3117	360m	60MΔ	2.0m	\$	60	60	6.0	50m	0.1u	5.0	1.0m	400	40uZ	24kZ	8 Z	4.5pZ	Ø	T018	AØ
23	BFY77	360m	60MΔ	2.1m	\$J	45	45	6.0	50m	0.2u	5.0	1.0m	450	15u	15k	4.3	3.5p	DPLØ	T018	AØ
24	MD1T2484	360m	60MΔ		\$A	60	60	6.0	50m	1.0n	5.0	500u	20				6.0pZ	Ø	T0122	P
25#	BFX92A	360m	69MΔ	2.0m	\$J	60	60	6.0	50m	0.1u	5.0	1.0m	280	11u	7.5k	3.0	3.5p	DPLØ	T018	AØ
26#	BFX93A	360m	78MΔ	2.0m	\$J	60	60	6.0	50m	1.0n	5.0	1.0m	400	15u	15k	4.2	3.5p	DPLØ	T018	AØ
27#	BC285	360m	80MΔ	2.0m	\$J	120	120	5.0	100m	100n	300	5.0m	30	5.0m	420	750m	4.0p	DPL	T018	AØ
28	GET929	360m	90MΔ	3.6m	\$J	70	50	5.0	100m	10n	5.0	1.0u	60				1.0pZ	PE†	T018	A
29	GET930	360m	90MΔ	3.6m	\$J	70	50	5.0	100m	10n	5.0	1.0u	100				1.0pZ	PE†	T018	A
30	2N3704	360m	100MΔ	2.9m	\$S	50	30	5.0	800m	10u	2.0	50m	300				12pZ	Ø	T092	B
31	2N3705	360m	100MΔ	2.9m	\$S	50	30	5.0	800m	10u	2.0	50m	150				12pZ	Ø	T092	B
32	2N3706	360m	100MΔ	2.9m	\$S	40	20	5.0	800m	10u	2.0	50m	100				12pZ	Ø	T092	B
33	2N5449	360m	100MΔ	2.9m	\$S	50	30	5.0	800m	10u	2.0	50m	100				12pZ	Ø	X55	A
34	2N5450	360m	100MΔ	2.9m	\$S	50	30	5.0	800m	10u	2.0	50m	100				12pZ	Ø	X55	A
35	2N5451	360m	100MΔ	2.9m	\$S	40	20	5.0	800m	10u	2.0	50m	30				12pZ	Ø	X55	A
36	A306	360m	100MΔ	2.0m	\$J	25	20	5.0	100m	1.0n	5.0	1.0m	100	1.0uZb	32 Z	100mZ	6.0pZ	PLØ	T018	A
37	A307	360m	100MΔ	2.0m	\$J	25	20	5.0	100m	1.0n	5.0	1.0m	100	1.0uZb	32 Z	100mZ	6.0pZ	PLØ	T018	A
38#	BC337	360m	100MΔ	2.9m	\$J	45	45	5.0	800m	100n	1.0	100m	350				12pZ	PE	X64b	A
39#	BC338	360m	100MΔ	2.9m	\$J	45	45	5.0	800m	100n	1.0	100m	350				12pZ	PE	X64b	A
40	ME213	360m	100MΔ	2.0m	\$J	45	25	5.0	200m	1.0u	5.0	1.0m	185				6pZ	PE	T018	A
41	ME213A	360m	100MΔ	2.0m	\$J	45	25	5.0	200m	1.0u	5.0	1.0m	70				6pZ	PL	T018	A
42	ME216	360m	100MΔ	2.0m	\$J	20	10	3.0	200m	50u	1.0	10m	45				8pZ	PE	T018	A
43	ME217	360m	100MΔ	2.0m	\$J	20	10	3.0	200m	50u	1.0	10m	100				8pZ	PE	T018	A
44	ME900	360m	100MΔ	2.0m	\$J	40	20	5.0	100m	1.0n	5.0	1.0m	100	1.0uZb	32 Z	100mZ	6.0pZ	PLØ	T018	A
45	ME901	360m	100MΔ	2.0m	\$J	40	20	5.0	100m	1.0n	5.0	1.0m	100	1.0uZb	32 Z	100mZ	6.0pZ	PLØ	T018	A
46#	C442	360m	130MΔ	2.0m	\$J	40	30	5.0	100m	1.0n	100	1.0m	115				14p	PL	T018	AØ
47#	BCW34	360m	150MΔ	2.7m	\$J	60	45	5.0	600m	10n	5.0	100m	100	5.0u	40k	10	6.0p	PE	T018	A
48#	ME6003	360m	150MΔ	2.9m	\$J	25	45	4.0	100m	1.0u	5.0	50m	30				12pZ	PEΔ	T0106	A
49	2N919†	360m	200MΔ	2.1m	\$J	25	15	5.0	220m	10u	1.0	10m	20				7.0pZ	Ø	T018	WØ
50	2N920†	360m	200MΔ	2.1m	\$J	25	15	5.0	220m	10u	1.0	10m	40				7.0pZ	Ø	T018	WØ
51	2N947	360m	200MΔ	2.9m	\$J	20	15	3.0	100m	1.0u	1.0	10m	30				8pZ	Ø	T018	AØ
52	2N3827	360m	200MΔ	2.9m	\$S	60	45	4.0	30m	1.0u	100	100	100				4pZ	†	T092	B
53	2N3973†	360m	200MΔ	2.7m	\$S	60	30	5.0	400m	10u	1.0	150m	30				7.0pZ	Ø	R67	B
54	2N3974†	360m	200MΔ	2.7m	\$S	60	30	5.0	400m	10u	1.0	150m	50				7.0pZ	Ø	R67	B
55	2N3975†	360m	200MΔ	2.7m	\$S	60	30	5.0	400m	10u	1.0	150m	30				7.0pZ	Ø	R67	B
56	2N3976†	360m	200MΔ	2.7m	\$S	60	30	5.0	400m	10u	1.0	150m	50				7.0pZ	Ø	R67	B
57	2N4994	360m	200MΔ	2.9m	\$S	60	45	4.0	30m	1.0u	100	100	40				4pZ	†	X55	A
58	2N4995	360m	200MΔ	2.9m	\$S	60	45	4.0	30m	1.0u	100	100	100				4pZ	†	X55	A
59	2N5735†	360m	200MΔ	2.9m	\$S	60	30	5.0	300m	10n	100	10m	30				8.0pZ	†	T0122	P
60	2N5736†	360m	200MΔ	2.9m	\$S	60	30	5.0	300m	10n	100	10m	70				8.0pZ	†	T0122	P
61#	AT490	360m	200MΔ	2.1m	\$J	30	30	5.0	100m	100n	100	10m	50				3.5pZ	PE	T018	AØ
62#	AT491	360m	200MΔ	2.1m	\$J	45	45	5.0	100m	100n	100	10m	50				3.5pZ	PE	T018	AØ
63#	AT492	360m	200MΔ	2.1m	\$J	30	30	5.0	100m	100n	100	10m	100				3.5pZ	PE	T018	AØ
64#	AT493	360m	200MΔ	2.1m	\$J	45	45	5.0	100m	10										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)		2 DERATE IN FREE AIR W/C		T M A M X P	ABS MAX RATINGS @25°C			MAX. lcbv @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION	C O D E		
		fab	IN (Hz)	FREE AIR W/C	V Vcbo		V Vceo	V Ic	BIAS			COMMON EMITTER						
									Vcb		le	hfe	hoe (mhos)				hie (Ω)	hre (X.0001)
1#	BFV88A†	360m	250mSΔ	500u	SJ	60	40	5.0	800m	25uΩ	100	10mΩ	30 tΔ	8pF	PE	u26a	B	
2#	BFV88B†	360m	250mSΔ	500u	SJ	60	40	5.0	800m	25uΩ	100	10mΩ	50 tΔ	8pF	PE	u26a	B	
3#	BFV88C†	360m	250mSΔ	500u	SJ	60	30	5.0	200uΩ	100	150mΩ	30 t#Δ	8pF	PE	u26a	B		
4#	BFY2†	360m	250mSΔ	2.0m	SJ	70	50	5.0	1.0	0.1uΩ	5.0Ω	10mΩ	40 t#Δ	3.5pF	PE	TO18	A	
5#	BSV85†	360m	250mSΔ	2.2m	SJ	50	30	5.0	500m	10u	100	150mΩ	80 t	8.0pF	PE	TO18	A	
6#	BSW41†	360m	250mSΔ	2.1m	SJ	40	25	5.0	300m	50uΩ	100	10mΩ	30 t#Δ	8.0pF	PE	TO18	A	
7#	CS5368†	360m	250mSΔ	2.9m	SJ	60	30	5.0	500m	50nΩ	100	1.0mΩ	20 tΔ	8.0pF	PE	TO106	A	
8#	CS5369†	360m	250mSΔ	2.9m	SJ	60	30	5.0	500m	50nΩ	100	1.0mΩ	50 tΔ	8.0pF	PE	TO106	A	
9#	CS5370†	360m	250mSΔ	2.9m	SJ	60	30	5.0	500m	50nΩ	100	1.0mΩ	75 tΔ	8.0pF	PE	TO106	A	
10#	CS5371†	360m	250mSΔ	2.9m	SJ	40	30	5.0	500m	50nΩ	100	1.0mΩ	20 tΔ	8.0pF	PE	TO106	A	
11	GET2221	360m	250m	3.6m	ΔJ	60	30	5.0	400m	10nΩ	1.0Ω	150mΩ	20 tΔ	8pF	PEΔ	TO18	A	
12	GET2222	360m	250m	3.6m	ΔJ	60	30	5.0	400m	10nΩ	1.0Ω	150mΩ	50 tΔ	8pF	PEΔ	TO18	A	
13	LDA400	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	10uΩ	40 tΔ	6.0pF	PE	u34	P	
14	LDA400MP*	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	10uΩ	40 tΔ	6.0pF	PE	u34	P	
15	LDA401	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	10uΩ	100 tΔ	6.0pF	PE	u34	P	
16	LDA401MP*	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	10uΩ	100 tΔ	6.0pF	PE	u34	P	
17	LDA402	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	1.0mΩ	100 tΔ	6.0pF	PE	u34	P	
18	LDA403	360m	250mS	2.9m	SJ	35	35	5.0	30m	10nΩ	5.0Ω	1.0mΩ	270 tΔ	6.0pF	PE	u34	P	
19#	ME6101†	360m	250mSΔ	2.8m	SJ	70	50	6.0	600m	500mΩ	100	150mΩ	70 t#Δ	8.0pF	PE	R110	A	
20#	ME6102†	360m	250mSΔ	2.8m	SJ	60	40	6.0	600m	500mΩ	100	150mΩ	100 t#Δ	8.0pF	PE	R110	A	
21	TIS60	360m	250mS	2.9m	ΔJ	40	25	5.0	400m	10uΩ	2.0Ω	50mΩ	160 t*	8.0pF	PE	TO92	A	
22	TIS109†	360m	250mSΔ	2.8m	SΔ	60	30	5.0	800m	100nΩ	1.0Ω	100uΩ	20 tΔ	10pF	PE†	X55	A	
23	TIS111†	360m	250mSΔ	2.8m	SΔ	60	40	6.0	800m	100nΩ	1.0Ω	1.0mΩ	40 tΔ	6.5pF	PE†	X55	A	
24	JAN2N708†	360m	300mSΔ	2.0m	SΔ	40	15	5.0	200m	25nΩ	1.0Ω	10mΩ	40 t#Δ	6.0pF	PE	TO18	A	
25	2N708A	360m	300mSΔ	2.1m	SJ	50	20	5.0	200m	0.1uΩ	1.0Ω	10mΩ	40 tΔ	6pF	PE	TO18	A	
26	2N784A†	360m	300mSΔ	2.0m	ΔJ	40	20	5.0	200m	100u	1.0Ω	10mΩ	88 t	3.5pF	PE	TO18	A	
27	JAN2N914†	360m	300mSΔ	2.0m	SΔ	40	15	5.0	200m	25nΩ	1.0Ω	10mΩ	30 t#Δ	6.0pF	PE	TO18	A	
28	2N916	360m	300mSΔ	2.0m	SJ	45	25	5.0	50m	0.1uΩ	5.0Ω	5.0mΩ	50 tΔ	6pF	PE	TO18	A	
29	JAN2N916	360m	300mSΔ	2.0m	SΔ	45	25	5.0	50m	10nΩ	5.0Ω	1.0mΩ	40 tΔ	6.0pF	PE	TO18	A	
30	2N2242	360m	300mS	2.0m	ΔJ	40	15	5.0	200m	10u	1.0Ω	10mΩ	80 t	6.0pF	PE	TO18	A	
31	2N2318	360m	300mS	2.0m	SJ	30	30	5.0	200m	1.0u	4.0Ω	20m	40 t	5.0pF	PE	TO18	A	
32	2N2481†	360m	300mSΔ	2.1m	ΔJ	40	15	5.0	200m	1.0u	1.0Ω	10mΩ	40 t#Δ	5.0pF	PE	TO18	A	
33	JAN2N2481†	360m	300mSΔ	2.0m	ΔJ	40	15	5.0	200m	50nΩ	1.0Ω	10mΩ	40 t#Δ	5.0pF	PE	TO18	A	
34	2N3210†	360m	300mSΔ	2.0m	ΔS	40	15	5.0	500m	10nΩ	1.0Ω	10mΩ	30 t#Δ	6.0pF	PE	TO18	A	
35	2N3947†	360m	300mSΔ	2.0m	SJ	60	40	6.0	200m	0.1uΩ	100	1.0mΩ	100 tΔ	4pF	PE	TO18	A	
36	2N4013†	360m	300mSΔ	2.0m	SJ	50	30	6.0	500m	1.7uΩ	1.0Ω	100mΩ	150 tΔ	12pF	PE	TO18	A	
37	2N4014†	360m	300mSΔ	2.0m	SJ	80	50	6.0	500m	1.7uΩ	1.0Ω	100mΩ	150 tΔ	10pF	PE	TO18	A	
38	2N4421†	360m	300mSΔ	2.8m	SΔ	30	12	5.0	200m	500nΩ	4.0Ω	30mΩ	25 t#Δ	5.0pF	PE	X55	A	
39	2N5144S	360m	300mSΔ	2.0m	SJ	50	30	6.0	500m	1.7uΩ	1.0Ω	10mΩ	30 t#Δ	12pF	PE	TO18	A	
40	2N5376	360m	300mSΔ	2.8m	SJ	60	30	5.0	500m	10nΩ	5.0Ω	1.0mΩ	120 tΔ	200nF	PE	X93	A	
41	2N5377	360m	300mSΔ	2.8m	SJ	60	30	5.0	500m	10nΩ	5.0Ω	1.0mΩ	100 tΔ	200nF	PE	X93	A	
42	2N5381	360m	300mS	2.8m	SJ	60	40	5.0	500m	10nΩ	1.0Ω	10mΩ	100 tΔ	4pF	PE	X55	A	
43#	2SC55	360m	300mS	2.4m	SJ	25	25	3.0	100m	25uΩ	6.0Ω	1.0mΩ	50	4.0pF	PL	TO18	A	
44#	2SC321H†	360m	300mSΔ	2.3m	SJ	40	15	5.0	200m	25uΩ	1.0Ω	10mΩ	30 tΔ	6pF	PE	TO18	A	
45	AST3904†	360m	300mSΔ	2.8m	SΔ	60	40	6.0	200m	50nΩ	1.0Ω	10mΩ	100 tΔ	4.0pF	PE†	X55	A	
46#	AT370	360m	300mSΔ	2.1m	SJ	30	30	4.0	100m	100nΩ	100	10mΩ	20 tΔ	8.0pF	PE	TO18	A	
47#	AT426	360m	300m	2.0m	SJ	50	30	5.0	500m	200n	1.0Ω	50mΩ	100 t#Δ	8.0pF	PE	TO18	A	
48#	AT427	360m	300m	2.0m	SJ	50	45	5.0	500m	200n	1.0Ω	50mΩ	100 t#Δ	8.0pF	PE	TO18	A	
49#	BF224	360m	300mSΔ	2.9m	SΔ	45	30	4.0	800m	10uΩ	100	7.0mΩ	85 t	15uΩ	PE	X55	C	
50#	BFV85C†	360m	300mSΔ	4.17u	SJ	75	40	6.0	800m	0.1uΩ	100	1.0mΩ	30 tΔ	8pF	PE	u26a	B	
51#	BSY19†	360m	300mSΔ	2.1m	SJ	40	15	5.0	200m	0.2uΩ	1.0Ω	10mΩ	30 t#Δ	6pF	PE	TO18	A	
52#	BSY21†	360m	300mSΔ	2.1m	SJ	40	30	5.0	500m	0.2uΩ	1.0Ω	10mΩ	30 t#Δ	6pF	PE	TO18	A	
53	GET706	360m	300mSΔ	3.6m	ΔJ	25	15	3.0	200m	25nΩ	1.0Ω	10mΩ	20 t#Δ	6pF	PEΔ	TO18	A	
54	GET708†	360m	300mSΔ	3.6m	ΔJ	40	15	5.0	200m	25nΩ	1.0Ω	10mΩ	30 t#Δ	6pF	PEΔ	TO18	A	
55	GET914†	360m	300mSΔ	3.6m	ΔJ	40	15	5.0	200m	25nΩ	1.0Ω	10mΩ	30 t#Δ	6pF	PEΔ	TO18	A	
56#	NKT13329†	360m	300mSΔ	2.0m	SJ	30	15	5.0	500m	20nΩ	100	1.0mΩ	40 t	5.0pF	PE	TO18	A	
57#	NKT13429†	360m	300mSΔ	2.0m	SJ	30	15	5.0	500m	20nΩ	100	1.0mΩ	80 t	5.0pF	PE	TO18	A	
58	TIS45†	360m	300mSΔ	2.9m	SJ	40	15	5.0	200m	0.5uΩ	1.0Ω	50mΩ	15 tΔ	6pF	PE	TO92	A	
59	TIS46†	360m	300mSΔ	2.9m	SJ	40	15	5.0	200m	0.5uΩ	2.0Ω	200mΩ	12 t#Δ	6pF	PE	TO92	A	
60#	ZT708	360m	300mS	2.0m	ΔJ	30	30	5.0	200m	25nΩ	1.0Ω	10mΩ	120	6.0pF	PL	TO18	A	
61	2N706C†	360m	320mS	2.0m	SJ	40	15	5.0	50m	1.0uΩ	1.0Ω	10mΩ	20 tΔ	5pF	ND	TO18	A	
62	2N913	360m	350m	2.0m	SJ	25	15	5.0	200m	0.5uΩ	1.0Ω	10mΩ	75 t	6.0pF	PLE	TO18	A	
63	2N2501†	360m	350mSΔ	2.0m	SJ	40	40	6.0	200m	1.0uΩ	1.0Ω	10mΩ	150 tΔ	2.8pF	PE	TO18	A	
64	2N3009†	360m	350mSΔ	2.0m	SJ	40	15	4.0	200m	50uS	4.0Ω	30mΩ	30 t#Δ	5pF	PE	TO52	A	
65	2N3013†	360m	350mSΔ	2.0m	SJ	40	15	5.0	200m	30uS	4.0Ω	30mΩ	30 t#Δ	5pF	PE	TO52	A	
66	JAN2N3013†	360m	350mSΔ	2.0m	SJ	40	20	5.0	300m	40uΩ†	4.0Ω	30mΩ	35 t#Δ	5.0pF	PE	TO52	A	
67	2N3014†	360m	350mSΔ	2.0m	SJ	40	20	5.0	200m	30uS	4.0Ω	30mΩ	30 t#Δ	5pF	PE	TO52	A	
68	2N3211	360m	350mSΔ	2.1m	SJ	40	15	6.0	500m	1.0u	1.0Ω	10mΩ	50 tΔ	4pF	PE	TO18	A	
69	2N3510†	360m	350mSΔ	2.0m	SΔ	40	10	6.0	500m	25nΩ	100	15mΩ	25 tΔ	4pF	PE	TO52	A	
70	2N4420†	360m	350mSΔ	2.8m	SΔ	40	20	5.0	200m	500nS	4.0Ω	30mΩ	30 t#Δ	5.0pF	PE	X55	A	
71	2N4422†	360m	350mSΔ	2.8m	SΔ	40	15	5.0	200m	500nS	4.0Ω	30mΩ	30 t#Δ	5.0pF	PE	X55	A	
72#	2SC172A	360m	350mS	2.0m	SJ	40	20	5.0	50m	25nΩ	6.0Ω	10mΩ	60	7.0pF	PL	TO18	A	
73#	BSV59†	360m	350mS	2.0m	SJ	40	20	5.0	200m	100	500mΩ	50 t	10pF	PE	TO18	A		
74#	BSX88A†	360m	350mS	2.0m	SJ	40	20	5.5	200m	30uΩ	1.0Ω	10mΩ	50 t#	3.0pF	DPE	TO18	A	
75#	C722†	360m	350mS	2.0m	SJ	40	20	5.5	200m	30uΩ	1.0Ω	10mΩ	120 t	3.0pF	PE	TO18	A	
76#	C742	360m	350mS	6.8m	SJ	30	30	5.0	200m	200p	5.0Ω	10mΩ	200 t	2.6pF	PL	TO39	A	
77	GET2369†	360m	350mSΔ	3.6m	ΔJ	40	15	5.0	200m	10u	1.0Ω	10mΩ	40 tΔ	4.5pF	PEΔ	TO18	A	
78	GET3013†	360m	350mSΔ	3.6m	ΔJ	40	15											

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. 2		DERATE		ABS MAX RATINGS @25°C						TYPICAL 'h' PARAMETERS										DESCRIPTION		L C E A O D E
		COLL. DISS. @25°C (W)	fab (Hz)	IN FREE AIR W/°C	M A M X P	BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)	Icbo @MAX (Vc) (A)	BIAS		COMMON EMITTER			Cob (F)	STRUC-TURE	DWG. No.						
											Vcb (V)	Ie (A)	hfe	hoe (mhos)	hie (Ω)				hre (X.0001)					
1	2N708f	380m	480MΔ	2.0m	Δ	40	15	5.0		25n	1.00	10m	30	Δ	#				6.0p	PL	TO18	A0		
2	2N914f	380m	480MΔ	2.0m	Δ	40	15	5.0		25n	1.00	10m	55	Δ	#				4.5p	PE	TO18	A0		
3	2N914/46	380m	480MΔ	2.0m	Δ	40	15	5.0		25n	1.00	10m	30	Δ	#				6.0p	PE	TO46	A0		
4	2N743A1	380m	500MΔ	2.0m	Δ	40	15	5.0		1.0u	350	10m	20	Δ	#				3p	PE	TO18	A0		
5	2N744A1	380m	500MΔ	2.0m	Δ	40	15	5.0		1.0u	350	10m	40	Δ	#				3p	PE	TO18	A0		
6	2N834A	380m	500MΔ	2.0m	Δ	40	30	∅	200m	5.0u	1.00	10m	25	Δ	#				4p	PE	TO18	A0		
7	2N915A	380m	500MΔ	2.1m	Δ	70	50	5.0		2n	5.00	5.0m	50	Δ	#				3p	PE	TO18	A0		
8	2N916A	380m	500MΔ	2.1m	Δ	60	30	5.0		2n	5.00	5.0m	50	Δ	#				3p	PE	TO18	A0		
9	2N916B	380m	500MΔ	2.1m	Δ	60	30	5.0		2n	5.00	5.0m	50	Δ	#				3p	PE	TO18	A0		
10	2N2369A1	380m	500MΔ	2.0m	Δ	40	15	4.5	200m	.40u	350	10m	40	Δ	#				4p	PE	TO18	A0		
11	JAN2N2369A1	380m	500MΔ	2.0m	Δ	40	15	4.5		.30u	100	10m	40	Δ	#				4.0p	PE	TO18	A0		
12	2N27101	380m	500MΔ	2.0m	Δ	40	20	5.0	500m	.03u	1.00	10m	40	Δ	#				4p	PE	TO18	A0		
13	2N32271	380m	500MΔ	2.0m	Δ	40	20	6.0	200m	.20u	1.00	10m	100	Δ	#				4p	PE	TO18	A0		
14	2N41371	380m	500MΔ	2.0m	Δ	40	40	∅	4.5	200m	30u	350	10m	40	Δ	#				4p	DPE	TO18	A0	
15	2N44181	380m	500MΔ	2.9m	Δ	40	15	4.5	200m	.40u	1.00	10m	40	Δ	#				4p	PE	X55	A0		
16	2N52721	380m	500MΔ	2.1m	Δ	40	20	5.0	200m	.20u	1.00	10m	100	Δ	#				4p	PE	TO18	A0		
17#	2SC7641	380m	500MΔ	2.0m	Δ	40	15	4.5		.20u	1.00	10m	40	Δ	#				4.0p	PE	TO18	A0		
18#	BFX43	380m	500MΔ	2.0m	Δ	30	15	4.0	125m	100n	1.00	10m	20	Δ	#				4.0p	PE	TO18	A0		
19#	BFX44	380m	500MΔ	2.0m	Δ	40	15	4.0	125m	100n	1.00	10m	40	Δ	#				4.0p	PE	TO18	A0		
20	LDS200	380m	500MΔ	2.9m	Δ	30	15	4.5		.50u	1.00	10m	20	Δ	#				4p	PE	u34	P		
21	LDS201	380m	500MΔ	2.9m	Δ	30	15	4.5		.50u	1.00	10m	40	Δ	#				4p	PE	u34	P		
22	MD1T23891	380m	500MΔ	2.0m	Δ	40	15	4.5	200m	.40u	1.00	10m	5.0	Δ	#				4.0p	PE	TO122	P		
23#	TIS481	380m	500MΔ	2.9m	Δ	40	15	4.5	200m	.40u	2.00	100m	20	Δ	#				4.0p	PE	TO92	B		
24#	TIS491	380m	500MΔ	2.9m	Δ	40	15	4.5	200m	.30u	1.00	100m	20	Δ	#				4.0p	PE	TO92	B		
25#	BSX261	380m	550MΔ	2.0m	Δ	40	15	4.0		500n	400	30m	60	Δ	#				3.3p	DPE	TO18	A0		
26#	BSX921	380m	550MΔ	2.0m	Δ	40	15	4.0		500n	400	30m	20	Δ	#				4p	PE	TO18	A0		
27#	C652	380m	550MΔ	2.0m	Δ	35	15	5.0		500u	1.00	10m	50	Δ	#				3.0p	PE	TO18	A0		
28	2N26511	380m	600MΔ	2.0m	Δ	40	30	∅	500m	.10u	1.00	10m	25	Δ	#				4.0p	PL	TO18	A0		
29	2N38621	380m	600MΔ	2.0m	Δ	50	20	4.5	200m	.05u	1.00	10m	50	Δ	#				4p	PE	TO72	A0		
30	2N5081	380m	600MΔ	2.1m	Δ	70	50	5.0		.01u	5.00	1.0m	100	Δ	#				3p	PE	TO18	A0		
31	2N5082	380m	600MΔ	2.1m	Δ	60	30	5.0		.01u	5.00	1.0m	100	Δ	#				3p	PE	TO18	A0		
32	2N5399S	380m	600MΔ	2.4m	Δ	25	15	2.0	100m	.01u	1.00	1.0m	30	Δ	#				3p	PE	TO46	A0		
33	JAN2N5399S	380m	600MΔ	2.3m	Δ	25	15	2.0	100m	.10u	1.00	1.0m	30	Δ	#				3.0p	PE	TO46	A0		
34#	BSX391	380m	600MΔ	2.0m	Δ	45	20	5.0		100n	400	30m	60	Δ	#				4.0p	DPE	TO18	A0		
35#	BSX87A1	380m	600MΔ	2.0m	Δ	40	15	5.0		.30u	1.00	10m	55	Δ	#				2.5p	DPE	TO18	A0		
36#	FOS102	380m	600MΔ	2.0m	Δ	30	12	5.0	500m	.30u	1.00	25m	160	Δ	#				6.0p	PE	TO18	A0		
37	LDS205	380m	600MΔ	2.9m	Δ	15	6.0	4.0	100m	.50u	1.00	10m	20	Δ	#				3p	PE	u34	P		
38	2N23681	380m	640MΔ	2.0m	Δ	40	15	4.5	500m	.40u	1.00	10m	40	Δ	#				4p	PE	TO18	A0		
39#	BSX281	380m	650MΔ	2.0m	Δ	30	12	4.5		.40u	1.00	100m	50	Δ	#				2.3p	DPE	TO18	A0		
40#	BSX931	380m	650MΔ	2.0m	Δ	40	15	4.5		.40u	1.00	100m	50	Δ	#				4p	PE	TO18	A0		
41	2N48731	380m	700MΔ	2.0m	Δ	40	15	4.5	200m	.40u	1.00	10m	150	Δ	#				4p	PE	TO18	A0		
42#	2SC957	380m	700MΔ	2.0m	Δ	30	30	3.0	100m	.30u	3.00	1.0m	13	Δ	#				1.1p	DM	R90A	J		
43	LDA414	380m	700MΔ	2.9m	Δ	55	30	3.5	150m	.20u	1.50	25m	70	Δ	#				3.0p	PE	TO122	P		
44#	2SC6391	380m	750MΔ	2.0m	Δ	40	40	∅	200m	.40u	1.00	10m	80	Δ	#				1.5p	PE	TO18	A0		
45	2N23691	380m	800MΔ	2.0m	Δ	40	15	4.5	500m	.40u	1.00	10m	80	Δ	#				4p	PE	TO18	A0		
46	2N5292S	380m	800MΔ	2.1m	Δ	12	12	4.5	100m	.1n	1.00	10m	30	Δ	#				4.5p	PE	TO18	A0		
47	2N5107S	380m	900MΔ	2.0m	Δ	60	30	5.0	500m	.01u	1.00	150m	100	Δ	#				8p	PE	TO18	A0		
48	LDA406	380m	900MΔ	2.9m	Δ	30	15	3.0	25m	.10u	1.00	3.0m	20	Δ	#				3.0p	PE	TO122	P		
49#	BF223	380m	950MΔ	3.1m	Δ	35	25	4.0	40m	.50n	1.00	15m	85	Δ	#				380f	PE	MM11	C		
50	2N5263	380m	1.0GΔ	2.9m	Δ	30	15	2.5	25m	.01u	5.00	2.0m	20	Δ	#				4.0p	PE	u34	P		
51	LDA412	380m	1.0GΔ	2.9m	Δ	20	20	1.0	50m	.50n	5.00	50m	8.0	Δ	#				1.5p	PE	TO122	P		
52	LDA420	380m	1.0GΔ	2.9m	Δ	40	25	2.0	150m	.50u	5.00	50m	25	Δ	#				4.0p	PE	TO122	P		
53	LDA407	380m	1.5GΔ	2.9m	Δ	30	15	2.5	25m	.10u	5.00	15m	25	Δ	#				1.0p	PE	TO122	P		
54	FM870	375m	80.MΔ	2.1m	Δ	100	60	7.0		.01u	1.00	150m	75	Δ	#				15p	PLA	TO46	A0		
55	FM871	375m	96MΔ	2.1m	Δ	100	60	7.0		.10n	1.00	150m	130	Δ	#				15p	PLA	TO46	A0		
56#	BC377	375m	200MΔ	2.5m	Δ	45	6.0	1.0		1.0u	1.00	100m	75	Δ	#				10p	PE	TO18	A0		
57#	BC378	375m	200MΔ	2.5m	Δ	25	6.0	1.0		1.0u	1.00	100m	75	Δ	#				10p	PE	TO18	A0		
58#	2SC918	375m	400MΔ	2.2m	Δ	20	20	3.0	30m	200n	1.00	4.0m	20	Δ	#				450f	DM	TO104	A0		
59#	BCY58	390m	150MΔ	2.2m	Δ	32	32	7.0	200m	.50u	5.00	2.0	330	Δ	#					PE	TO18	A0		
60#	BCY58A	390m	150MΔ	2.2m	Δ	32	32	7.0	200m	.01u	5.00	2.0m	200	Δ	#					PE	TO18	A0		
61#	BCY58B	390m	150MΔ	2.2m	Δ	32	32	7.0	200m	.01u	5.00	2.0m	260	Δ	#					PE	TO18	A0		
62#	BCY58C	390m	150MΔ	2.2m	Δ	32	32	7.0	200m	.01u	5.00	2.0m	330	Δ	#					PE	TO18	A0		
63#	BCY58D	390m	150MΔ	2.2m	Δ	32	32	7.0	200m	.01u	5.00	2.0m	520	Δ	#					PE	TO18	A0		
64#	BCY59A	390m	150MΔ	2.2m	Δ	45	45	7.0	200m	.01u	5.00	2.0m	200	Δ	#					PE	TO18	A0		
65#	BCY59B	390m	150MΔ	2.2m	Δ	45	45	7.0	200m	.01u	5.00	2.0m	260	Δ	#					PE	TO18	A0		
66#	BCY59C	390m	150MΔ	2.2m	Δ	45	45	7.0	200m	.01u	5.00	2.0m	330	Δ	#					PE	TO18	A0		
67#	BCY59D	390m	150MΔ	2.2m	Δ	45	45	7.0	200m	.01u	5.00	2.0m	520	Δ	#					PE	TO18	A0		
68	2N4074	400m	3.3m	Δ	Δ	40	40	8.0	300m	.10u	120	10m	400	Δ	#					R123	A0			
69#	2SC814	400m	4.0m	Δ	Δ	30	18	5.0	500m	200n	5.00	50m	150	Δ	#					PE	X28A	B		
70#	2SC853	400m		Δ	Δ	70	60	5.0	200m	100n	1.00	50m	80	Δ	#					PE	X28A	B		
71#	2SC881	400m																						

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	3 TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E A M P	ABS MAX RATINGS @25°C				MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS						Cob (F)	STRUC-TURE	DWG. No.	L C O A D E	
					V _{bc} (V)	V _{ce} (V)	V _{be} (V)	I _c (A)		BIAS			COMMON EMITTER							
										V _{cb} (V)	I _e (A)	h _{fe}	hoe (mhos)	hie (Ω)	hre (X.0001)					
1	2N717†	400m	64.MΔ	2.6m	SS	80	40	5.0	1.0μ	100	150m	20 #Δ	35pZ	D	TO18	A				
2	2N3340†	400m	70MΔ	2.6m	SS	30	20	5.0	1n	1.0	0.1m	40 †Δ	6pZ	D	TO46	A				
3	2N718†	400m	80MΔ	2.6m	SS	60	40	5.0	1.0n	100	150m	40 †Δ	35pZ	PL	TO18	A				
4	2N3056	400m	80MΔ	2.2m	SJ	100	60	7.0	1.0	100	100	30 Δ	12pZ	PL	TO46	A				
5	2N3056A	400m	80MΔ	2.3m	SJ	140	80	7.0	1.0	0.1μ	5.0	30 Δ	12pZ	PL	TO46	A				
6	2N2516	400m	99.M	2.3m	SS	80	60	8.0	100m	5n	5.0	60 Δ	6pZ	PL	TO46	A				
7	2N2518	400m	100MΔ	4.3m	SJ	125	80	8.0	5n	5.0	5.0m	40 Δ	1.5k	PL	TO46	A				
8	2N2519	400m	100MΔ	4.3m	SJ	125	80	8.0	5n	5.0	5.0m	80 Δ	1.8k	PL	TO46	A				
9	2N2523	400m	100MΔ	4.3m	SJ	60	45	6.0	2.0n	5.0	1.0m	60	28	PL	TO46	A				
10	2N2524	400m	100MΔ	4.3m	SJ	60	45	6.0	2.0n	5.0	1.0m	150	28	PL	TO46	A				
11	2N3057	400m	100MΔ	2.3m	SJ	100	60	7.0	10n	100	150m	100 †#Δ	4.0u	1.5k	800m	4.0p	PL	TO46	A	
12	2N3057A	400m	100MΔ	2.3m	SJ	140	80	7.0	1	0.1μ	5.0	80 †Δ	12pZ	PL	TO46	A				
13	JAN2N3057A	400m	100MΔ	2.2m	SJ	140	80	7.0	1.0	10n	5.0	100 †Δ	12pZ	PE*	TO46	A				
14	2N4315*	400m	100MΔ	2.6m	SS	30	25	5.0	50m	0.1μ	5.0	100 †Δ	6pZ	PE*	L2b	A				
15#	2S102	400m	120MΔ	2.6m	SA	60	45	4.5	50m	25μ	5.0	10m	40	5.0p	ME	TO18	A			
16#	2S731	400m	120M	5.6m	#J	30	30	3.0	50m	1.0u	5.0	5.0m	40	25u	450	.90	5.0p	ME	TO18	A
17#	2S732	400m	120M	5.6m	#J	30	30	3.0	50m	1.0u	5.0	5.0m	60	25u	450	.90	5.0p	ME	TO18	A
18#	2S733	400m	120M	5.6m	#J	30	30	3.0	50m	1.0u	5.0	5.0m	100	25u	450	.90	5.0p	ME	TO18	A
19#	ME8001	400m	130MΔ	3.1m	SJ	40	30	5.0	800m	500n	100	150m	30 †#Δ	15uZb	4.9k	4.2	12pZ	PEΔ	R110a	A
20#	ME8002	400m	130MΔ	3.1m	SJ	80	60	7.0	800m	10n	100	150m	100 †#Δ	500nZb	30	1.5	10pZ	PEΔ	R110a	A
21#	ME8003	400m	130MΔ	3.2m	SJ	80	60	7.0	800m	10n	100	150m	100 †#Δ	500nZb	30	1.5	10pZ	PEΔ	R110a	A
22#	2S103	400m	135MΔ	2.6m	SA	60	45	4.5	50m	25μ	5.0	10m	65	65u	60	1.1	5.0p	ME	TO18	A
23	2N2310†	400m	150M	2.9m	†J	60	60	8.0	10u	100	200m	20 †	14p	PL	TO46	A				
24	2N2311†	400m	150M	2.9m	†J	100	100	8.0	10u	100	200m	20 †	14p	PL	TO46	A				
25	2N2312†	400m	150M	2.9m	†J	60	60	8.0	10u	100	200m	60 †	500	PL	TO46	A				
26	2N2313†	400m	150M	2.9m	†J	100	100	8.0	10u	100	200m	60 †	500nb	5.4	1.0	20p	PL	TO46	A	
27	2N2314	400m	150M	2.8m	SJ	60	60	8.0	1.0u	100	15m	45 †	500nb	5.4	1.0	20p	PL	TO46	A	
28	2N2315†	400m	150M	2.6m	SJ	60	60	5.0	1.0u	100	150m	70 †#	200nb	26	1.6	5pZ	PL	TO46	A	
29	2N2459	400m	150MΔ	4.3m	SJ	100	60	8.0	2n	5.0	5.0m	40 Δ	30u	800	5pZ	PL	TO46	A		
30	2N2460	400m	150MΔ	4.3m	SJ	100	60	8.0	2n	5.0	5.0m	70 Δ	60u	1.2k	5pZ	PL	TO46	A		
31	2N2461	400m	150MΔ	4.3m	SJ	100	60	8.0	2n	5.0	5.0m	120 Δ	90u	1.8k	5pZ	PL	TO46	A		
32	2N2462	400m	150MΔ	4.3m	SJ	100	60	8.0	2n	5.0	5.0m	170 Δ	120u	2.4k	5pZ	PL	TO46	A		
33	2N4100*	400m	150MΔ	4.3m	SS	55	55	7.0	10m	10u	5.0	175 †Δ	95u	1.0k	1.3	8pZ	PE	L2m	A	
34#	2S104	400m	150MΔ	2.6m	SA	60	45	4.5	50m	250n	5.0	10m	90	95u	1.0k	1.3	5.0p	ME	TO18	A
35#	BFV96†	400m	175MΔ	2.6m	SJ	40	25	5.0	800m	50μ	1.0	500m	25 †Δ*	15pZ	PE	L56f	A			
36#	BFV96N†	400m	175MΔ	2.6m	SJ	40	25	5.0	800m	50μ	1.0	500m	25 †Δ*	15pZ	PE	L56g	A			
37	2N2316	400m	180M	2.6m	SJ	120	80	5.0	2.0u	100	150m	65 †#	300nb	25	2.5	14p	PLΔ	TO46	A	
38	2N706/46†	400m	200MΔ	3.3m	SJ	25	20	3.0	50n	1.0	10m	20 †#Δ	6.0pZ	D	TO46	A				
39	2N753/46†	400m	200MΔ	3.3m	SJ	25	20	3.0	50n	1.0	10m	40 †Δ	5.0pZ	E	TO46	A				
40	MQ2218*	400m	200MΔ	2.2m	SJ	60	30	5.0	600m	20n#	100	150m	40 †#Δ	8.0pZ	ANΔ	L56	A			
41	PT1836	400m	200M	2.6m	SJ	45	30	4.0	50u	100	150m	90 †Z	24p	PLΔ	TO18	A				
42	PT1837	400m	200M	2.6m	SJ	80	50	8.0	50u	100	150m	120 †Z	24p	PLΔ	TO18	A				
43	2N3115†	400m	250MΔ	2.6m	SJ	60	20	5.0	600m	25n	100	150m	40 †Δ	8.0pZ	PEΔ	TO18	A			
44	2N3116†	400m	250MΔ	2.6m	SJ	60	20	5.0	600m	25n	100	150m	100 †Δ	8.0pZ	PEΔ	TO18	A			
45	40283†	400m	250MΔ	2.3m	SS	60	30	5.0	1.0	500m	10	10 †#	10pZ	DPE	TO46	A				
46#	BF248	400m	250MΔ	2.7m	SA	30	25	3.0	600m	5.0m	100	5.0m	20 †Δ	6.0p	PE	TO18	A			
47#	BFV93	400m	250MΔ	2.6m	SJ	50	30	5.0	800m	.05u	100	150m	80 †Δ*	5.0p	PE	L56h	A			
48#	BFV93N†	400m	250MΔ	2.6m	SJ	50	30	5.0	800m	.05u	100	150m	80 †Δ*	5.0p	PE	L56i	A			
49#	BFV94†	400m	250MΔ	2.6m	SJ	50	30	5.0	800m	.05u	100	150m	80 †Δ*	5.0p	PE	L56f	A			
50#	BFV94N†	400m	250MΔ	2.6m	SJ	50	30	5.0	800m	.05u	100	150m	80 †Δ*	5.0p	PE	L56g	A			
51	MQ2219A*	400m	250MΔ	2.2m	SJ	75	40	6.0	600m	15n#	100	150m	100 †#Δ	8.0pZ	ANΔ	L56	A			
52	MQ3725*	400m	250MΔ	2.2m	SJ	65	40	6.0	1.0	1.7u	100	100m	50 †Δ	10pZ	ANΔ	L56c	A			
53#	TM2613	400m	250MΔ	1.4m	SA	60	40	5.0	600m	.05u	100	150m	40 †Δ	8pZ	PE	TO18	A			
54#	TM2711	400m	250MΔ	1.4m	SA	60	30	5.0	600m	.05u	100	150m	100 †Δ	8pZ	PE	TO18	A			
55	MM709	400m	300MΔ	2.3m	SS	15	8.0	4.0	20m	1.0n	5.0	10m	15 †Δ	3pZ	ANΔ	TO52	A			
56	QD100-78*	400m	300MΔ	2.3m	SS	25	15	6.5	4.0	20m	1.0n	10u	150 †Δ	3.0pZ	*	L2d	A			
57#	2C444*	400m	350MΔ	2.6m	SJ	50	35	4.0	20m	25n	5.0	5.0m	80	3.0pZ	DPL	L2b	A			
58	2N3647	400m	350MΔ	2.3m	SS	40	10	6.0	500m	25n#	1.0	150m	150 †Z	100uZ	4.5k	25	4pZ	PE	TO5	A
59#	BFV92†	400m	350MΔ	2.6m	SJ	40	15	5.0	200m	50u	1.0	30m	30 †Δ*	5pZ	PE	L56f	A			
60#	BFV92N†	400m	350MΔ	2.6m	SJ	40	15	5.0	200m	50u	1.0	30m	30 †Δ*	5pZ	PE	L56g	A			
61#	C762	400m	350MΔ	2.3m	SJ	25	40	5.0	200u	10u	100	50m	110 †	400u	350	5.0	5.0p	PE	TO18	A
62	2N706B46	400m	400MΔ	3.3m	SJ	25	20	5.0	10u	1.0	10m	40 †	4.5p	PL	TO46	A				
63	QD101-78*	400m	400MΔ	2.3m	SS	45	45	6.5	20m	200p	5.0	10u	150 †Δ	2.0pZ	*	L2d	A			
64	QD102-78*	400m	400MΔ	2.3m	SS	30	30	6.5	20m	200p	5.0	10u	200 †Δ	2.0pZ	*	L2d	A			
65	QD103-78*	400m	400MΔ	2.3m	SS	45	45	6.5	20m	200p	5.0	10u	200 †Δ	2.0pZ	*	L2d	A			
66	QD104-78*	400m	400MΔ	2.3m	SS	45	45	6.5	20m	200p	5.0	10u	200 †Δ	2.0pZ	*	L2d	A			
67	2N834/46†	400m	450MΔ	2.5m	SJ	40	30	5.0	200m	500n	1.0	10	40 †	2.8p	ME	TO46	A			
68	2N835/46†	400m	450MΔ	2.5m	SJ	25	20	3.0	200m	500n	1.0	10	40 †	2.8p	ME	TO46	A			
69	2N3648	400m	450MΔ	2.3m	SS	40	15	6.0	500m	25n	1.0	150m	120	100u	4.5k	25	4.0p	PE	TO46	A
70	2N3508†	400m	500MΔ	2.3m	SS	40	20	6.0	200m	20u	1.0	10m	40 †Δ	4pZ	PE	TO46	A			
71	2N3509†	400m	500MΔ	2.3m	SS	40	20	6.0	200m	20u	1.0	10m	100 †Δ	4pZ	PE	TO46	A			
72	TIS86	400m	500MΔ	3.2m	SJ	30	30	4.0	50m	10u	100	4.0m	40 †Δ	PE†	X55	C				
73	TIS87	400m	500MΔ	3.2m	SJ	45	45	4.0	50m	10u	120	12m	30 †Δ	PE†	X55	C				
74	TIS89	400m	500MΔ	3.2m	SS	35	35	4.0	50m	50n	100	4.0m	30 †#Δ	330ft	PE†	X55	C			
75	2N2369/46	400m	600MΔ	2.3m	SJ	40	15	4.5	500m	400n	1.0	10m	40 †	4.0p	PE	TO46	A			
76#	BFV97	400m	600MΔ	2.6m	SJ	30	15	3.0	50m	.05u	1.0	3.0m	20 †Δ	1.7pZ	PE	L56f	A			
77#	BFV97N	400m	600MΔ	2.6m	SJ	30	15	3.0	50m	.05u	1.0	3.0m	20 †Δ	1.7pZ	PE	L56g	A			
78#	TIS105	400m	600MΔ	3.2m	SS	45	45	4.0	50m	50n										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	MAX. COLL. DISS. @25°C (W)	DERATE fab (Hz)	IN FREE AIR W/°C	M A M P	ABS MAX RATINGS @25°C						MAX. lcb0 @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						DESCRIPTION	L C O A D E		
						BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)	Icbo (A)	BIAS			COMMON EMITTER			Cob (F)	STRUC-TURE			DWG. No.	
											Vcb (V)		Ie (A)	hfe	hoe (mhos)	hie (Ω)						hre (X.0001)
1	2N720A	500m	80MΔ	2.8m	ES	120	80	7.0	100m	100n	100	150m	30	1.3	15p	PLΔ	T018	A0				
2	JAN2N1051	500m	80MΔ	4.0m	ES	120	80	7.0	100m	100n	100	150m	30	1.3	15p	PLΔ	R81a	A0				
3	2N1893/46	500m	80MΔ	4.5m	ES	120	80	7.0	500m	100n	100	150m	30	1.3	15p	PLΔ	T046	A0				
4	2N2433	500m	80MΔ	2.8m	ES	120	80	7.0	1.0	1.0n	100	5.0m	35	2.0p	Δ	T046	A0					
5	2N2435	500m	80MΔ	2.8m	ES	120	80	7.0	500m	1.0n	100	5.0m	45	2.0p	Δ	T046	A0					
6	2N2438	500m	80MΔ	2.8m	ES	100	75	7.0	500m	1.0n	100	5.0m	40	2.0p	Δ	T046	A0					
7	2N3701	500m	80MΔ	2.9m	ES	140	80	7.0	1.0	0.1u	5.0	1.0m	30	1.2p	∅	T018	A0					
8	40457	500m	80MΔ	2.9m	ES	25	25	7.0	1.0	500n	1.0	600m	60	2.0p	PE	T018	A0					
9	40500	500m	80MΔ	2.9m	ES	30	30	7.5	200m	100n	100	1.0m	100	2.0p	PE	T018	A0					
10	D33D28	500m	80MΔ	4.5m	TJ	70	60	5.0	750m	10n	2.0	2.0m	40	1.5p	PE†	T098	B					
11	2N2434	500m	80MΔ	2.8m	ES	75	45	7.0	1.0	1.0n	100	5.0m	70	2.0p	Δ	T046	A0					
12	2N2436	500m	80MΔ	2.8m	ES	120	80	7.0	500m	1.0n	100	5.0m	70	2.0p	Δ	T046	A0					
13	2N2439	500m	80MΔ	2.8m	ES	100	75	7.0	500m	1.0n	100	5.0m	80	2.5	15p	∅	T046	A0				
14#	C760	500m	90MΔ	2.8m	ES	30	30	5.0	50n	1.0n	100	1.0m	140	1.0p	PL	T018	A					
15#	BSX33†	500m	94MΔ	2.8m	ES	70	40	7.0	15n	100	100	10m	70	1.2p	DPE	T018	∅					
16	2N910	500m	95MΔ	2.8m	ES	100	60	7.0	25n	5.0	5.0	1.0m	125	1.0p	PL	T018	A0					
17	2N736A	500m	100MΔ	3.3m	ES	80	60	8.0	100m	50u	5.0	1.0m	60	1.0p	PL	T018	A0					
18	2N736B	500m	100MΔ	2.9m	ES	80	60	8.0	100m	5n	5.0	1.0m	60	1.0p	PL	T018	A0					
19	2N740A	500m	100MΔ	3.4m	ES	125	80	8.0	50m	5n	5.0	5.0m	10	1.0p	PL	T018	A0					
20	2N756A	500m	100M	ES	ES	60	60	6.0	100m	100n	5.0	1.0m	19	1.0p	ME	T018	A0					
21	2N757A	500m	100M	ES	ES	60	60	6.0	100m	100n	5.0	1.0m	29	1.0p	ME	T018	A0					
22	2N758A	500m	100M	2.8m	ES	60	60	6.0	100m	100n	5.0	1.0m	54	1.0p	ME	T018	A0					
23	2N759A	500m	100M	ES	ES	60	60	6.0	100m	100n	5.0	1.0m	63	1.0p	ME	T018	A0					
24	2N760A	500m	100M	ES	ES	60	60	6.0	100m	100n	5.0	1.0m	204	1.0p	ME	T018	A0					
25	2N761	500m	100M	2.8m	ES	45	30	6.0	100m	200n	2.0	1.0m	39	1.0p	ME	T018	A0					
26	2N762	500m	100M	2.8m	ES	45	30	6.0	100m	200n	2.0	1.0m	39	1.0p	ME	T018	A0					
27	2N1139	500m	100MΔ	6.7m	ES	15	15	3.0	100m	5.0u	6.0	10m	20	1.2p	Δ	T05	A0					
28	2N2331∅	500m	100MΔ	3.3m	ES	30	20	5.0	500m	1.0n	1.0	10m	50	1.0p	PL∅	T018	A0					
29	2N2897	500m	100M	2.9m	ES	60	45	7.0	1	0.5u	5.0	5.0m	50	1.0p	PL∅	T046	A0					
30	2N2900	500m	100M	2.9m	ES	60	45	7.0	1	0.5u	5.0	5.0m	50	1.0p	PL∅	T046	A0					
31	2N3082∅	500m	100MΔ	2.9m	ES	25	7.0	7.0	100m	0.1u	5.0	2.5m	100	1.0p	∅	L1	A0					
32	2N3083∅	500m	100MΔ	2.9m	ES	25	7.0	7.0	100m	0.1u	5.0	2.5m	100	1.0p	∅	L1	A0					
33	2N3700	500m	100MΔ	2.9m	ES	140	80	7.0	1.0	0.1u	5.0	1.0m	80	1.2p	∅	T018	A0					
34	JAN2N3700	500m	100MΔ	2.8m	ES	120	120	5.0	1.0	1.0u	3.0	3.0m	50	2.5	PL	T018	A0					
35#	2SC274	500m	100MΔ	3.3m	ES	60	40	5.0	1.0m	25u	100	50m	50	1.5p	PL∅	T018	A0					
36	40084	500m	100MΔ	3.3m	ES	60	40	5.0	1.0m	25u	100	50m	50	1.5p	PL∅	T018	A0					
37	40354	500m	100M	3.3m	ES	150	50	5.0	100m	100n	100	10m	55	2.8p	∅	R115	A0					
38#	BFX70*	500m	100M	2.8m	ES	100	60	7.0	500m	2.0n	5.0	1.0m	80	9.0u	DPL*	L2b	A					
39#	BFX71*	500m	100M	2.8m	ES	100	60	7.0	500m	1.0n	5.0	1.0m	125	200nb	DPL*	L2b	A					
40#	BFX72*	500m	100M	2.8m	ES	100	60	7.0	500m	1.0n	5.0	1.0m	125	200nb	DPL*	L2b	A					
41#	BFX99*	500m	100M	2.8m	ES	100	60	7.0	500m	2.0n	5.0	1.0m	50	16	∅	L2b	A					
42#	BSX70	500m	100MΔ	2.8m	ES	75	30	7.0	500u	100n	5.0	1.0m	40	500n	PEΔ	T018	A					
43#	BSX71	500m	100MΔ	2.8m	ES	75	30	7.0	500u	100n	5.0	1.0m	50	500n	PE∅	T018	A					
44	D33D21	500m	100MΔ	4.5m	TJ	35	25	5.0	750m	10n	2.0	2.0m	60	1.5p	PE†	T098	B					
45	D33D24	500m	100MΔ	4.5m	TJ	50	40	5.0	750m	10n	2.0	2.0m	60	1.5p	PE†	T098	B					
46	D33D29	500m	100MΔ	4.5m	TJ	70	60	5.0	750m	10n	2.0	2.0m	60	1.5p	PE†	T098	B					
47#	NKT10339	500m	100M	3.3m	ES	45	30	5.0	500m	0.1u	100	1.0m	50	10p	∅	T018	A0					
48#	NKT10439	500m	100M	3.3m	ES	45	30	5.0	500m	0.1u	100	1.0m	100	10p	∅	T018	A0					
49	TN54	500m	100MΔ	2.8m	ES	75	45	5.0	800m	10n	5.0	1.0m	55	200n	PEΔ	T018	A					
50	TN601	500m	100MΔ	2.8m	ES	40	30	5.0	800m	20n	5.0	1.0m	140	100nb	PE∅	T018	A					
51	TN621	500m	100MΔ	2.8m	ES	40	30	5.0	800m	20n	5.0	1.0m	50	900nb	PE∅	T018	A					
52	2N956	500m	110MΔ	2.8m	ES	75	50	7.0	10n	20n	5.0	5.0m	50	500n	∅	T018	A0					
53	2N2895	500m	120M	2.9m	ES	120	65	7.0	1	2n	5.0	5.0m	50	1.5p	PL∅	T018	A0					
54	2N2896	500m	120M	2.9m	ES	140	90	7.0	1	0.1u	5.0	5.0m	50	1.5p	PL∅	T018	A0					
55	2N2898	500m	120M	2.9m	ES	120	65	1.0	1	2n	5.0	5.0m	50	1.5p	PL∅	T046	A0					
56	2N2899	500m	120M	2.9m	ES	140	90	1.0	1	0.1u	5.0	5.0m	50	1.5p	PL∅	T046	A0					
57	2N4384	500m	120MΔ	2.8m	ES	40	30	5.0	800m	10n	5.0	1.0m	1.0k	200n	∅	T018	A0					
58	2N4386	500m	120MΔ	2.8m	ES	40	30	5.0	800m	10n	5.0	1.0m	1.0k	200n	∅	T018	A0					
59	D33D25	500m	120MΔ	4.5m	TJ	50	40	5.0	750m	10n	2.0	2.0m	100	1.5p	PE†	T098	B					
60	D33D30	500m	120MΔ	4.5m	TJ	70	60	5.0	750m	10n	2.0	2.0m	100	1.5p	PE†	T098	B					
61	2N1613/46	500m	130M	4.5m	TJ	75	50	7.0	500m	10n	100	150m	80	25p	PLΔ	T046	A					
62	D33D22	500m	135MΔ	4.5m	TJ	35	25	5.0	750m	10n	2.0	2.0m	150	1.5p	PE†	T098	B					
63	D33D26	500m	135MΔ	4.5m	TJ	50	40	5.0	750m	10n	2.0	2.0m	150	1.5p	PE†	T098	B					
64	2N2463	500m	150M	3.4m	ES	100	60	8.0	2n	5.0	5.0	5.0m	40	30u	PL	T018	A					
65	2N2464	500m	150M	3.4m	ES	100	60	8.0	2n	5.0	5.0	5.0m	70	60u	PL	T018	A					
66	2N2465	500m	150M	3.4m	ES	100	60	8.0	2n	5.0	5.0	5.0m	120	90u	PL	T018	A					
67	2N2466	500m	150M	3.4m	ES	100	60	8.0	2n	5.0	5.0	5.0m	170	120u	PL	T018	A					
68#	2SC27	500m	150M	4.0m	ES	60	35	2.0	100m	1.0u	100	10m	50	4.0p	ME	T05	A					
69#	2SC797	500m	150M	3.3m	ES	60	35	2.0	500m	5.0u	100	15m	30	5.0p	PE	T05	A					
70	D33D27	500m	150MΔ	4.5m	TJ	50	40	5.0	750m	10n	2.0	2.0m	250	1.5p	PE†	T098	B					
71	2N1711/46	500m	180M	4.5m	TJ	75	50	7.0	500m	10n	100	150m	130	23u	PE†	T046	A					
72#	2SC249	500m	170M	2.0m	ES	70	60	5.0	70m	1.0u	6.0	2.5m	60	3.2p	PL	T05	A					
73#	2SC875	500m	170M	ES	ES	75	75	4.0	500m	1.0u	6.0	50m	100	5.0p	PL	T039	A					
74#	2SC876	500m	170M	ES	ES	50	50	4.0	500m	1.0u	6.0	50m	100	5.0p	PL	T039	A					
75#	JAN2N1493	500m	175MΔ	2.8m	ES	100	100	4.5	1.0u	2.0	100	10m	50	5.0p	∅	R81a	A					
76	2N752	500m	200MΔ	2.9m	ES	85	45	8.0	100m	100n	100	1.0m	40	5p	∅	T018	A0					
77	2N5845†	500m	200MΔ	4.5m	ES	50	40	6.0	800m	500n	1.0	50m	25	9.0p	∅	T092	A					
78	40458†	500m	200M	3.3m	ES	80	40	8.0	1	0.1u	120	10m	175	75m	DPE	R123	A					
79#	BFS59	500m	200M	3.3m	ES	60	30	5.0	1.0	100n	100	10m	130	47u	PL†	X59	F					
80#	BFS60	500m	200M	3.3m	ES	60	30	5.0	1.0	100n	100	10m										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C	M E A P	ABS MAX RATINGS @25°C				MAX. Icbo @ MAX Vcb (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			Cob (F)	STRUCTURE	DWG. No.	L O C O D E		
					BVcbo (V)	BVceo (V)	V Ic (A)	BIAS			hoe (mhos)	hie (Ω)	hre X.0001								
								Vcb (V)		Ic (A)				hfe							
1	2N4963†	500m	250mSΔ	2.8m	SJ	80	80	6.5	1.0	10n	100	1.0m	60	1Δ			T018	A0			
2	JAN2N5581†	500m	250mSΔ	2.2m	SJ	75	50	6.0	800m	10n	100	1.0	30	Δ			T046	A0			
3	JAN2N5582†	500m	250mSΔ	2.2m	SJ	75	50	6.0	800m	10n	100	1.0	50	Δ			T046	A0			
4	2N5793†	500m	250mSΔ	2.9m	SS	75	40	6.0	600m	10n	100	1.0m	25	1Δ			L2d	A0			
5	2N5794†	500m	250mSΔ	2.9m	SS	75	40	6.0	600m	10n	100	1.0m	50	1Δ			L2d	A0			
6	40577	500m	250mSΔ	357u	SJ		60	4.0	500m	0.1u	5.0	100m	50	1#Δ	50		T05	A0			
7#	BFX94	500m	250mSΔ	3.3m	SJ	60	30	5.0	800m	0.1u	100	150m	40	1#Δ		PE	T018	A0			
8#	BFX95	500m	250mSΔ	3.3m	SJ	60	30	5.0	800m	0.1u	100	150m	100	1#Δ		PE	T018	A0			
9#	BSW82	500m	250mSΔ	3.3m	SJ	40	25	5.0	500m#	100n	100	150m	40	1#Δ		PE	T018	A0			
10#	BSW83	500m	250mSΔ	3.3m	SJ	40	25	5.0	500m#	100n	100	150m	100	1#Δ		PE	T018	A0			
11#	BSW84	500m	250mSΔ	3.3m	SJ	75	40	5.0	500m#	10n	100	150m	40	1#Δ		PE	T018	A0			
12#	BSW85	500m	250mSΔ	3.3m	SJ	75	40	5.0	500m#	10n	100	150m	100	1#Δ		PE	T018	A0			
13#	BSX75†	500m	250mSΔ	1.7m	SA	60	30	5.0	200m	20n	200	500m	20	Δ		NPE	T018	A0			
14	MD1T2222	500m	250mSΔ		SA	60	30	5.0	200m	20n	200	20m	2.5	Δ		Δ	T0122	P			
15	MD2219*	500m	250mSΔ	2.9m	SJ	60	30	5.0	600m	20n	100	150m	100	1#Δ		ANA	L17k				
16	MD2219A*	500m	250mSΔ	2.9m	SJ	75	40	6.0	600m	15n	100	150m	100	1#Δ		ANA	L17k				
17	MD3725*	500m	250mSΔ	2.9m	SJ	65	40	6.0	1	1.7u	1.00	100m	50	1Δ		ANA	L2t				
18#	ZTX360†	500m	250mSΔ	3.3m	SA	60	40	6.0	1.0 #	500m	1.00	500m	25	1Δ		PL	X59	F			
19	2N1492	500m	275m	3.3m	SA	60	60	2.0	100m	10u	200	15m	50			DPL	T039	A0			
20#	2SC30	500m	280m		SJ	60	30	2.0	80m	10u	100	10m	45			DPL	T05	A0			
21	2N1493	500m	300m	3.3m	SA	100	100	4.5	100m	10u	200	15m	50			DPL	T039	A0			
22	2N2222A†	500m	300mSΔ	3.3m	SJ	75	40	6.0	800m	0.1u	100	1.0m	50	Δ	35u	8.0k	8	8	T018	A0	
23	2N2222B†	500m	300mSΔ	3.3m	SS	75	40	6.0	1	0.1u	100	1.0m	50	Δ	35u	8k	8	8	T018	A0	
24	2N3736†	500m	300mSΔ	2.9m	SS	50	30	5.0	15	20u#	100	10m	35	1Δ				T046	A0		
25#	2SC238	500m	300m	4.0m	SJ	30		3.5	100m	10u	6.0	1.0m	80			PL	T05	A0			
26#	2SC285	500m	320m	4.0m	SJ	50			200m	10u	100	10m	60			PE	T05	A0			
27#	2SC285A	500m	320m	4.0m	SJ	50			200m	10u	100	10m	60			PE	T05	A0			
28#	2SC52	500m	350m	4.0m	SJ	40		5.0	100m	30n	6.0	1.0m	50		100nb	28	1.5	4.0p	PL	T05	A0
29	MPSH02	500m	375mSΔ	4.5m	TJ	20	20	3.0		50n	100	4.0m	20	1Δ		ANA	T092	C			
30#	2N2220A	500m	400m	3.3m	SJ	75	40	6.0		0.1u	100	150m	40	1#		ANA	T018	C			
31	MPSH32	500m	440m	4.5m	TJ	40	30	4.0		50n	5.0	4.0m	35	1		ANA	T092	C			
32#	2SC423†	500m	500m		SJ	40		5.0	300m	1.0u	5.0	20m	80	1		ANA	T039	A0			
33#	2SC425†	500m	500m		SJ	40		5.0	300m	1.0u	5.0	20m	80	1		ANA	T039	A0			
34	MD2369*	500m	500mSΔ	2.8m	SJ	40	15	5.0	500m	30n	1.0	10m	40	1#Δ		ANA	L66a	A0			
35	MD2369A*	500m	500mSΔ	2.8m	SJ	40	15	5.0	500m	30n	1.0	10m	40	1#Δ		ANA	L66a	A0			
36	MD2369B*	500m	500mSΔ	2.8m	SJ	40	15	5.0	500m	30n	1.0	10m	40	1#Δ		ANA	L66a	A0			
37#	ZTX327	500m	800m	3.3m	SJ	55	30	3.5	400m	20uΔ	1.00	10m	60	1Δ		PL	X59	F			
38	MM1510†	500m	1.0GΔ	3.3m	SJ	30	15	4.5		1.0u#	1.00	10m	60	1Δ			T072	G			
39	MM1511†	500m	1.3GΔ	3.3m	SJ	30	15	4.5		1.0u#	1.00	10m	60	1Δ			T072	G			
40	JAN2N2060*	540m	60mSΔ	6.3m	SJ	100	60	7.0		2.0n	5.0	1.0m	50	Δ	18u	4.0k		L2b	A0		
41	2N3402	560m		4.2m	SJ	25	25	5.0	500m	10u	4.5	2.0m	150	1		PE	X28	A0			
42	2N3403	560m		4.2m	SJ	25	25	5.0	500m	10u	4.5	2.0m	150	1		PE	X28	A0			
43	2N3404	560m		4.2m	SJ	50	50	5.0	500m	10u	4.5	2.0m	150	1		PE	X28	A0			
44	2N3405	560m		4.2m	SJ	50	50	5.0	500m	10u	4.5	2.0m	150	1		PE	X28	A0			
45	2N4425	560m		4.5m	SJ	40	40	5.0	500m	10u	4.5	2.0m	180	Δ				X28	A0		
46	CS4425	560m		4.5m	SJ	40	40	5.0	500m	10u	4.5	2.0m	180	Δ				X28	A0		
47#	BSX72†	575m	250mSΔ	1.7m	SA			5.0		1.0	150m	20	Δ			NPE	R87a	A0			
48	2N4270	580m		3.3m	SS	200	140	15	30m	1.0u	100	10m	200	1	8.0p			T05	A0		
49#	BC100†	590m*	10.MS	4.5m	SJ	350	300	7.0	150m	0.6u	200	10m	40	1		ME	T05	A0			
50	2N5451	600m*		7.7m	SJ	60	60	10	500m	25u	6.0	500m	15	1Δ				T05	A0		
51	JAN2N5451†	600m*		7.6m	SS	60	60	10	500m	25u	6.0	500m	15	1Δ				T05	A0		
52	2N5461	600m*		5.6m	SS	30	30	6.0	800m	15u	6.0	500m	15	1Δ				T05	A0		
53	2N1564	600m		4.0m	SS	80	60	5.0	50m	1.0u	5.0	5.0m	20	Δ	1.2k			T05	A0		
54	2N1565	600m		4.0m	SS	80	60	5.0	50m	1.0u	5.0	5.0m	40	Δ	1.5k			T05	A0		
55	2N1566	600m		4.0m	SS	80	60	5.0	50m	1.0u	5.0	5.0m	80	Δ	1.8k			T05	A0		
56	2N1572	600m		4.0m	SS	125	80	5.0	50m	1.0u	5.0	5.0m	20	Δ	1.2k			T05	A0		
57	2N1573	600m		4.0m	SS	125	80	5.0	50m	1.0u	5.0	5.0m	40	Δ	1.5k			T05	A0		
58	2N1574	600m		4.0m	SS	125	80	5.0	50m	1.0u	5.0	5.0m	80	Δ	1.8k			T05	A0		
59	2N1990	600m		4.8m	SJ	100		3.0	1	10u#	100	30m	20	1#Δ				T05	A0		
60	2N1990S	600m		4.7m	SS	100		3.0		1.0u#	500	2.0m	25	Δ				T05	A0		
61#	SL301C*	600m		4.0m	SA	25	10	4.3	50m		5.0	1.0m	20	1Δ				L44a	A0		
62#	SL301CE*	600m		4.0m	SA	25	10	4.3	50m		5.0	1.0m	20	1Δ				L44b	A0		
63	TI48	600m		6.0m	J	80	70	1.0	60m	2.0u	10	5.0m	9.0	Δ	1.0ub	12	2.0u		R147	A0	
64	TZ7000	600m					30				5.0	350m	50	1Δ					X93	A0	
65	TZ7001	600m					30				5.0	350m	100	1Δ					X93	A0	
66	TZ7002	600m					40				5.0	350m	50	1Δ					X93	A0	
67	TZ7003	600m					40				5.0	350m	100	1Δ					X93	A0	
68#	DT1610†	600m	50M	5.0m	†S	25	15	4.0	250m	8.0u	5.0	200m	10	1Δ					T05	A0	
69	2N2858†	600m	1.0MΔ	5.9m	SJ	100	80	10	3		4.0	1	20	1Δ					T05	A0	
70	2N2859†	600m	1.0MΔ	5.9m	SJ	120	100	10	3		4.0	1	20	1Δ					T05	A0	
71#	DT1003†	600m	1.0M	6.2m																	

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	3 TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T M E A M P X	ABS MAX RATINGS @25°C				MAX lcbo @MAX Vcb (A)	TYPICAL h' PARAMETERS			COMMON EMITTER			Cob (F)	DESCRIPTION STRUC-TURE	L C O D E		
					BVcbo (V)	BVceo (V)	BVebo (V)	ic (A)		BIAS			COMMON EMITTER							
					Vcb (V)	le (A)	hfe	hoe (mhos)		hie (Ω)	hre (X.0001)									
1	2N699	600m	50MΔ	4.0m	Δ	120	80	5.0	2.0u	5.0u	1.0m	35	Δ	500n	30	2.5	2.5	Δ	T05	A0
2	2N1409	600m	50MΔ	4.0m	Δ	30	25	4.0	10u	10u	150m	15	Δ					Δ	T05	A0
3	2N1410	600m	50MΔ	4.0m	Δ	45	30	4.0	10u	10u	150m	30	Δ					Δ	T05	A0
4	2N1420	600m	50MΔ	4.0m	Δ	60	30	5.0	1.0u	10u	150m	100	#Δ					Δ	T05	A0
5	2N1507	600m	50MΔ	4.0m	Δ	60	30	5.0	1.0u	10u	150m	150	#					Δ	T05	A0
6	2N1972	600m	50MΔ	4.0m	Δ	60	30	5.0	1.0u	5.0u	1.0m	40	Δ	500n	35	8.0	8.0	Δ	T05	A0
7	2N2195	600m	50MΔ	3.4m	Δ	45	25	5.0	1.0u	10u	150m	20	#Δ					Δ	T05	A0
8	2N2195A	600m	50MΔ	3.4m	Δ	45	25	5.0	1.0u	10u	150m	20	#Δ					Δ	T05	A0
9	2N2195B	600m	50MΔ	3.4m	Δ	45	25	5.0	1.0u	10u	150m	20	#Δ					Δ	T05	A0
10	2N2236†	600m	50MΔ	5.0m	Δ	40	20	6.0	500m	0.5u	1.0u	100m	15	#Δ				Δ	T05	A0
11	2N2240	600m	50MΔ	3.4m	Δ	25	20	5.0	500m	25n	5.0u	1.0m	40	Δ				Δ	T05	A0
12	2N2241	600m	50MΔ	3.4m	Δ	25	20	5.0	500m	25n	5.0u	1.0m	100	Δ				Δ	T05	A0
13	2N2356Ø	600m	50MΔ	3.4m	Δ	25	20	7.0	500m	10n	1.0u	100	Δ					Δ	T05	A0
14#	2SC482	600m#	50MΔ	4.8m	Δ	40	32	5.0	600m	1.0u	2.0u	150m	30	#Δ				PE	T039	A0
15	BFX15*	600m	50MΔ	2.9m	Δ	80		5.0		0.1u	5.0u	1.0m	30	†Δ				PL*	L2d	A0
16	TRS120	600m	50MΔ	4.0m	Δ	120	120	6.0		3.0u	4.0u	50m	30	#Δ					T05	A
17	TRS140	600m	50MΔ	4.0m	Δ	140	140	6.0		3.0u	4.0u	50m	30	#Δ					T05	A
18	TRS160	600m	50MΔ	4.0m	Δ	160	160	6.0		3.0u	4.0u	50m	30	#Δ					T05	A
19	TRS180	600m	50MΔ	4.0m	Δ	180	180	6.0		3.0u	4.0u	50m	30	#Δ					T05	A
20	TRS200	600m	50MΔ	4.0m	Δ	200	200	6.0		2.0u	4.0u	50m	20	#Δ					T05	A
21	TRS225	600m	50MΔ	4.0m	Δ	225	225	6.0		3.0u	4.0u	50m	22	#Δ					T05	A
22	TRS250	600m	50MΔ	4.0m	Δ	250	250	6.0		2.0u	4.0u	50m	20	#Δ					T05	A
23	TRS275	600m	50MΔ	4.0m	Δ	275	275	6.0		3.0u	4.0u	50m	22	#Δ					T05	A
24	TRS301	600m	50MΔ	4.0m	Δ	300	300	6.0		2.0u	4.0u	50m	30	#Δ					T05	A
25	TRS325	600m	50MΔ	4.0m	Δ	325	325	6.0		3.0u	4.0u	50m	22	#Δ					T05	A
26	TRS350	600m	50MΔ	4.0m	Δ	350	350	6.0		2.0u	4.0u	50m	20	#Δ					T05	A
27	TRS375	600m	50MΔ	4.0m	Δ	375	375	6.0		3.0u	4.0u	50m	22	#Δ					T05	A
28	TRS401	600m	50MΔ	4.0m	Δ	400	400	6.0		2.0u	4.0u	50m	30	#Δ					T05	A
29	TRS425	600m	50MΔ	4.0m	Δ	425	425	6.0		3.0u	4.0u	50m	22	#Δ					T05	A
30	TRS450	600m	50MΔ	4.0m	Δ	450	450	6.0		2.0u	4.0u	50m	65	#					T05	A
31	TRS451	600m	50MΔ	4.0m	Δ	450	450	6.0		2.0u	4.0u	50m	30	#Δ					T05	A
32	TRS475	600m	50MΔ	4.0m	Δ	475	475	6.0		2.0u	4.0u	50m	22	#Δ					T05	A
33	TRS501	600m	50MΔ	4.0m	Δ	500	500	6.0		2.0u	4.0u	50m	20	#Δ					T05	A
34	TRS525	600m	50MΔ	4.0m	Δ	525	525	6.0		2.0u	4.0u	50m	22	#Δ					T05	A
35	TRS550	600m	50MΔ	4.0m	Δ	550	550	6.0		2.0u	4.0u	50m	20	#Δ					T05	A
36	TRS575	600m	50MΔ	4.0m	Δ	575	575	6.0		2.0u	4.0u	50m	22	#Δ					T05	A
37	TRS601	600m	50MΔ	4.0m	Δ	600	600	6.0		2.0u	4.0u	50m	30	#Δ					T05	A
38	TRS650	600m	50MΔ	4.0m	Δ	650	650	6.0		10u	5.0u	25m	25	#Δ					T05	A
39	TRS701	600m	50MΔ	4.0m	Δ	700	700	6.0		10u	5.0u	25m	25	#Δ					T05	A
40	TRS750	600m	50MΔ	4.0m	Δ	750	750	6.0		10u	5.0u	25m	25	#Δ					T05	A0
41	TRS801	600m	50MΔ	4.0m	Δ	800	800	6.0		10u	5.0u	25m	25	#Δ					T05	A0
42	JAN2N697†	600m	60MΔ	4.0m	Δ	60	40	5.0	100u	10u	150m	40	†Δ					Δ	T05	A0
43	2N1944	600m	60MΔ	4.0m	Δ	20	20	5.0	1.0u	2.0u	1.0m	300	†					ME	T05	A0
44	2N1945	600m	60MΔ	4.0m	Δ	30	30	8.0	1.0u	2.0u	1.0m	300	†					ME	T05	A0
45	2N1946	600m	60MΔ	4.0m	Δ	40	40	10	1.0u	2.0u	1.0m	300	†					ME	T05	A0
46	2N1947	600m	60MΔ	4.0m	Δ	20	20	5.0	1.0u	2.0u	100m	650	†					ME	T05	A0
47	2N1948	600m	60MΔ	4.0m	Δ	30	30	8.0	1.0u	2.0u	100m	650	†					ME	T05	A0
48	2N1949	600m	60MΔ	4.0m	Δ	40	40	10	1.0u	2.0u	100m	650	†					ME	T05	A0
49	2N1950	600m	60MΔ	4.0m	Δ	20	20	5.0	1.0u	2.0u	100m	375	†					ME	T05	A0
50	2N1951	600m	60MΔ	4.0m	Δ	30	30	8.0	1.0u	2.0u	100m	375	†					ME	T05	A0
51	2N1952	600m	60MΔ	4.0m	Δ	40	40	10	1.0u	2.0u	100m	375	†					ME	T05	A0
52#	N2XA	600m	60M	4.0m	Δ	120	5.0	50m	1.0u	3.0u	5.0m	40						ME	T05	A0
53	2N696†	600m	64MΔ	4.0m	Δ	60	40	5.0	1.0u	10u	150m	20	#Δ					D	T05	A0
54	2N1252†	600m	64MΔ	4.0m	Δ	30	20	5.0	10u	10u	150m	35	#					Δ	T05	A0
55	2N3881	600m	70MΔ	3.3m	Δ	60	35	5.0	1.0	1.0u	5.0u	200u	50	Δ					T05	Ø
56	TRS100	600m	70M	4.5m	Δ	150	135	5.0	1.0u	3.5u	60m	40	†					MEΔ	T05	A0
57	TRS101	600m	70M	4.5m	Δ	180	115	5.0	1.0u	5.0u	60m	35	†					MEΔ	T05	A0
58	2N697†	600m	80MΔ	4.0m	Δ	60	40	5.0	1.0u	10u	150m	40	Δ	12u	2.2k	3.6		Δ	T05	A0
59	2N1253†	600m	80MΔ	4.0m	Δ	30	20	5.0	10u	10u	150m	45	#					DΔ	T05	A0
60#	2SC497	600m	80M	5.0m	Δ	100	80	5.0	800m	1.0u	2.0u	200m	70	#				PL	T039	G
61#	2SC498	600m	80M	5.0m	Δ	80	50	5.0	800m	1.0u	2.0u	200m	70	#				PL	T039	G
62#	BFW29	600m	80M	4.0m	Δ	50	30	6.0	400m	10u	10u	150m	40	†	50u	650		PE	T05	Ø
63#	ZT696	600m	80M	4.0m	Δ	60	40	5.0	500m	1.0u	10u	150m	40	†				PL	T05	Ø
64	2N1838†	600m	90MΔ	4.0m	Δ	45	20	5.0	500m	1.5u	10u	100m	40	†Δ					T05	A0
65	2N1839†	600m	90MΔ	4.0m	Δ	45	20	4.5	500m	1.5u	10u	100m	12	†Δ					T05	A0
66	2N1840†	600m	90MΔ	4.0m	Δ	25	15	5.0	500m	300u	10u	150m	10	†Δ					T05	A0
67#	BFX74	600m	90M	3.4m	Δ	50	35	5.0	1.0u	10u	5.0m	60		600nb	6.2	2.0		DPL	T05	A0
68#	BSY24†	600m	90M	5.0m	Δ	40	20	6.0	500m	1.0m	9.0u	20m	30					PEØ	T05	Ø
69	2N1566A	600m	100MΔ	4.0m	Δ	80	60	8.0	100m	50u	5.0u	1.0m	60	Δ					T05	Ø
70	2N1958†	600m	100MΔ	4.0m	Δ	60	40	5.0	500m	50u	10u	150m	20	†Δ					T05	A0
71	2N1958A†	600m	100MΔ	4.0m	Δ	60	40	5.0	1	20u	10u	150m	20	†Δ					T05	A0
72	2N1959†	600m	100MΔ	4.0m	Δ	60	40	5.0	500m	50u	10u	150m	40	†Δ					T05	A0
73	2N1959A†	600m	100MΔ	4.0m	Δ	60	40	5.0	1	20u	10u	150m	40	†Δ					T05	A0
74	2N2237†	600m	100MΔ	5.0m	Δ	40	20	6.0	500m	0.5u	1.0u	100m	40	#Δ					T05	A0
75	2N2380†	600m	100MΔ	4.0m	Δ	80	40	5.0	500m	4.0u	5.0u	100m	20	#Δ					T05	A0
76	2N2380A†	600m	100MΔ	4.0m	Δ	80	40	5.0	500m	4.0u	5.0u	100m	20	#Δ					T05	A0
77#	2SC509	600m	100M	4.0m	Δ	35	30	5.0	500m	10n	2.0u	500m	100	†					T05	Ø
78#	BFW37	600m	100M	4.0m	Δ	130	130	5.0	200m	5n	15u	6.0m</								

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN fab (Hz)	T M A M X P	ABS MAX RATINGS @25°C				MAX. lcb0 @MAX Vcb (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION STRUC-TURE DWG. No.	L C O D E			
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS								
										Vcb (V)	Ic (A)	hfe				COMMON EMITTER		
(mhos)	hie (Ω)	X.0001 hre																
1	2N2960T	600m	250MΔ	4.0m	SJ	60	30	5.0	600m	25n	10	10m	35	1Δ	8p	T05	A	
2	2N2961T	600m	250MΔ	4.0m	SJ	60	30	5.0	600m	25n	10	500m	30	1#Δ	8p	T05	A	
3#	2N4432	600m	250MΔ	4.0m	SS	50	30	6.0	200m	0.1u	15	6.0m	115	Δ	10p	T05	A	
4#	2N4432A	600m	250MΔ	4.0m	SJ	50	30	6.0	200m	1.0u	15	6.0m	160	Δ	10p	T05	A	
5#	2SC871	600m	250MΔ	4.0m	SJ	30	30	3.0	100m	1.0u	10	10m	50		4.0p	T05	A	
6#	2SC881	600m	250MΔ	4.0m	SJ	120	100	3.0	100m	1.0u	10	10m	50		3.0p	T05	A	
7#	TM1613	600m	250MΔ	2.2m	SA	60	40	5.0	600m	.05u	10	150m	40	1#Δ	8p	T05	A	
8#	TM1711	600m	250MΔ	2.2m	SA	60	30	5.0	600m	.05u	10	150m	100	1#Δ	8p	T05	A	
9#	ZT2476T	600m	250MΔ	3.4m	SJ	60	20	5.0	600m	.20u	4.0	150m	20	1Δ	10p	T05	A	
10#	ZT2477T	600m	250MΔ	3.4m	SJ	60	20	5.0	600m	.20u	4.0	150m	40	1Δ	10p	T05	A	
11#	2SC53	600m	300MΔ	4.0m	SJ	25	25	3.0	100m	.50u	6.0	1.0m	50		4.0p	T05	A	
12#	S15660	600m	400MΔ	3.4m	SJ	40	15	4.0	100m	.5m	5.0	300m	60	1#	15p	T05	A	
13#	SL301A*	600m	400MΔ	4.0m	SA	35	16	4.6	50m	1.0n	5.0	100u	30	1Δ	2.0p	L44a	A	
14#	SL301AE*	600m	400MΔ	4.0m	SA	35	16	4.6	50m	1.0n	5.0	100u	30	1Δ	2.0p	L44b	A	
15#	SL301B*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L44a	A	
16#	SL301BE*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L44b	A	
17#	SL301E*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	20	1Δ	2.0p	L44a	A	
18#	SL301EE*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	20	1Δ	2.0p	L44b	A	
19#	SL303AE*	600m	400MΔ	4.0m	SA	35	16	4.6	50m	1.0n	5.0	100u	30	1Δ	2.0p	L43b	A	
20#	SL303AT*	600m	400MΔ	4.0m	SA	35	16	4.6	50m	1.0n	5.0	100u	30	1Δ	2.0p	L43a	A	
21#	SL303BE*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L43b	A	
22#	SL303BT*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L43a	A	
23#	SL354BF*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L67	A	
24#	SL354BF*	600m	400MΔ	4.0m	SA	30	12	4.6	50m	1.0n	5.0	100u	10	1Δ	2.0p	L67	A	
25	2N3303T	600m	450MΔ	4.0m	SJ	25	12	4.0	1	.30u	.50	300m	60	1#	15p	T05	A	
26	2N5236S	600m	500MΔ	3.4m	SJ	40	20	4.0	150m	1.0u	5.0	50m	30	1#Δ	3p	T039	A	
27#	2SC991	600m	500MΔ		SJ	36	36	4.0	400m	1.0u	3.0	100m	30	1#	5.0p	T039	A	
28#	2SC992	600m	500MΔ		SJ	36	36	4.0	600m	1.0u	3.0	100m	30	1#	5.0p	T039	A	
29#	2SC994	600m	500MΔ		SJ	36	15	3.0	100m	1.0u	3.0	100m	70	1#	3.8p	T039	A	
30	S15659	600m	500MΔ	3.4m	SJ	40	20	4.0	100m	.05u	5.0	50m	70	1#	4p	T05	A	
31	2N5065T	600m	550MΔ	3.4m	SJ	25	15	4.0	500m	100u	5.0	300m	50	1Δ	15p	T05	A	
32#	BFY63	600m	750MΔ	3.4m	SJ	30	15	4.0	50m	50n	5.0	50m	70	1#	2.8p	T05	A	
33	2N3137	600m	800MΔ	3.4m	SJ	40	20	4.0	150m	.05u	10	50m	70	1#	3.5p	T05	A	
34#	BFW19	600m	800MΔ	3.4m	SJ	40	20	4.0	300m	.01u	5.0	50m	70	1#	3.5p	T05	A	
35#	2SC823	600m	1.0GΔ		SJ	30	19	3.0	60m	1.0u	10	15m	100	1#	1.3p	T033	A	
36	TIS92	625m	5.0m		SJ	40	40	5.0	400m	1.0u	2.0	50m	160	1#	1.3p	T033	A	
37	TIS100	625m	80MΔ	5.0m	SS	180	180	5.0	100m	50n	10	1.0m	40	1#	2.8p	T05	A	
38	TIS101	625m	80MΔ	5.0m	SS	150	150	5.0	100m	50n	10	1.0m	45	1#	2.8p	T05	A	
39#	BFY65	630m	50MΔ	4.3m	SJ	100	90	7.0	50m	1.0u	10	2.0m	30	1Δ	2.8p	T05	A	
40#	2SC216	650m	4.3m	SJ	50	50	5.0	300m	1.0u	1.0	50m	50	1#	PL	T05	A		
41#	2SC217	650m	4.3m	SJ	25	25	5.0	300m	1.0u	1.0	50m	50	1#	PL	T05	A		
42#	2SC218	650m	4.3m	SJ	80	80	5.0	300m	1.0u	1.0	50m	50	1#	PL	T05	A		
43#	2SC226	650m	4.3m	SJ	50	50	5.0	700m	1.0u	1.0	100m	50	1#	PE	T05	A		
44#	2SC227	650m	4.3m	SJ	25	25	5.0	700m	1.0u	1.0	100m	50	1#	PE	T05	A		
45#	2SC228	650m	4.3m	SJ	80	80	5.0	700m	1.0u	1.0	100m	50	1#	PE	T05	A		
46#	2SC231	650m	4.3m	SJ	50	50	5.0	700m	1.0u	1.0	150m	40	1#	EMA	T05	A		
47#	2SC232	650m	4.3m	SJ	25	25	5.0	700m	1.0u	1.0	150m	40	1#	EMA	T05	A		
48#	2SC233	650m	4.3m	SJ	80	80	5.0	700m	1.0u	1.0	150m	40	1#	EMA	T05	A		
49#	2SC210	650m	150MΔ	4.3m	SJ	50		5.0	500m	1.0u	10	20m	50		15p	T05	A	
50#	2SC211	650m	150MΔ	4.3m	SJ	25		5.0	500m	1.0u	10	20m	50		15p	T05	A	
51#	2SC212	650m	150MΔ	4.3m	SJ	80		5.0	500m	1.0u	10	20m	50		15p	T05	A	
52#	2SC220	650m	150MΔ	4.3m	SJ	50		5.0	700m	1.0u	10	20m	50		15p	T05	A	
53#	2SC221	650m	150MΔ	4.3m	SJ	25		5.0	700m	1.0u	10	20m	50		15p	T05	A	
54#	2SC222	650m	150MΔ	4.3m	SJ	80		5.0	700m	1.0u	10	20m	50		15p	T05	A	
55#	2SC200	650m	350MΔ	4.3m	SJ	40		5.0	300m	.02u	6.0	1.0m	60		4.0p	T05	A	
56#	2SC201	650m	350MΔ	4.3m	SJ	20		5.0	300m	.02u	6.0	1.0m	60		4.0p	T05	A	
57#	2SC202	650m	350MΔ	4.3m	SJ	80		5.0	300m	.02u	6.0	1.0m	60		4.0p	T05	A	
58#	2SC824	650m	1.0GΔ	222u	SJ	50	25	3.0	120m	1.0u	10	30m	100	1#	3p	T033	A	
59#	BF117	680m	80MΔ	4.5m	SJ	140	140	5.0	100m	10n	10	30m	25	1Δ	2.0p	T039	A	
60#	HS5810	700m	6.3m	TJ	35	25	5.0	750m	100n	2.0	2.0m	60	1Δ	15p	T05	A		
61#	HS5812	700m	6.3m	TJ	35	25	5.0	750m	100n	2.0	2.0m	150	1Δ	15p	T05	A		
62#	HS5814	700m	6.3m	TJ	50	40	5.0	750m	100n	2.0	2.0m	60	1Δ	15p	T05	A		
63#	HS5816	700m	6.3m	TJ	50	40	5.0	750m	100n	2.0	2.0m	100	1Δ	15p	T05	A		
64#	HS5818	700m	6.3m	TJ	50	40	5.0	750m	100n	2.0	2.0m	150	1Δ	15p	T05	A		
65#	HS5820	700m	6.3m	TJ	70	60	5.0	750m	100n	2.0	2.0m	60	1Δ	15p	T05	A		
66#	HS5822	700m	6.3m	TJ	70	60	5.0	750m	100n	2.0	2.0m	100	1Δ	15p	T05	A		
67#	2SC627	700m	20.MΔ	4.8m	SJ	200	200	4.0	100m	5.0u	10	50m	360	1#	10u	T05	A	
68#	2SC826	700m	20.MΔ	4.8m	SJ	100	60	6.0	300m	1.0u	4.0	50m	100	1#	10p	T05	A	
69#	2SC827T	700m	20.MΔ	4.8m	SJ	100	60	6.0	500m	1.0u	4.0	50m	100	1#	10p	T05	A	
70#	BC144	700m*	40MΔ	4.0m	SJ	60	40	5.0		.02u	1.0	300m	40	1#	25p	T05	A	
71#	BFY67A	700m*	60MΔ	4.5m	SJ	60	40	5.0	1.0	#	75n	10	50m	35	Δ	PL	T05	A
72#	BFY67C	700m*	60MΔ	4.5m	SJ	50	25	5.0	1.0	#	75n	10	50m	30	Δ	PL	T05	A
73#	BFY68A	700m*	70MΔ	4.5m	SJ	60	40	5.0	1.0	#	75n	10	50m	70	Δ	PL	T05	A
74#	BFY33	700m*	80.MΔ	4.5m	SJ	50	30	5.0	500m	.02u	10	50m	35	Δ	18p	T05	A	
75#	BFY34	700m*	80.MΔ	4.5m	SJ	75	50	5.0	500m	.01u	10	50m	35	Δ	18p	T05	A	
76#	2SC798	700m	90.MΔ	4.8m	SJ	60	35	4.0	1.5	5.0u	20	15m	50		9.0p	T05	A	
77#	2N5964T	700m	100MΔ	6.3m	TJ	160	150	5.0	600m	50n	10	1.0m	50	Δ	2.5p	DPL	T0105	A
78#	2N5965T	700m	100MΔ	6.3m	TJ	200	180	5.0	600m	50n	10	1.0m	50	Δ	2.5p	DPL	T0105	A
79#	BFX68	700m	100MΔ	4.0m	SJ	75	50	5.0	7.0		.01u	5.0	1.0m	115		18p	T05	A
80#	BFY46	700m*	100MΔ	4.5m	SJ	75	50	5.0	7.0		.01u	10	50m	70	Δ	18p	T05	A
81#	BSX95T	700m*	100MΔ	4.5m	SJ	75	30	7.0	500m	10n	5.0	1.0m	40	Δ	25p	T05	A	
82#	BSX96T	700m*	100MΔ	4.5m	SJ	75	30	7.0	500m	10n	5.0	1.0m	50	Δ	25p	T05	A	
83	TIS113T	700m	200MΔ	5.6m	SS	50	30	6.										

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 f _{ab} (Hz)	DERATE IN FREE AIR W/°C	T M A M P	ABS MAX RATINGS @25°C				MAX. l _{co} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION	L C O D E		
						V _{cb} (V)	V _{ce} (V)	V _{be} (V)	I _c (A)		V _{cb} (V)	I _e (A)	h _{fe}				h _{oe} (mhos)	h _{ie} (Ω)
1#	2SC696A	750m	35MΔ	5.0m	Δ	130	80	5.0	3.0	3.0u	2.0	500m	28 Δ	3.5pZ	PE	T039	A∅	
2#	AT350	750m	40MΔ	5.0m	Δ	200	200	6.0	100m	200u	100	200m	30 Δ	3.5pZ	PL	T039	A∅	
3#	AT351	750m	40MΔ	5.0m	Δ	150	150	6.0	100m	200u	100	200m	30 Δ	3.5pZ	PE	T039	A∅	
4#	BC140-6*	750m	50MΔ	5.0m	Δ	80	40	7.0	1.0	100u	1.0	1.0	15 Δ	25pZ	PEΔ	T039	A∅	
5#	BC140-10*	750m	50MΔ	5.0m	Δ	80	40	7.0	1.0	100u	1.0	1.0	20 Δ	25pZ	PEΔ	T039	A∅	
6#	BC140-16*	750m	50MΔ	5.0m	Δ	80	40	7.0	1.0	100u	1.0	1.0	30 Δ	25pZ	PEΔ	T039	A∅	
7#	BC141-6*	750m	50MΔ	5.0m	Δ	100	60	7.0	1.0	100u	1.0	1.0	15 Δ	25pZ	PEΔ	T039	A∅	
8#	BC141-10*	750m	50MΔ	5.0m	Δ	100	60	7.0	1.0	100u	1.0	1.0	20 Δ	25pZ	PEΔ	T039	A∅	
9#	BC141-16*	750m	50MΔ	5.0m	Δ	100	60	7.0	1.0	100u	1.0	1.0	30 Δ	25pZ	PEΔ	T039	A∅	
10#	2SC116T	750m	60MΔ	5.0m	Δ	75	50	5.0	200m	5.0m	2.0	200m	8.0 Δ	25pZ	EM	T039	∅	
11#	2SC116	750m	70MΔ	5.0m	Δ	120	70	5.0	200m	1.0u	6.0	10m	3.5	20p	EM	T05	∅	
12#	2SC154H	750m	80MΔ	5.0m	Δ	120	70	5.0	100m	100u	6.0	10m	35 Δ	15pZ	ME	T0105	A	
13#	2N5856	750m	100MΔ	6.8m	Δ	60	60	8.0	5.0	1.0	100u	10m	50 Δ	15pZ	ME	T0105	A	
14#	2N5858	750m	100MΔ	6.8m	Δ	80	80	8.0	5.0	1.0	100u	10m	50 Δ	15pZ	ME	T0105	A	
15#	2SC150	750m	100M	6.8m	Δ	20	20	5.0	100m	1.0u	6.0	10m	50	7.0p	ME	T05	∅	
16#	2SC154C	750m	120MΔ	5.0m	Δ	200	200	6.0	100m	100m	100	25m	30 Δ	8.0p	PE	T05	∅	
17#	ZT88	750m	120MΔ	4.3m	Δ	100	80	5.0	500m	50n	6.0	10m	35 Δ	7.0p	PE	T05	∅	
18#	2SC151	750m	130M	5.0m	Δ	40	40	5.0	100m	1.0u	6.0	10m	50	7.0p	PE	T05	∅	
19#	2SC150T	750m	150M	5.0m	Δ	50	25	5.0	100m	1.0u	6.0	10m	7.0	7.0p	EM	T05	∅	
20#	2SC152	750m	160M	5.0m	Δ	60	60	5.0	100m	1.0u	6.0	10m	50	7.0p	ME	T05	∅	
21#	2SC805	750m	160M	5.0m	Δ	100	100	5.0	200m	1.0u	5.0	3.0m	100 Δ	3pZ	D	T05	∅	
22#	2SC352	750m	170M	5.0m	Δ	50	30	5.0	100m	.20u	3.0	1.0m	90 Δ	3.0p	PE	T05	∅	
23#	2SC352A	750m	170M	5.0m	Δ	50	30	5.0	100m	.20u	3.0	1.0m	90 Δ	4.5pZ	D	T05	∅	
24#	2SC353	750m	170M	5.0m	Δ	100	60	5.0	100m	.20u	3.0	1.0m	90 Δ	3.0p	PE	T05	∅	
25#	2SC353A	750m	170M	5.0m	Δ	100	60	5.0	100m	.20u	3.0	1.0m	90 Δ	4.5pZ	D	T05	∅	
26#	2SC470	750m	170M	5.0m	Δ	150	130	5.0	100m	1.0u	5.0	3.0m	60 Δ	2.0p	PE	T05	∅	
27#	2SC31	750m	200M	5.0m	Δ	60	25	5.0	200m	1.0u	10	10m	35	4.0p	PE	T05	∅	
28#	2SC456	750m	200M	6.3m	Δ	50	50	1.5	600m	1.0u	6.0	80m	20 Δ	10p	PE	T05	A∅	
29#	2SC501	750m	200M	5.0m	Δ	60	30	5.0	300m	.10u	10	10m	80	7pZ	PE	T039	A∅	
30#	2SC507	750m	200M	5.0m	Δ	170	120	5.0	80m	1.0u	5.0	10m	70 Δ	5.0pZ	DPL	T039	A	
31#	2SC589	750m	200M	5.0m	Δ	165	150	5.0	80m	2.0u	20	3.0m	40	4pZ	D	T05	A∅	
32#	2SC594	750m	200M	5.0m	Δ	60	30	5.0	200m	.10u	10	10m	60	4.0p	PE	T05	A∅	
33#	2SC708	750m	200M	5.0m	Δ	60	80	4.0	1	4.0	50m	35 Δ	35 Δ	4.0p	PE	T05	A∅	
34#	2SC708A	750m	200M	5.0m	Δ	90	50	4.0	1	4.0	50m	35 Δ	35 Δ	4.0p	PE	T05	A∅	
35#	2SC154	750m	220M	5.0m	Δ	120	70	5.0	100m	10	10	11	60pZ	DΔ	T05	∅		
36#	2SC32	750m	250M	5.0m	Δ	60	25	5.0	200m	.10u	10	10m	60	4.0p	PE	T05	∅	
37#	2SC58A	750m	250M	6.3m	Δ	135	120	5.0	50m	10	10m	65 Δ	3.0p	ME	T05	∅		
38#	2SC526	750m	250M	5.0m	Δ	165	150	5.0	55m	2.0u	20	45m	20 Δ	3.5p	EM	T05	A∅	
39#	2SC652	750m	800MΔ	5.9m	Δ	40	20	3.0	300m	.10u	100	100m	20 Δ	2.5p	PE	T05	A	
40#	2SC556	750m	800M	6.3m	Δ	40	20	3.0	400m	.25u	15	50m	45	3.8pZ	PE	T039	∅	
41#	2SC651	750m	1.1G	5.3m	Δ	45	22	4.0	300m	100u	10	100m	80	3.5pZ	PE	T05	∅	
42#	KD2541	750m	1.2G	4.3m	Δ	25	12	2.0	40m	.15u	10	8.0m	20 Δ	1pZ	PL	X72	U	
43#	KD2540	750m	1.5G	4.3m	Δ	25	12	2.0	40m	.15u	10	8.0m	20 Δ	1pZ	PL	X72	U	
44#	2N1943	800m	4.5m	5.3m	Δ	60	60	8.0	500m	100u	6.0	1.0m	12 Δ	500	PL	T05	A∅	
45#	2N5189	800m	4.5m	5.3m	Δ	60	55	5.0	2.0	100u	1.0	1.0	15 Δ	500	R81	T05	A∅	
46#	2N5262T	800m	5.7m	5.7m	Δ	75	50	5.0	2.0	100u	1.0	500m	40 Δ	12pZ	PE	R81e	A∅	
47#	2SC1072T	800m	5.7m	5.7m	Δ	75	50	5.0	2.0	100u	1.0	500m	35 Δ	3.0pZ	PE	R81e	A∅	
48#	2SC1072At	800m	5.7m	5.7m	Δ	75	50	5.0	2.0	100u	1.0	500m	35 Δ	3.0pZ	PE	R81e	A∅	
49#	11112T	800m	5.6m	5.6m	Δ	90	40	4.0	1.0	100u	10	10m	30 Δ	6.0p	PE	R100	A	
50#	BC312	800m	4.5m	4.5m	Δ	100	100	5.0	150m	100u	10	30m	130 Δ	14p	PL	T05	A	
51#	BFY41	800m	4.5m	4.5m	Δ	120	120	5.0	600m	.10u	10	50m	35 Δ	14p	PL	T05	A	
52#	C428	800m	4.5m	4.5m	Δ	40	30	5.0	50	10	10m	150 Δ	14p	PL	T039	A		
53#	C744	800m	8.0m	8.0m	Δ	60	60	5.0	100u	10	50m	175 Δ	14p	PE	T039	A		
54#	BC313	800m	200	5.3m	Δ	70	40	7.0	1.0	100u	1.0	300m	40 Δ	7.0p	PE	T05	A∅	
55#	2N1445	800m	75K	4.5m	Δ	120	120	8.0	750m	10	10	200m	80 Δ	100pZ	PE	T05	A∅	
56#	2N4237	800m	1.0MΔ	4.5m	Δ	50	40	6.0	1	100u	10	100m	30 Δ	100pZ	PE	T05	A∅	
57#	2N4238	800m	1.0MΔ	4.5m	Δ	80	60	6.0	1	100u	10	100m	30 Δ	100pZ	PE	T05	A∅	
58#	2N4239	800m	1.0MΔ	4.5m	Δ	100	80	6.0	1	100u	10	100m	30 Δ	100pZ	PE	T05	A∅	
59#	DT1510T	800m	1.0M	5.0m	Δ	30	20	8.0	300m	4.0u	6.0	300m	25 Δ	500u	100	5.0	T05	∅
60#	DT1511T	800m	1.0M	5.0m	Δ	60	40	8.0	300m	4.0u	6.0	300m	25 Δ	500u	100	5.0	T05	∅
61#	DT1512T	800m	1.0M	5.0m	Δ	100	70	8.0	300m	4.0u	6.0	300m	25 Δ	500u	100	5.0	T05	∅
62#	DT1520T	800m	2.0M	5.0m	Δ	30	20	8.0	300m	4.0u	6.0	300m	120 Δ	800u	300	5.0	T05	∅
63#	DT1521T	800m	2.0M	5.0m	Δ	60	40	8.0	300m	4.0u	6.0	300m	120 Δ	800u	300	5.0	T05	∅
64#	DT1522T	800m	2.0M	5.0m	Δ	100	70	8.0	300m	4.0u	6.0	300m	120 Δ	800u	300	5.0	T05	∅
65#	JAN2N497	800m	15MΔ	4.5m	Δ	60	60	8.0	100u	10	50m	10 Δ	10	10	DM	T05	A∅	
66#	JAN2N498	800m	15MΔ	4.5m	Δ	100	100	8.0	100u	10	50m	10 Δ	10	10	DM	T05	A∅	
67#	JAN2N656	800m	15MΔ	4.5m	Δ	60	60	8.0	100u	10	50m	40 Δ	40	10	DM	T05	A∅	
68#	JAN2N657	800m	15MΔ	4.5m	Δ	100	100	8.0	100u	10	50m	40 Δ	40	10	DM	T05	A∅	
69#	JAN2N3439T	800m	15MΔ	4.5m	Δ	450	350	7.0	1.0	500u	10	20m	40 Δ	10	DM	T05	A∅	
70#	JAN2N3440T	800m	15MΔ	4.5m	Δ	300	250	7.0	1.0	500u	10	20m	40 Δ	10	DM	T05	A∅	

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE fab (Hz)	3 IN AIR W/C	T M A M E X P	ABS MAX RATINGS @25°C						TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION		L E A D E
						BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)	Icbo @MAX Vcb (A)	BIAS			COMMON EMITTER			STRUCTURE		DWG. No.		
											Vcb (V)	Ie (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)					
1#	AT362	800m	45MΔ	4.5m	Δ	120	100	8.0	3.0	1.0u	2.0φ	1.0φ	30 Δ				120pφ	PL	T018	Aφ	
2#	AT363	800m	45MΔ	4.5m	Δ	80	60	8.0	3.0	1.0u	2.0φ	1.0φ	100 Δ				120pφ	PL	T018	Aφ	
3#	AT364	800m	45MΔ	4.5m	Δ	100	80	8.0	3.0	1.0u	2.0φ	1.0φ	100 Δ				120pφ	PL	T018	Aφ	
4#	AT365	800m	45MΔ	4.5m	Δ	120	100	8.0	3.0	1.0u	2.0φ	1.0φ	100 Δ				120pφ	PL	T018	Aφ	
5#	AT366	800m	45MΔ	4.5m	Δ	80	60	8.0	3.0	1.0u	2.0φ	1.0φ	30 Δ				120pφ	PL	T018	Aφ	
6#	AT367	800m	45MΔ	4.5m	Δ	100	80	8.0	3.0	1.0u	2.0φ	1.0φ	30 Δ				120pφ	PL	T018	Aφ	
7#	AT368	800m	45MΔ	4.5m	Δ	120	100	8.0	3.0	1.0u	2.0φ	1.0φ	30 Δ				120pφ	PL	T018	Aφ	
8#	2N697A†	800m	50MΔ	4.5m	Δ	80	35	5.0	1.0	100nφ	5.0φ	1.0m	25 Δ	500nZb	30 Z	5.0 Z	35pφ	Δ	T05	Aφ	
9#	2N699A	800m	50MΔ	4.5m	Δ	120	80	5.0	1.0	500nφ	5.0φ	1.0m	35 Δ	500nZb	30 Z	5.0 Z	20pφ	Δ	T05	Aφ	
10#	2N1889	800m	50MΔ	4.5m	Δ	100	60	7.0	1.0	10mφ	5.0φ	1.0m	30 Δ	500nZb	30 Z	1.2 Z	15pφ	Δ	T05	Aφ	
11#	2N1893	800m	50MΔ	4.5m	Δ	120	80	7.0	1.0	10mφ	5.0φ	1.0m	30 Δ	500nZb	30 Z	1.2 Z	15pφ	Δ	T05	Aφ	
12#	2N1974	800m	50MΔ	4.5m	Δ	100	60	7.0	1.0	25nφ	5.0φ	1.0m	36 Δ	500nZb	1.0kZ	5.0 Z	15pφ	Δ	T05	Aφ	
13#	2N2049	800m	50MΔ	4.5m	Δ	75	50	5.0	1.0	500mφ	5.0φ	1.0m	75 Δ	500nZb	34 Z	5.0 Z	25pφ	Δ	T05	Aφ	
14#	2N2192†	800m	50MΔ	4.5m	Δ	60	40	5.0	1.0	.01uφ	10φ	10m	75 Δ				20pφ	Δ	T05	Aφ	
15#	2N2192A†	800m	50MΔ	4.5m	Δ	60	40	5.0	1.0	.01uφ	10φ	10m	75 Δ				20pφ	Δ	T05	Aφ	
16#	2N2192B†	800m	50MΔ	4.5m	Δ	60	40	5.0	1.0	.01uφ	10φ	10m	75 Δ				20pφ	Δ	T05	Aφ	
17#	2N2193†	800m	50MΔ	4.5m	Δ	80	50	8.0	1.0	.01uφ	10φ	10m	30 Δ				20pφ	Δ	T05	Aφ	
18#	2N2193A†	800m	50MΔ	4.5m	Δ	80	50	8.0	1.0	.01uφ	10φ	10m	30 Δ				20pφ	Δ	T05	Aφ	
19#	2N2193B†	800m	50MΔ	4.5m	Δ	80	50	8.0	1.0	.01uφ	10φ	10m	30 Δ				20pφ	Δ	T05	Aφ	
20#	2N2194†	800m	50MΔ	4.5m	Δ	80	40	5.0	1.0	.01uφ	10φ	10m	15 Δ				20pφ	Δ	T05	Aφ	
21#	2N2194A†	800m	50MΔ	4.5m	Δ	80	40	5.0	1.0	.01uφ	10φ	10m	15 Δ				20pφ	Δ	T05	Aφ	
22#	2N2184B†	800m	50MΔ	4.5m	Δ	80	40	5.0	1.0	.01uφ	10φ	10m	15 Δ				20pφ	Δ	T05	Aφ	
23#	2N2243	800m	50MΔ	4.5m	Δ	120	80	7.0	1.0	.01uφ	10φ	10m	30 Δ				15pφ	Δ	T05	Aφ	
24#	2N2243A	800m	50MΔ	4.5m	Δ	120	80	7.0	1.0	.01uφ	10φ	10m	30 Δ				15pφ	Δ	T05	Aφ	
25#	2N2443	800m	50MΔ	4.5m	Δ	120	100	7.0	1.0	.01uφ	5.0φ	1.0m	30 Δ	50uZ	1.0kZ		15pφ	Δ	T05	Aφ	
26#	2N2868	800m	50MΔ	4.5m	Δ	80	40	7.0	1.0	.01uφ	10φ	10m	30 Δ				20pφ	Δ	T05	Aφ	
27#	2N2890†	800m	50MΔ	5.0m	Δ	100	80	5.0	1.0	100nφ	10φ	50m	30 Δ				120pφ	Δ	T05	Aφ	
28#	2N2891†	800m	50MΔ	5.0m	Δ	100	80	5.0	1.0	100nφ	10φ	50m	30 Δ				120pφ	Δ	T05	Aφ	
29#	2N3036†	800m	50MΔ	4.5m	Δ	120	80	7.0	1.2	.01uφ	10φ	10m	40 Δ	120uZ	900 Z		15pφ	Δ	T05	Aφ	
30#	2SC516	800m	50MΔ	5.2m	Δ	100	60	5.0	1.5	500nφ	2.0φ	200m	60 Δ				25pφ	Δ	T05	Aφ	
31#	2SC516A	800m	50MΔ	5.2m	Δ	140	100	5.0	1.5	500nφ	2.0φ	200m	60 Δ				25pφ	Δ	T05	Aφ	
32#	BFW33	800m	50MΔ	4.5m	Δ	120	80	7.0	1.0	.01uφ	10φ	150m	40 Δ#	11u	2.8k	3.5	15pφ	Δ	T05	Aφ	
33#	BFX84	800m	50MΔ	4.5m	Δ	100	60	6.0	1.0	.05uφ	10φ	10m	20 Δ				15pφ	Δ	T05	Aφ	
34#	BFX85	800m	50MΔ	4.5m	Δ	100	60	6.0	1.0	.05uφ	10φ	10m	50 Δ				15pφ	Δ	T05	Aφ	
35#	BFX86	800m	50MΔ	4.5m	Δ	40	35	6.0	1.0	.05uφ	10φ	10m	50 Δ				15pφ	Δ	T05	Aφ	
36#	BFY51†	800m	50MΔ	4.5m	Δ	60	60	6.0	1.0	500nφ	6.0φ	10m	60	35u	220	700m	1.3	15pφ	Δ	T05	Aφ
37#	BFY52†	800m	50MΔ	4.5m	Δ	40	40	6.0	1.0	500nφ	6.0φ	10m	120				12pφ	Δ	T05	Aφ	
38#	BFY53	800m	50MΔ	4.5m	Δ	40	40	6.0	1.0	500nφ	6.0φ	10m	120				15pφ	Δ	T05	Aφ	
39#	BSY45	800m	50MΔ	4.5m	Δ	30	20	6.0	1.0	500nφ	6.0φ	10m	80 Δ#				20pφ	Δ	T05	Aφ	
40#	BSY46†	800m	50MΔ	4.5m	Δ	40	25	5.0	1.0	50nφ	10φ	150m	80 Δ#				20pφ	Δ	T05	Aφ	
41#	BSY91	800m	50MΔ	4.5m	Δ	60	40	5.0	1.0	5.0mφ	2.0φ	10m	50 Δ				25pφ	Δ	T05	Aφ	
42#	BSY92	800m	50MΔ	4.5m	Δ	60	40	5.0	1.0	5.0mφ	2.0φ	10m	50 Δ				25pφ	Δ	T05	Aφ	
43#	PT2525	800m	50MΔ	4.5m	Δ	220	170	5.0	500m	.01uφ	5.0φ	10m	20 Δ#				6pφ	Δ	MT39	Aφ	
44#	PT2575	800m	50MΔ	4.5m	Δ	220	170	5.0	500m	.01uφ	5.0φ	10m	20 Δ#				6pφ	Δ	MT39	Aφ	
45#	TN79	800m	50MΔ	4.7m	Δ	30	20	5.0	1.0	.01uφ	1.0φ	100uφ	75 Δ				10pφ	Δ	T05	Aφ	
46#	BF157B	800m	54MΔ	4.5m	Δ	175	175	5.0	1.0	10mφ	5.0φ	1.0m	30 Δ	500nZb	34 Z	3.0 Z	6.0pφ	Δ	T039	Aφ	
47#	2N1420A	800m	60MΔ	4.5m	Δ	60	40	7.0	1.0	.01uφ	1.0φ	10m	35 Δ				25pφ	Δ	T05	Aφ	
48#	2N1613	800m	60MΔ	4.5m	Δ	75	50	5.0	1.0	.01uφ	1.0φ	10m	30 Δ				25pφ	Δ	T05	Aφ	
49#	JAN2N1613	800m	60MΔ	4.5m	Δ	75	30	7.0	500m	10mφ	5.0φ	1.0m	100 Δ	1.0uZb	8.0 Z	3.0 Z	25pφ	Δ	T05	Aφ	
50#	2N1890	800m	60MΔ	4.5m	Δ	100	60	7.0	500m	10mφ	5.0φ	1.0m	50 Δ	300nZb	30 Z	1.5 Z	15pφ	Δ	T05	Aφ	
51#	JAN2N1893	800m	60MΔ	4.5m	Δ	120	80	7.0	500m	10mφ	5.0φ	1.0m	100 Δ	500nZb	8.0 Z	1.5 Z	15pφ	Δ	T05	Aφ	
52#	2N1973	800m	60MΔ	4.5m	Δ	100	60	7.0	25nφ	5.0φ	1.0m	76 Δ				15pφ	Δ	T05	Aφ		
53#	2N2297	800m	60MΔ	4.5m	Δ	80	35	7.0	1.0	.01uφ	10φ	10m	40 Δ#				12pφ	Δ	T05	Aφ	
54#	2N3108†	800m	60MΔ	4.5m	Δ	100	60	7.0	1.0	.01uφ	10φ	10m	20 Δ				25pφ	Δ	T05	Aφ	
55#	2N3110†	800m	60MΔ	4.5m	Δ	80	40	7.0	1.0	.01uφ	10φ	10m	20 Δ				25pφ	Δ	T05	Aφ	
56#	2N3122	800m	60MΔ	4.5m	Δ	50	30	5.0	500m	2.0uφ	5.0φ	300m	25 Δ#				25pφ	Δ	T05	Aφ	
57#	2SC5100†	800m	60MΔ	5.3m	Δ	140	100	5.0	1.5	1.0uφ	2.0φ	200m	50 Δ				25pφ	Δ	T039	Aφ	
58#	2SC510R†	800m	60MΔ	5.3m	Δ	140	100	5.0	1.5	1.0uφ	2.0φ	200m	30 Δ				25pφ	Δ	T039	Aφ	
59#	2SC5110†	800m	60MΔ	5.3m	Δ	120	80	5.0	1.5	1.0uφ	2.0φ	200m	50 Δ				25pφ	Δ	T039	Aφ	
60#	2SC511R†	800m	60MΔ	5.3m	Δ	120	80	5.0	1.5	1.0uφ	2.0φ	200m	30 Δ				25pφ	Δ	T039	Aφ	
61#	2SC5120†	800m	60MΔ	5.3m	Δ	100	60	5.0	1.5	1.0uφ	2.0φ	200m	50 Δ				25pφ	Δ	T039	Aφ	
62#	2SC512R†	800m	60MΔ	5.3m	Δ	100	60	5.0	1.5	1.0uφ	2.0φ	200m	30 Δ				25pφ	Δ	T039	Aφ	
63#	2SC5130†	800m	60MΔ	5.3m	Δ	70	40	5.0	1.5	1.0uφ	2.0φ	200m	50 Δ				25pφ	Δ	T039	Aφ	
64#	2SC513R†	800m	60MΔ	5.3m	Δ	70	40	5.0	1.5	1.0uφ	2.0φ	200m	30 Δ				25pφ	Δ	T039	Aφ	
65#	AT470	800m	60MΔ	4.5m	Δ	60	40	6.0	1.0	200nφ	1.0φ	60m	40 Δ				25pφ	Δ	T039	Aφ	
66#	AT471	800m	60MΔ	4.5m	Δ	80	60	6.0	1.0	200nφ	1.0φ	60m	40 Δ				25pφ	Δ	T039	Aφ	
67#	AT472	800m	60MΔ	4.5m	Δ	100	80	6.0	1.0	200nφ	1.0φ	60m	40 Δ				25pφ	Δ	T039	Aφ	
68#	AT473	800m	60MΔ	4.5m	Δ	60	40	6.0	1.0	200nφ	1.0φ	60m	100 Δ				25pφ	Δ	T039	Aφ	
69#	AT474	800m	60MΔ	4.5m	Δ	80	60	6.0	1.0	200nφ	1.0φ	60m	100 Δ				25pφ	Δ	T039	Aφ	
70#	AT475	800m	60MΔ	4.5m	Δ	100	80	6.0	1.0	200nφ	1.0φ	60m	100 Δ				25pφ	Δ	T039	Aφ	
71#	AT476	800m	60MΔ	4.5m	Δ	60	40	6.0	1.0	200nφ	1.0φ	60m	40 Δ				25pφ	Δ	T039	Aφ	
72#	AT477	800m	60MΔ	4.5m	Δ	80	60	6.0	1.0	200nφ	1.0φ	60m	40 Δ								

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 fab (Hz)	DERATE		ABS MAX RATINGS @25°C							TYPICAL 'h' PARAMETERS							Cob (F)	DESCRIPTION	L C E O D E
				IN FREE AIR W/°C	M A M X P	BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)	lceo @MAX Vcb (V)	Vcb (V)	Ie (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)	STRUC-TURE	DWG. No.				
1#	BC293	800m	80M	4.5m	5J	80	60	6.0	5.0	100u	2.00	2.0	120	†				45p	PE	T039	A	
2#	BC395	800m	80M	4.5m	5J	80	70	5.0	500m	50n	1.00	100	85	†				12p	PE	T039	A	
3#	BF294	800m	80M	4.5m	5J	160	160	6.0	100m	100u	5.00	100	70	†			2.5p	DPL	T039	A		
4#	BFX69	800m	80M	4.5m	5J	75	30	7.0		10n	5.00	1.0m	55	†	12u	2.2k	3.6	18p	PL	T05	A	
5#	BFY56B	800m	80M	4.5m	5J	80	55	7.0	1.0	50n	1.00	150m	70	†				12p	PE	T039	A	
6#	BSW65†	800m	80M	4.5m	5J	80	80	6.0	1.0	100u	5.00	1.0	15	†				35p	PE	T05	A	
7#	BSW66Δ†	800m	80M	4.5m	5J	100	100	6.0	1.0	100u	5.00	1.0	15	†				35p	PE	T05	A	
8#	BSW66Z†	800m	80M†		5J						5.00	10m	30	Δ				35p	PE	T039	A	
9#	BSW67Δ†	800m	80M	4.5m	5J	120	120	6.0	1.0	100u	5.00	1.0	15	†				35p	PE	T05	A	
10#	BSW67Z†	800m	80M†		5J						5.00	10m	30	Δ				35p	PE	T039	A	
11#	BSW68Δ†	800m	80M	4.5m	5J	150	150	6.0	1.0	100u	5.00	1.0	15	†				35p	PE	T05	A	
12#	BSW68Z†	800m	80M†		5J						5.00	10m	30	Δ				35p	PE	T039	A	
13#	C426†	800m	80M	4.5m	5J	60	30	5.0		100n	5.00	1.0m	60	†	8.0u	1.8k	2.1	12p	DPE	T05	A	
14#	FT34C†	800m	80M	4.5m	5J	150	80	6.0		100u	2.00	2.0	85	†				80p	DPE	T05	A	
15#	FT34D†	800m	80M	4.5m	5J	120	60	6.0		100u	2.00	2.0	210	†				80p	DPE	T05	A	
16#	TIS102	800m	80M	5.3m	5S	180	180	5.0	100m	50n	1.00	1.0m	40	†				2.7p	PE	T039	A	
17#	TIS103	800m	80M	5.3m	5S	150	150	5.0	100m	50n	1.00	1.0m	45	†				2.7p	PE	T039	A	
18#	BFX69A	800m	84 M	4.5m	5J	80	40	7.0		0.1u	5.00	1.0m	70	†	8.0u	1.8k	2.1	13p	DPL	T05	A	
19#	BC310	800m	86M		5J	70	70	5.0	1.0	50n	1.00	10m	110	†				12p	PE	T05	A	
20#	BF174	800m	86 M	4.5m	5J	150	150	6.0		0.1u	1.00	25m	20	Δ				2.6p	DPL	T05	A	
21#	BFY56†	800m	86 M	4.5m	5J	80	45	5.0		0.5u	1.00	10m	40	†				12p	DPE	T05	A	
22#	BFY56A	800m	86 M	4.5m	5J	80	55	7.0		0.5u	1.00	150m	70	†				12p	PE	T039	A	
23#	C764	800m	88M	8.0m	5J	120	120	5.0		100u	1.00	25m	70	†				6.0p	PL	T039	A	
24#	2N2440	800m	90M	4.5m	5J	120	80	7.0	500m	1.0n	5.00	5.0m	70	Δ	500nZb	30 Z	2.5 Z	15p	Δ	T05	A	
25#	2SC108A	800m	90M	1.87	5J	90	55	5.0	800m	1.0u	2.00	200m	80	†				20p	PE	T039	A	
26#	2SC109A	800m	90M	1.56	5J	50	40	5.0	800m	1.0u	2.00	200m	80	†				20p	PE	T039	A	
27#	2N1893A	800m	100M	4.5m	5J	140	80	7.0	500m	10n	5.00	1.0m	30	Δ	500nZb	30 Z	1.2	8.0p	Δ	T05	A	
28#	2N2330Z	800m	100M	5.3m	5S	30	20	5.0	500m	0.1u	1.00	1.0m	50	Δ				10p	PL	T05	A	
29#	2N3019	800m	100M	4.5m	5J	140	80	7.0	1.0	0.1u	5.00	1.0m	80	Δ				12p	PL	T05	A	
30#	JAN2N3019	800m	100M	4.5m	5J	140	80	7.0	1.0	10n	5.00	1.0m	80	Δ				12p	PL	T05	A	
31#	2SC995	800m	100M		5J	300	300	5.0	100m	100n	1.00	50m	80	†				5.5p	DPL	T039	A	
32#	AT479	800m	100M	4.4m	5J	80	70	6.0	1.0	20n	1.00	50m	40	†				15p	PL	T039	A	
33#	BC286	800m	100M	4.5m	5J	70	60	5.0	1.0	20n	2.00	500m	20	†				12p	DPE	T05	A	
34#	BC323	800m	100M	4.5m	5J	100	100	5.0	5.0	100u	1.00	500m	160	†				80p	PE	T039	A	
35#	BC324	800m	100M	4.5m	5J	85	55	5.0	1.0		1.00	500m	60	†				25p	PE	T039	A	
36#	BC340-6	800m	100M	4.5m	5J	40	40	5.0	500m	100n	5.00	50m	40	†				10p	PE	T039	A	
37#	BC340-10	800m	100M	4.5m	5J	40	40	5.0	500m	100n	5.00	50m	63	†				10p	PE	T039	A	
38#	BC340-16	800m	100M	4.5m	5J	40	40	5.0	500m	100n	5.00	50m	100	†				10p	PE	T039	A	
39#	BC341-6	800m	100M	4.5m	5J	60	60	5.0	500m	100n	5.00	50m	40	†				10p	PE	T039	A	
40#	BC341-10	800m	100M	4.5m	5J	60	60	5.0	500m	100n	5.00	50m	63	†				10p	PE	T039	A	
41#	BF108	800m	100M	4.5m	5S	135	135	5.0		1.0u	1.00	30m	50	†				3p	PL	T05	A	
42#	BF305	800m	100M	4.5m	5J	160	150	5.0	50m		1.00	15m	30	†					PL	T039	A	
43#	BFX68A	800m	100M	4.5m	5J	80	40	7.0		0.1u	5.00	1.0m	100	†				20u	DPL	T05	A	
44#	BSX22	800m	100M	5.3m	5J	40	32	5.0	1.5		2.00	500m	35	†				20p	PE	T05	A	
45#	BSX23	800m	100M	5.3m	5J	90	65	5.0	1.5		2.00	500m	35	†				20p	PE	T05	A	
46#	BSY51†	800m	100M	4.5m	5J	60	25	5.0	500m	100n	1.00	150m	40	†				10p	PE	T039	A	
47#	BSY52†	800m	100M	4.5m	5J	60	25	5.0	500m	100n	1.00	150m	100	†				10p	PE	T039	A	
48#	BSY53†	800m	100M	4.5m	5J	75	30	7.0	750m	10n	1.00	150m	40	†				10p	PE	T039	A	
49#	BSY54†	800m	100M	4.5m	5J	75	30	7.0	750m	10n	1.00	150m	100	†				10p	PE	T039	A	
50#	BSY55†	800m	100M	4.5m	5J	120	80	7.0	500m	10n	1.00	150m	40	†				10p	PE	T039	A	
51#	BSY56†	800m	100M	4.5m	5J	120	80	7.0	500m	10n	1.00	150m	100	†				10p	PE	T039	A	
52#	BSY87	800m	100M	4.5m	5J	100	60	7.0	500m	10n	1.00	150m	40	†				10p	PE	T039	A	
53#	BSY88	800m	100M	4.5m	5J	100	60	7.0	500m	10n	1.00	150m	100	†				10p	PE	T039	A	
54#	BSY90	800m	100M	4.5m	5J	60	25	5.0	500m	10n	1.00	150m	250	†				10p	PE	T039	A	
55#	CP409†	800m	100M	4.5m	5J	60	60	5.0	1.0	10u	1.00	1.0	130	†					DPE	T05	A	
56#	RT1116†	800m	100M		5J	120	40	5.0		20n	1.00	150m	30	†				15 Z	DPE	T05	A	
57#	SFT187	800m	100M	4.5m	5J	135	135	5.0		1.0u	1.00	30m	50	†				3.0p	DPE	T05	A	
58#	TN53	800m	100M	4.5m	5J	75	45	5.0	800m	10n	5.00	1.0m	55	†	200nZb	35 Z	1.2 Z	8.0p	PE	T05	A	
59#	TN59†	800m	100M	4.5m	5J	40	30	5.0	800m	20n	5.00	1.0m	140	†	100nZb	27	3.2	8.0p	PE	T05	A	
60#	TN61†	800m	100M	4.5m	5J	40	30	5.0	800m	20n	5.00	1.0m	50	†	900nZb	26	3.2	8.0p	PE	T05	A	
61#	BF119	800m	110M	5.2m	5J	160	160	5.0	100m	50n	1.00	30m	25	†				3.5p	PE	T039	A	
62#	BF257	800m	110M		5J	160	160	5.0	100m	50n	1.00	30m	25	†				5.5p	PE	T05	A	
63#	BF258	800m	110M		5J	250	250	5.0	100m	50n	1.00	30m	25	†				5.5p	PE	T05	A	
64#	BF259	800m	110M		5J	300	300	5.0	100m	50n	1.00	30m	25	†				5.5p	PE	T05	A	
65#	2N4383	800m	120M	4.7m	5S	40	30	5.0	800m	10n	5.00	1.0m	10k	†	200nZb	32 Z		8.0p	PL	T05	A	
66#	2N4385	800m	120M	4.7m	5S	40	30	5.0	800m	10n	5.00	1.0m	10k	†	200nZb	32 Z		8.0p	PL	T05	A	
67#	2SC309†	800m	120M	4.5m	5J	120	80	5.0	500m	1.0u	1.00	150m	65	†				10p	PL	T05	A	
68#	2SC310†	800m	120M	4.5m	5J	140	100	5.0	500m	0.1u	1.00	150m	65	†				10p	PL	T05	A	
69#	2SC788	800m	120M		5J	250	150	5.0	50m	1u	5.00	10m	100	†				4.0p	PL	T05	A	
70#	BF118	800m	120M	5.0m	5J	250	240	5.0	100m	50n	1.00	30m	25	†				2.0p	PL	T05	A	
71#	BFW45	800m	120M	4.5m	5J	165	130	5.0	50m	10u	2.00	50m	20	†				4p	PL	T039	A	
72#	MA800†	800m	130M	4.7m	5J	40	30	5.0	800m	500n	1.00	150m	30	†	15ub	4.9k	4.2	12p	PE	T05	A	
73#	MA8002																					

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	TYPE No.	MAX. COLL. DISS. @25°C (W)	DERATE IN FREQUENCY (Hz)	TEMP. COEFF. (°C/W)	ABS. MAX. RATINGS @25°C					MAX. I _{cb} @ MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			Cob (F)	DESCRIPTION		L C O A D E		
					V _{cb} (V)	V _{ceo} (V)	V _{be} (V)	I _c (A)	BIAS			COMMON EMITTER			STRUCTURE	DWG. No.			
									V _{cb} (V)		I _e (A)	h _{fe}	h _{oe} (mhos)					h _{ie} (Ω)	h _{re} (X.0001)
1	JAN2N2218A†	800m	250mΔ	5.2m	75	50	6.0	800m	10n	100	1.0m	30 Δ	8.0pZ		T05	A0			
2	2N2219	800m	250mΔ	5.3m	60	30	5.0	800m	0.1u	100	1.0m	50 Δ	8pZ		T05	A0			
3	JAN2N2219†	800m	250mΔ	5.2m	60	30	5.0	800m	10n	100	1.0m	50 Δ	8.0pZ		T05	A0			
4	JAN2N2219A†	800m	250mΔ	5.2m	75	50	6.0	800m	10n	100	1.0m	30 Δ	8.0pZ		T05	A0			
5	2N2224	800m	250mΔ	5.3m	65	40	5.0	500m	10n	100	100u	50 Δ	8.0pZ	Δ	T05	A0			
6	2N2537†	800m	250mΔ	4.5m	60	30	5.0	800m	25u	100	1.0m	20 Δ	8pZ		T05	A0			
7	2N2538†	800m	250mΔ	4.5m	60	30	5.0	800m	25u	100	1.0m	30 Δ	8pZ		T05	A0			
8	2N2787†	800m	250mΔ	5.2m	75	35	5.0	800m	10n	200	20m	30 Δ	200nZb	35 Z	15 Z	T05	A0		
9	2N2788†	800m	250mΔ	5.2m	75	35	5.0	800m	10n	200	20m	75 Δ	200nZb	35 Z	2.0 Z	T05	A0		
10	2N2789†	800m	250mΔ	5.2m	75	35	5.0	800m	10n	200	20m	150 Δ	200nZb	35 Z	2.5 Z	T05	A0		
11	2N2846†	800m	250mΔ	4.5m	60	30	5.0	500m	20u	100	150m	30 Δ	8pZ		T05	A0			
12	2N2848†	800m	250mΔ	4.5m	60	20	5.0	500m	20u	100	150m	40 Δ	8pZ		T05	A0			
13	2N3015†	800m	250mΔ	4.5m	60	30	5.0	500m	20u	100	150m	30 Δ	8pZ		T05	A0			
14	2N3299†	800m	250mΔ	4.5m	60	30	5.0	500m	0.1u	100	10m	20 Δ	8pZ		T05	A0			
15	2N3300†	800m	250mΔ	4.5m	60	30	5.0	500m	0.1u	100	10m	35 Δ	8pZ		T05	A0			
16	2N3326†	800m	250mΔ	5.3m	60	45	5.0	800m	0.1u	100	10m	35 Δ	8pZ		T05	A0			
17	2N3512†	800m	250mΔ	4.5m	60	35	5.0	500m	1.0u	500m	500m	10 Δ	10pZ		T05	A0			
18	2N3678†	800m	250mΔ	4.5m	75	55	6.0	800m	0.1u	100	150m	40 Δ	8pZ		T05	A0			
19	2N4046†	800m	250mΔ	4.5m	50	30	6.0	500m	1.7u	1.00	100m	150 Δ	12pZ		T05	A0			
20	2N4047†	800m	250mΔ	4.5m	80	50	6.0	500m	1.7u	1.00	100m	150 Δ	10pZ		T05	A0			
21	2N4960†	800m	250mΔ	4.5m	60	60	6.5	1.0	0.1u	100	1.0m	60 Δ	15p		T039	A0			
22	2N4962†	800m	250mΔ	2.9m	60	60	6.5	1.0	0.1u	100	1.0m	60 Δ	15p		T018	A0			
23#	25C97†	800m	250mΔ	5.3m	60	30	5.0	1.0	0.0u	100	150m	60 Δ	20pZ	PE	T05	A0			
24#	25C502	800m	250mΔ	6.7m	60	60	5.0	1.0	0.0u	5.00	200m	30 Δ	13p	PE	T039	A0			
25#	BFX17	800m	250mΔ	4.5m	60	40	6.0	1.0	2.0u	1.00	100m	35 Δ	12pZ	PE	T05	A0			
26#	BFX96	800m	250mΔ	4.5m	60	30	5.0	800m	0.1u	100	150m	40 Δ	8pZ	PE	T05	A0			
27#	BFX97	800m	250mΔ	4.5m	60	30	5.0	800m	0.1u	100	150m	100 Δ	8pZ	PE	T05	A0			
28	PT4816	800m	250mΔ	5.3m	60	30	4.0	1.0	0.5u	100	10m	40 Δ	8pZ	PE	T05	A0			
29#	ZT600†	800m	250mΔ	4.5m	24	20	5.0	1.0	1.0u	1.00	150m	50 Δ	12pZ	PE	T05	A0			
30	2N2219A†	800m	300mΔ	5.3m	75	40	6.0	800m	0.1u	100	1.0m	40 Δ	8pZ	PE	T05	A0			
31	2N3722†	800m	300mΔ	4.5m	80	60	6.0	500m	5.0u	1.00	10m	25 Δ	10pZ		T05	A0			
32	2N3723†	800m	300mΔ	4.5m	100	80	6.0	500m	5.0u	1.00	10m	25 Δ	9pZ		T05	A0			
33	2N3724†	800m	300mΔ	4.5m	50	30	6.0	500m	1.7u	1.00	10m	60 Δ	12pZ		T05	A0			
34	2N3725†	800m	300mΔ	4.5m	80	50	6.0	500m	1.7u	1.00	100m	60 Δ	10pZ		T05	A0			
35	2N5145s	800m	300mΔ	4.5m	50	30	6.0	500m	1.7u	1.00	10m	30 Δ	12pZ	Δ	T039	A0			
36#	C651	800m	300mΔ	4.5m	55	35	6.0	5.0u	1.00	100m	70 Δ	7.0p	PE	T039	A0				
37	SE8010	800m	300mΔ	4.5m	100	60	6.0	500m	5.0u	1.00	100m	40 Δ	9pZ	DPE	T05	A0			
38#	BSX30†	800m	330mΔ	4.5m	60	30	5.0	200m	5.0u	1.00	150m	63 Δ	5.0p	DPE	T05	A0			
39#	25C97A†	800m	350mΔ	5.3m	80	45	5.0	1.0	0.5u	1.00	500m	40 Δ	10pZ	PE	T039	A0			
40#	25C319	800m	350mΔ	5.3m	40	20	4.0	300m	1.0u	100	100m	20 Δ	10pZ	PE	T033	A0			
41#	25C781	800m	350mΔ	5.3m	75	40	5.0	1.0	1.0u	100	150m	80 Δ	11p	PE	T05	A0			
42#	BFY72	800m	350mΔ	3.4m	50	28	5.0	1.0	2.0u	100	10m	90	5.0p	DPE	T05	A0			
43#	2N2217A	800m	400mΔ	5.6m	75	40	6.0	300m	0.1u	100	150m	40 Δ	4.0p	PE	T05	A0			
44	2N2883	800m	400mΔ	4.5m	40	20	4.0	300m	0.5u	100	100m	20 Δ	10p	PE	T05	A0			
45	2N2884	800m	400mΔ	4.5m	40	20	4.0	300m	0.5u	100	100m	20 Δ	10p	PE	T05	A0			
46	2N5188†	800m	400mΔ	4.5m	60	25	5.0	1.0	0.5u	5.00	150m	25 Δ	4.0p	PE	T039	A0			
47#	25C138	800m	400mΔ	5.3m	60	30	5.0	500m	1.0u	100	30m	50	4.0p	PE	T033	A0			
48#	25C138A	800m	400mΔ	5.3m	60	35	5.0	500m	1.0u	100	30m	50	4.0p	PE	T033	A0			
49#	25C139	800m	400mΔ	5.3m	60	30	5.0	500m	1.0u	100	30m	50	4.0p	PE	T033	A0			
50#	25C320	800m	400mΔ	5.3m	40	20	4.0	500m	1.0u	100	100m	20 Δ	10pZ	PE	T033	A0			
51#	25C596	800m	400mΔ	5.3m	60	30	5.0	500m	0.5u	100	30m	50	6.0p	PE	T033	A0			
52#	BSX32†	800m	450mΔ	4.5m	65	40	6.0	1.0	4.0u	1.00	10m	60 Δ	5.0p	DPE	T05	A0			
53#	BSX59†	800m	475mΔ	4.5m	70	45	5.0	1.0	0.5u	1.00	500m	25 Δ	5.8p	PE	T05	A0			
54#	BSX60†	800m	475mΔ	4.5m	70	30	5.0	1.0	0.5u	1.00	500m	30 Δ	5.8p	PE	T05	A0			
55#	BSX61†	800m	475mΔ	4.5m	70	45	5.0	1.0	0.5u	1.00	500m	25 Δ	5.8p	PE	T05	A0			
56	2N4896†	800m	500mΔ	4.5m	120	60	6.0	5	1m	2.00	2	120 Δ	80pZ	PE	T039	A0			
57	2N4897†	800m	500mΔ	4.5m	150	80	6.0	5	1m	2.00	2	120 Δ	80pZ	PE	T039	A0			
58#	25C566	800m	500mΔ	4.5m	50	40	4.0	300m	0.2u	100	100m	50 Δ	4pZ	PE	T033	A0			
59#	25C654	800m	500mΔ	4.5m	40	35	3.0	300m	0.2u	150	50m	40 Δ	3.5pZ	PE	T033	A0			
60#	25C741	800m	500mΔ	4.5m	40	30	3.0	300m	1.0u	100	100m	30 Δ	3p	PE	T039	A0			
61	2N4895†	800m	800mΔ	4.5m	120	60	6.0	5	1m	2.00	2	300 Δ	80pZ	PE	T039	A0			
62	2N5106s	800m	900mΔ	4.5m	60	30	5.0	500m	0.1u	100	150m	100 Δ	8pZ	Δ	T039	A0			
63#	25C385A	800m	1.0G	5.0	30	15	3.0	50m	500n	3.00	8.0m	40 Δ	1.0p	PE	R67A	B			
64#	25C387A	800m	1.0G	5.0	30	15	3.0	50m	500n	3.00	8.0m	40 Δ	1.0p	PE	R67A	B			
65	A230	800m	1.0G	4.0m	40	30	3.5	200m	5.00	5.00	50m	25 Δ	3.0pZ	PE	T039	A0			
66	2N2850-1†	850m	30kΔ	66m	100	80	5.0	3.0	1.00	1.00	1.0	40 Δ	PE	MT26	A0				
67	2N2851-1†	850m	30kΔ	66m	100	80	5.0	3.0	1.00	1.00	1.0	40 Δ	PE	T05	A0				
68	2N2852-1†	850m	30kΔ	66m	100	80	5.0	3.0	1.00	1.00	1.0	20 Δ	PE	T05	A0				
69	2N2853-1†	850m	30kΔ	66m	60	40	5.0	3.0	1.00	1.00	1.0	40 Δ	PE	T05	A0				
70	2N2855-1†	850m	30kΔ	66m	60	40	5.0	3.0	1.00	1.00	1.0	40 Δ	PE	T05	A0				
71	2N2856-1†	850m	30kΔ	66m	60	40	5.0	3.0	1.00	1.00	1.0	20 Δ	PE	T05	A0				
72	2N2849†	850m	30MΔ	5.0m	100	80	5.0	3.0	100n	1.00	1.0	100 Δ	PE	R61	A0				
73	2N2850†	850m	30MΔ	5.0m	100	80	5.0	3.0	100n	1.00	1.0	40 Δ	PE	R61	A0				
74	2N2851†	850m	30MΔ	5.0m	100	80	5.0	3.0	100n	1.00	1.0	40 Δ	PE	R61	A0				
75	2N2852†	850m	30MΔ	5.0m	100	80	5.0	3.0	100n	1.00	1.0	20 Δ	PE	R61	A0				
76	2N2853†	850m	30MΔ	5.0m	60	40	5.0	3.0	100n	1.00	1.0	40 Δ	PE	R61	A0				
77	2N2854†	850m	30MΔ	5.0m	60	40	5.0	3.0	100n	1.00	1.0	100 Δ	PE	R61	A0				
78	2N2855†	850m	30MΔ	5.0m	60	40	5.0	3.0	100n	1.00	1.0	40 Δ	PE	R61	A0				
79	2N2856†	850m	30MΔ	5.0m	60	40	5.0	3.0	100n	1.00	1.0	20 Δ	PE	R61	A0				
80	2849-1	850m	50.M	5.0m	100	80	5.0	3	10u	1.00	50m	90 Δ	60p	PL	T05	A0			
81	2849-2	850m	50.M	5.0m	100	80	5.0	3	10u	1.00	50m	90 Δ	60p	PL	MT26	A0			
82	2849-3	850m	50.M	5.0m	100	80	5.0	3	10u	1.00	50m	90 Δ	60p	PL	MT32	A0			
83	PT2540	850m	150MΔ	4.8m	60	40	4.0	800m	10u	100	150m	15 Δ	30pZ	PE	T05	A0			
84#	BC2																		

5. SILICON NPN - LOW POWER TRANSISTORS

IN ORDER OF (1) MAX COLLECTOR DISSIPATION
(2) fab & (3) TYPE No.

LINE No.	3 TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	T M E A M X P	ABS MAX RATINGS @25°C				MAX. Icbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	DESCRIPTION STRUCTURE	DWG. No.	L C O A D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS			COMMON EMITTER							
										Vcb (V)	Ie (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)					
1	2N342B	1.0 ∅	6.0M	7.6m	\$J	85	85	2.0	60m	1.0∅	10∅	5.0m	21	2.0uZb	30 Z	3.0 Z	20pZ	G	TO11	AZ
2	2N343B	1.0 ∅	6.0M	7.6m	\$J	65	65	2.0	60m	1.0∅	10∅	5.0m	59	2.0uZb	30 Z	3.0 Z	20pZ	G	TO11	AZ
3#	2SC802†	1.0 ∅	180M§	6.6m	\$J	60	35	4.0	500m	5.0∅	4.0∅	150m∅	30 †	2.0uZb	30 Z	3.0 Z	5.0p	PL	TO5	
4	BF140R,S	1.0 ∅	180M§	5.5m	\$S	135		3.0		1.0∅	10∅	10m∅	40 †					PL	ZA29	∅
5	BF155R,S	1.0 ∅	180M§	5.5m	\$S	155		3.0		1.0∅	10∅	10m∅	40 †					PL	ZA29	∅
6	2N3833	1.0 ∅	1.0G§Δ	6.6m	\$S	25	15	1.0	100m	20n§	12∅	30m∅	20 †#				1.7p§		X60	§
7	2N3834	1.0 ∅	1.0G§Δ	6.6m	\$S	25	15	1.0	100m	20n§	12∅	30m∅	20 †#				1.7p§		X60	§
8	2N3835	1.0 ∅	1.0G§Δ	6.6m	\$S	25	15	1.0	100m	20n§	12∅	30m∅	20 †#				1.7p§		X60	§
9	KD4002	1.0 #	1.2G§Δ	6.6m∅	\$J	40	25	2.5	120M	1.0∅	6.0∅	50m∅	20 †Δ				3.5pZ		X72	V
10	KD4001	1.0 #	1.5G§Δ	6.6m∅	\$J	40	25	2.5	120m	1.0∅	6.0∅	50m∅	20 †Δ				3.5pZ		X72	V
11	KD4501	1.0 ∅	1.5G	5.5m	\$J	30	12	2.5	120m	300n∅	10	50m∅	30 †Δ				3.5pZ		X72	U
12	KD4502	1.0 ∅	1.5G	5.5m	\$J	25	12	2.5	120m	300n∅	10	50m∅	30 †Δ				3.5pZ		X72	U
13	2N717A†	1.8 ∅	200M§		\$J	75		7.0										PL	TO18	
14	PT850	2.0 ∅	120M§	4.0m	\$J	120	80	5.0	500m	2.0∅	10∅	150m∅	40 †Δ#				20p	PL	TO5	A∅
15	PT850A	2.8 ∅	120M§	5.2m	\$J	120	80	5.0	500m	2.0∅	10∅	150m∅	40 †Δ#				20p	PL	TO5	A∅
16	2N339A	3.0 ∅	10M§Δ		∇S	60	60	3.0		1.0∅	10∅	1.0m	53	2.0ub	30	3.0			TO11	A
17	2N340A	3.0 ∅	10M§Δ		∇S	85	85	3.0		1.0∅	10∅	1.0m	53	2.0ub	30	3.0			TO11	A
18	2N341A	3.0 ∅	10M§Δ		∇S	125		3.0		1.0∅	10∅	1.0m	53	2.0ub	30	3.0			TO11	A
19	2N1206	3.0 ∅	20M	2.8m	\$J	60	60	3.0		1.0∅	10∅	5.0m	35	2.0ub	30	3.0			TO5	A
20	2N1207	3.0 ∅	20M	2.8m	\$J	125	125	3.0		1.0∅	10∅	5.0m	35	2.0ub	30	3.0			TO5	A
21#	BC302	5.0	120M§	2.5m	\$J	80	45	7.0	1.0		10∅	150m∅	40 †Δ				10p	PE	TO39	A
22#	2SC614	7.5 ∅	200M§		\$J	80		4.0	1.5	1.0u	10∅	250m∅	80 †				12p	PE	TO39	
23#	2SC615	7.5 ∅	200M§		\$J	30		4.0	1.5	1.0u	10∅	250m∅	80 †				12p	PE	TO39	
24	2N3832†	200	800M§Δ	1.1	\$S	15	6.0	4.0	35m	10n§	50∅	2.0m∅	125 †Z						TO72	G

6. SILICON FIELD EFFECT TRANSISTORS - P CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	MAX. DEVICE DISS @25°C (W)	MAX. Vp		ABS MAX RATINGS @25°C		MAX. Id		MAX. Ig		MAX. Igs@ Vgs>Vp & Vds=0		MAX. Igs@ Vp Vgs Vds		PARAMETERS @25°C				DERATE		DESCRIPTION		L C O A D E
			Id=0	& Vds	V	V	(A)	(A)	(A)	(A)	(V)	(V)	(V)	(V)	COMMON SOURCE		r(DS) on	MAX. Cis	FREE AIR W/C	MAX TEMP (°C)	STRUC. TURE	DWG. No.	
			(V)	(V)	(V)	(V)	(A)	(A)	(A)	(A)	(V)	(V)	(V)	(V)	MIN	MAX	mhos	(Ω)	(F)	(°C)			
1	MEM517B	5.0Δ	2.0†	10	30	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.2mΔ	3.0m	4.0u%	500k	6.0p#	2.0m	200S	*	TO5	DG	
2	2N3573	6.0m†	1.1	20	30	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.2mΔ	3.0m	4.0u%	500k	6.0p#	2.0m	200S	*	TO72	DG	
3	2N3698	7.5m†	1.0	20	30	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.2mΔ	3.0m	4.0u%	500k	6.0p#	2.0m	200S	*	TO72	DG	
4	2N3277	12.2m†	5.0†	10	25	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.0m	1.0m	2.0u%	500k	4.5p#	2.0m	200S	∅	TO33	DG	
5	2N3574	18m†	2.0†	10	25	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	200u	600u	10u%	500k	6.0p#	2.0m	200S	∅	TO72	DG	
6	2N3697	18m†	1.8	20	30	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	200u	600u	10u%	500k	6.0p#	2.0m	200S	∅	TO72	DG	
7	2N3328	20m†	6.0†	10	20	20	1.0m	1.0m	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	500k	4p#	2.0m	200S	*	TO72	DG	
8	2N3333∅	20m†	1.6†	10	20	20	1.0m	1.0m	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	500k	30p#	2.0m	200S	*	L21c	DG	
9	2N3334∅	20m†	1.6†	10	20	20	1.0m	1.0m	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	500k	30p#	2.0m	200S	*	L21c	DG	
10	2N3335∅	20m†	1.6†	10	20	20	1.0m	1.0m	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	500k	30p#	2.0m	200S	*	L21c	DG	
11	2N3336∅	20m†	1.6†	10	20	20	1.0m	1.0m	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	500k	30p#	2.0m	200S	*	L21c	DG	
12	2N3278	22.2m†	8.0†	10	25	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.5m	1.5m	1.0u%	100k	4.5p#	2.0m	200S	*	TO33	DG	
13	2N3575	40m†	4.0†	10	25	25	1.0m	1.0m	0.5n	0.5n	0.0	0.0	1.0m	1.0m	1.0u%	500k	6.0p#	2.0m	200S	∅	TO72	DG	
14	2N3696	45m†	3.2	20	30	30	1.5m	1.5mΔ	1.0n	1.0n	0.0	0.0	7.5m	1.2m	15u%	500k	5.0p#	2.0m	200S	∅	TO72	DG	
15	2N3113	50m†	4.0	5.0	20	20	1.0m	1.0m	0.5n	0.5n	0.0	0.0	5.0	5.0u	120u	500k	2.0p#	2.0m	200S	*	TO72	DA∅	
16	UC420	75m†	2.5	20	30Δ	30Δ	1.0m	1.0m	2.5mΔ	0.1n	0.0	0.0	2.0	1.0m	1.0u%	70k	8.0p	1.1m	100J	PE	TO72	DG	
17	MEM550C	85m	6.0†	*	25	25	25m	100u	1.0n	1.0n	10	10	500u	500u	1.0u%	250 Δ	4.0pΔ	1.1m	100J	*	L54	DG	
18	MEM551C*	85m	6.0†	*	25	25	25m	100u	1.0n	1.0n	10	10	500u	500u	1.0u%	250 Δ	4.0pΔ	1.1m	100J	*	L54	DG	
19	2S11	100m	5.0	10	20	20	1.0m	1.0m	900u	1.0n	0.0	0.0	100uΔ	600uΔ	6.0mΔ	500k	2.0p*	1.1m	150	PE	TO17		
20	2S12	100m	5.0	10	20	20	1.0m	1.0m	900u	1.0n	0.0	0.0	100uΔ	600uΔ	6.0mΔ	500k	2.0p*	1.1m	150	PE	TO17		
21	3N178	100m	5.5Δ	10*	75	75Δ	20m	1.0m	3.0m#	1.0n	0.0	0.0	1.0mΔ	6.0mΔ	6.0mΔ	750	3.5p#	660m	200S	∅	TO72	DM	
22	3N179	100m	6.0Δ	10*	60	60Δ	20m	1.0m	3.0m#	1.0n	0.0	0.0	1.0mΔ	6.0mΔ	6.0mΔ	1.0k	4.5p#	660m	200S	∅	TO72	DM	
23	3N180	100m	6.0Δ	10*	40	40Δ	20m	1.0m	3.0m#	1.0n	0.0	0.0	1.0mΔ	6.0mΔ	6.0mΔ	1.2k	5.0p#	660m	200S	∅	TO72	DM	
24#	3S11†	100m	6.5Δ	*	30	30	10m	100n	1.0n	1.0n	10	10	300u	300u	3.0u%	1.0k†	5.0p#*	1.0m	150S	PL*	TO72	DU	
25	MEM300	100m	5.5Δ	10*	75	75	20m	100u	500p	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	750	3.5p#	660u	200S	∅	TO72	DM	
26	MEM301	100m	6.0Δ	10*	60	60	20m	100u	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	1.0k	4.5p#	660u	200S	∅	TO72	DM	
27	MEM302	100m	6.0Δ	10*	40	40	20m	100u	1.0n	1.0n	0.0	0.0	1.0m	1.0m	1.0u%	1.2k	5.0p#	660u	200S	∅	TO72	DM	
28	MEM556	100m	6.0Δ	*	80	80	20m	100u	1.0u	1.0n	15	20	800u%	950uΔ	35u%	700 †	5.0p†	1.0m	125J	∅	TO72	DM	
29	MEM556C	100m	6.0Δ	*	70	70	20m	100u	1.0u	1.0n	15	20	950mΔ	950mΔ	35u%	700 †	7.0p†	1.0m	100	∅	TO72	DM	
30	2N3695	112m†	4.5	20	30	3.7m	50m	3.7mΔ	100u	0.0	0.0	0.0	1.0m	1.7m	35u%	5.0p#	2.0m	200S	∅	TO72	DG		
31	MEM550*	112m	6.0Δ	*	30	25	25m	100u	5.0p*	1.0n	10	10	500u	500u	1.0u%	18k	1.1p†*	890u	125J	*	L53	DM	
32	MEM551*	112m	6.0†	*	30	40	25m	100u	1.0n	4.0p	10	10	500u	500u	1.0u%	250 Δ	1.1pΔ*	1.1m	125J	*	L54	DM	
33	SD5010*	112m	5.5†	*	30	25	25m	100u	5.0 p*	1.0n	10	10	500u	500u	1.0u%	250 Δ	1.1p†*	1.1m	125J	*	L53	DM	
34	SD5011*	112m	5.5†	*	30	40	25m	100u	5.0 p*	3.0p	10	10	500u	500u	1.0u%	250 Δ	1.1p†*	1.1m	125J	*	L54	DM	
35	SD5012*	112m	4.5†	*	65	50	25m	100u	5.0 p*	1.0n	10	10	1.2m	1.2m	1.0u%	400 Δ	1.1p†*	1.1m	125J	*	L53	DM	
36	SD5013*	112m	4.5†	*	65	65	25m	100u	5.0 p*	3.0p	10	10	1.2m	1.2m	1.0u%	400 Δ	1.1p†*	1.1m	125J	*	L54	DM	
37	SD5014*	112m	6.0†	*	100	50	25m	100u	5.0 p*	1.0n	10	10	500u	500u	1.0u%	850 Δ	1.1p†*	1.1m	125J	*	L53	DM	
38	SD5015*	112m	6.0†	*	100	80	25m	100u	5.0 p*	3.0p	15	15	500u	500u	1.0u%	850 Δ	1.1p†*	1.1m	125J	*	L54	DM	
39	2N3377	150m	5.0	5.0	30	100m	50m	6m#	4.3.0n	0.0	0.0	10	80m	2.3m†	1.5k†	2.0pΔ	1.0m	200S	∅	u22			
40	2N3379	150m	5.0	5.0	30	100m	50m	6m#	4.3.0n	0.0	0.0	10	1.5m	2.3m†	.75k†	2.0pΔ	1.0m	200S	∅	u22			
41	2N3381	150m	9.5	5.0	30	100m	50m	20m#	4.3.0n	0.0	0.0	10	1.5m	3m†	.60k†	2.0pΔ	1.0m	200S	∅	u22			
42	2N3383	150m	5.0	5.0	30	100m	50m	30m#	15n	0.0	0.0	10	4.5m	13m†	.30k†	5.0pΔ	1.0m	200S	∅	u22			
43	2N3385	150m	5.0	5.0	30	100m	50m	30m#	15n	0.0	0.0	10	7.5m	13m†	.18k†	5.0pΔ	1.0m	200S	∅	u22			
44	2N3387	150m	9.5	5.0	30	100m	50m	50m#	15n	0.0	0.0	10	7.5m	15m†	.15k†	7.0pΔ	1.0m	200S	∅	u22			
45	3N151†	162m	6.0Δ	10*	30	30Δ	25m	3.0m	2.0p	2.0p	10	10	500u	3.0n	120u	1.0p#	1.6m	150S	*	L53	DM		
46	MEM511C	175m	6.0Δ	*	25	25	50m	100u	1.0n	1.0n	10	10	1.0m	1.0m	1.0u%	10k	4.0p†	2.3m	100J	*	TO72	DM	
47	MEM520C	175m	6.0†	*	25	25	50m	100u	1.0n	3.0p	10	10	1.0m	1.0m	1.0u%	150 Δ	4.0pΔ	2.3m	100J	*	TO72	DM	
48	UC410	180m†	4.0	20	30Δ	30Δ	50m	6.0mΔ	10p	0.0	0.0	20	2.2m	2.2m	500	8.0p#	2.0m	200J	PE	TO72	DM		
49	2N4342	200m	5.5†	10Δ	25Δ	25Δ	50m	12mΔ	10n	0.0	0.0	10	2.0m	6.0m	75u	700 †	2.0p#	2.0m	125J	∅	R124	DB	
50	2N4343	200m	10†	10Δ	25Δ	25Δ	50m	30mΔ	10n	0.0	0.0	10	4.0m	8.0m	100u	350 †	2.0p#	2.0m	125J	∅	R124	DB	
51	2N4360	200m	10†	10Δ	20Δ	20Δ	50m	30mΔ	10n	0.0	0.0	10	2.0m	8.0m	100u	700 †	2.0p#	2.0m	125J	∅	R124	DB	
52	2N5033	200m	2.5†	10Δ	20	20	50m	3.5mΔ	10n	0.0	0.0	10	1.0m	5.0m	20u%	1.3k†	2.5p#	1.3m	200S	∅	R124	DB	
53	2N5265	200m	3.0†	15	60	60	20m	1.0m	2.0n	0.0	0.0	15	90m	2.7m	75u	7.0p#	1.3m	200S	∅	TO72	DH		
54	2N5266	200m	3.0†	15	60	60	20m	1.0m	2.0n	0.0	0.0	15	1.0m	3.0m	75u	7.0p#	1.3m	200S	∅	TO72			

6. SILICON FIELD EFFECT TRANSISTORS - P CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE DISS @25°C (W)	MAX. Vp		ABS MAX RATINGS @25°C		MAX. Id(ON) @25°C		MAX. Igss @25°C		PARAMETERS @25°C				DERATE			DESCRIPTION	L C O A D E		
			Id=0 (V)	Vds (V)	BVdss (V)	BVgss (V)	Id (A)	Ig (A)	Vgs=0 & Vds>Vp (A)	Vgs=0 & Vds=0 (A)	TEST COND		COMMON SOURCE		on (Ω)	MAX. Cis (F)	FREE AIR W/°C			MAX TEMP (°C)	
											Vgs (V)	Vds (V)	gfs (mhos)	Yos (mhos)							
1	JAN2N3329	300m	5.0	15	20	10m	3.0m	10n	10n	20	10	1.0m	2.0m	20u	1.0k	20p#	2.0m	200S	#	T072	DG
2	2N3330	300m	6.0	15	20	10m	6.0m	10n	10n	20	20	1.5m	3.0m	40u	80k	20p#	2.0m	200S	#	T072	DG
3	JAN2N3330	300m	6.0	15	20	10m	6.0m	10n	10n	20	10	1.5m	3.0m	40u	80k	20p#	2.0m	200S	#	T072	DG
4	2N3331	300m	8.0	15	20	10m	15m	10n	10n	20	50	2.0m	4.0m	100u	60k	20p#	2.0m	200S	#	T072	DG
5	JAN2N3331	300m	8.0	15	20	10m	15m	10n	10n	20	10	2.0m	4.0m	100u	60k	20p#	2.0m	200S	#	T072	DG
6	2N3332	300m	6.0	15	20	10m	6.0m	10n	10n	20	10	1.0m	2.2m	20u	80k	20p#	2.0m	200S	#	T072	DG
7	JAN2N3332	300m	6.0	15	20	10m	6.0m	10n	10n	20	10	1.0m	2.2m	20u	80k	20p#	2.0m	200S	#	T072	DG
8	2N3376	300m	5.0	5.0	30	100m	50m	6m#	3.0n	0.0	0.0	0.80m	2.3m†	100u	1.5k†	3.0pΔ	2.0m	200S	#	T072	DG
9	2N3378	300m	5.0	5.0	30	100m	50m	6m#	3.0n	0.0	0.0	1.5m	2.3m†	100u	1.5k†	3.0pΔ	2.0m	200S	#	T072	DG
10	2N3380	300m	9.5	5.0	30	100m	50m	20m#	3.0n	0.0	0.0	1.5m	3m†	100u	60k†	3.0pΔ	2.0m	200S	#	T072	DG
11	2N3382	300m	5.0	5.0	30	100m	50m	30m#	15n	0.0	0.0	4.5m	13m†	100u	60k†	6.0pΔ	2.0m	200S	#	T072	DG
12	2N3384	300m	5.0	5.0	30	100m	50m	30m#	15n	0.0	0.0	7.5m	13m†	100u	18k†	6.0pΔ	2.0m	200S	#	T072	DG
13	2N3386	300m	9.5	5.0	30	100m	50m	50m#	15n	0.0	0.0	7.5m	15m†	100u	15k†	6.0pΔ	2.0m	200S	#	T072	DG
14	2N3578	300m	4.0	5.0	20	50m	50m	4.5m	10n	5.0	5.0	1.2m	3.5m	15u	65p#	6.0pΔ	2.0m	200S	PL	T018	DA
15	2N3909	300m	8.0	10	20	20	10m	15m	10n	0.0	0.0	1.0m	5.0m	100u	32p#	6.0pΔ	2.0m	200S	#	T072	DH
16	2N3909A	300m	8.0	10	20	20	10m	15m	10n	0.0	0.0	2.2m	5.0m	100u	9p#	6.0pΔ	2.0m	200S	#	T072	DG
17	2N3993	300m			25	25	10m	10m	10n	0.0	0.0	6.0m	12m	100u	16p#	6.0pΔ	2.0m	200S	#	T072	DG
18	2N3993A	300m			25	25	10m	10m	10n	0.0	0.0	7.0m	12m	100u	12p#	6.0pΔ	2.0m	200S	#	T072	DG
19	2N3994	300m			25	25	10m	2.0m	10n	0.0	0.0	4.0m	12m	100u	16p#	6.0pΔ	2.0m	200S	#	T072	DG
20	2N3994A	300m			25	25	10m	2.0m	10n	0.0	0.0	5.0m	10m	100u	12p#	6.0pΔ	2.0m	200S	#	T072	DG
21	2N4088	300m	8.0	10	30	20	10m	15m	10n	0.0	0.0	1.0m	1.6m	60u	10p#	6.0pΔ	2.0m	200C	#	T072	DH
22	2N4089	300m	5.0	10	30	20	10m	8.0m	10n	0.0	0.0	8.0m	1.3m	40u	10p#	6.0pΔ	2.0m	200C	#	T072	DH
23	2N4090	300m	3.0	10	30	20	10m	2.5m	10n	0.0	0.0	5.0m	.90m	20u	10p#	6.0pΔ	2.0m	200C	#	T072	DH
24	2N4352†	300m	5.0	10	30	30	30m	10n	10p	0.0	0.0	1.0m	1.0m	20u	600	5.0p#	1.7m	200S	#	T072	DR
25	2N4381	300m	5.0	15	25	25	50m	12m	10n	0.0	0.0	2.0m	6.0m	75u	70k%	20p#	2.0m	175J	#	T018	DG
26	2N4382	300m	9.0	15	25	25	50m	30m	10n	0.0	0.0	4.0m	8.0m	100u	35k%	20p#	2.0m	175J	#	T018	DG
27	2N5020	300m	1.5	15	25	25	50m	1.2m	10n	0.0	0.0	1.0m	3.5m	20u	1.0k†	25p#	2.0m	175J	#	T018	DA
28	2N5021	300m	2.5	15	25	25	50m	3.5m	10n	0.0	0.0	1.5m	5.0m	20u	1.3k†	25p#	2.0m	175J	#	T018	DA
29	2N5471	300m	4.0	15	40	40	50m	0.6mΔ	.50n	0.0	0.0	15.06m	.18m†	1.0u*	5p#	5.0p#	2.0m	200S	#	T072	DG
30	2N5472	300m	4.0	15	40	40	50m	1.20uΔ	500p	0.0	0.0	15.90u	225u†	1.0u*	5p#	5.0p#	2.0m	200S	#	T072	DG
31	2N5473	300m	6.0	15	40	40	50m	.25mΔ	.50n	0.0	0.0	15.12m	.30m†	2.5u*	5p#	5.0p#	2.0m	200S	#	T072	DG
32	2N5474	300m	7.0	15	40	40	50m	.5mΔ	.50n	0.0	0.0	15.16m	.40m†	2.5u*	5p#	5.0p#	2.0m	200S	#	T072	DG
33	2N5475	300m	8.0	15	40	40	50m	1mΔ	.50n	0.0	0.0	15.20m	.50m†	5.0u*	5p#	5.0p#	2.0m	200S	#	T072	DG
34	2N5476	300m	9.0	15	40	40	50m	2mΔ	.50n	0.0	0.0	15.28m	.65m†	10u*	5p#	5.0p#	2.0m	200S	#	T072	DG
35	3N890	300m	4.0	5.0	30	30	50m	2.5m	5.0n	0.0	5.0	4.5m	1.3m	100u	.90p#	5.0p#	2.0m	200S	#	T072	DU
36	3N155†	300m	3.2	10*	35	50	30m	5.0m	10n	0.0	0.0	1.0m	1.0m	60u	.60k†	5.0p#	1.7m	175J	#	T072	DR
37	3N155A†	300m	3.2	10*	35	50	30m	5.0m	10n	0.0	0.0	1.0m	1.0m	60u	.60k†	5.0p#	1.7m	175J	#	T072	DR
38	3N156†	300m	5.0	10*	35	50	30m	5.0m	10n	0.0	0.0	1.0m	1.0m	60u	.60k†	5.0p#	1.7m	175J	#	T072	DR
39	3N156A†	300m	5.0	10*	35	50	30m	5.0m	10n	0.0	0.0	1.0m	1.0m	60u	.60k†	5.0p#	1.7m	175J	#	T072	DR
40	3N157	300m	3.2	15*	35	25	30m	.01n	10p	15	1.0	4.0	60u	5.0p#	5.0p#	1.7m	175J	#	T072	DR	
41	3N157A	300m	3.2	15*	35	25	30m	.01n	10p	15	1.0	4.0	60u	5.0p#	5.0p#	1.7m	175J	#	T072	DR	
42	3N158	300m	5.0	15*	35	25	30m	5.0m	10p	15	1.0	4.0	60u	5.0p#	5.0p#	1.7m	175J	#	T072	DR	
43	3N158A	300m	5.0	15*	35	25	30m	.01n	10p	15	1.0	4.0	60u	5.0p#	5.0p#	1.7m	175J	#	T072	DR	
44	3N165	300m	5.0	15*	40	40	50m	30m	10p	10	1.5	3.0m	300u	300p#	3.0p#	2.4m	200S	#	T072	L18c	
45	3N166†	300m	5.0	15*	40	40	50m	30m	10p	10	1.5	3.0m	300u	300p#	3.0p#	2.4m	200S	#	T072	L18c	
46	3N181†	300m	4.0	10*	30	30	100u	500p	10p	10	1.5m	3.0m	300u	40%	25p#	2.4m	200S	#	T072	DM	
47	3N182†	300m	5.0	10*	30	30	100u	2.5n	10p	10	1.5m	3.0m	300u	60%	25p#	2.4m	200S	#	T072	DM	
48	3N183†	300m	6.0	10*	25	25	100u	10n	10p	10	1.5m	3.0m	300u	75%	30p#	2.4m	200S	#	T072	DM	
49	3N184†	300m	3.0	10*	35	35	50m	1.0m	20m#	10	2.0	1.0m	1.6	150	9.0p#	2.4m	200S	#	T072	DM	
50	3N185†	300m	3.0	10*	35	30	50m	1.0m	15m#	10	2.0	1.0m	1.6	175	10p#	2.4m	200S	#	T072	DM	
51	3N186†	300m	3.5	10*	25	25	50m	1.0m	10m#	10	2.0	1.0m	1.6	200	11p#	2.4m	200S	#	T072	DM	
52	3N188	300m	5.0	15*	40	40	50m	1.0m	200p	10	1.5m	4.0m	300u	300%	4.5p#	2.4m	200S	#	T072	L58b	
53	3N189*	300m	5.0	15*	40	40	50m	1.0m	200p	10	1.5m	4.0m	300u	300%	4.5p#	2.4m	200S	#	T072	L58b	
54	3N190*	300m	5.0	15*	40	40	50m	1.0m	200p	10	1.5m	4.0m	300u	300%	4.5p#	2.4m	200S	#	T072	L58b	
55	3N191*	300m	5.0	15*	40	40	50m	1.0m	200p	10	1.5m	4.0m	300u	300%	4.5p#	2.4m	200S	#	T072	L58b	
56	FP4339	300m	1.8	15	40	40	50m	1.5m	3.0n	0.0	0.0	15.80m	2.4m	7.0p#	2.0m	175	#	T072	DG		
57	FP4340	300m	3.0	15	40	40	50m	3.6m	3.0n	0.0	0.0	15.13m	3.0m	7.0p#	2.0m	175	#	T072	DG		
58	FT3909	300m	8.0	10	20	20	10m	15m	10n	0.0	0.0	1.0m	5.0m	100u	32p#	6.0pΔ	2.0m	1			

6. SILICON FIELD EFFECT TRANSISTORS - P CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE DISS @25°C (W)	MAX. Vp & Vds (V)		ABS MAX RATINGS @25°C (V)		MAX. RATINGS @25°C (A)		MAX. Ig @ (0N) @ Vgs=0 & Vds>Vp (A)	MAX. Igss @ Vgs>Vp & Vds=0 (A)	TEST COND		PARAMETERS @25°C COMMON SOURCE			r(DS) on (Ω)	MAX. Cis (F)	DERATE IN FREE AIR W/°C	MAX TEMP (°C)	DESCRIPTION		L C O D E		
			Id=0 (V)	Vds (V)	BVdss (V)	BVgss (V)	Id (A)	Ig (A)			Vgs (V)	Vds (V)	gfs (mhos)		Yos (mhos)					STRUC- TURE	DWG. No.			
			MIN	MAX	MIN	MAX	MIN	MAX			MIN	MAX	MIN	MAX	MIN					MAX	MIN		MAX	
1	3N150†	400m	6.0Δ	20*			200m	10m	18m#	10n	0.0	10	1.0m	5.0m	.30uΔ	.25k†	3.0p#	2.6m	175J	*□	T072	DM		
2	2N2386	500m	8.0	12			20Δ	10m	15mΔ	10n	0.0	10	2.2m	2.0m	1.0uΔ		50p#	3.3m	200S	#	T05	DA		
3	2N2386A	500m	8.0	12			20Δ	10m	15mΔ	10n	0.0	10	2.2m	2.0m	1.0uΔ		50p#	3.3m	200S	#	T05	DA		
4	2N2497	500m	5.0	15			20Δ	10m	3.0m	10n	10	10	1.0m	2.0m	20u%	1.0k	32p#	3.3m	300S		R82	DA		
5	JAN2N2497	500m	5.0†	15		20	20Δ	10m	3.0m	10n	10	10	1.0m	2.0m	20u%	1.0k	32p#	3.3m	200S	□#	T05	DA		
6	2N2498	500m	6.0	15			20Δ	10m	6.0m	10n	20	10	1.5m	3.0m	40u%	80k	32p#	3.3m	300S		R82	DA		
7	JAN2N2498	500m	6.0†	15		20	20Δ	10m	6.0m	10n	10	10	1.5m	3.0m	40u%	80k	32p#	3.3m	200S	□#	T05	DA		
8	2N2499	500m	8.0	15			20Δ	10m	15m	10n	50	10	2.0m	4.0m	100u%	60k	32p#	3.3m	300S		R82	DA		
9	JAN2N2499	500m	8.0†	15		20	20Δ	10m	15m	10n	10	10	2.0m	4.0m	100u%	60k	32p#	3.3m	200S	□#	T05	DA		
10	2N2500	500m	6.0	15			20Δ	10m	6.0m	10n	10	10	1.0m	2.2m	20u%	800	32p#	3.3m	300S		R82	DA		
11	JAN2N2500	500m	6.0†	15		20	20Δ	10m	6.0m	10n	10	10	1.0m	2.2m	20u%	800	32p#	3.3m	200S	□#	T05	DA		
12	2N5114†	500m	10†	15			30		90m	50n						.08k%	25p#	3.0m	200S	□#	T018	DA		
13	2N5115†	500m	6.0†	15			30		60m	50n						.10k%	25p#	3.0m	200S	□#	T018	DA		
14	2N5116†	500m	4.0†	15			30		25m	50n						.15k%	25p#	3.0m	200S	□#	T018	DA		
15	M106	500m	6.0Δ	*			30	50m	100u	10m	100p	10	10	2.0n		120 †	500†	6.7m	125J	*§	L51b			
16	M107	500m	6.0Δ	*			30	50m	100u	10m	100p	10	10	2.0n		120 †	500†	6.7m	125J	*§	L70			
17	M108	500m	8.0Δ	*			30	50m	100u	10m	1.0p	10	10	2.0n		120 †	500†	6.7m	125J	*§	L70a			
18	2N4066†	600m	6.0Δ	15*			25	200m	50m			15	15	1.5m		300u%	50k	7.0p#	4.0m	175J	□	L18a		
19	2N4067†	600m	6.0Δ	15*			25	200m	50m			15	15	2.5m		300u%	25k	7.0p#	4.0m	175J	□	L18a		
20	3N147†	600m	6.0Δ	20*			200m	10m	8.0m#								50k†	2.0p#	4.0m	175J	*□	L18a		
21	3N148†	600m	6.0Δ	20*			200m	10m	8.0m#								50k†	2.0p#	4.0m	175J	*□	L18a		
22#	F10049*	600m	6.0Δ			30	25	200m	50m#			15	20	2.0m			125k	5p*#	4.0m	175J	DPL*□	L18a		
23	MEM400†	600m	4.0Δ	10*		30	30	100m	100u	500p							40	25p#	4.0m	200S	*Δ	T033	DM	
24	MEM401†	600m	5.0Δ	10*		30	30	100m	100u	2.5n							60	25p#	4.0m	200S	*Δ	T033	DM	
25	MEM402†	600m	6.0Δ	10*		25	25	100m	100u	10n							75	30p#	4.0m	200S	*Δ	T033	DM	
26	MEM517	600m	5.0Δ	*		30	25	250m	1.0m	60m*	1.0n	10	10	12mΔ			1.0k	10p†*	170u	125J	*	T033	DM	
27	MEM517A	600m	5.0Δ	*		30	25	250m	1.0m	60m*	1.0n	10	10	12mΔ			1.0k	10p†*	170u	125J	*	T05	DC	
28▼	MFE3020†	600m	6.0Δ	15*		25	25	200m	10n	10p	15	15	500u				500 %	7.0p#	4.0m	175J	□*	L18a		
29▼	MFE3021†	600m	6.0Δ	15*		25	25	200m	10n	10p	15	15	500u				250 %	7.0p#	4.0m	175J	□*	L18a		
30	UC807	600m	12	15			20		125m#	2.0n	0.0	15	15	2.5m	25m		400 †	30p*			PE	□*	T072	
31	2N5018†	1.8 Δ	10†	15Δ		30	30	10m	10m#	2.0n							.07k†	45p#	10m	200S		T018	DA	
32	2N5019†	1.8 Δ	5.0†	15Δ		30	30	10m	5.0m#	2.0n							.15k†	45p#	10m	200S		T018	DA	
33	3N162†	2.0 Δ	5.0Δ	10*		30	25Δ	250m	25m								100	20p#	20m	150S	*	T033	DM	
34	MEM515	2.0	3.0Δ	10*		30	35	700m	1.0m	10n	500p	10	10	12m			15	50p#		175S	*Δ	T033	DM	
35	MEM517C	45	5.0†	*		25	25	250m	100u	50n	1.0n	10	10	12mΔ			45	15pΔ	600m	100J	*	L75	DM	

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE DISS @ 25°C (W)	MAX. Vp		ABS MAX RATINGS @ 25°C				MAX. Id(ON) @ Vgs > 0 & Vds > Vp		MAX. Igss @ Vgs > Vp & Vds = 0		PARAMETERS @ 25°C				DERATE IN FREE AIR W/°C		DESCRIPTION	L C E O A D E			
			Id=0 (V)	Vds (V)	BVdss (V)	BVgss (V)	Id (A)	Ig (A)	Id(ON) (A)	Igss (A)	TEST COND		COMMON SOURCE		r(DS) on (Ω)	MAX. Cis (F)	MAX TEMP (°C)	STRUCTURE			DWG. No.		
											Vgs (V)	Vds (V)	MIN (gfs)	MAX (gfs)								Yos (mhos)	
1	C6890		10	10Δ	30Δ	45Δ	10m	10m	1.0nΔ							50k	5.0pΔ	200J	E#	T018	DD		
2	C6891		10	10Δ	25Δ	25Δ	10m	10m	1.0nΔ							50k	5.0pΔ	200J	E#	T018	DD		
3	C6892		6.0	10Δ	25Δ	25Δ	10m	10m	1.0nΔ							90k	5.0pΔ	200J	E#	T018	DD		
4	HSC3921▼		2.7	10	30	45	10m	10m	1.0nΔ				1.5m	35u			18p#	125J	E#	L21e	DD		
5	HSC3954▼		4.5	10	30	45	10m	10m	1.0nΔ				1.0m	35u			4.0p#	125J	E#	L21e	DD		
6	NF550*		4.5†	20	20	20							2.0m	7.0m			5.0p#*	125A	E#	L74	DD		
7	UC755		6.0	20	30	30							2.0m	7.0m			6.0p#	125A	E#	T018	DD		
8	UC756		1.0	20	30	30							2.0m	7.0m			6.0p#	125A	E#	T018	DD		
9	2N3687	25m†	1.1	20	30	30	50m	50m	1.0n				5.0m	1.5m	5.0u%		4.0p#	200S	PLØ	T072	DH		
10	2N3687A	25m†	1.2	20	50	500u	50m	500u	100p	0.0	0.0	0.0	500u	1.5m	500n		4.0p#	200S	Ø	T072	DH		
11	2N3686	60m†	1.8	20	50	1.2m	50m	1.2m	1.0n	0.0	0.0	0.0	1.0m	2.0m	10u%		4.0p#	200S	Ø	T072	DH		
12	2N3686A	60m†	2.0†	20	50	1.2m	50m	1.2m	100p	0.0	0.0	0.0	1.0m	2.0m	1.0u		4.0p#	200S	Ø	T072	DH		
13#	3SK29	80m	5.0†	10Δ	20†	30	10m	1.0m*	10p	0.0	0.0	0.0	3.0m		10u		4p#*	100	Ø	T072	DH		
14#	C91	87m	15	10	25Δ	25Δ	10n	50m	7.0m	1.0n	0.0	0.0	10	7.0m	3.5m		3.0p†	200A	Ø	T018	DD		
15#	2SK11	100m	6.0	10	20Δ	20Δ	10n	10m	6.5m	1.0n	0.0	0.0	10	7.0m	3.5m		3.5p†	150J	PEΔ	T017	DG		
16#	2SK12	100m	4.5	10	20	20	10m	5.0m	1.0n	0.0	0.0	0.0	8.0m	3.2m			3.5p†	150J	PEΔ	T017	DG		
17#	2SK13	100m	4.5	10	20	20	10m	5.0m	1.0n	0.0	0.0	0.0	8.0m	3.2m			3.5p†	150J	PEΔ	T017	DG		
18#	2SK16H	100m			1.5	20	10m	10m	7.0m	1.0n	6.0	6.0	1.0m	6.0m			9.0p	150J	Δ	T017	DG		
19#	2SK37	100m	4.0	5.0	15Δ	20Δ	20m	10m	6.0m	1.0n	5.0	5.0	1.5m		100u		4.0	1.0m	125J	PE	u23a	DB	
20	3SK14	100m	5.0	10	20	20	10m	10m	1.0n	0.0	0.0	0.0	10		10u		5.0p	150J	*	T072	DD		
21#	3SK20H	100m			20	20	10m	5.0m					6.0m	4.5m			4.0p	150J	*	T018	DD		
22#	3SK21H	100m			20	20	10m	5.0m	1.0n	5.0	5.0	5.0	2.5m				5.0p	150J	*	T018	DD		
23#	NKT80111	100m	6.0	10	20	20	10m	6.0m	1.0n	0.0	0.0	0.0	10	7.0m	3.5m		3.5p	80m	150	*	T017	DG	
24#	NKT80112	100m	4.5	10	20	20	10m	5.0m	1.0n	0.0	0.0	0.0	10	8.0m	3.2m		4.5k	3.5p	80m	150	*	T017	DG
25#	NKT80113	100m	4.5	10	20	20	10m	5.0m	1.0n	0.0	0.0	0.0	10	8.0m	3.2m		4.5k	3.5p	80m	150	*	T017	DG
26	SD5050*	112m	5.5†	*	25	25	25m	100u	1.0n	1.0n	10	10	500u				1.5p†	1.1m	125J	*	L53	DD	
27	SD5051*	112m	5.5†	*	25	25	25m	100u	1.0n	1.0n	10	10	500u				1.5p†	1.1m	125J	*	L54	DD	
28	2N4038	120m		*	25	50	20m	100u					6.0	1.5m	2.5m		20k	2.5p†	150m	175S	*	T072	DR
29	2N4039	120m		*	25	50	20m	100u					6.0	1.2m	2.5m		20k	2.5p†	150m	175S	*	T072	DR
30	2N3685	150m†	3.2	20	20	20	3.0m	3.0m	1.0n	0.0	0.0	0.0	1.5m	2.5m	25u%		4.0p#	2.0m	200S	Ø	T072	DH	
31	2N3685A	150m†	3.5†	20	20	20	3.0m	3.0m	100p	0.0	0.0	0.0	1.5m	2.5m	2.5u		4.0p#	2.0m	200S	Ø	T072	DH	
32#	2SK33	150m	8.0	10Δ	20Δ	20Δ	10m	20mΔ	100n	0.0	0.0	0.0	4.5				4.0p#*	1.5m	125J	Ø#	T092	DA	
33#	2SK34	150m	6.0	10Δ	30Δ	30Δ	10m	12mΔ	10n	0.0	0.0	0.0	1.0	3.0	Δ	10u		8.0p#*	1.5m	125J	Ø#	T092	DA
34	3N138	150m			35	10	50m										300	5.0p#	150S	*	T072	DW	
35	3N139	150m	6.0†	15Δ	35	10	50m										100	7.0p#	150S	*	T072	DW	
36#	528BSY	150m		*	35	10	50m										100	7.0p#	2.0m	125S	Δ*	T072	DW\$
37#	BFS67P	150m	6.0	15	50	50	50m	10m	10m	100p	0.0	0.0	15	1.5m	6.5m	20u		6.0p	150	PE	u17c	EE	
38#	BFS68P	150m	8.0	15	30	30	50m	10m	25m	500p	0.0	0.0	15	3.5m	6.5m	35u		6.0p	150	PE	u17c	EE	
39#	BSV38P†	150mΔ	10†	15	25	25	150m	10m	50m#	250p							250	18p#	1.2m	150S	PE	u17c	EE
40#	BSV39P	150mΔ	6.0†	15	25	25	150m	10m	100m#	500p							70	18p#	1.2m	150S	PE	u17c	EE
41#	BSV81	150m		Δ	25	25	150m	10m	100m#	500p							100	18p#	2.0m	125S	Δ*	T072	DW\$
42	MEM554	150m	4.0†	20Δ	20	20	10	30mΔ	10n	4.0	15	15	8.0m	12mΔ			7.0p#	3.0m	125J	Ø*	T072	DX	
43	MEM554C	150m	4.0†	20Δ	20	20	10	30mΔ	10n	4.0	15	15	6.0m	10n			7.0p#	6.0m	125J	Ø*	T072	DX	
44	MEM557	150m	4.0†	15Δ	20	10	10	30mΔ	10n	10	10	15	8.0m	10mΔ			5.0p#	3.0m	150J	Ø*	T072	DW	
45	MEM571C	150m	4.0†	15Δ	20	15	15	30m	10n	10	10	15	8.0m	10mΔ			5.0p#	3.0m	150J	Ø*	T072	DX	
46#	MK10	150m	2.5%	10Δ	30Δ	30Δ	10m	20mΔ	100n	0.0	0.0	0.0	10	4.0	Δ	50u		4.0p#*	1.5m	125J	Ø#	T092	DA
47#	PL1091	150m			50	50	10m	10m	10n	0.0	0.0	0.0	15	1.5m	4.5m			6.0p#	1.5m	175S	PE	u50	EE
48#	PL1092	150m			50	50	10m	10m	10n	0.0	0.0	0.0	15	3.0m	6.5m			6.0p#	1.5m	175S	PE	u50	EE
49#	PL1093	150m			50	50	10m	10m	10n	0.0	0.0	0.0	15	3.5m	6.5m			6.0p#	1.5m	175S	PE	u50	EE
50#	PL1094	150m			50	50	10m	10m	10n	0.0	0.0	0.0	15	3.5m	6.5m			6.0p#	1.5m	175S	PE	u50	EE
51	SFT601	150m	5.0	20	40	50	10m	25m								250kt		6.0p#	1.0m	175S	PL*	T072	DN
52	SFT602	150m	10	20	40	50	10m	1.5m										1.0m	175S	PL*	T072	DN	
53	SFT603	150m	20	20	40	50	10m	5.0m										1.0m	175S	PL*	T072	DN	
54#	SFT604	150m			30	50	10m	10m	10nΔ	10	10	10	3.0m	4.0mΔ			200k	1.0m	175S	*	T072	DN	
55#	3SK32	170m	2.5†	10	20	10	15m	5.0mΔ	10n	5.0	10	10	5.0m	10m%			5.0p#	1.7m	150S	*	T072	EA	
56	2N4417	175m	6.0†	15Δ	30	30	10m	15m	10n	0.0	0.0	0.0	15	4.5m	725m	50u		3.5p#	1.0m	200S	*	u23	DB
57	MEM562C	175m	4.0	10*	20	10	10m	5.0m#	100p								5.0p#	1.0m	100A	*	T072	DR	
58	UC155W	175m	10	20	30Δ	30	30m	30m	10n								13k	3.5p	1.0m	200	PE	u23	DB
59	2N3796	200m	4.0†	10	25	10	20m	3.0m	1.0p	0.0	0.0	0.0	10	.90m	1.8m	25u%		7.0p#	1.1m	200S	PE	u23	DB
60	2N3797	200m	7.0†	10	20	10	20m	6.0m	1.0p	0.0	0.0	0.0	10										

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE @25°C (W)	MAX. Vp		ABS MAX RATINGS@25°C		MAX. Id(ON)@ Vgs>0& Vds>Vp		MAX. Igss@ Vgs>Vp & Vds=0		PARAMETERS @25°C				DERATE		DESCRIPTION		L C O A D E		
			Id=0	& Vds	BVdss	BVgss	Id	Ig	Igss	Igss	TEST COND	COMMON SOURCE		r(DS) on	MAX. Cis	IN FREE AIR W/C	MAX TEMP (°C)	STRUC- TURE		DWG. No.	
			(V)	(V)	(V)	(V)	(A)	(A)	(A)	(A)	(V)	(V)	gfs (mhos)	Yos	(Ω)	(F)					
														MIN	MAX	mhos					
1#	SI232N	200m	1.0	5.0	15Δ			300u	500p	0.0	10	280u	800u			6.0p		200J	PL	TO72	DH
2#	SI233N	200m	1.4	5.0	15Δ			600u	500p	0.0	10	400u	1.0m			6.0p		200J	PL	TO72	DH
3#	SI234N	200m	2.0	5.0	15Δ			1.5m	500p	0.0	10	650u	1.5m			6.0p		200J	PL	TO72	DH
4#	SI235N	200m	3.5	5.0	15Δ			3.0m	500p	0.0	10	900u	2.0m			6.0p		200J	PL	TO72	DH
5#	SI236N	200m	5.0	5.0	15Δ			6.0m	500p	0.0	10	1.3m	3.0m			6.0p		200J	PL	TO72	DH
6	U183	200m	8.0	15	25			20mΔ	2.0n	0.0	15	2.0m	6.5m	50u%		8.0p#	2.0m	200J	#	TO72	DH
7	3N175†	225m	2.0Δ	10*	30	35	50m	5.0n	200p						200%	5.0p#	1.8m	200S	*†	TO72	DR
8	3N176†	225m	2.5Δ	10*	25	30	50m	10n	200p						300%	5.0p#	1.8m	200S	*†	TO72	DR
9	3N177†	225m	3.5Δ	10*	20	20	50m	25n	200p						500%	5.0p#	1.8m	200S	*†	TO72	DR
10	M116	225m	5.0Δ	*	30	30	50m	100u	100p						100†	7.0p#	2.2m	125J	*	TO72	DM
11	M117	225m	5.0Δ	*	30	30	50m	100u	1.0p						100†	7.0p#	2.2m	125J	*	TO72	DM
12	MEM200†	225m	1.6Δ	10*	35	35	50m								200	5.0p#	1.5m	200S	*	TO22	DR
13	MEM201†	225m	2.5Δ	10*	30	30	50m								300	5.0p#	1.5m	200S	*	TO22	DR
14	MEM202†	225m	3.5Δ	10*	20	20	50m								500	7.0p#	1.5m	200S	*	TO22	DR
15	MEM557C	225m	4.0†	15Δ	20	5.0		30m	100p	10∅	15	6.0m	8.0mΔ		200†	5.0p#	2.2m	125J	∅*	TO72	DW
16	MEM562†	225m	4.0Δ	4.0*	20	10		10n	10p	2.0∅	10	6.0m			150†	4.0p#	2.2m	125J	∅*	TO72	DR
17	MEM563	225m	4.0Δ	4.0*	20	10		10n	10p	2.0∅	10	2.0m			50†	5.0p#	2.2m	125J	∅*	TO72	DR
18	MEM564C	225m	4.0†	20Δ	20	15		30m	10n	4.0	15	8.0m	12mΔ		50†	8.0p#	2.2m	125J	∅*	TO72	DX
19	MMT3823	225m	8.0†	15Δ	30	30		10m	20m%	1.0n	0.0	15	3.0m%	8.0m†	25u*	4.0p#*	2.0m	135J	∅*	L21	DD
20	2N3921†	250m	3.0†	10	50	50	50	10m	250p	1.0n	0.0	10	1.5	7.5	35u	18p	1.7m	200S	∅	L21	
21	2N3922†	250m	3.0†	10	50	50	50	10m	250p	1.0n	0.0	10	1.5	7.5	35u	18p	1.7m	200S	∅	L21	
22	2N3934†	250m	3.0†	10	50	50	1.3m	100p		4.0p	0.0	10	300u	900u	10u	7.0p	1.7m	200S	∅	L21	
23	2N3935†	250m	3.0†	10	50	50	1.3m	100p		4.0p	0.0	10	300u	900u	10u	7.0p	1.7m	200S	∅	L21	
24	2N3954*	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L21	
25	2N3954A†	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
26	2N3955*	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
27	2N3955A†	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
28	2N3956*	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
29	2N3957*	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
30	2N3958*	250mΔ	4.5†	20Δ	50	50	50m	5.0m		1.0n	0.0	20	1.0m	3.0m	35u	4.0p#	2.9m	200S	∅	L61a	
31	2N5045†	250m	4.5†	15	50	50	30m	8.0m	25n	0.0	15	1.5m	6.0m	25u	8.0p#	1.7m	200S	∅	L21		
32	2N5046†	250m	4.5†	15	50	50	30m	8.0m	25n	0.0	15	1.5m	6.0m	25u	8.0p#	1.7m	200S	∅	L21		
33	2N5047†	250m	4.5†	15	50	50	30m	8.0m	25n	0.0	15	1.5m	6.0m	25u	8.0p#	1.7m	200S	∅	L21		
34†	2N5196†	250m	4.0†	20Δ	50	50	50m	7.0m	25p	0.0	20	1.0m	4.0m	50u%	6.0p#	2.0m	200S	∅	L61		
35†	2N5197†	250m	4.0†	20Δ	50	50	50m	7.0m	25p	0.0	20	1.0m	4.0m	50u%	6.0p#	2.0m	200S	∅	L61		
36†	2N5198†	250m	4.0†	20Δ	50	50	50m	7.0m	25p	0.0	20	1.0m	4.0m	50u%	6.0p#	2.0m	200S	∅	L61		
37†	2N5199†	250m	4.0†	20Δ	50	50	50m	7.0m	25p	0.0	20	1.0m	4.0m	50u%	6.0p#	2.0m	200S	∅	L61		
38	2N5452	250m†	4.5†	20Δ	50Δ	50Δ	50m	5.0mΔ	100p	0.0	20	1.0m	4.0m	3.0u	4.0p#	2.8m	200J	∅	L58		
39	2N5453	250m†	4.5†	20Δ	50Δ	50Δ	50m	5.0mΔ	100p	0.0	20	1.0m	4.0m	3.0u	4.0p#	2.8m	200J	∅	L58		
40	2N5454	250m†	4.5†	20Δ	50Δ	50Δ	50m	5.0mΔ	100p	0.0	20	1.0m	4.0m	3.0u	4.0p#	2.8m	200J	∅	L58		
41†	2N5515†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
42†	2N5516†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
43†	2N5517†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
44†	2N5518†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
45†	2N5519†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
46†	2N5520†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
47†	2N5521†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
48†	2N5522†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
49†	2N5523†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
50†	2N5524†	250m	4.0†	20Δ	40	40	50m	7.5m	250p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
51	2N5545†	250m	4.5†	15	50	50	50p	8.0m	100p	0.0	20	1.0m	4.0m	10u%	2.5p#	2.0m	150S	∅	L61		
52	JAN2N5545†	250m	4.5†	15	50	50	30m	8.0m	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.7m	200S	∅	L61a		
53	2N5546†	250m	4.5†	15	50	50	50p	8.0m	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.7m	200S	∅	L61a		
54	JAN2N5546†	250m	4.5†	15	50	50	30m	8.0m	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.7m	200S	∅	L61a		
55	2N5547†	250m	4.5†	15	50	50	50p	8.0m	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.7m	200S	∅	L61a		
56	JAN2N5547†	250m	4.5†	15	50	50	50p	8.0m	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.7m	200S	∅	L61a		
57	2N5561†	250m	3.0†	10Δ	50	50	10m	10m%	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.6m	200S	∅	L21		
58	2N5562†	250m	3.0†	10Δ	50	50	10m	10m%	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.6m	200S	∅	L61a		
59	2N5563†	250m	3.0†	10Δ	50	50	10m	10m%	100p	0.0	15	1.5m	6.0m	25u%	6.0p#	1.6m	200S	∅	L61a		

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE DISS @25°C (W)	MAX. Vp & Vds (V)		ABS MAX RATINGS @25°C (V)		MAX. Id (A)	MAX. Ig (A)	MAX. Id(ON) @ Vgs=0 & Vds>Vp (A)	MAX. Igss @ Vgs>Vp & Vds=0 (A)	TEST COND				PARAMETERS @25°C COMMON SOURCE				DERATE		DESCRIPTION		L C E A O D E
			Id=0 (V)	Vds (V)	Vds (V)	Vgs (V)					Vgs (V)	Vds (V)	Vgs (V)	Vds (V)	r(on) (Ω)	MAX. Cis (F)	FREE AIR W/C (°C)	MAX TEMP (°C)	STRUC-TURE	DWG. No.			
																					MIN	MAX	
1	2N3823	300m	8.0	15Δ	30	30Δ	10m	10m	20m	50p	0.0	15	3.5m	6.5m	200u	6.0p#	2.0m	200S	TO72	DH	DB		
2	JAN2N3823	300m	8.0	15	30	30	10m	10m	20m	50p	0.0	15	3.5m	6.5	35u*	6.0p#	2.0m	200S	TO72	DH	DB		
3	2N3824	300m	8.0	15	30	30	10m	10m	20m	100p	0.0	15	3.5m	6.5	35u*	6.0p#	2.0m	200S	TO72	DH	DB		
4	2N3966†	300m	5.0†	20Δ	30	30Δ	10m	10m	2.0m	100p	0.0	20	1.6m	2.4m	35u%	5.0p#	1.7m	200S	TO72	DH	DB		
5	2N3967	300m	5.0†	20Δ	30	30	10m	10m	1.0m	10n	0.0	20	1.6m	2.4m	35u%	5.0p#	1.7m	200S	TO72	DH	DB		
6	2N3967A	300m	5.0†	20Δ	30	30	10m	10m	1.0m	10n	0.0	20	1.6m	2.4m	35u%	5.0p#	1.7m	200S	TO72	DH	DB		
7	2N3969	300m	3.0†	20Δ	30	30	10m	10m	5.0m	10n	0.0	20	1.4m	2.0m	15u%	5.0p#	1.7m	200S	TO72	DH	DB		
8	2N3968A	300m	3.0†	20Δ	30	30	10m	10m	5.0m	10n	0.0	20	1.4m	2.0m	15u%	5.0p#	1.7m	200S	TO72	DH	DB		
9	2N3969	300m	1.7†	20Δ	30	30	10m	10m	2.0m	10n	0.0	20	95m	1.4m	5.0u%	5.0p#	1.7m	200S	TO72	DH	DB		
10	2N3969A	300m	1.7†	20Δ	30	30	10m	10m	2.0m	10n	0.0	20	95m	1.4m	5.0u%	5.0p#	1.7m	200S	TO72	DH	DB		
11	2N4117	300m	1.8	10Δ	40	40	50m	50m	0.9mΔ	0.1n	0.0	10	70m%	210m	3.0u	3.0p#	2.0m	175S	TO72	DH	DB		
12	2N4117A	300m	1.8†	10Δ	40	40	50m	50m	0.9mΔ	0.1n	0.0	10	70m%	210m	3.0u%	3.0p#	2.0m	175S	TO72	DH	DB		
13	2N4118	300m	3.0	10Δ	40	40	50m	50m	2.4mΔ	0.1n	0.0	10	80m%	250m	5.0u	3.0p#	2.0m	175S	TO72	DH	DB		
14	2N4118A	300m	3.0†	10Δ	40	40	50m	50m	2.40u	0.1n	0.0	10	80m%	250u	5.0u%	3.0p#	2.0m	175S	TO72	DH	DB		
15	2N4119	300m	6.0	10Δ	40	40	50m	50m	6.0mΔ	0.1n	0.0	10	100m%	330m	10u	3.0p#	2.0m	175S	TO72	DH	DB		
16	2N4119A	300m	6.0†	10Δ	40	40	50m	50m	6.00n	0.1p	0.0	10	100u	330u	10u%	3.0p#	2.0m	175S	TO72	DH	DB		
17	2N4139	300m	8.0†	20Δ	50	50	15m	10m	1.1m	10n	0.0	20	3.5m	7.0m	35u	6.0p#	2.0m	200S	TO18	DB	DB		
18	2N4220	300m	4.0†	15Δ	30	30	15m	10m	3.0m	100p	0.0	15	1.0m	4.0m	10u	6.0p#	2.0m	200S	TO72	DJ	DB		
19	2N4220A	300m	4.0†	15Δ	30	30	15m	10m	3.0m	100p	0.0	15	1.0m	4.0m	10u	6.0p#	2.0m	200S	TO72	DJ	DB		
20	2N4221	300m	6.0†	15Δ	30	30	15m	10m	6.0m	100p	0.0	15	2.0m	5.0m	20u	6.0p#	2.0m	200S	TO72	DJ	DB		
21	2N4221A	300m	6.0†	15Δ	30	30	15m	10m	6.0m	100p	0.0	15	2.0m	5.0m	20u	6.0p#	2.0m	200S	TO72	DJ	DB		
22	2N4222	300m	8.0†	15Δ	30	30	15m	10m	15m	100p	0.0	15	2.5m	6.0m	40u	6.0p#	2.0m	200S	TO72	DJ	DB		
23	2N4222A	300m	8.0†	15Δ	30	30	15m	10m	15m	100p	0.0	15	2.5m	6.0m	40u	6.0p#	2.0m	200S	TO72	DJ	DB		
24	2N4223	300m	8.0†	15Δ	30	30	20m	10m	18m%	25n	0.0	15	3.0m†	7.0m†	40u	6.0p#	2.0m	175J	TO72	DJ	DB		
25	2N4224	300m	8.0†	15Δ	30	30	20m	10m	20m%	5.0n	0.0	15	2.0m†	7.5m†	50u	6.0p#	2.5m	125J	R97b	DB	DB		
26	2N4302	300m	4.0	20	30Δ	30Δ	10m	10m	5.0m	1.0n	0.0	20	1.0m	1.0m	50u%	6.0p#	2.5m	125J	R97b	DB	DB		
27	2N4303	300m	6.0	20	30Δ	30Δ	10m	10m	1.0m	1.0n	0.0	20	2.0m†	2.0m	50u%	6.0p#	2.5m	125J	R97b	DB	DB		
28	2N4304	300m	10	20	30Δ	30Δ	10m	10m	15m	1.0n	0.0	20	1.0m	1.0m	50u%	6.0p#	2.5m	125J	R97b	DB	DB		
29	2N4338	300m	1.0†	15Δ	50Δ	50	50m	50m	6.0m	1.0n	0.0	15	60m	1.8m	50u	2.5k†	7.0p#	10m	200S	TO18	DB	DB	
30	2N4339	300m	1.8†	15Δ	50Δ	50	50m	50m	1.5m	1.0n	0.0	15	80m	2.4m	15u	1.7k†	7.0p#	2.0m	200S	TO18	DB	DB	
31	2N4340	300m	3.0†	15Δ	50Δ	50	50m	50m	3.6m	1.0n	0.0	15	1.3m	3.0m	30u	1.5k†	7.0p#	2.0m	200S	TO18	DB	DB	
32	2N4341	300m	6.0†	15Δ	50Δ	50	50m	50m	9.0m	1.0n	0.0	15	2.0m	4.0m	60u	80k†	7.0p#	2.0m	200S	TO18	DB	DB	
33	2N4351†	300m	5.0Δ	10*	30	30	30m	10m	1.0n	10p	0.0	15	4.5m%	7.5m%	50u	5.0p#	1.7m	200S	TO72	DH	DB		
34	2N4416	300m	6.0†	15Δ	30	30	10m	10m	15m	100p	0.0	15	4.5m	7.5m	50u	4.0p#	1.7m	200S	TO72	DH	DB		
35	2N4416A	300m	6.0†	15Δ	35	35	10m	10m	15m	100p	0.0	15	4.5m	7.5m	50u	4.0p#	1.7m	200S	TO72	DH	DB		
36	JAN2N4416A	300m	6.0†	15	35	35	10m	10m	15m%	100p	0.0	15	4.5m	7.5m†	50u%	4.0p#	1.7m	200S	TO72	DH	DB		
37	2N4867	300m	2.0†	20Δ	40	40	50m	50m	1.2m	25n	0.0	20	7.0m	2.0m	1.5u	25p#	1.7m	175S	TO72	DH	DB		
38	2N4867A	300m	2.0†	20Δ	40	40	50m	50m	1.2m	25n	0.0	20	7.0m	2.0m	1.5u	25p#	1.7m	175S	TO72	DH	DB		
39	2N4868	300m	3.0†	20Δ	40	40	50m	50m	3.0m	25n	0.0	20	1.0m	3.0m	4.0u	25p#	1.7m	175S	TO72	DH	DB		
40	2N4868A	300m	3.0†	20Δ	40	40	50m	50m	3.0m	25n	0.0	20	1.0m	3.0m	4.0u	25p#	1.7m	175S	TO72	DH	DB		
41	2N4869	300m	5.0†	20Δ	40	40	50m	50m	7.5m	25n	0.0	20	1.3m	4.0m	10u	25p#	1.7m	175S	TO72	DH	DB		
42	2N4869A	300m	5.0†	20Δ	40	40	50m	50m	7.5m	25n	0.0	20	1.3m	4.0m	10u	25p#	1.7m	175S	TO72	DH	DB		
43	2N5078	300m	8.0†	15Δ	30	30Δ	30m	10m	25m	25n	0.0	15	4.5m	10m	150u	6.0p#	1.7m	200S	TO72	DH	DB		
44	2N5103	300m	4.0†	15Δ	25Δ	25	30m	10m	8.0m	100p	0.0	15	2.0m	8.0m	100u	1.0p#	1.7m	200S	TO72	DH	DB		
45	2N5104	300m	4.0†	15Δ	25Δ	25	30m	10m	6.0m	100p	0.0	15	3.5m	7.5m	100u	1.0p#	1.7m	200S	TO72	DH	DB		
46	2N5105	300m	4.0†	15Δ	25Δ	25	30m	10m	15m	100p	0.0	15	5.0m	10m	100u	1.0p#	1.7m	200S	TO72	DH	DB		
47	2N5358	300m	3.0†	15	40	40	10m	10m	1.0m	10n	0.0	15	1.0m	3.0m	10u	6.0p#	2.0m	175J	TO72	DJ	DB		
48	2N5359	300m	4.0†	15	40	40	10m	10m	1.6m	10n	0.0	15	1.2m	3.6m	10u	6.0p#	2.0m	175J	TO72	DJ	DB		
49	2N5360	300m	4.0†	15	40	40	10m	10m	3.0m	10n	0.0	15	1.4m	4.2m	20u	6.0p#	2.0m	175J	TO72	DJ	DB		
50	2N5361	300m	6.0†	15	40	40	10m	10m	5.0m	10n	0.0	15	1.5m	4.5m	20u	6.0p#	2.0m	175J	TO72	DJ	DB		
51	2N5362	300m	7.0†	15	40	40	10m	10m	8.0m	10n	0.0	15	2.0m	5.5m	40u	6.0p#	2.0m	175J	TO72	DJ	DB		
52	2N5363	300m	8.0†	15	40	40	10m	10m	14m	10n	0.0	15	2.5m	6.0m	40u	6.0p#	2.0m	175J	TO72	DJ	DB		
53	2N5364	300m	8.0†	15	40	40	10m	10m	18m	10n	0.0	15	2.7m	6.5m	60u	6.0p#	2.0m	175J	TO72	DJ	DB		
54	2N5391	300m	2.0†	20	70	70	10m	10m	1.5m	20n	0.0	20	1.5m	4.5m	4.0u	18p#	1.7m	200S	TO18	DB	DB		
55	2N5392	300m	2.5†	20	70	70	10m	10m	3.0m	20n	0.0	20	2.0m	6.0m	7.0u	18p#	1.7m	200S	TO18	DB	DB		
56	2N5393	300m	3.0†	20	70	70	10m	10m	4.5m	20n	0.0	20	3.0m	6.5m	10u	18p#	1.7m	200S	TO18	DB	DB		
57	2N5394	300m	4.0†	20	70	70	10m	10m	6.0m	20n	0.0	20	4.0m	7.0m	15u	18p#	1.7m	200S	TO18	DB	DB		
58	2N5395	300m	4.0†	20	70	70	10m	10m	8.0m	20n	0.0	20	4.5m	7.0m	20u	18p#	1.7m	200S	TO18	DB	DB		
59	2N5396	300m	5.0†	20	70	70	10m	10m	10m	20n	0.0	20	4.5m	7.5m	25u	18p#	1.7m	200S	TO18	DB	DB		
60	2N5397	300m	6.0†	10	25	25	10m	10m	30mΔ	10n	0.0	10	6.0m	10m	200u	5p#	1.7m	200S	TO72	DH	DB		
61	2N5398	300m	6.0†	10	25	25	400m	100m	40mΔ	10n	0.0	10	5.5m	10m	400u	5p#	1.7m	200S	TO72	DH	DB		
62	2N5432†	300m	10†	5.0	25	25	400m	100m	150m%	200p	0.0	15	1.5m	6.5m	20u	30p#	2.3m	150S	TO52	DJ	DB		
63	2N5433†	300m	9.0†	5.0	25	25	400m	100m	100m%	200p	0.0	15	1.5m	6.5m	20u	30p#	2.3m	150S	TO52	DJ	DB		
64	2N5434†	300m	4.0†	5.0	25	25																	

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	MAX. DEVISS @25°C (W)	MAX. Vp		ABS MAX RATINGS@25°C		MAX. Id		MAX. Igss@Vp		MAX. Igss>Vp		TEST COND		PARAMETERS @25°C				DERATE		DESCRIPTION		L E O D E	
			Id=0	Vds	(V)	(V)	(A)	(A)	(A)	(A)	(V)	(V)	(V)	(V)	MIN	MAX	Yos	on	Cis	FREE AIR W/°C	MAX TEMP (°C)	STRUC- TURE		DWG. No.
															gfs (mhos)									
1	FT0654C	300m	4.0t	20	50	50	50m	12mΔ	1.0n	0.0	0.0	20	3.5m%	8m%	27u	.22kt	20p#	2.0m	175J	DPL	TO18	DBØ		
2	FT0654D	300m	4.0t	20	50	50	50m	12mΔ	1.0n	0.0	0.0	20	3.5m%	8m%	27u	.22kt	20p#	2.0m	175J	DPL	TO18	DBØ		
3	FT0654E	300m	2.5t	20	50	50	50m	4.0mΔ	1.0n	0.0	0.0	20	2.0m%	6m%	24u	.30kt	20p#	2.0m	175J	DPL	TO18	DBØ		
4	JH2101	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
5	JH2102	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
6	JH2103	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
7	JH2104	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
8	JH2105	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
9	JH2106	300m	5.0t	20	50	50	10m	10m	250p	0.0	0.0	20	2.0m	7.0m	10u		20p#	1.7m	200S	#*	L58			
10	M100	300m	5.0	10	20	20							1.0m							Δ*	TO18	DA		
11	M101	300m	8.0	10	20	20							1.5m							Δ*	TO18	DA		
12	MD1F3458	300m	8.0t	20		50Δ	10m	15m	5.0n	0.0	0.0	20	2.5m	10m			18p#	150A		Δ	TO122	GP		
13	MD1F3459	300m	4.0t	20		50Δ	10m	4.0m	5.0n	0.0	0.0	20	1.5m	6.0m	20u		18p#	150A		Δ	TO122	GP		
14	MD1F3460	300m	2.0t	20		50Δ	10m	1.0m	5.0n	0.0	0.0	20	800u	4.5m	50u		18p#	150A		Δ	TO122	GP		
15	MD1F3823	300m	8.0	15	30Δ	30Δ	10m	20m%	5.0n	0.0	0.0	15	3.2m%		35u*		6.0p#	150A			TO122	GP		
16	MD1F4416	300m	6.0t	15		30Δ	10m	15m	500u	0.0	0.0	15	4.5m	7.5m†	50u		4.0p#	150A			TO122	GP		
17	MFE2093	300m	2.5t	15	50	50	3.0m	.70m	.10n	0.0	0.0	15	25m	.50m	1.5u	2.5k	6.0p	2.0m	175	Δ	TO72	DJ		
18	MFE2094	300m	4.5t	15	50	50	3.0m	1.4m	100p	0.0	0.0	15	350u	700u	3.0u	1.6k	6.0p	2.0m	175	Δ	TO72	DJ		
19	MFE2095	300m	5.5t	15	50	50	3.0m	3.0m	100p	0.0	0.0	15	400u	800u	10u	1.3k	6.0p	2.0m	175	Δ	TO72	DJ		
20	MFE3006	300m	3.0t	15	25Δ	35	30m	18m	1.0n	4.0	15	8.0m%	18m%			6.0p#	1.7m	175J	#*	TO72	DX			
21	MFE3007	300m	3.0t	15	25	35	30m	20m	1.0n	4.0	15	10m%	18m%			5.5p#	1.7m	175J	#*	TO72	DX			
22	MMF3008	300m	3.0t	15	25	35	30m	20m	1.0n	4.0	15	8.0m	18m			6.0p#	1.7m	175J	#*	TO72	DX			
23	MMF11	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
24	MMF21	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
25	MMF31	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
26	MMF41	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
27	MMF51	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
28	MMF61	300m	8.0t	15Δ	30	30	20m	10m	10m	.05n	0.0	15†	1.5m	6.5m	50u		6.0p#	2.0m	175J	#	X74	DH		
29	NF500	300m	8.0t	15	25	25Δ	1.0m	30%	10n	0.0	15	4.5 Δ				180 †	2.5 #*	2.4m	150J	Ø#	TO72	DH		
30	NF506	300m	5.0t	15	25	25	10m	15m	1.0n	0.0	15	2.5m	7.0m				4.0p#	2.4m	150J	Ø#	TO72	DH		
31	NF4302	300m	4.0	20	30	30	10m	5.0m	1.0n	0.0	0.0	20	700u%				6.0p#	3.0m	125J	Ø#	TO18	DB		
32	NF4303	300m	6.0	20	30	30	10m	10m	1.0n	0.0	0.0	20	1.4m%				6.0p#	3.0m	125J	Ø#	TO18	DB		
33	NF4304	300m	10	20	30	30	10m	15m	1.0n	0.0	0.0	20	700u%				6.0p#	3.0m	125J	Ø#	TO18	DB		
34	PH241N	300m	1.0	0.0	30	30	10m	3.0m	200p	0.0	15	2.0m	7.0m				13p			PE	TO18	Ø		
35	PH242N	300m	1.5	0.0	30	30	10m	6.0m	200p	0.0	15	3.5m	7.5m				13p			PE	TO18	Ø		
36	PH243N	300m	2.5	0.0	30	30	10m	15m	200p	0.0	15	5.0m	10m%				13p			PE	TO18	Ø		
37	PH244N	300m	3.0	0.0	30	30	10m	30m%	200p	0.0	15	8.0m	15m%				13p			PE	TO18	Ø		
38	SI211N	300m	.50t	5.0	8.0Δ	8.0Δ		150u	10n	0.0	5.0	200u	700u	300n	1.8k		10p	2.0m			TO18	Ø		
39	SI212N	300m	.70t	5.0	8.0Δ	8.0Δ		30m	10n	0.0	5.0	40u	1.1m	1.0u	1.5k		10p	2.0m			TO18	Ø		
40	SI213N	300m	1.0	5.0	8.0Δ	8.0Δ		.60m	10n	0.0	5.0	.60m	1.5m	4.0u	1.3k		10p	2.0m			TO18	Ø		
41	SI214N	300m	1.5	5.0	8.0Δ	8.0Δ		1.5m	10n	0.0	5.0	.90m	2.2m	12u	.90k		10p	2.0m			TO18	Ø		
42	SI215N	300m	2.5	5.0	8.0Δ	8.0Δ		3.0m	10n	0.0	5.0	1.3m	3.0m	25u	.60k		10p	2.0m			TO18	Ø		
43	SI216N	300m	3.5	5.0	8.0Δ	8.0Δ		6.0m	10n	0.0	5.0	1.8m	4.2m	50u	30k		10p	2.0m			TO18	Ø		
44	SI221N	300m	.30t	5.0	8.0Δ	8.0Δ		.15m	2.0n	0.0	5.0	.40m	1.2m				30p	2.0m			TO72	DUØ		
45	SI222N	300m	.50t	5.0	8.0Δ	8.0Δ		.30m	2.0n	0.0	5.0	.70m	1.8m				30p	2.0m			TO72	DUØ		
46	SI223N	300m	.70t	5.0	8.0Δ	8.0Δ		.60m	2.0n	0.0	5.0	1.0m	2.4m				30p	2.0m			TO72	DUØ		
47	SI224N	300m	1.0	5.0	8.0Δ	8.0Δ		1.5m	2.0n	0.0	5.0	1.6m	3.6m				30p	2.0m			TO72	DUØ		
48	SI225N	300m	1.5	5.0	8.0Δ	8.0Δ		3.0m	2.0n	0.0	5.0	2.2m	5.0m				30p	2.0m			TO72	DUØ		
49	SI226N	300m	2.5	5.0	8.0Δ	8.0Δ		6.0m	2.0n	0.0	5.0	3.0m	7.0m				30p	2.0m			TO72	DUØ		
50	SI241N	300m	1.0	0.0	30	30	10m	3.0m	20n	0.0	15	2.0m	7.0m				13p	200	PE	TO18	Ø			
51	SI242N	300m	1.5	0.0	30	30	10m	6.0m	20n	0.0	15	3.5m	7.5m				13p	200	PE	TO18	Ø			
52	SI243N	300m	2.5	0.0	30	30	10m	15m	20n	0.0	15	5.0m	10m%				13p	200	PE	TO18	Ø			
53	SI244N	300m	3.0	0.0	30	30	10m	30m%	20n	0.0	15	8.0m	15m%				13p	200	PE	TO18	Ø			
54	SI245N	300m	5.0	0.0	30	30	10m	35m%	20n	0.0	15	8.0m	15m%				13p	200	PE	TO18	Ø			
55	SI246N	300m	10	0.0	30	30	10m	75m%	20n	0.0	15	8.0m	15m%				13p	200	PE	TO18	Ø			
56	SU2076	300m	3.0	10	50Δ	50Δ		10u	250p	.70Ø	10†	1.5m		20u			18p	1.7m	200J	Ø	L21			
57	SU2077	300m	3.0	10	50Δ	50Δ		10u	250p	.70Ø	10†	1.5m		20u			18p	1.7m	200J	Ø	L21			
58	SU2078	300m	4.0	10	50Δ	50Δ		2.0m	25n	.2Ø	10†	30m		5.0u			7.0p	1.7m	200J	Ø	L21			
59	SU2079	300m	4.0	10	50Δ	50Δ		2.0m	25n	.2Ø	10†													

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1 MAX. DEVICE DISS @ 25°C (W)	MAX. Vp		ABS MAX RATINGS @ 25°C			MAX. Id(ON) @ Vgs=0 & Vds > Vp (A)	MAX. Igss @ Vgs > Vp & Vds=0 (A)	TEST COND			PARAMETERS @ 25°C			DERATE		DESCRIPTION	L C O A D E			
			Id=0	Vds (V)	BVdss (V)	BVgss (V)	Id (A)			Ig (A)	Vgs (V)	Vds (V)	COMMON SOURCE		r(on) (Ω)	MAX. Cis (F)	FREE AIR W/C (°C)			MAX TEMP (°C)		
													MIN	MAX							mhos	gfs (mhos)
1	2N5638T	310m				30Δ			50mΔ	1.0n					30%	10p#	2.8m	150S	#	TO92	DD	
2	2N5639T	310m				30Δ			25mΔ	1.0n					30%	10p#	2.8m	150S	#	TO92	DD	
3	2N5640T	310m				30Δ			2.0mΔ	1.0n					100%	10p#	2.8m	150S	#	TO92	DD	
4	2N5653T	310m				30Δ			40mΔ	1.0n					50%	10p#	2.8m	150S	#	TO92	DD	
5	2N5654T	310m				30Δ			15mΔ	1.0n					100%	10p#	2.8m	150S	#	TO92	DD	
6	2N5668	310m	4.0t	15		25		10m	5.0m	2.0n	0.0	15	1.5m	6.5m	20u	7.0p#	2.8m	150S	#	TO92	DD	
7	2N5669	310m	6.0t	15		25		10m	10m	2.0n	0.0	15	2.0m	6.5m	50u	7.0p#	2.8m	150S	#	TO92	DD	
8	2N5670	310m	8.0t	15		25		10m	20m	2.0n	0.0	15	3.0m	7.5m	75u	7.0p#	2.8m	150S	#	TO92	DD	
9	FE5457	310m	6.0t	15		25	25	10m	5.0m	1.0n	0.0	15	1.0m	5.0m	50u	7.0p#	2.8m	135J	#	TO106	DB	
10	FE5458	310m	7.0t	15		25	25	10m	9.0m	1.0n	0.0	15	1.5m	5.5m	50u	7.0p#	2.8m	135J	DPL	TO106	DB	
11	FE5459	310m	8.0t	15		25	25	10m	16m	1.0n	0.0	15	2.0m	6.0m	50u	7.0p#	2.8m	135J	DPL	TO106	DB	
12	FE5484	310m	3.0t	15		25	25	10m	5.0m	1.0n	0.0	15	3.0m	6.0m	50u	5.0p#	2.8m	135J	DPL	TO106	DD	
13	FE5485	310m	4.0t	15		25	25	10m	10m	1.0n	0.0	15	3.5m	7.0m	60u	5.0p#	2.8m	135J	DPL	TO106	DD	
14	FE5486	310m	7.5t	15		25	25	10m	20m	1.0n	0.0	15	4.0m	8.0m	75u	5.0p#	2.8m	135J	DPL	TO106	DD	
15	HSC4391T	310m	10	20	40	40	40	50m	150m	100p						14p#	3.1m	125J	E#	TO106	DB	
16	HSC4392T	310m	5.0	20	40	40	40	50m	75m	100p					60%	14p#	3.1m	125J	E#	TO106	DB	
17	HSC4393T	310m	3.0	20	40	40	40	50m	30m	100p					100%	14p#	3.1m	125J	E#	TO106	DB	
18	HSC4416	310m	6.0	15	30	30	30	10m	15m	100p	0.0	15	4.5m	7.5m	50u	4.0p#	3.1m	125J	E#	TO106	DB	
19	HSC4416A	310m	6.0	15	35	35	35	10m	15m	100p	0.0	15	4.5m	7.5m	50u	4.0p#	3.1m	125J	E#	TO106	DB	
20	HSC5163	310m	8.0	15	25	25	25	50m	40m	10n	0.0	15	2.0m	9.0m	200u	12p#	3.1m	125J	E#	TO106	DB	
21	HSC5457	310m	6.0	15	25	25	25	50m	5.0m	1.0n	0.0	15	1.0m	5.0m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
22	HSC5457A	310m	6.0	15	25	25	25	50m	5.0m	1.0n	0.0	15	1.0m	5.0m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
23	HSC5458	310m	7.0	15	25	25	25	50m	9.0m	1.0n	0.0	15	1.5m	5.5m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
24	HSC5458A	310m	7.0	15	25	25	25	50m	9.0m	1.0n	0.0	15	1.5m	5.5m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
25	HSC5459	310m	8.0	15	25	25	25	50m	16m	1.0n	0.0	15	2.0m	6.0m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
26	HSC5459A	310m	8.0	15	25	25	25	50m	16m	1.0n	0.0	15	2.0m	6.0m	50u	7.0p#	3.1m	125J	E#	TO106	DB	
27	HSC5484	310m	3.0	15	25	25	25	10m	5.0m	1.0n	0.0	15	3.0m	6.0m	50u	4.0p#	3.1m	125J	E#	TO106	DB	
28	HSC5485	310m	4.0	15	25	25	25	10m	10m	1.0n	0.0	15	3.5m	7.0m	60u	4.0p#	3.1m	125J	E#	TO106	DB	
29	HSC5486	310m	6.0	15	25	25	25	10m	20m	1.0n	0.0	15	4.0m	8.0m	75u	4.0p#	3.1m	125J	E#	TO106	DB	
30	HSC5638T	310m	8.0	15	30	30	30	50m	5.0m	1.0n	0.0	15	2.5m	1.0n		30%	10p#	3.1m	125J	E#	TO106	DB
31	HSC5639T	310m	8.0	15	30	30	30	50m	5.0m	1.0n	0.0	15	2.5m	1.0n		100%	10p#	3.1m	125J	E#	TO106	DB
32	HSC5640T	310m	8.0	15	30	30	30	50m	5.0m	1.0n	0.0	15	2.5m	1.0n		100%	10p#	3.1m	125J	E#	TO106	DB
33	2N5564	325m	3.0t	15Δ	40	40	40	30	3.0m	100p	2.0	15	7.5m	12m	45u	12p#	2.2m	200S	∅	L61a	∅	
34	2N5565	325m	3.0t	15Δ	40	40	40	30	3.0m	100p	2.0	15	7.5m	12m	45u	12p#	2.2m	200S	∅	L61a	∅	
35	2N5566	325m	3.0t	15Δ	40	40	40	30	3.0m	100p	2.0	15	7.5m	12m	45u	12p#	2.2m	200S	∅	L61a	∅	
36	3N128	330m	8.0t	15Δ	20	8.0	50m	25m	2.5m	50p		15	5.0m	12m		7.0p#	2.2m	175S	∅	TO72	∅	
37	3N142	330m	8.0t	15Δ	20	8.0	50m	25m	2.5m	1.0n		15	5.0m			7.0p#	2.2m	175S	∅	TO72	DW	
38	3N143	330m	8.0t	15Δ	20	8.0	50m	30m	3.0m	1.0n		15	5.0m			7.0p#	2.2m	175S	∅	TO72	DW	
39	3N152	330m	8.0t	15Δ	20	8.0	50m	30m	3.0m	1.0n	5.0	15	5.0m	12m		7.0p#	2.2m	175S	∅	TO72	DW	
40	3N154	330m	8.0t	15Δ	20	8.0	50m	25m	2.5m	50p	5.0	15	5.0m	12m		7.0p#	2.2m	175S	∅	TO72	DW	
41	3N200	330m	3.0t	15Δ	20	6.0	50m	1.0m	50n	50n		15	1.0m	20m		6.0p#	2.2m	175S	∅	TO72	DW	
42	40673	330m	4.0t	15Δ	20	1.0	50m	35m	20n	20n	4.0	15	12mΔ			6.0p#	2.2m	175A	∅	TO72	DX	
43	2N3069	350m	9.5	30		50Δ		100m	10m	1.0n	0.0	30	1.0m	2.5m	80u	15p#	2.0m	200C	∅	TO18	DB	
44	2N3070	350m	4.5	30		50Δ		100m	2.5m	1.0n	0.0	30	750u	2.5m	30u	15p#	2.0m	200C	∅	TO18	DB	
45	2N3071	350m	2.2	30		50Δ		100m	600u	1.0n	0.0	30	500u	2.5m	7.0u	15p#	2.0m	200C	∅	TO18	DB	
46	2N3684	350m	4.5	20		50		50m	7.5m	1.0n	0.0	20	2.0m	3.0m	5.0u	4.0p#	2.0m	200S	∅	TO72	DH	
47	2N3684A	350m	5.0t	20		50	7.5m	50m	7.5m	1.0n	0.0	20	2.0m	3.0m	5.0u	4.0p#	2.0m	200S	#	TO72	DH	
48	BSV781	350m	1.1	15	40	40	40	50m	50mΔ	250p					25%	14p	2.0m	200J	#	TO18	DB	
49	BSV791	350m	7.0	15	40	40	40	50m	20mΔ	250p					40%	14p	2.0m	200J	#	TO18	DB	
50	BSV801	350m	5.0	15	40	40	40	50m	10mΔ	250p					100%	14p	2.0m	200A	#	TO18	DB	
51	C94A	350m	5.0	10	25Δ	25Δ	25Δ	50m	5.0m	1.0n	10	5.0m	2.0m		160k	3p1*	2.0m	200A	∅	TO18	DD	
52	C95	350m	5.0	10	25Δ	25Δ	25Δ	50m	5.0m	50n	10	5.0m	2.0m		100k	3p1*	2.0m	200A	∅	TO18	DD	
53	C95A	350m	5.0	10	25Δ	25Δ	25Δ	50m	7.0m	1.0n	10	5.0m	1.5m		200k	3p1*	2.0m	200A	∅	TO18	DD	
54	UC200	350m	6.0	20		50		50m	30mΔ	1.0n			6.0m		15k	7.0p	2.0m	200	∅	TO72	DH	
55	UC201	350m	8.0	20		50		50m	15m	100p					190	7.0p	2.0m	200	∅	TO72	DH	
56	UC210	350m	4.0	20		50		50m	12mΔ	1.0n			4.5m		23k	7.0p	2.0m	200	∅	TO72	DH	
57	UC220	350m	2.5	20		50		50m	5.0m	1.0n	0.0	20	3.0m		35k	7.0p	2.0m	200J	∅	TO72	DH	
58	2N329	360m	2.0t	15Δ	25	25	25	10m	2.0m	2.0n	0.0	15	2.0m	6.5m	50u*	8.0p#	2.9m	150S	∅	TO92	DA	
59	JAN2N4091T	360m	10t	20	40	40	40	10m	30m	100p					30%	16p#	2.4m	175A	#	TO18	DB	
60	JAN2N4092T	360m	7.0t	20	40	40	40	10m	15m	100p					50%	16p#	2.4m	175A	#	TO18	DB	
61	JAN2N4093T	360m	5.0t	20	40	40	40	10m	8.0m	100p					80%	16p#	2.4m	175A	#	TO18	DB	
62	2N4856T	360m	10t	15Δ	40	40	40	50m	50m	125p					0.2k	18p#	2.4m	200S	∅	TO18	DB	
63	JAN2N4856	360m	10t	15Δ	40	40	40	50m	50m	125p					30	18p#	2.4m	200S	∅	TO18	DB	
64	2N4856A1	360m	10t	15Δ	40	40	40	50m	50m	125p					0.4k	18p#	2.4m	200S	∅	TO18	DB	
65	2N4857T	360m	6.0t	15Δ	40	40	40	50m	100m	25p					25	10p#	2.0m	200S	∅	TO18	DB	
66	JAN2N4857	360m	6.0t	15Δ	40	40	40	50m	100m	25p					0.4k	18p#	2.4m	200S	∅	TO18	DB	
67	2N4857A1	360m	6.0t	15Δ	40	40	40	50m	100m	25p					40	10p#	2.0m	200S	∅	TO18	DB	
68	JAN2N4857	360m	6.0t	15Δ	40	40	40	50m	100m	25p					40	10p#	2.0m	200S	∅	TO18	DB	

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	MAX. DEVICE DISS @ 25°C (W)	MAX. ABS MAX RATINGS @ 25°C				MAX. Id (A)	MAX. Ig (A)	MAX. Id(ON) @ Vgs=0 & Vds=0 (A)	MAX. Igss > Vgs > Vds=0 (A)	TEST COND				PARAMETERS @ 25°C				DERATE		DESCRIPTION		L C O A D E
			MAX. Vp (V)	MAX. Vds (V)	MAX. BVdss (V)	MAX. BVgss (V)					Vgs (V)	Vds (V)	Vgs (V)	Vds (V)	COMMON SOURCE		r(DS) on (Ω)	MAX. Cis (F)	IN FREE AIR W/°C	MAX TEMP (°C)	STRUCTURE	DWG. No.	
															gfs (mhos)	Yos (mhos)							
1#	NK180215	360m	2.5	5.0	10	10	10m	3.0m	10n	0.0	5.0	1.3m	3.0m	40k	23p	1.8m	200	#	T018	DB			
2#	NK180216	360m	3.5	5.0	10	10	10m	6.0m	10n	0.0	5.0	1.8m	4.2m	40k	23p	1.8m	200	#	T018	DB			
3	NP211N	360m	5.0	5.0	8.0A	200u	90u	150u	10n	0.0	5.0	200m	700m		25p		200J		T018	DB			
4	NP212N	360m	7.0	5.0	8.0A	200u	180u	300u	10n	0.0	5.0	400m	1.1		25p		200J		T018	DB			
5	NP213N	360m	1.0	5.0	8.0A	200u	400u	600u	10n	0.0	5.0	600m	1.5		25p		200J		T018	DB			
6	NP214N	360m	1.5	5.0	8.0A	200u	900u	1.5m	10n	0.0	5.0	900m	2.2		25p		200J		T018	DB			
7	NP215N	360m	2.5	5.0	8.0A	200u	1.8m	3.0m	10n	0.0	5.0	1.3	3.0		25p		200J		T018	DB			
8	NP216N	360m	3.5	5.0	8.0A	200u	4.0m	6.0m	10n	0.0	5.0	1.8	4.2		25p		200J		T018	DB			
9	TIS34	360m	8.0	15	30	30	10m	20m	5.0n	0.0	15	3.5m	6.5m	50u	6.0p	2.9m	150J	PE	T092	DB			
10	TIS41	360m			30	30	50m	50m	20						25 f	18p#	2.4m	200S	T018	DB			
11	TIS42	360m			25	25	10m	10m	45.0						70 f	18p#	2.9m	150J	T092	DB			
12	TIS58	360m			25	25		8.0m	4.0m	0.0	15	1.3m	4.0m	20u%	6.0p#	2.8m	150S	PET	T092	DA			
13	TIS59	360m	9.0f	15	25	25		25m	4.0m	0.0	15	2.3m	5.0m	50u%	6.0p#	2.8m	150S	PET	T092	DA			
14	TIS88	360m	5.0f	15	25	25	30m	8.0m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
15	TIS99	360m	5.0f	15	25	25	30m	8.0m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
16	TIS70	360m	5.0f	15	25	25	30m	8.0m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
17	TIS71	360m	10f	15	30	30	50m	5.0m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
18	TIS74	360m	6.0f	15	30	30	50m	20m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
19	TIS75	360m	4.0f	15	30	30	50m	8m	2.0n	0.0	15	1.0m	6.0m	35u%	8.0p#	3.5m	150S	PE	T092	DB			
20	TIS78	360m	10f	15	30	30	10m	10m	2.0n	0.0	30	750u	3.0m	100u*	1.5k	15p#	2.0m	150J	P	T092	DB		
21	TIS79	360m	12f	15	30	30	10m	10m	2.0n	0.0	30	750u	3.0m	100u*	2.0k	15p#	2.0m	150J	P	T092	DB		
22	UC588	360m	6.0f	15	30	30	10m	15m	1.0n	0.0	15	4.5m	7.5m	50u	4.0p	2.8m	200		T016	DD			
23	2N5902	367m	4.5f	10	40	40	50m	15m	5.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
24	2N5903	367m	4.5f	10	40	40	50m	500u	5.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
25	2N5904	367m	4.5f	10	40	40	50m	500u	5.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
26	2N5905	367m	4.5f	10	40	40	50m	500u	5.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
27	2N5906	367m	4.5f	10	40	40	50m	500u	2.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
28	2N5907	367m	4.5f	10	40	40	50m	500u	2.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
29	2N5908	367m	4.5f	10	40	40	50m	500u	2.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
30	2N5909	367m	4.5f	10	40	40	50m	500u	2.0p	0.0	10	70u	250u	5.0u%	3.0p#	3.0m	150S		L54b	DB			
31	40468A	375m			20	1.0	25m	25m	1.0n	0.0	15	7.5m			10p#	2.5m	175J	*	T072	DW			
32	40559A	375m			20	1.0	25m	25m	1.0n	0.0	15	7.5m			5.5p#	2.5m	175J	*	T072	DW			
33	F75	375m			15	2.5	25m	25m	1.0n	0.0	12	6.0m	9.0m		2.5p#	2.5m	175J	DPE*	T072	DS			
34	G125F*	375m	5.0	10	40	40	50m	50m	1.0n	0.0				50k	2.0p	3.0m	150S	#	L49a	DB			
35	G126F*	375m	10	10	40	40	50m	50m	1.0n	0.0				25k	2.0p	3.0m	150S	#	L49a	DB			
36	G127F*	375m	5.0	10	40	40	50m	50m	2.0n	0.0				09k	7.0p	3.0m	150S	#	L49a	DB			
37	G128F*	375m	10	10	40	40	50m	50m	1.0n	0.0				04k	7.0p	3.0m	150S	#	L49a	DB			
38	G129F*	375m	5.0	10	40	40	50m	50m	1.0n	0.0				50k	2.0p	3.0m	150S	#	L49b	DB			
39	G130F*	375m	10	10	40	40	50m	50m	1.0n	0.0				25k	2.0p	3.0m	150S	#	L49b	DB			
40	G131F*	375m	5.0	10	40	40	50m	50m	2.0n	0.0				09k	7.0p	3.0m	150S	#	L49b	DB			
41	G132F*	375m	10	10	40	40	50m	50m	2.0n	0.0				04k	7.0p	3.0m	150S	#	L49b	DB			
42	2N3084	400m	10f	15	30	15	50m	3.0m	1.0n	1.0	15	40m	2.0m	50u%	14p	2.3m	200C		R82	DB			
43	2N3085	400m	10f	15	30	15	50m	3.0m	1.0n	1.0	15	40m	2.0m	50u%	14p	2.3m	200C		T018	DD			
44	2N3086	400m	10f	15	40	15	50m	3.0m	1.0n	1.0	15	40m	2.0m	50u%	14p	2.3m	200C		R82	DB			
45	2N3087	400m	10f	15	40	15	50m	3.0m	1.0n	1.0	15	40m	2.0m	50u%	14p	2.3m	200C		T018	DD			
46	2N3088	400m	5.0f	15	15	10	50m	2.0m	1.0n	1.0	15	30m	2.0m	50u%	14p	2.3m	200C		R82	DB			
47	2N3088A	400m	5.0f	15	15	10	50m	2.0m	1.0n	1.0	15	30m	2.0m	50u%	14p#	2.3m	200C		R82	DB			
48	2N3089	400m	5.0f	15	15	10	50m	2.0m	1.0n	1.0	15	30m	2.0m	50u%	14p	2.3m	200C		T018	DD			
49	2N3089A	400m	5.0f	15	15	10	50m	2.0m	1.0n	1.0	15	30m	2.0m	50u%	14p#	2.3m	200C		T018	DD			
50	2N3465	400m	10f	15	40	40	50m	5.0m	1.0n	0.0	15	40m	1.2m	10u%	15p	2.3m	200C		R82	DB			
51	2N3466	400m	10f	15	40	40	50m	5.0m	1.0n	0.0	15	40m	1.2m	10u%	15p	2.3m	200C		T018	DD			
52	2N4445	400m	10	5.0	25	25	400m	100m	150m	3.0n				5.0 f	70p#	2.3m	200S		T046	DD			
53	2N4446	400m	10	5.0	25	25	400m	100m	100m	3.0n				01k	70p#	2.3m	200S		T046	DD			
54	2N4447	400m	10	5.0	20	20	400m	100m	150m	3.0n				6.0 f	70p#	2.3m	200S		T046	DD			
55	2N4448	400m	10	5.0	20	20	400m	100m	100m	3.0n				01k	70p#	2.3m	200S		T046	DD			
56	2N5158	400m	8.0	5.0	40	40	400m	100m	100m	1.0n					50p#	2.3m	200S		T046	DJ			
57	2N5159	400m	10	5.0	40	40	400m	100m	100m	1.0n					50p#	2.3m	200S		T046	DJ			
58	3N140	400m	4.0f	16	20	4.0	50m	30m	1.0n	4.0	14	6.0m	18m		7.0p#	2.7m	175A	\$	T072	DX			
59	3N141	400m	4.0f	16	20	4.0	50m	30m	1.0n	4.0	14	6.0m	18m		7.0p#	2.7m	175A	\$	T072	DX			
60	3N153	400m			20	8.0	50m	5.0m	5.0p					300 %	8.0p#	2.6m	175S		T072	DW			
61	3N159	400m	4.0f	16	20	8.0	50m	30m	1.0n	0.0	14	7.0m	18m		7.0p#	2.6m	175C	*	T072	DX			
62	40467A	400m	8.0f	12	20	1.0	50m	50m	1.0n	4.0	13	4.0m	7.5		200 f	2.6m	175A	*	T072	DW			
63	40600	400m	2.0f	15	20	8.0	50m	18m	1.0n	4.0	13	10m			5.5p#	2.7m	175A	*	T072	DX			
64	40601	400m	2.0f	15	20	8.0	50m	18m	1.0n	4.0	13	10m			5.5p#	2.7m	175A	*	T072	DX			
65	40602	400m	2.0f	15	20	8.0	50m	18m	1.0n	4.0	13	10m			5.5p#	2.7m	175A	*	T072	DX			
66	40603	400m	2.0f	15	20	8.0	50m	18m	1.0n	4.0	13	10m			5.5p#	2.7m	175A	*	T072	DX			
67	40604	400m	2.0f	15	20	8.0	50m	18m	1.0n	4.0	13	10m			5.5p#	2.7m	175A	*	T072	DX			
68	C81	400m	18	50			10m					2.8m			5.5p#	2.7m	175A	*	T072	DX			
69	C413N	400m	3.0	5.0	15	15	50m	10m	3.0n	5.0	25m	20m	40m	50u	80p*	2.3m	150J	E#	R111	DD			
70	CM697	400m	3.0	5.0	25	25	400m	100m	3.0n					01k%	2.3m	200J	E#	R135	DD				
71	CMX740	400m	10	5.0	30	30	100m	500m	1.0n					2.5 %	2.3m	200J	E#	R135					

7. SILICON FIELD EFFECT TRANSISTORS - N CHANNEL

IN ORDER OF (1) DISSIPATION
(2) TYPE No.

LINE No.	TYPE No.	1] MAX. DEVICE DISS @25°C (W)	MAX. Vp		ABS MAX RATINGS@25°C			MAX. Id(ON)@		MAX. Igss@ Vgs>Vp & Vds=0 (A)	TEST COND		PARAMETERS @25°C COMMON SOURCE			DERATE IN FREE AIR W/°C		DESCRIPTION		L C O E A D E		
			Id=0 (V)	& Vds (V)	V (V)	V (V)	Id (A)	Ig (A)	Vgs=0 & Vds>Vp (A)		Vgs (V)	Vds (V)	gfs (mhos)	Yos (mhos)	r(on) (Ω)	MAX. Cis (F)	MAX TEMP (°C)	STRUC-TURE	DWG. No.			
											MIN	MAX	MIN	MAX								
1	3N170†	800m	2.0Δ	10*	25	35Δ	30m	10n	10p						200	5.0p#	4.5m	200S	T072	DRØ		
2	3N171†	800m	3.0Δ	10*	25	35Δ	30m	10n	10p					200	5.0p#	4.5m	200S	T072	DRØ			
3	U221	800m	8.0	20		50	30m	25m	110m	1.0n	0.0	20	15m	40m	50u	25p#	4.6m	200J	T05	DBØ		
4	U222	800m	10	20		50	30m	25m	250m	1.0n	0.0	20	20m	20m	50u	25p#	4.6m	200J	T05	DBØ		
5	U1715	800m	15†	50		200	30m	50m	50m	5.0n						25p#	4.5m	200J	T05	DBØ		
6	2N3970†	1.8	10	20Δ	40	40	30m	50m	150m						40k†	25p#	10m	200S	T018	Ø		
7	2N3971†	1.8	5.0	20Δ	40	40	30m	50m	75m						60k†	25p#	10m	200S	T018	DBØ		
8	2N3972†	1.8	3.0	20Δ	40	40	30m	50m	30m						100k†	25p#	10m	200S	T018	DBØ		
9	2N4091	1.8	10	20Δ	40	40Δ	30m	10m	30m%							16p#	10m	200S	T018	DBØ		
10	2N4091A†	1.8	10†	20Δ	50	50	30m	10m	30m%	40p					30	16p#	10m	200S	T018	DBØ		
11	2N4092	1.8	7.0	20Δ	40	40Δ	30m	10m	15m%							16p#	10m	200S	T018	DBØ		
12	2N4092A†	1.8	7.0†	20Δ	50	50	30m	10m	15m%	40p					50	16p#	10m	200S	T018	DBØ		
13	2N4093	1.8	5.0	20Δ	40	40Δ	30m	10m	8.0m%							16p#	10m	200S	T018	DBØ		
14	2N4093A†	1.8	5.0†	20Δ	50	50	30m	10m	8.0m%	40p					80	16p#	10m	200S	T018	DBØ		
15	2N4094†	1.8		20Δ	40	40	30m	10m	75m%						02k%	32p#	10m	200C	T018	DBØ		
16	2N4095†	1.8		20Δ	40	40	30m	10m	20m%						04k%	32p#	10m	200C	T018	DBØ		
17	2N4391†	1.8 Δ	10	20Δ	40	40	30m	50m	150m%	10n					03k†	14p#	10m	200S	T018	DBØ		
18	2N4392†	1.8 Δ	5.0	20Δ	40	40	30m	50m	75m%	10n					06k†	14p#	10m	200S	T018	DBØ		
19	2N4393†	1.8 Δ	3.0	20Δ	40	40	30m	50m	30m%	10n					10k†	14p#	10m	200S	T018	DBØ		
20	2N4977†	1.8 Δ	10†	15Δ	30	30	30m	10m	50m	500p					15 †	35p#	10m	200S	T018	DBØ		
21	2N4978†	1.8 Δ	8.0†	15Δ	30	30	30m	10m	15m	500p					20 †	35p#	10m	200S	T018	DBØ		
22	2N4979†	1.8 Δ	5.0†	15Δ	30	30	30m	10m	7.5m	500p					40 †	35p#	10m	200S	T018	DBØ		
23	CFM13026	1.8 Δ	7.0†	15	40	40	30m	10m	50m%	1.0n	0.0	15	15m†	25m†	200u*	80 †	20p#	10m	175J	#	T018	DB
24	MFE2004†	1.8 Δ	6.0†	20Δ	30	30	30m	10m	8.0m%	200p						16p#	10m	175J	#	T018	DBØ	
25	MFE2005†	1.8 Δ	8.0†	20Δ	30	30	30m	10m	15m%	200p						16p#	10m	175J	#	T018	DBØ	
26	MFE2006†	1.8 Δ	10†	20Δ	30	30	30m	10m	30m%	200p						16p#	10m	175J	#	T018	DBØ	
27	MFE2007†	1.8 Δ	10†	15Δ	25	25	30m	50m	8.0m%	2.0n						30p#	10m	175J	#	T018	DBØ	
28	MFE2008†	1.8 Δ	10†	15Δ	25	25	30m	50m	20m%	2.0n						30p#	10m	175J	#	T018	DBØ	
29	MFE2009†	1.8 Δ	10†	15Δ	25	25	30m	50m	50m%	2.0n						20 †	30p#	10m	175J	#	T018	DBØ
30	MFE2010†	1.8 Δ	10†	15Δ	25	25	30m	50m	15m%	3.0n						25 †	50p#	10m	175J	#	T018	DBØ
31	MFE2011†	1.8 Δ	10†	15Δ	25	25	30m	50m	40m%	3.0n						15 †	50p#	10m	175J	#	T018	DBØ
32	MFE2012†	1.8 Δ	10†	15Δ	25	25	30m	50m	100m%	3.0n						10 †	50p#	10m	175J	#	T018	DBØ
33	U200	1.8	3.0	20		30	30m	50m	25m	1.0n						15k	30p#	10m	200S	#Δ	T018	DBØ
34	U201	1.8	5.0	20		30	30m	50m	75m	1.0n						07k	30p#	10m	200S	#Δ	T018	DBØ
35	U202	1.8	10	20		30	30m	50m	150m	1.0n						05k	30p#	10m	200S	#Δ	T018	DBØ
36	UC707	1.8	12	20		20	30m	50m	250m	2.0n	0.0	20	5.0m			200 †	30p	200		#Δ	T018	DB
37	CP600	3.6 Δ	8.0	5.0	20Δ	20Δ	30m	10m	180m%	50n	0.0	15	10m	30m		60kΔ	35p†	5.2m	200J	E #	T059	DBØ
38	CP601	5.4 Δ	8.0	5.0Δ	30Δ	30Δ	30m	10m	180m%	50n	0.0	15	10m	30m		06kΔ	35p†	03m	200J	E #	T059	DBØ
39	CP602	6.0 Δ	15	5.0Δ	20Δ	20Δ	30m	10m	300mΔ	50n	0.0	15	20m	60m		04kΔ	35p†	03m	200J	E #	T059	DBØ
40	CP650	8.0 Δ	10	5.0Δ	25Δ	25Δ	600m	1.2	1.2 %	10n	0.0	15	100m†	250m		4.0	25p†	20u	200J	E #	T05	DBØ
41	CP651	8.0 Δ	10	5.0Δ	20Δ	20Δ	600m		500m%	10n	0.0	15	75m	200m†		7.0	25p†	20u	200J	E #	T05	DBØ
42	CP652	8.0 Δ	10	5.0Δ	20Δ	20Δ	600m		100m%	3.0n	0.0	15	100mΔ	†		4.0	25p†	20u	200J	E #	T05	DBØ
43	CP653	8.0 Δ	10	5.0Δ	20Δ	20Δ	600m		80m%	3.0n	0.0	15	60mΔ	†		7.0	25p†	20u	200J	E #	T05	DBØ
44	CP603	9.0 Δ	15	5.0Δ	30Δ	30Δ	30m	10m	300mΔ	50n	0.0	15	20m	60m		04kΔ	35p†	02m	200J	E #	T059	DBØ
45	U244	10 Δ	8.0	10	25	900m	30m		900m%	1.0n	0.0	10	80m	200m†			35p#	5.7m	200J	D	T060	DB
46	FF102‡	75	6.0	10Δ	15Δ	15Δ	30m	50m	5.0m	1.0n	0.0	10	800u			8.0p†	1.7m	200J	EΔ#	T072	DH	
47	TIXS35	500	5.0	10Δ	30	30	30m	10m	10m%	10n	100	10	10m	20m	200u	50 †	12p#	3.3m	175	PE#	T012	DG
48	TIXS36	500	10	10Δ	30	30	30m	10m	200m%	10n	400	10	10m	20m	400u	50k†	12p#	3.3m	175	PE#	T012	DG
49	UC251	500	6.0	20		30	30m		75m%	1.0n	0.0	20	12m†	%		75 †	25p			PL	T018	DB

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M A X E M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. @ 25°C		BIAS hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L E A D E	
						Ic (A)	Ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	Icbo @ MAX Vcb (A)	Vcb (V)	Ic (A)	MIN				MAX	STRUC-TURE		DWG. No.
1#	2SA416†		6.0 #	0.0	0.0	700m	50m	70	1.5	60	600u	100	60m	40	100	90M	200n	AD	T03		
2#	2SB282†		30 #	0.0	0.0	6.0	1.0	80	40	60	100u	1.0	6.0	15	30	250k	15u	A	T03		
3#	2SB283†		30 #	0.0	0.0	6.0	1.0	60	20	48	100u	1.0	6.0	35	80	250k	15u	A	T03		
4#	2SB284†		30 #	0.0	0.0	6.0	1.0	60	20	48	100u	1.0	6.0	20	45	250k	15u	A	T03		
5#	2SB285†		30 #	0.0	0.0	6.0	1.0	80	40	60	100u	1.0	6.0	20	65	250k	15u	A	T03		
6#	2SB337		12 #	0.0	0.0	7.0	1.0	40	10	30	1.0	2.0	1.0	50	165	300k		A	T03		
7#	2SB361		12 #	0.0	0.0	5.0	1.0	80	1.0	80	1.0	2.0	1.0	50	280	50k		D	T03		
8#	2SB367		4.0 #	0.0	0.0	1.0	0.0	25	12	25	100m	1.5	50	45	170	500k		A	T066		
9#	2SB367H		4.0 #	0.0	0.0	1.0	0.30	30	12	25	70m	1.5	50	50	80	500k		A	T066		
10#	2SB368		4.0 #	0.0	0.0	1.0	0.0	45	12	45	100m	1.5	50	45	170	500k		A	T066		
11#	2SB368H		4.0 #	0.0	0.0	1.0	0.30	45	12	35	70m	1.5	50	50	80	500k		A	T066		
12#	2SB468		10 #	0.0	0.0	1.0	0.10	200	1.5	90	1.5	4.0	14	130		2.5u#	D	T03			
13#	2SB471		12 #	0.0	0.0	1.0	3.0	60	10	45	50m	2.0	1.0	50	165	300k		A	T03		
14#	2SB472		12 #	0.0	0.0	1.0	3.0	60	10	45	50m	2.0	1.0	50	165	300k		A	T03		
15	JAN2N2079A†	.0	150			15	4.0	80	40	65	4.0m	2.0	5.0	35	70	5.0kΔ	60m	A	T036	CØ	
16	JAN2N2557	14m	1.1	0.0	0.0	15	5.0	60	20	40	70u	5.0	1.0	20	60	250m	250m	A	MT28	AØ	
17	JAN2N2559	14m	1.1	0.0	0.0	15	5.0	100	20	60	70u	5.0	1.0	20	60	250m	250m	A	MT28	AØ	
18#	AC128-01	22m	1.0	0.0	0.0	1.0		32	10	16	200u	0.0	1.0	45	165	1.5M		A*	X9c	A	
19#	AC128K	22m	1.0	0.0	0.0	1.0		32	10	16	10u	0.0	300m	90	0	1.0MΔ	600m	Δ	X9c	A	
20#	AC176K	22m	1.1	0.0	0.0	1.0	500m	32	10	18	50u	0.0	300m	50	100	3.0M		Δ	X9a	A	
21	2N4106	25m	1.6	0.0	0.0	1.0		25	10		25u	10	5.0mΔ	70	350				T01	A	
22#	AC193	25m	1.0	0.0	0.0	1.0		25	10	25	14u	0.0	400mΔ	200	0	3.0M		A	T01	A	
23#	AC193K	25m	1.0	0.0	0.0	1.0		25	10	25	14u	0.0	400mΔ	200	0	3.0M		A	T01	A	
24#	2SB325	30m	1.8	0.0	0.0	600m	600m	120	50	100	20u	2.0	50m	20	250		Δ	R57			
25#	AC180K	33m	2.5	0.0	0.0	1.0		32	10	24	20u	1.0	600m	50	250	1.0MΔ		A*	X9b	A	
26#	2SB16A	40m	1.8	0.0	0.0	600m		40			20u	2.0	50m	20	50			A	R57		
27#	2SB17A	40m	1.8	0.0	0.0	600m		40			20u	2.0	50m	20	50			A	R57		
28#	2SB18A	40m	1.8	0.0	0.0	600m		80			20u	2.0	50m	20	50			A	R57		
29	2N2564/5	66m	5.0	0.0	0.0	3.0	1.0	40	10	30	650u	1.0	3.0	20	60	7.0k	250m	A	T05	AØ	
30	2N2565/5	66m	5.0	0.0	0.0	3.0	1.0	60	10	40	650u	1.0	3.0	20	60	7.0k	250m	A	T05	AØ	
31	2N2566/5	66m	5.0	0.0	0.0	3.0	1.0	80	10	50	650u	1.0	3.0	20	60	7.0k	250m	A	T05	AØ	
32	2N2567/5	66m	5.0	0.0	0.0	3.0	1.0	100	10	60	650u	1.0	3.0	20	60	7.0k	250m	A	T05	AØ	
33	2N3461	66m	5.0	0.0	0.0	3.0	1.0	60	1.5	30	3.0m#	1.0	500m	90	150	10kΔ	400m		T05	AØ	
34#	2SB473	66m	4.3	0.0	0.0	1.0		32	6.0		15u	0.0	500mΔ	40	180	10kΔ		A	MD9b		
35#	TF78/30	66m†	2.7	0.0	0.0	600m		32	10	24	30m	70	50mΔ	30	150	700k		Δ			
36#	TF78/60	66m†	2.7	0.0	0.0	600m		64	16	45	30m	70	50mΔ	30	150	700k		Δ			
37	2N1172†	67m		0.0	0.0	1.5	0.25	40	20	30	20m	2.0	1.0	30	90	60		DA	T037	AØ	
38	2N2282	67m		0.0	0.0	3.0		60		30	0.5m	1.0	50	30	75	2.5M	30	DA	T037	AØ	
39	2N2283	67m		0.0	0.0	3.0		100		60	0.5m	1.0	50	30	75	2.5M	30	DA	T037	AØ	
40	2N2284	67m		0.0	0.0	3.0		200		100	0.5m	1.0	50	30	75	2.5M	30	DA	T037	AØ	
41	2N2467	67m		0.0	0.0	3.0		60	1.5	60	1.0m	1.0	50	30	90	40			R50		
42	2N2468	67m		0.0	0.0	3.0		100	1.5	100	1.0m	1.0	50	30	90	40			R50		
43	2N2469	67m		0.0	0.0	3.0		200	1.5	200	1.5m	1.0	50	30	90	40			R50		
44	2N101/13	80m	1.0	0.0	0.0	1.5		30	1.5	15	5.0m#	2.0	500m	11		600k	20	A	T013	FØ	
45#	2SB487	83m	5.0	0.0	0.0	500m		30	2.5	20	20u	1.0	300m	30	150	1.0M†		A	MD26a	AØ	
46#	2SB488	83m	5.0	0.0	0.0	500m		60	12	30	20u	1.0	300m	30	150	1.0M†		A	MD26a	AØ	
47#	2SB180	85m	5.5	0.0	0.0	500m		60	12	30	1.0m	1.5	500m	20	150			A	T08		
48#	2SB181	85m	5.5	0.0	0.0	500m		60	12	40	1.0m	1.5	500m	20	150			A	T08		
49#	2SB481	92m	6.0	0.0	0.0	1.0		200m	32	10	0.0	1.0	Δ	30	110	15k		A	MD9c		
50#	2N1183	100m	1.0	0.0	0.0	3.0m		500u	45	20	250u	2.0	400m	20	60	500kΔ	1.2		T08	AØ	
51	JAN2N1183	100m	7.5	0.0	0.0	3.0m		500u	45	20	250u	2.0	400m	20	75	350kΔ	750m		T08	AØ	
52	2N1183A	100m	1.0	0.0	0.0	3.0m		500u	60	20	250u	2.0	400m	20	60	500kΔ	1.2		T08	AØ	
53	JAN2N1183A	100m	7.5	0.0	0.0	3.0m		500u	60	20	250u	2.0	400m	20	75	350kΔ	750m		T08	AØ	
54	2N1183B	100m	1.0	0.0	0.0	3.0m		500u	80	20	250u	2.0	400m	20	60	500kΔ	1.2		T08	AØ	
55	JAN2N1183B	100m	7.5	0.0	0.0	3.0m		500u	80	20	250u	2.0	400m	20	75	350kΔ	750m		T08	AØ	
56	2N1184	100m	1.0	0.0	0.0	3.0m		500u	45	20	250u	2.0	400m	40	120	500kΔ	1.2		T08	AØ	
57	JAN2N1184	100m	7.5	0.0	0.0	3.0m		500u	45	1.5	20	2.0	400m	40	120	350kΔ	750m		T08	AØ	
58	2N1184A	100m	1.0	0.0	0.0	3.0m		500u	60	20	250u	2.0	400m	40	120	500kΔ	1.2		T08	AØ	
59	JAN2N1184A	100m	7.5	0.0	0.0	3.0m		500u	60	1.5	30	2.0	400m	40	120	350kΔ	750m		T08	AØ	
60	2N1184B	100m	1.0	0.0	0.0	3.0m		500u	80	20	250u	2.0	400m	40	120	500kΔ	1.2		T08	AØ	
61	JAN2N1184B	100m	7.5	0.0	0.0	3.0m		500u	80	1.5	40	2.0	400m	40	120	350kΔ	750m		T08	AØ	
62	2N3732	100m#	3.0	0.0	0.0	3.0		500m	100	1.5	100	2.0	400m	35	500	1.0MΔ	350m		T03	AØ	
63#	2SB463	100m	6.0	0.0	0.0	2.0		2.0	32	12	70u	1.0	500m	30	250	900k		A	T066	CØ	
64#	2SB331	106m	8.0	0.0	0.0	2.0		2.0	32	12	70u	1.0	500m	30	250	900k		A	T066	CØ	
65#	2SB332	106m	8.0	0.0	0.0	2.0		2.0	32	12	70u	1.0	500m	30	250	900k		A	T066	CØ	
66#	2SB333	106m	8.0	0.0	0.0	2.0		2.0	32	12	70u	1.0	500m	30	250	900k		A	T066	CØ	
67#	2SB334	106m	8.0	0.0	0.0	2.0		2.0	32	12	70u	1.0	500m	30	250	900k		A	T066	CØ	
68#	2SB19	122m	5.5	0.0	0.0	2.5		16			100u	2.0	50m	20	250	.35k		A	R58		
69#	2SB20	122m	5.5	0.0	0.0	2.5		32			100u	2.0	50m	20	250	.35k		A	R58		
70#	2SB21	122m	5.5	0.0	0.0	2.5		32			100u	2.0	50m	20	250	.35k		A	R58		
71	2N677	125m		0.0	0.0	1.5		50	25	20	200u	2.0	10	20	60	100m			T03	CØ	
72	2N677A	125m		0.0	0.0	1.5		60	25	30	200u	2.0	10	20	60	100m			T03	CØ	
73	2N677B	125m		0.0	0.0	1.5		90	25	60	200u	2.0	10	20	60	100m			T03	CØ	
74	2N677C	125m		0.0	0.0	1.5		100	25	70	200u	2.0	10	20	60	100m			T03	CØ	
75	2N678	125m		0.0	0.0	1.5															

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	2 TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	M A E M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. I _{cb0} @ MAX V _{cb} @ 25°C (A)	hFE			MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E	
					I _c (A)	I _b (A)	V _{cb0} (V)	V _{eb0} (V)	V _{ceo} (V)		BIAS					MAX. (Hz)	STRUCTURE		DWG.
											V _{cb} (V)	I _c (A)	MIN						
1#	2SB362	185m	12 ∅	#J	7.0	1.0	100	1.0	40	500∅	2.0∅	4.5	90 ∅	50k	180m	A	MD24		
2#	2SB466	185m	12 ∅	#J	500m	500m∅	40	12	30 ∅	500∅	1.5∅	500m	25	150	13k	A	MD10a		
3#	2SB467	185m	12 ∅	#J	500m	500m∅	60	12	40 ∅	200∅	1.5∅	500m	25	150	13k	A	MD10a		
4	2N1658/13	200m	15 ∅	#J	1.0	1.0	80	60	50 ∅			200m	30	90	10k	A	ZA22		
5	2N1659/13	200m	15 ∅	#J	1.0	1.0	60	60	40 ∅			200m	30	90	10k	A	ZA22		
6	2N2659	200m	15 ∅	#J	3.0	1.0	70	20	30	125∅	50∅	500m	30	90	280kΔ	A	R122		
7	2N2660	200m	15 ∅	#J	3.0	1.0	50	20	40	125∅	50∅	500m	30	90	280kΔ	A	R122		
8	2N2661	200m	15 ∅	#J	3.0	1.0	90	20	50	125∅	50∅	500m	30	90	280kΔ	A	R122		
9	2N2662	200m	15 ∅	#J	3.0	1.0	50	20	30	125∅	50∅	500m	30	90	280kΔ	A	R62		
10	2N2663	200m	15 ∅	#J	3.0	1.0	70	20	40	125∅	50∅	500m	30	90	280kΔ	A	R62		
11	2N2664	200m	15 ∅	#J	3.0	1.0	90	20	50	125∅	50∅	500m	30	90	280kΔ	A	R62		
12	2N2665	200m	15 ∅	#J	3.0	1.0	50	20	30	125∅	50∅	500m	50	150	300kΔ	A	R122		
13	2N2666	200m	15 ∅	#J	3.0	1.0	70	20	40	125∅	50∅	500m	50	150	300kΔ	A	R122		
14	2N2667	200m	15 ∅	#J	3.0	1.0	90	20	50	125∅	50∅	500m	50	150	300kΔ	A	R122		
15	2N2668	200m	15 ∅	#J	3.0	1.0	50	20	30	125∅	50∅	500m	50	150	300kΔ	A	R122		
16	2N2669	200m	15 ∅	#J	3.0	1.0	70	20	40	125∅	50∅	500m	50	150	300kΔ	A	MT27		
17	2N2670	200m	15 ∅	#J	3.0	1.0	90	20	50	125∅	50∅	500m	50	150	300kΔ	A	MT27		
18#	2SB448	200m	13 ∅	#J	1.0	200m	32	10	22	1.0m#	50∅	1.0 Δ	30	100	10kΔ	A	MD11		
19#	AD136	200m*	9.0 ∅	#J	8.0	10	64	10	22		50∅	5.0 ∅	20	100	300k\$	AΔ	TO8		
20#	AUY18	200m*	9.0 ∅	#J	8.0	10	64	10	22		50∅	5.0 ∅	20	100	300k\$	AΔ	TO8		
21#	AUY35	200m	15 ∅	#J	10	10	70	20	25	1.0m∅	1.0∅	5.0 ∅	35	260	2.5M\$	D	TO8		
22#	AUY36	200m	15 ∅	#J	3.0	100m	32	10	20	200∅	1.0∅	5.0 ∅	100	74	1.5M\$	A	MD17c	A	
23#	AD162	222m	6.0	#J	3.0	1.0	32	10	20		1.0∅	1.0 Δ	30	100	450k\$	A	MD17		
24	2N2835	250m	16 ∅	#J	1.0	400m	32	10	20		1.0∅	1.0 Δ	30	100	450k\$	A	MD17		
25#	AD148	250m*	11 ∅	#J	2.0	400m	35	10	32		1.0∅	1.0 ∅	30	100	450k\$	A	MD23		
26#	AD262	250m	10 ∅	#J	4.0	400m	32	10	20		1.0∅	1.0 ∅	30	100	450k\$	A	MD17		
27#	AD263	250m	10 ∅	#J	4.0	400m	32	10	20		1.0∅	1.0 ∅	30	100	450k\$	A	MD17		
28	2N1038-1	263m	1.0	#J	3.0	1.0	40	20	30	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT27	A∅	
29	2N1038-2	263m	1.0	#J	3.0	1.0	40	20	30	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT28	A∅	
30	2N1039-1	263m	1.0	#J	3.0	1.0	60	20	40	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT27	A∅	
31	2N1039-2	263m	1.0	#J	3.0	1.0	60	20	40	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT28	A∅	
32	2N1040-1	263m	1.0	#J	3.0	1.0	80	20	50	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT27	A∅	
33	2N1040-2	263m	1.0	#J	3.0	1.0	80	20	50	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT28	A∅	
34	2N1041-1	263m	1.0	#J	3.0	1.0	100	20	60	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT27	A∅	
35	2N1041-2	263m	1.0	#J	3.0	1.0	100	20	60	65∅	5.0∅	1.0	20	60	7.0k	AΔ	MT28	A∅	
36	2N1042	263m	1.0	#J	3.0	1.0	40	20	30	65∅	1.0∅	3.0	20	60	7.0k	AΔ	ZA1		
37	2N1042-1	263m	1.0	#J	3.0	1.0	40	20	30	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT27	A∅	
38	2N1042-2Δ	263m	1.0	#J	3.0	1.0	40	20	30	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT28	A∅	
39	2N1042-2Z	263m	1.0	#J	3.0	1.0	40	20	30	65∅	1.0∅	3.0	20	60	7.0k	AΔ	R122		
40	2N1043	263m	1.0	#J	3.0	1.0	60	20	40	65∅	1.0∅	3.0	20	60	7.0k	AΔ	ZA1		
41	2N1043-1	263m	1.0	#J	3.0	1.0	60	20	40	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT27	A∅	
42	2N1043-2Δ	263m	1.0	#J	3.0	1.0	60	20	40	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT28	A∅	
43	2N1043-2Z	263m	1.0	#J	3.0	1.0	60	20	40	65∅	1.0∅	3.0	20	60	7.0k	AΔ	R122		
44	2N1044	263m	1.0	#J	3.0	1.0	80	20	50	65∅	1.0∅	3.0	20	60	7.0k	AΔ	ZA1		
45	2N1044-1	263m	1.0	#J	3.0	1.0	80	20	50	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT27	A∅	
46	2N1044-2Δ	263m	1.0	#J	3.0	1.0	80	20	50	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT28	A∅	
47	2N1044-2Z	263m	1.0	#J	3.0	1.0	80	20	50	65∅	1.0∅	3.0	20	60	7.0k	AΔ	R122		
48	2N1045	263m	1.0	#J	3.0	1.0	100	20	60	65∅	1.0∅	3.0	20	60	7.0k	AΔ	ZA1		
49	2N1045-1	263m	1.0	#J	3.0	1.0	100	20	60	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT27	A∅	
50	2N1045-2Δ	263m	1.0	#J	3.0	1.0	100	20	60	65∅	1.0∅	3.0	20	60	7.0k	AΔ	MT28	A∅	
51	2N1045-2Z	263m	1.0	#J	3.0	1.0	100	20	60	65∅	1.0∅	3.0	20	60	7.0k	AΔ	R122		
52	2N1038	267m	20 ∅	#S	3.0	1.0	40	20	20	125∅	50∅	1.0	20	60	8.5k	A	R122		
53	2N1039	267m	20 ∅	#S	3.0	1.0	60	20	20	125∅	50∅	1.0	20	60	8.5k	A	R122		
54	2N1040	267m	20 ∅	#S	3.0	1.0	80	20	20	125∅	50∅	1.0	20	60	8.5k	A	R122		
55	2N1041	267m	20 ∅	#S	3.0	1.0	100	20	20	125∅	50∅	1.0	20	60	8.5k	A	R122		
56	JAN2N1042	267m	20 ∅	#S	3.0	1.0	40	20	30	1.0m∅	1.0∅	3.0	20	60	250M\$Δ	A	MT28		
57	JAN2N1043	267m	20 ∅	#S	3.0	1.0	60	20	40	5.0m∅	1.0∅	3.0	20	60	250M\$Δ	A	MT28		
58	JAN2N1044	267m	20 ∅	#S	3.0	1.0	80	20	50	5.0m∅	1.0∅	3.0	20	60	250M\$Δ	A	MT28		
59	JAN2N1045	267m	20 ∅	#S	3.0	1.0	100	20	60	5.0m∅	1.0∅	3.0	20	60	250M\$Δ	A	MT28		
60	2N2552	267m	20 ∅	#S	3.0	1.0	70	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT27		
61	2N2553	267m	20 ∅	#S	3.0	1.0	60	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT27		
62	2N2554	267m	20 ∅	#S	3.0	1.0	80	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT27		
63	2N2555	267m	20 ∅	#S	3.0	1.0	100	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT27		
64	2N2556	267m	20 ∅	#S	3.0	1.0	40	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT28		
65	2N2557	267m	20 ∅	#S	3.0	1.0	60	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT28		
66	2N2558	267m	20 ∅	#S	3.0	1.0	80	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT28		
67	2N2559	267m	20 ∅	#S	3.0	1.0	100	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT28		
68	2N2560	267m	20 ∅	#S	3.0	1.0	40	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT28		
69	2N2561	267m	20 ∅	#S	3.0	1.0	60	20	20	125∅	50∅	1.0	20	60	225k\$Δ	A	MT27		
70	2N2562	267m	20 ∅	#S	3.0	1.0	80	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	MT27		
71	2N2563	267m	20 ∅	#S	3.0	1.0	100	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	MT27		
72	2N2564	267m	20 ∅	#S	3.0	1.0	40	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	R122		
73	2N2565	267m	20 ∅	#S	3.0	1.0	60	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	R122		
74	2N2566	267m	20 ∅	#S	3.0	1.0	80	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	R122		
75	2N2567	267m	20 ∅	#S	3.5	1.0	100	20	20	125∅	50∅	1.0	20	60	250k\$Δ	A	R122		
76	T1156	267m	20 ∅	#J	3.0	1.0	30	15	30	65∅	2.0∅	500m	25	75	220kT	A	MM8		
77	T1156L	267m	20 ∅	#J	3.0	1.0	30	15	30	65∅	2.0∅	500m	25	75	220kT	A	MM7		
78	T1																		

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M A X E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E
						Ic (A)	V _{cb} (V)	V _{eb} (V)	V _{ce} (V)	I _{cb} (A)	V _{cb} (V)	I _c (A)	MIN					
1	2N1320	333m	20	∅	#J	3.0				1.5m	2.0∅	500m	40					
2	2N1322	333m	20	∅	#J	3.0				1.5m	2.0∅	500m	40					
3	2N1324	333m	20	∅	#J	3.0				2.0m	2.0∅	500m	40					
4	2N1326	333m	23	∅	#J	3.0				2.0m	2.0∅	500m	30					
5	2N1437	333m	23	∅	#J	3.0				2.0m	2.0∅	500m	20					
6	2N1438	333m	23	∅	#J	3.0				2.0m	2.0∅	500m	20					
7	2N1465	333m	20	∅	#J	3.0				2.5m	2.0∅	500m	20					
8	2N1466	333m	20	∅	#J	3.0				2.5m	2.0∅	500m	20					
9	2N1504/10	333m	20	∅	#J	3.0				1.0m	2.0∅	50	21					
10	KL8503	333m	1.7	∅	#A	3.0				2.0m	2.0∅	500m	40					
11	KL8504	333m	1.7	∅	#A	3.0				2.0m	2.0∅	500m	75					
12	KL8505	333m	1.7	∅	#A	3.0				2.0m	2.0∅	500m	40					
13	KL8506	333m	1.7	∅	#A	3.0				2.0m	2.0∅	500m	75					
14	LT5021	333m		∅	#J	3.0				1.5m	2.0∅	50	20					
15	LT5023	333m		∅	#J	3.0				1.5m	2.0∅	50	40					
16	LT5024	333m		∅	#J	3.0				1.5m	2.0∅	50	40					
17	LT5026	333m		∅	#J	3.0				1.5m	2.0∅	50	60					
18	LT5027	333m		∅	#J	3.0				1.5m	2.0∅	50	60					
19	LT5029	333m		∅	#J	3.0				1.5m	2.0∅	50	40					
20	LT5030	333m		∅	#J	3.0				1.5m	2.0∅	50	40					
21	LT5032	333m		∅	#J	3.0				1.5m	2.0∅	50	60					
22	LT5033	333m		∅	#J	3.0				1.5m	2.0∅	50	60					
23	LT5035	333m		∅	#J	3.0				2.0m	2.0∅	50	20					
24	LT5036	333m		∅	#J	3.0				2.0m	2.0∅	50	20					
25	LT5037	333m		∅	#J	3.0				2.0m	2.0∅	50	40					
26	LT5040	333m		∅	#J	3.0				2.0m	2.0∅	50	60					
27	LT5041	333m		∅	#J	3.0				2.0m	2.0∅	50	60					
28	LT5043	333m		∅	#J	3.0				2.5m	2.0∅	50	20					
29	LT5044	333m		∅	#J	3.0				2.5m	2.0∅	50	20					
30	LT5046	333m∅		∅	#J	3.0				2.5m	2.0∅	50	40					
31	LT5047	333m∅		∅	#J	3.0				2.5m	2.0∅	50	40					
32	LT5049	333m		∅	#J	3.0				2.5m	2.0∅	50	60					
33	LT5050	333m		∅	#J	3.0				2.5m	2.0∅	50	60					
34	LT5152	333m		∅	#J	3.0				1.5m	2.0∅	50	20					
35	LT5153	333m		∅	#J	3.0				1.5m	2.0∅	50	20					
36#	OC22	333m∅	15	∅	∅	1.0				100∅	2.0	1.0	50					
37	OC23	333m∅*	16	∅	∅	1.0				30∅	2.0	1.0	50					
38#	OC24	333m∅	15	∅	∅	1.0				100∅	2.0	1.0	50					
39#	2G240	376m∅		∅	*J	3.0				1.0m∅	2.0∅	500m	40					
40	KJ2000	384m	40	∅	#J	3.0						12	10					
41	KJ2001	384m	40	∅	#J	3.0						12	10					
42	KJ2002	384m	40	∅	#J	3.0						2.0	80					
43	KJ2003	384m	40	∅	#J	3.0						2.0	80					
44	KM7000	384m	28	∅	#J	3.0						500m	60					
45	KM7001	384m	28	∅	#J	3.0						500m	60					
46	KM7002	384m	28	∅	#J	3.0						500m	60					
47	JAN2N1046	400m	30	∅	#J	3.0						500m	50					
48	2N17551	400m	28	∅	#J	3.0				1.0m∅	2.0∅	500m	40					
49	2N17561	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	30					
50	2N17571	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	30					
51	2N17581	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	30					
52	2N17591	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	60					
53	2N17601	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	60					
54	2N17611	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	60					
55	2N17621	400m	28	∅	#J	3.0				2.0m	2.0∅	500m	60					
56	2N2067	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	20					
57	2N2067-O	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	20					
58	2N2067B	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	15					
59	2N2067G	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	25					
60	2N2067W	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	30					
61	2N2068	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	20					
62	2N2068-O	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	20					
63	2N2068G	400m∅	10	∅	#J	3.0				3.0m	1.4∅	500m	25					
64	B10475	400m	40	∅	#J	10												
65	CST17731	400m	28	∅	#J	3.0				5.0m	2.0∅	500m	25					
66	CST1773At	400m	28	∅	#J	3.0				5.0m	2.0∅	500m	25					
67	CST1773Bt	400m	28	∅	#J	3.0				5.0m	2.0∅	500m	25					
68	CST1789	400m	28	∅	#J	3.0				3.0m	2.0∅	500m	75					
69	KM7011	400m	30	∅	#J	5.0						5.0	50					
70	KM7012	400m	30	∅	#J	5.0						5.0	50					
71	KM7013	400m	30	∅	#J	5.0						5.0	50					
72	KM7014	400m	30	∅	#J	5.0						5.0	50					
73	KM7015	400m	30	∅	#J	5.0						5.0	35					
74	KM7016	400m	30	∅	#J	5.0						5.0	35					
75	KM7017	400m	30	∅	#J	5.0						5.0	25					
76	JAN2N539	440m	11	∅	#J	3.5				2.0m	2.0∅	2.0	30					
77	JAN2N539A	440m	11	∅	#J	3.5				2.0m	2.0∅	2.0	30					
78	2N538	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	20					
79	2N538A	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	20					
80	2N539	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	30					
81	2N539A	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	30					
82	JAN2N539AM	455m∅	11	∅	#J	4.9				2.0m	2.0∅	2.0	30					
83	JAN2N539M	455m∅	11	∅	#J	4.9				2.0m	2.0∅	2.0	30					
84	2N540	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	45					
85	2N540A	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	25					
86	2N1202	455m∅	34	∅	#J	3.5				2.0m	2.0∅	500m	40					
87	2N1203	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	25					
88	2N1261	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	50					
89	2N1262	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	30					
90	2N1263	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	45					
91	2N1501	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	25					
92	2N1502	455m∅	34	∅	#J	3.5				2.0m	2.0∅	2.0	25					
93	CA2D2	455m	10	∅	#J	3.5				4.0m	2.0∅	2.0	20					
94	2N234A	500m∅		∅	#J	3.0						50	25					
95	2N235A	500m	25	∅	#J	3.0				1.0m∅	2.0∅	500m	40					
96	2N235B	500m	25	∅	#J	3.0				1.0m∅	2.0∅	500m	40					
97	2N236A	500m∅		∅														

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	Dwg. No.	L E O D E	
					I _c (A)	I _b (A)	V _{cb} (V)	V _{eb} (V)	V _{ce} (V)	I _{cb} @ MAX V _{cb} @25°C (A)	V _{cb} (V)	I _c (A)	MIN							MAX
1	2N637B1	500m#	25	#J	5.0	.50			80	5.0m	5.0	3.0	30	60		15u	TO3	C		
2	2N6381	500m#	25	#J	5.0	.50			40	1.0m	5.0	3.0	20	40		15u	TO3	C		
3	2N638A1	500m#	25	#J	5.0	.50			70	5.0m	5.0	3.0	20	40		15u	TO3	C		
4	2N638B1	500m#	25	#J	5.0	.50			80	5.0m	5.0	3.0	20	40		15u	TO3	C		
5	2N6391	500m#	25	#J	5.0	.50			40	1.0m	5.0	3.0	15	30		15u	TO3	C		
6	2N639A1	500m#	25	#J	5.0	.50			70	5.0m	5.0	3.0	15	30		15u	TO3	C		
7	2N639B1	500m#	25	#J	5.0	.50			80	5.0m	5.0	3.0	15	30		15u	TO3	C		
8	2N663	500m		#J	4.0				20	12m	2.0	.50	25	75	15k		TO3	C		
9	2N665	500m	35	#J	5.0	∅	1.0		80	2.0m	2.0	.50	40	80	20kΔ	.30	5.0u	A		
10	JAN2N665	500m	35	∅	5.0	∅			80	40	40		10m	2.0	500m	40	80	20kΔ	300m	
11	2N1138	500m		#J	5.0	.50			40	5.0	3.0	100	200				TO3	C		
12	2N1138A	500m		#J	5.0	.50			70	5.0	3.0	100	20				TO3	C		
13	2N1138B	500m		#J	5.0	.50			80	5.0	3.0	100	200				TO3	C		
14	2N1971	500m	38	#J	4.0	∅	1.0		80	2.0	500m	25	60	5.0kΔ	300m		TO3	C		
15	2N2061	500m	75	∅	3.0				20	6.0	15	∅	10				TO3	C		
16	2N2062	500m	75	∅	3.0				20	6.0	15	∅	10				TO3	C		
17	2N2063	500m	75	∅	3.0				40	20	30	∅	20				TO3	C		
18	2N2064	500m	75	∅	3.0				40	20	30	∅	20				TO3	C		
19	2N2065	500m	75	∅	3.0				80	30	60	∅	20				TO3	C		
20	2N2066	500m	75	∅	3.0				80	30	60	∅	20				TO3	C		
21	2N2266	500m	50	∅	5.0		700m		100	28	55		25	75	200k	150m	8.0u	A		
22	2N2267	500m	50	∅	5.0		700m		120	28	55		25	75	200k	150m	8.0u	A		
23	2N2268	500m	50	∅	5.0		700m		100	28	55		25	75	200k	150m	8.0u	A		
24	2N2269	500m	50	∅	5.0		700m		120	28	55		25	75	200k	150m	8.0u	A		
25	2N2836	500m	30	∅	3.5				55	20	55		0.0	1.0	Δ	30	100	500k		
26	2N3154	500m	38	∅	3.0				40	30	25		100u	2.0	500m	60	180	15kΔ	500m	
27	2N3155	500m	38	∅	3.0				60	30	40		100u	2.0	500m	60	180	15kΔ	500m	
28	2N3156	500m	38	∅	3.0				80	30	55		100u	2.0	500m	60	180	15kΔ	500m	
29	2N3157	500m	38	∅	3.0				100	30	65		100u	2.0	500m	60	180	15kΔ	500m	
30	2N3158	500m	38	∅	3.0				40	30	25		100u	2.0	500m	30	75	10kΔ	470m	
31	2N3159	500m	38	∅	3.0				60	30	40		100u	2.0	500m	30	75	10kΔ	470m	
32	2N3160	500m	38	∅	3.0				80	30	55		100u	2.0	500m	30	75	10kΔ	470m	
33	2N3161	500m	38	∅	3.0				100	30	65		100u	2.0	500m	30	75	10kΔ	470m	
34	2N4241	500m	37	∅	5.0				32	20	20		45u	1.0	300m	60	300	5.0k	70m	
35#	2SB426	500m	30	∅	7.0				12	32	32		1.5	1.0		34	80	400k		
36#	AD149	500m	22	∅	3.5				20	30			1.0	1.0		30	100	500k		
37#	ADY27*	500m	27	∅	3.5		600m		32	30			1.0	1.0		50	100*	450k		
38#	AU101	500m	10	∅	10		2.0		120	1.0	120		10m	2.0	5.0	30	∅	400k	100m	
39#	AU102	500m	10	∅	10		2.0		40	1.0	40		10m	2.0	5.0	17	∅	400k	100m	
40	B1085	500m		#	10				120	1.5	120		10m	2.0	5.0	40	∅	1.5M	.15	
41	B10474	500m	40	∅	10				60		40		2.0m	10	100m	50	∅	400		
42	KL8010	500m	1.7	∅	10		3.0		60	30	35		2.0m	2.0	10	30	100	800k	100m	
43	KL8011	500m	1.7	∅	10		3.0		60	30	35		2.0m	2.0	10	60	200	800k	83m	
44	KL8012	500m	1.7	∅	10		3.0		100	30	50		2.0m	2.0	10	30	100	800k	100m	
45	KL8013	500m	1.7	∅	10		3.0		100	30	50		2.0m	2.0	10	60	200	800k	83m	
46	LT5052	500m		#	4.5				60	15	30		2.0m	2.0	75	30		100k	1.0	
47	LT5053	500m		#	4.5				60	15	30		2.0m	2.0	75	30		100k	1.0	
48	LT5055	500m		#	4.5				60	15	30		2.0m	2.0	75	60		100k	1.0	
49	LT5056	500m		#	4.5				60	15	30		2.0m	2.0	75	60		100k	1.0	
50	LT5058	500m		#	4.5				60	15	30		2.0m	2.0	75	100		100k	1.0	
51	LT5059	500m		#	4.5				60	15	30		2.0m	2.0	75	100		100k	1.0	
52	LT5061	500m		#	4.5				60	15	60		2.0m	2.0	75	30		100k	1.0	
53	LT5062	500m		#	4.5				60	15	60		2.0m	2.0	75	30		100k	1.0	
54	LT5064	500m		#	4.5				60	15	60		2.0m	2.0	75	60		100k	1.0	
55	LT5065	500m		#	4.5				60	15	60		2.0m	2.0	75	60		100k	1.0	
56	LT5067	500m		#	4.5				60	15	60		2.0m	2.0	75	100		100k	1.0	
57	LT5068	500m		#	4.5				60	15	60		2.0m	2.0	75	100		100k	1.0	
58	LT5070	500m		#	4.5				80	15	75		2.5m	2.0	75	30		100k	1.0	
59	LT5071	500m		#	4.5				80	15	75		2.5m	2.0	75	30		100k	1.0	
60	LT5073	500m		#	4.5				80	15	75		2.5m	2.0	75	60		100k	1.0	
61	LT5074	500m		#	4.5				80	15	75		2.5m	2.0	75	60		100k	1.0	
62	LT5076	500m		#	4.5				80	15	75		2.5m	2.0	75	100		100k	1.0	
63	LT5077	500m		#	4.5				80	15	75		2.5m	2.0	75	100		100k	1.0	
64	LT5079	500m		#	4.5				100	15	90		2.5m	2.0	75	30		100k	1.0	
65	LT5080	500m		#	4.5				100	15	90		3.0m	2.0	75	30		100k	1.0	
66	LT5082	500m		#	4.5				100	15	90		3.0m	2.0	75	60		100k	1.0	
67	LT5083	500m		#	4.5				100	15	90		3.0m	2.0	75	60		100k	1.0	
68	LT5085	500m		#	4.5				100	15	90		3.0m	2.0	75	100		100k	1.0	
69	LT5086	500m		#	4.5				100	15	90		3.0m	2.0	75	100		100k	1.0	
70#	OC25	500m	23	∅	4.0				40		40		1.0	1.0		15	80			
71#	SFT212	500m	30	∅	3.0				30	7.5			1.0m	2.0	2.0	20	20			
72#	2SB468A	526m	32	∅	10		500m		270	1.5	90		500u	1.5	4.0	∅	14	130	200kΔ	
73	2N1430	688m		#	10				100		100		5.0	3.0		120		1.5M		
74	2N1551	638m	60	∅	15		5.0		140	1.5	120		10m#	2.0	8.0	25	100	150kΔ	40m	
75	2N257	666m	45	∅	3.0		2.0		40	10	35		2.0m	2.0	2.0	40	40	50kΔ	750m	
76	2N257B	666m	45	∅	3.0		2.0		40	20	35		5.0m	2.0	2.0	50	∅	5.0kΔ	500m	
77	2N257G	666m	45	∅	3.0		2.0		40	20	35		5.0mΔ	2.0	2.0	40	∅	5.0kΔ	750m	
78	2N257W	666m	45	∅	3.0		2.0		40	20	35		5.0mΔ	2.0	2.0	60	∅	5.0kΔ	500m	
79	2N268	666m	45	∅	3.0		2.0		80	40	60		2.0m	2.0	2.0	40	∅	6.0kΔ	1.0	
80	2N268A	666m	45	∅	3.0		2.0		80	20	60		2.0m	2.0	2.0	80		500m		
81	2N297	666m	45	∅	5.0		2.0		60	9.0	50		5.0m	3.0	2.0	12	40	5.0kΔ		
82	JAN2N297A	666m	50	∅			5.0		80	40	40		3.0m	2.0	500m	40	100	5.0kΔ	350m	
83	2N307	666m	50	∅	5.0				35	10	35		5.0m	1.0	200m	20	30	3.0kΔ	500m	
84	2N307A	666m	50	∅	5.0				35	10	35		5.0m	1.0	200m	30	35	3.5kΔ	800m	
85	JAN2N463	666m																		

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	M T A X E M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. I _{cb0} @ 25°C (A)		BIAS hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E
					I _c (A)	I _b (A)	V _{cb0} (V)	V _{eb0} (V)	V _{ceo} (V)	I _{cb0} (A)	I _{cb0} (A)	I _c (A)	I _b (A)						STRUCTURE	DWG. No.	
1#	2SB319	666m	50	#J	5.0	5.0	100	1.0	60	1.0m	2.0	1.0	40	200	3.0M	100m	1.6u	D	TO3		
2#	2SB320	666m	50	#J	10	5.0	100	2.0	60	1.0m	2.0	1.0	40	200	2.0M	100m	1.6u	D	TO3		
3#	2SB432	666m	50	#J	5.0	5.0	150	2.0	100	1.0m	2.0	5.0	40	170	3.0M	100m	1.6u	D	TO3		
4	40022	666m	12	#J	5.0	1.0	32	5.0	32	1.0m	2.0	1.0	38	70	300k			A	TO3	C	
5	40050	666m	12	#J	5.0	1.0	40	5.0	40	500u	2.0	1.0	50	90	500k			A	TO3	C	
6	40051	666m	12	#J	5.0	1.0	50	5.0	50	500u	2.0	1.0	50	90	500k			A	TO3	C	
7	40254	666m	12	#J	5.0	1.0	32	5.0	32	3.0m	2.0	1.0	30	70	300k			A	TO3	C	
8	40421	666m	12	#J	5.0	1.0	75	1.5	50	1.0m	2.0	1.0	30	70	300k			A	TO3	C	
9	40439	666m	5.0	#J	10	4.0	320	2.0	320	200u	2.0	1.0	62	175	2.0M			A	TO3	C	
10	40440	666m	5.0	#J	10	4.0	200	2.0	200	200u	2.0	1.0	62	175	2.0M	250m	750nt	D	TO3	C	
11	40462	666m	12	#J	5.0	1.0	40	5.0	40	500u	2.0	1.0	50	90	600k	120m	1.2ut	D	TO3	C	
12#	AD130	666m	30	#J	3.0	500m	40	10	30	1.0	1.0	1.0	20	100	350k			A	TO3		
13#	AD131	666m	30	#J	3.0	500m	64	20	45	1.0	1.0	1.0	20	100	350k			A	TO3		
14#	AD132	666m	30	#J	3.0	500m	60	20	60	1.0	1.0	1.0	20	100	350k			A	TO3		
15#	AD133	666m	30	#J	15	2.0	50	10	32	5.0	5.0	5.0	20	60	300k			A	TO41		
16#	AD140	666m	35	#J	3.0	500m	55	10	55	100u	1.0	1.0	30	100	4.5k			A	TO3		
17#	AD142	666m	30	#J	10	3.0	80	10	80	100u	2.0	1.0	30	170	450k			A	TO3		
18#	AD143	666m	30	#J	10	3.0	40	10	40	100u	2.0	1.0	30	170	450k			A	TO3		
19#	AD143R	666m	30	#J	10	3.0	32	10	25	160u	2.0	1.0	30	170	450k			A	TO3		
20#	AD150	666m	30	#J	3.5	500m	32	10	30	1.0	1.0	1.0	30	100	450k			A	TO3		
21#	AD163	666m	30	#J	3.0	100	20	80	150u	1.0	1.0	1.0	13	60	350k			A	TO3		
22#	AL100	666m	30	#J	10	3.0	130	2.0	130	100u	2.0	1.0	40	250	4.0M			D	TO3		
23#	AL102	666m	30	#J	6.0	1.0	130	2.0	130	100u	2.0	1.0	40	250	4.0M			D	TO3		
24#	AL103	666m	30	#J	6.0	1.0	100	1.5	130	100u	2.0	1.0	40	250	3.0M			D	TO3		
25#	ASZ151	666m	40	#J	6.0	1.0	80	40	60	100u	1.0	1.0	20	55	250k			A	TO3		
26#	AT1138	666m	34	#J	10	1.0	40	20	35	2.0m	1.0	1.0	66	200	300k	1.0	20u	A	TO3	C	
27#	AT1138A	666m	44	#J	10	1.0	60	20	45	2.0m	1.0	1.0	66	200	300k	1.0	20u	A	TO3	C	
28#	AT1138B	666m	44	#J	10	1.0	80	20	55	2.0m	1.0	1.0	66	200	300k	1.0	20u	A	TO3	C	
29#	AT1833	666m	44	#J	10	1.0	40	20	35	2.0m	1.0	1.0	45	95	400k			A	TO3	C	
30#	AT1834	666m	44	#J	10	1.0	40	20	35	2.0m	1.0	1.0	75	165	400k			A	TO3	C	
31#	AU1031	666m	10	#J	10	2.5	155	4.0	155	10m	1.0	1.0	15	15	15M			AD	TO3		
32#	AU104	666m	15	#J	12	1.85	4.0	185	4.0	185	1.0	1.0	12	14	15M			AD	TO3		
33#	AU106	666m	5.0	#J	10	4.0	320	2.0	320	200u	1.3	6.0	15	80	2.0M			D	TO3		
34#	AU107	666m	30	#J	10	1.0	200	2.0	200	200u	2.0	700m	35	120	2.0M			D	TO3		
35#	AU108	666m	30	#J	10	1.0	100	2.0	100	200u	2.0	700m	35	200	2.0M			D	TO3		
36#	AU110	666m	30	#J	10	3.0	160	2.0	160	100u	2.0	1.0	20	90	2.0M			D	TO3		
37#	AU111	666m	5.0	#J	10	4.0	320	2.0	320	200u	1.3	6.0	15	80	2.0M			D	TO3		
38#	AU112	666m	5.0	#J	10	4.0	320	2.0	320	200u	1.3	6.0	15	40	2.0M			D	TO3		
39#	AU113	666m	5.0	#J	10	2.50	3.0	250	3.0	200u	1.3	6.0	15	80	2.0M			D	TO3		
40#	AUY19	666m	30	#J	3.0	64	20	45	60	1.0	1.0	1.0	20	100	350k			A	TO3		
41#	AUY20	666m	30	#J	3.0	80	20	60	60	1.0	1.0	1.0	20	100	350k			A	TO3		
42#	AUY21	666m	30	#J	10	65	20	45	50	5.0	5.0	13	60	300k			A	TO41			
43#	AUY21A	666m	36	#J	10	2.0	65	20	45	5.0	5.0	12	60	300k			A	TO3			
44#	AUY22	666m	36	#J	8.0	80	20	60	50	5.0	5.0	13	40	300k			A	TO41			
45#	AUY22A	666m	36	#J	8.0	1.5	80	20	60	5.0	5.0	12	60	300k			A	TO3			
46#	AUY29	666m	36	#J	15	50	10	32	1.0m	5.0	5.0	20	60	300k			A	TO41			
47#	AUY34	666m	30	#J	3.0	500m	100	20	80	100u	1.0	5.0	35	260	350k	500m		D	TO3		
48#	AUY38	666m	30	#J	10	130	2.0	60	60	100u	1.0	5.0	35	260	2.5M			D	TO3		
49	B10912	666m	30	#J	3.0	35	40	40	40	2.0	2.0	1.0	50					A	TO3	C	
50	B10913	666m	30	#J	3.0	35	40	40	40	2.0	2.0	1.0	100					A	TO3	C	
51	CDT1309	666m	45	#J	3.0	2.0	40	10	35	2.0	2.0	1.0	40	120	8.0k	750m		A	TO3	C	
52	CDT1310†	666m	45	#J	5.0	2.0	40	35	35	5.0	2.0	2.0	40	120	8.0k	300m	3.5u	A	TO3	C	
53	CDT1311†	666m	45	#J	5.0	2.0	60	35	50	5.0	2.0	2.0	40	120	8.0k	300m	3.5u	A	TO3	C	
54	CDT1312†	666m	45	#J	5.0	2.0	80	35	65	5.0	2.0	2.0	40	120	8.0k	300m	3.5u	A	TO3	C	
55	CDT1313†	666m	45	#J	5.0	2.0	100	35	75	5.0	2.0	2.0	40	120	8.0k	300m	3.5u	A	TO3	C	
56	CDT1315†	666m	45	#J	8.0	300m	100	35	75	2.0	2.0	2.0	60	150	6.0k	300m	3.5u	A	TO3	C	
57	CDT1319†	666m	45	#J	5.0	2.0	40	35	35	5.0	2.0	2.0	60		6.0k	300m	3.5u	A	TO3	C	
58	CDT1320†	666m	45	#J	5.0	2.0	60	35	50	5.0	2.0	2.0	20	60	6.0k	300m	3.5u	A	TO3	C	
59	CDT1321†	666m	45	#J	5.0	2.0	80	35	65	5.0	2.0	2.0	20	60	6.0k	300m	3.5u	A	TO3	C	
60	CDT1322†	666m	45	#J	5.0	2.0	100	35	75	5.0	2.0	2.0	20	60	6.0k	300m	3.5u	A	TO3	C	
61#	NKT420	666m	1.3	#J	5.0	1.0	120	50	150	1.0	1.0	1.0	30	90				MD17d	TO3	C	
62#	NKT451	666m	1.3	#J	3.0	500m	36	10	10	150u	1.0	1.0	50	150				MD17d	TO3	C	
63#	NKT452	666m	1.3	#J	3.0	500m	36	10	10	150u	1.0	1.0	50	150				MD17d	TO3	C	
64#	NKT453	666m	1.3	#J	3.0	500m	36	10	10	150u	1.0	1.0	15	45				MD17d	TO3	C	
65#	OC20	666m	30	#J	10	2.0	100	40	75	2.0m	1.0	1.0	25	75	250k	160m	20u	A	TO3	C	
66#	OC28†	666m	30	#J	8.0	1.0	80	40	60	100u	1.0	1.0	20	55	250k			A	TO3	C	
67#	OC29†	666m	30	#J	8.0	1.0	60	20	32	100u	1.0	1.0	45	130	250k			A	TO3	C	
68#	OC35†	666m	30	#J	8.0	1.0	60	20	32	100u	1.0	1.0	25	75	250k			A	TO3	C	
69#	OC36†	666m	30	#J	8.0	1.0	80	40	32	100u	1.0	1.0	30	110	250k			A	TO3	C	
70#	SFT213	666m	45	#J	3.0	500m	40	20	30	1.0m	2.0	2.0	20	150	200k	130m		A	TO3	C	
71#	SFT214	666m	45	#J	3.0	500m	60	30	40	1.0m	2.0	2.0	20	150	200k	130m		A	TO3	C	
72#	SFT238	666m	45	#J	6.0	1.0	40	20	30	3.0m	2.0	5.0	20	30	300k	70m	6.0u	A	TO3	C	
73#	SFT239	666m	45	#J	6.0	1.0	60	30	40	3.0m	2.0	5.0	20	30	300k	70m	6.0u	A	TO3	C	
74#	SFT240	666m	45	#J	10	2.0	100	40	60	3.0m	2.0	5.0	20	70	400k	40m	4.5u	A	TO3	C	
75#	SFT250	666m	45	#J	3.0	500m	80	40	60	1.0m	2.0	2.0	20	150	200k	130m		A	TO3	C	
76	2N285A	667m	10	#J	3.0	1.5	40	10													

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			f _{ae}	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O A D E		
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcb @25°C (A)	Vcbj (V)	Vcbj (A)							MIN	MAX
1	LT5121	667m			#J	6.0	.70	100	15	90	4.0m	2.00	1.0	160	100k†	1.0	TO13	FO			
2	LT5122	667m			#J	6.0	.70	100	15	90	4.0m	2.00	1.0	160	100k†	1.0	TO10	FO			
3	2N5324†	670m	56		#J	10	3.0	250	4.0	150	2.00	5.0	20	60	2.0MΔ	50m	15u‡	TO3	CO		
4	2N5325†	670m	56		#J	10	3.0	325	4.0	200	2.00	5.0	20	60	2.0MΔ	50m	15u‡	TO3	CO		
5	MP3730	670m	56		#J	5.0		200	2.0	200	4.00	4.00	50m	10	200	1.0MΔ	10	TO3	CO		
6	MP3731	670m	56		#J	10		320	2.0	320	4.00	3.00	6.0	15		1.0MΔ	833m	TO3	CO		
7	2N456†	714m	50		#J	5.0	3.0	40	20	40	2.0m	1.50	5.0	10	30	200m	26u	A	TO3	CO	
8	2N457†	714m	50		#J	5.0	3.0	60	20	60	2.0m	1.50	5.0	10	30	200m	26u	A	TO3	CO	
9	2N458	714m	50		#J	5.0	3.0	80	20	80	2.0m	1.50	5.0	10	30	200m	26u	A	TO3	CO	
10#	2SB447	714m	45		#J	6.0	6.0	220	3.0		5000	1.00	6.0	15	50	1.5M†	50m	D	TO3	CO	
11#	2SB311	770m	50		#J	10		180	1.0		2200	1.00	1.0	30	125	17k	110m	D	TO3	CO	
12#	NKT401†	770m	1.3		#J	10	2.0	90	40	60	1500	1.00	1.0	25	75	430k†	140m		MD17d	CO	
13#	NKT402†	770m	1.3		#J	10	2.0	60	20	32	1500	1.00	1.0	60	180	430k†	140m		MD17d	CO	
14#	NKT403†	770m	1.3		#J	10	2.0	80	40	32	1500	1.00	1.0	50	150	430k†	420m		MD17d	CO	
15#	NKT404†	770m	1.3		#J	10	2.0	60	20	32	1500	1.00	1.0	50	150	430k†	420m		MD17d	CO	
16#	NKT405	770m	1.3		#J	5.0	1.0	60	20	32	1500	1.00	1.0	100	200	430k†	420m		MD17d	CO	
17#	NKT406†	770m	1.3		#J	10	2.0	60	20	32	1500	1.00	1.0	30	50	430k†	420m		MD17d	CO	
18	2N378	833m	50		#J	5.0		20			5000	2.00	2.0	15	40	5.0kΔ	500m	A	TO3	CO	
19	2N379	833m	50		#J	5.0		40			5000	2.00	2.0	20	70	5.0kΔ	500m	A	TO3	CO	
20	2N380	833m	50		#J	5.0		30			5000	2.00	2.0	30	70	8.0kΔ	500m	A	TO3	CO	
21	2N459†	833m	50		#J	5.0		105			5000	2.00	2.0	20	70	5.0kΔ	500m	A	TO3	CO	
22	2N1136	833m			#J	6.0		60		30	1.00	5.00	3.0	50	100	.33	5.0u		TO3	CO	
23	2N1136A	833m			#J	6.0		90		55	1.00	5.00	3.0	50	100	.33	5.0u		TO3	CO	
24	2N1136B	833m			#J	6.0		100		65	1.00	5.00	3.0	50	100	.33	5.0u		TO3	CO	
25	2N1137	833m			#J	6.0		60		30	1.00	5.00	3.0	75	150	.33	5.0u		TO3	CO	
26	2N1137A	833m			#J	6.0		90		55	1.00	5.00	3.0	75	150	.33	5.0u		TO3	CO	
27	2N1137B	833m			#J	6.0		100		65	1.00	5.00	3.0	75	150	.33	5.0u		TO3	CO	
28	2N1159†	833m	20		#J	5.0	1.0	80	20	60	8.0m	2.00	3.0	30	75	10k			TO3	CO	
29	2N1160†	833m	20		#J	7.0	1.0	80	20	60	8.0m	2.00	5.0	20	50	10k			TO3	CO	
30	2N1314	833m	125		#J	3.5		32	10	16	1000	1.40	30m	20	80	4.5k		A	MD3	CO	
31	2N2137	833m	62		#J	3.0	3.0	30	15	20	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
32	2N2137A	833m	62		#J	3.0	3.0	30	15	20	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
33	2N2138	833m	63		#J	3.0		45	25	30	2.0m	2.00	500m	30	60	12kΔ	250m	A	TO3	CO	
34	2N2138A	833m	62		#J	3.0	3.0	45	25	30	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
35	2N2139	833m	63		#J	3.0		60	30	45	2.0m	2.00	500m	30	60	12kΔ	250m	A	TO3	CO	
36	2N2139A	833m	62		#J	3.0	3.0	60	30	45	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
37	2N2140	833m	63		#J	3.0		75	40	60	2.0m	2.00	500m	30	60	12kΔ	250m	A	TO3	CO	
38	2N2140A	833m	62		#J	3.0	3.0	75	40	60	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
39	2N2141	833m	63		#J	3.0		90	45	65	2.0m	2.00	500m	30	60	12kΔ	250m	A	TO3	CO	
40	2N2141A	833m	62		#J	3.0	3.0	90	45	65	2.0m	2.00	500m	30	60	12kΔ	250m		TO3	CO	
41	2N2142	833m	62		#J	3.0	3.0	30	15	20	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
42	2N2142A	833m	62		#J	3.0	3.0	30	15	20	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
43	2N2143	833m	63		#J	3.0		45	25	30	2.0m	2.00	500m	50	100	12kΔ	250m	A	TO3	CO	
44	2N2143A	833m	62		#J	3.0	3.0	45	25	30	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
45	2N2144	833m	63		#J	3.0		60	30	45	2.0m	2.00	500m	50	100	12kΔ	250m	A	TO3	CO	
46	2N2144A	833m	62		#J	3.0	3.0	60	30	45	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
47	2N2145	833m	63		#J	3.0		75	40	60	2.0m	2.00	500m	50	100	12kΔ	250m	A	TO3	CO	
48	2N2145A	833m	62		#J	3.0	3.0	75	40	60	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
49	2N2146	833m	63		#J	3.0		90	45	65	2.0m	2.00	500m	50	100	12kΔ	250m	A	TO3	CO	
50	2N2146A	833m	62		#J	3.0	3.0	90	45	65	2.0m	2.00	500m	50	100	12kΔ	250m		TO3	CO	
51	B1178	833m			#J	10		160	15	160	10m‡	2.0	5.0	40	∅	1.0M†	.15	2.0u	DA	TO3	CO
52	JAN2N3791†	855m	150		#A	10	4.0	60	7.0	60	1.0m#	2.00	1.0	50	150	4.0MΔ	83m		TO3	CO	
53	JAN2N3792†	855m	150		#A	10	4.0	80	7.0	80	1.0m#	2.00	1.0	50	150	4.0MΔ	83m		TO3	CO	
54	2N3611	900m	85		#C	7.0	2.0	40	20	30	5.0m	2.00	3.0	35	70		83m		TO3	CO	
55	2N3612	900m	85		#C	7.0	2.0	60	30	45	5.0m	2.00	3.0	35	70		83m		TO3	CO	
56	2N3613	900m	85		#C	7.0	2.0	40	20	30	5.0m	2.00	3.0	60	120		83m		TO3	CO	
57	2N3614	900m	85		#C	7.0	2.0	60	30	45	5.0m	2.00	3.0	60	120		83m		TO3	CO	
58	2N3615	900m	85		#C	7.0	2.0	80	40	60	5.0m	2.00	3.0	30	60		83m		TO3	CO	
59	2N3616	900m	85		#C	7.0	2.0	100	50	75	5.0m	2.00	3.0	30	60		83m		TO3	CO	
60	2N3617	900m	85		#C	7.0	2.0	80	40	60	5.0m	2.00	3.0	45	90		83m		TO3	CO	
61	2N3618	900m	85		#C	7.0	2.0	100	50	75	5.0m	2.00	3.0	45	90		83m		TO3	CO	
62	2N250	909m	25		#J	3.0		30			1.0m	1.50	500m	30	90		2.0		A	TO3	CO
63	2N251	909m	25		#J	3.0		60			2.0m	1.50	500m	30	90		2.0		A	TO3	CO
64#	2SB433	909m	56		#J	15		70	40	60	4.0m‡	2.00	5.0	30	120		60m	AΔ	TO36	CO	
65#	2SB351	935m	70		#J	15		40	20	30	3.0m‡	2.00	5.0	30	150	4.0k	59m	A	TO36	CO	
66#	2SB352	935m	70		#J	15		60	40	40	3.0m‡	2.00	5.0	30	150	4.0k	59m	A	TO36	CO	
67#	2SB353	935m	70		#J	15		100	40	50	3.0m‡	2.00	5.0	30	150	4.0k	59m	A	TO39	CO	
68#	2SB354	935m	70		#J	15		80	60	60	3.0m‡	2.00	5.0	30	150	4.0k	59m	A	TO36	CO	
69	2N301	1.0	11		#S	1.5		40	10	40	3.0m‡	1.5	1.0	70				AΔ	TO3	CO	
70	2N301A	1.0	11		#S	1.5		60	10	60	3.0m‡	1.5	1.0	70				AΔ	TO3	CO	
71	2N1046	1.0	50		#J	12	3.0	100	1.5	50	2.0m‡	1.50	5.0	40		10MΔ	80m	ADΔ	TO3	CO	
72	2N1046A	1.0	50		#J	12	3.0	130	1.5	50	2.0m‡	1.50	5.0	40		10MΔ	80m	ADΔ	TO3	CO	
73	2N1046B	1.0	50		#J	12	3.0	130	1.5	50	2.0m‡	1.50	10	20		15MΔ	90m	ADΔ	TO3	CO	
74	JAN2N1412	1.0	70		#J	10		100	60	65	6.0m	2.00	5.0	25	50	5.0kΔ	50m		MT63	CO	
75	2N1412A	1.0	70		#J	10		100	60	70	6.0m	2.00	5.0	25	50	5.0kΔ	50m		MT63	CO	
76	JAN2N1412A	1.0	70		#J	10															

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	MAX Pc	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			BIAS MIN	BIAS MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	STRUCTURE	DWG No.	L E O D F
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo (A)	MAX Vcb (V)	Vcb (V)									
1	DTG6001	1.0	85	85	15	15	5.0	1.4	50	20m#	2.0	5.0	50	115	850k	30m	4.4u	DA	TO3	C		
2	DTG6011	1.0	85	85	15	15	5.0	1.4	50	20m#	2.0	5.0	50	115	850k	30m	4.4u	DA	TO3	C		
3	DTG6021	1.0	85	85	15	15	5.0	1.4	70	20m#	2.0	5.0	50	115	850k	30m	4.4u	DA	TO3	C		
4	DTG6031	1.0	85	85	15	15	5.0	1.4	80	20m#	2.0	5.0	50	115	850k	30m	4.4u	DA	TO3	C		
5	DTG603M1	1.0	85	85	15	15	5.0	1.4	80	20m#	2.0	5.0	50	115	850k	30m	4.4u	DA	TO3	C		
6	DTG2400M1	1.0	85	85	25	25	5.0	1.5	140	10m#	2.0	10	25	250	850k	30m	13u	DA	TO3	C		
7	MP6001	1.0	85	85	25	25	5.0	1.5	50	200u	2.0	5.0	50				18u		TO3	C		
8	MP6011	1.0	85	85	25	25	5.0	1.5	60	200u	2.0	5.0	50				10u	ADE	TO3	C		
9	MP6021	1.0	85	85	25	25	5.0	1.5	70	200u	2.0	5.0	50				10u	ADE	TO3	C		
10	MP6031	1.0	85	85	25	25	5.0	1.5	80	200u	2.0	5.0	50				10u	ADE	TO3	C		
11	MP1612	1.0	85	85	20	20		70	2.0	50	2.0	10	25	100	18M	.03			TO3	C		
12	MP1612A	1.0	85	85	20	20		110	2.0	75	2.0	10	25	100	18M	.03			TO3	C		
13	MP1612B	1.0	85	85	20	20		13	2.0	100	2.0	10	25	100	18M	.03			TO3	C		
14	MP1613	1.0	85	85	7.0	7.0	2.0	100	5.0	75	2.0	1.0	40	70	600k			A	TO3	C		
15	MP2060	1.0	85	85	7.0	7.0	2.0	40	20	25	2.0	3.0	30	200	600k			A	TO3	C		
16	MP2061	1.0	85	85	7.0	7.0	2.0	60	20	35	1.0	2.0	30	200	600k			A	TO3	C		
17	MP2062	1.0	85	85	7.0	7.0	2.0	75	20	50	1.0	2.0	30	200	600k			A	TO3	C		
18	MP2063	1.0	85	85	7.0	7.0	2.0	90	20	60	1.0	2.0	30	200	600k			A	TO3	C		
19#	ZG220	1.1	85	85	10	10	5.0	40	30		2.0	1.5	10	10	12	200k	.05	11u	A	MD4	C	
20#	ZG221	1.1	85	85	10	10	5.0	60	30		2.0	1.5	10	10	12	200k	.05	11u	A	MD4	C	
21#	ZG222	1.1	85	85	10	10	5.0	80	30		2.0	1.5	10	10	12	200k	.05	11u	A	MD4	C	
22	2N176	1.2	90	90	3.0	3.0		40	30	30	3.0	2.0	500m	25	90	7.0k	800m		A	TO3	C	
23	2N178	1.2	90	90	3.0	3.0		40	30	30	3.0	2.0	500m	15	45	6.0k	800m		A	TO3	C	
24	2N250A	1.2	90	90	7.0	7.0	2.0	40	20	25	500u	1.5	3.0	25	100	160k	230m		A	TO3	C	
25	2N251A	1.2	90	90	7.0	7.0	2.0	60	20	35	500u	1.5	3.0	25	100	160k	230m		A	TO3	C	
26	2N350	1.2	90	90	3.0	3.0		50	40	40	3.0	2.0	700m	20	60	6.0k	800m		A	TO3	C	
27	2N350A	1.2	90	90	3.0	3.0		50	40	40	3.0	2.0	700m	20	60	6.0k	800m		A	TO3	C	
28	2N351	1.2	90	90	3.0	3.0		50	40	40	3.0	2.0	700m	25	90	6.0k	800m		A	TO3	C	
29	2N351A	1.2	90	90	3.0	3.0		50	40	40	3.0	2.0	700m	25	90	6.0k	800m		A	TO3	C	
30	2N375	1.2	90	90	3.0	3.0		80	40	60	3.0	2.0	4.0	35	90	10k	800m		A	TO3	C	
31	2N376	1.2	90	90	3.0	3.0		50	40	60	3.0	2.0	700m	35	120	6.0k	800m		A	TO3	C	
32	2N376A	1.2	90	90	3.0	3.0		50	40	60	3.0	2.0	700m	35	120	6.0k	800m		A	TO3	C	
33	2N456A	1.2	90	90	7.0	7.0	3.0	40	20	30	2.0	1.5	5.0	30	90	200k	100m		A	TO3	C	
34	2N456B	1.2	90	90	7.0	7.0	3.0	40	30	30	50m	1.5	5.0	30	90	200k	100m		A	TO3	C	
35	2N457A	1.2	90	90	7.0	7.0	3.0	60	20	40	2.0	1.5	5.0	30	90	200k	100m		A	TO3	C	
36	2N457B	1.2	90	90	7.0	7.0	3.0	60	30	40	50m	1.5	5.0	30	90	200k	100m		A	TO3	C	
37	2N458A	1.2	90	90	7.0	7.0	3.0	80	20	45	2.0	1.5	5.0	30	90	200k	100m		A	TO3	C	
38	2N458B	1.2	90	90	7.0	7.0	3.0	80	30	45	50m	1.5	5.0	30	90	200k	100m		A	TO3	C	
39	2N459A	1.2	106	106	5.0	5.0		105	25	60	500u	2.0	2.0	20	70	5.0k	800m		A	TO3	C	
40	2N554	1.2	40	40	3.0	3.0		15	15	16	1.0	2.0	500m	50	50	6.0k	800m		A	TO3	C	
41	2N555	1.2	40	40	3.0	3.0		30	15	30	2.0	2.0	500m	50	50	6.0k	800m		A	TO3	C	
42	2N589	1.2	90	90	3.0	3.0		100	50	7.5	2.0	2.0	3.0	20	40	6.0k	800m		A	TO3	C	
43	2N618	1.2	90	90	3.0	3.0		80	40	60	3.0	2.0	1.0	60	140	8.5k	400m		A	TO3	C	
44	2N627	1.2	90	90	10	10		40	20	30	2.0	2.0	10	10	30	8.0k	100m		A	TO3	C	
45	2N628	1.2	90	90	10	10		60	30	45	2.0	2.0	10	10	30	8.0k	100m		A	TO3	C	
46	2N629	1.2	90	90	10	10		80	40	60	2.0	2.0	10	10	30	8.0k	100m		A	TO3	C	
47	2N630	1.2	90	90	10	10		100	50	75	2.0	2.0	10	10	30	8.0k	100m		A	TO3	C	
48	2N669	1.2	90	90	3.0	3.0		40	30	30	3.0	2.0	500m	75	250	5.0k	130m		A	TO3	C	
49	2N1021	1.2	90	90	7.0	7.0	3.0	100	20	50	2.0	1.5	5.0	30	90	200k	100m		A	TO3	C	
50	2N1021A	1.2	90	90	7.0	7.0	3.0	100	30	50	50m	1.5	5.0	30	90	200k	100m		A	TO3	C	
51	2N1022	1.2	90	90	7.0	7.0	3.0	120	20	55	2.0	1.5	5.0	30	90	200k	100m		A	TO3	C	
52	2N1022A	1.2	90	90	7.0	7.0	3.0	120	30	55	50m	1.5	5.0	30	90	200k	100m		A	TO3	C	
53	2N1031	1.2	90	90	15	15	1.5	50	25	30	15m	2.0	10	20	60	100m	15u		A	TO4	C	
54	2N1031A	1.2	90	90	15	15	1.5	60	25	40	15m	2.0	10	20	60	100m	15u		A	TO4	C	
55	2N1031B	1.2	90	90	15	15	1.5	90	25	70	15m	2.0	10	20	60	100m	15u		A	TO4	C	
56	2N1031C	1.2	90	90	15	15	1.5	100	25	80	15m	2.0	10	20	60	100m	15u		A	TO4	C	
57	2N1032	1.2	90	90	15	15	1.5	50	25	30	15m	2.0	10	50	100	100m	15u		A	TO4	C	
58	2N1032A	1.2	90	90	15	15	1.5	60	25	40	15m	2.0	10	50	100	100m	15u		A	TO4	C	
59	2N1032B	1.2	90	90	15	15	1.5	90	25	70	15m	2.0	10	50	100	100m	15u		A	TO4	C	
60	2N1032C	1.2	90	90	15	15	1.5	100	25	80	15m	2.0	10	50	100	100m	15u		A	TO4	C	
61	2N1073	1.2	60	60	10	10	1.0	40	75	40	1.0	2.0	5.0	20	60	15M	100m	5.0u	DA	TO3	C	
62	2N1073A	1.2	60	60	10	10	1.0	80	75	80	1.0	2.0	5.0	20	60	15M	100m	5.0u	DA	TO3	C	
63	2N1073B	1.2	60	60	10	10	1.0	120	75	120	2.0	2.0	5.0	20	60	15M	100m	5.0u	DA	TO3	C	
64	2N1099	1.2	30	30	15	15	4.0	80	40	60	8.0	2.0	5.0	35	70	10k	15u		A	TO3	C	
65	2N1100	1.2	30	30	15	15	4.0	100	40	45	8.0	2.0	5.0	25	50	10k	15u		A	TO3	C	
66	JAN2N1120	1.2	90	90	15	15	5.0	80	40	40	10m	2.0	10	20	50	3.0k	70m		A	TO3	C	
67	2N1146	1.2	90	90	15	15	5.0	40	30	30	4.0	2.0	5.0	60	150	4.0k	70m		A	TO3	C	
68	2N1146A	1.2	90	90	15	15	5.0	60	30	45	4.0	2.0	5.0	60	150	4.0k	70m		A	TO3	C	
69	2N1146B	1.2	90	90	15	15	5.0	80	30	60	4.0	2.0	5.0	60	150	4.0k	70m		A	TO3	C	
70	2N1146C	1.2	90	90	15	15	5.0	100	30	75	4.0	2.0	5.0	60	150	4.0k	70m		A	TO3	C	
71	2N1147	1.2	90	90	15	15	5.0	40	30	30	4.0	2.0	5.0	60	150	4.0k	70m		A	TO4	C	
72	2N1147A	1.2	90	90	15	15	5.0	60	30	45	4.0	2.0	5.0	60	150	4.0k	70m		A	TO4	C	
73	2N1147B	1.2	90	90	15	15	5.0	80	30	60	4.0	2.0	5.0	60	150	4.0k	70m		A	TO4	C	
74																						

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/°C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @ 25°C						MAX. hFE				f _{ae}	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E
						Ic (A)	Ib (A)	V _{cb0} (V)	V _{eb0} (V)	V _{ceo} (V)	Icbo @ 25°C (A)	V _{cb} (V)	Ic (A)	MIN	MAX				STRUC-TURE	DWG. No.	
1	2N1541	1.2	125	∅	#J	5.0		80	40	40	2.0m	2.0	3.0	50		1.0k			T03	C∅	
2	2N1541A	1.2	90	∅	#J	5.0		80	40	40	2.0m	2.0	3.0	50		4.0k	200m	5.0u∅	AΔ	T03	C∅
3	2N1542	1.2	125	∅	#J	5.0		100	50	50	2.0m	2.0	3.0	50		1.0k			T03	C∅	
4	2N1542A	1.2	90	∅	#J	5.0		100	50	50	2.0m	2.0	3.0	50		4.0k	200m	5.0u∅	AΔ	T03	C∅
5	2N1543	1.2	125	∅	#J	5.0		120	60	60	2.0m	2.0	3.0	50		1.0k			T03	C∅	
6	2N1544	1.2	90	∅	#J	5.0		40	20	20	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
7	2N1544A	1.2	90	∅	#J	5.0		40	20	20	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
8	2N1545	1.2	90	∅	#J	5.0		60	30	30	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
9	2N1545A	1.2	90	∅	#J	5.0		60	30	30	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
10	2N1546	1.2	90	∅	#J	5.0		80	40	40	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
11	2N1546A	1.2	90	∅	#J	5.0		80	40	40	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
12	2N1547	1.2	90	∅	#J	5.0		100	50	50	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
13	2N1547A	1.2	90	∅	#J	5.0		100	50	50	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
14	2N1548	1.2	90	∅	#J	5.0		120	60	60	2.0m	2.0	3.0	75	150	4.0k	100m	5.0u∅	AΔ	T03	C∅
15	2N1549	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
16	2N1549A	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
17	JAN2N1549A1	1.2	90	∅	#J	5.0	5.0	40	20	20	3.0m	2.0	10	10	30	10kΔ	100m	8.0u∅	AΔ	T03	C∅
18	2N1550	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
19	2N1550A	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
20	JAN2N1550A1	1.2	90	∅	#J	5.0	5.0	60	30	30	3.0m	2.0	10	10	30	10kΔ	100m	8.0u∅	AΔ	T03	C∅
21	2N1551	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
22	2N1551A	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
23	JAN2N1551A1	1.2	90	∅	#J	5.0	5.0	80	40	40	3.0m	2.0	10	10	30	10kΔ	100m	8.0u∅	AΔ	T03	C∅
24	2N1552	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	10	30	10k	100m	5.0u∅	AΔ	T03	C∅
25	2N1552A	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	10	20	10k	100m	5.0u∅	AΔ	T03	C∅
26	JAN2N1552A1	1.2	90	∅	#J	5.0	5.0	100	50	50	3.0m	2.0	10	10	30	10kΔ	100m	8.0u∅	AΔ	T03	C∅
27	2N1553	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
28	2N1553A	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
29	JAN2N1553A1	1.2	90	∅	#J	5.0	5.0	40	20	20	3.0m	2.0	10	30	60	3.0kΔ	700m	10u∅	AΔ	T03	C∅
30	2N1554	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
31	2N1554A	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
32	JAN2N1554A1	1.2	90	∅	#J	5.0	5.0	60	30	30	3.0m	2.0	10	30	60	3.0kΔ	700m	10u∅	AΔ	T03	C∅
33	2N1555	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
34	2N1555A	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
35	JAN2N1555A1	1.2	90	∅	#J	5.0	5.0	80	40	40	3.0m	2.0	10	30	60	3.0kΔ	700m	10u∅	AΔ	T03	C∅
36	2N1556	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
37	2N1556A	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	30	60	6.0k	70m	10u∅	AΔ	T03	C∅
38	JAN2N1556A1	1.2	90	∅	#J	5.0	5.0	100	50	70	3.0m	2.0	10	30	60	3.0kΔ	700m	10u∅	AΔ	T03	C∅
39	2N1557	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
40	2N1557A	1.2	90	∅	#J	5.0		40	20	20	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
41	JAN2N1557A1	1.2	90	∅	#J	5.0	5.0	40	20	20	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
42	2N1558	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
43	2N1558A	1.2	90	∅	#J	5.0		60	30	30	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
44	JAN2N1558A1	1.2	90	∅	#J	5.0	5.0	60	30	30	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
45	2N1559	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
46	2N1559A	1.2	90	∅	#J	5.0		80	40	40	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
47	JAN2N1559A1	1.2	90	∅	#J	5.0	5.0	80	40	40	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
48	2N1560	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
49	2N1560A	1.2	90	∅	#J	5.0		100	50	50	3.0m	2.0	10	50	100	5.0k	50m	10u∅	AΔ	T03	C∅
50	JAN2N1560A1	1.2	90	∅	#J	5.0	5.0	100	50	70	3.0m	2.0	10	50	100	1.5MΔ	50m	10u∅	AΔ	T03	C∅
51	2N16511	1.2	100	∅	#J	25	2.5	60	1.5	60	5.0m	2.0	10	35	140	250m	7.0u	DA	T041	C∅	
52	JAN2N16511	1.2	100	∅	#J	25	2.5	80	1.5	30	5.0m	2.0	10	35	105	600kΔ	26m	10u	DA	MD27	C∅
53	2N16521	1.2	100	∅	#J	25	2.5	100	1.5	100	5.0m	2.0	10	35	140	1.5M	250m	7.0u	DA	T041	C∅
54	JAN2N16521	1.2	100	∅	#J	25	2.5	100	1.5	60	5.0m	2.0	10	35	105	600kΔ	26m	10u	DA	MD27	C∅
55	2N16531	1.2	100	∅	#J	25	2.5	120	1.5	120	5.0m	2.0	10	35	140	1.5M	250m	7.0u	DA	T041	C∅
56	JAN2N16531	1.2	100	∅	#J	25	2.5	120	1.5	80	5.0m	2.0	10	35	105	600kΔ	26m	10u	DA	MD2	C∅
57	2N1751	1.2	1.0	∅	#S	15	∅	80	2.5	80	300u	1.5	20	30	90	25m		AD	T03	C∅	
58	2N1970	1.2	93	∅	#S	15	∅	40	40	50	4.0m	2.0	5.0	17	40	5.0kΔ		AΔ	T036	C∅	
59	2N2061A	1.2	90	∅	#J	5.0		20	10	15	2.0m	2.0	2.0	20	60	5.0k	200m	5.0u∅	AΔ	T03	C∅
60	2N2062A	1.2	90	∅	#J	5.0		20	10	15	2.0m	2.0	2.0	50	140	1.0k	140m	5.0u∅	AΔ	T03	C∅
61	2N2063A	1.2	90	∅	#J	5.0		40	20	20	2.0m	2.0	2.0	20	60	5.0k	200m	10u∅	AΔ	T03	C∅
62	2N2064A	1.2	90	∅	#J	5.0		40	20	20	2.0m	2.0	2.0	50	140	1.0k	140m	5.0u∅	AΔ	T03	C∅
63	2N2065A	1.2	90	∅	#J	5.0		80	30	40	5.0m	2.0	2.0	20	60	5.0k	200m	10u∅	AΔ	T03	C∅
64	2N2066A	1.2	90	∅	#J	5.0		80	30	40	5.0m	2.0	2.0	50	140	1.0k	140m	5.0u∅	AΔ	T03	C∅
65	2N2212	1.2	100	∅	#J	25	3.0	120	1.5	120	2.0m	2.0	5.0	50	120	450kΔ	200m		DA	T041	C∅
66	2N2285	1.2	100	∅	#C	25	3.0	80	1.5	30	5.0m	2.0	10	35	140	600kΔ			T03	C∅	
67	2N2286	1.2	100	∅	#C	25	3.0	100	1.5	60	5.0m	2.0	10	35	140	600kΔ			T03	C∅	
68	2N2287	1.2	100	∅	#C	25	3.0	120	1.5	80	5.0m	2.0	10	35	140	600kΔ			T03	C∅	
69	2N2288	1.2	100	∅	#C	25	3.0	40	0.75	40	1.0m	2.0	5.0	20	60	1.5M	100m	5.0u	DAΔ	T03	C∅
70	2N2289	1.2	80	∅	#J	10	1														

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb @ 25°C		BIAS		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	DWG. No.	L C O D E
						Ic (A)	Ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	Icbo (A)	Vcb (V)	Ic (A)	MIN								
1	CTP3544	1.2	90	∅	#J	25	5.0	60	30	40	15m	2.0	25	25	125	5.0k	40m	AΔ	TO41	C∅		
2	CTP3545	1.2	90	∅	#J	25	5.0	60	30	40	15m	2.0	25	25	125	5.0k	40m	AΔ	TO41	C∅		
3	CTP3552	1.2	90	∅	#J	25	5.0	40	30	30	10m	2.0	25	25	75	5.0k	40m	AΔ	TO41	C∅		
4	CTP3553	1.2	90	∅	#J	25	5.0	100	30	75	10m	2.0	25	25	75	5.0k	40m	AΔ	TO41	C∅		
5	DTG110	1.2	70	∅	#J	7.0	1.0		2.0	65	2.0m	2.0	1.0	74	250	320k	DΔ	TO3	C∅			
6	DTG110B	1.2	70	∅	#J	25	5.0		2.0	40	2.0	2.0	1.0	65	300	850k	DΔ	TO3	C∅			
7	DTG1010†	1.2	106	∅	#J	15	3.0		1.0	325	15m#					450k	A	TO41	C∅			
8	DTG1110†	1.2	106	∅	#J	15	3.0		1.0	200	15m#					450k	A	TO41	C∅			
9	DTG1200	1.2	106	∅	#J	15	3.0		1.0		100mΔ	50	8.0	23			A	TO41	C∅			
10	MP110	1.2	106	∅	#J	7.0	2.0			65	2.0m	2.0	1.0	74	250	320k	A	TO3	C∅			
11	MP110B	1.2	106	∅	#J	25	5.0	90	2.0	40	200m∅	2.0	1.0	65	300	500kΔ	ADEΔ	TO3	C∅			
12	MP525	1.2	106	∅	#J	10				60	200m∅	2.0	3.0	30			A	TO3	C∅			
13	MP2000A†	1.2	106	∅	#J	25	5.0		2.0	30	200m∅	2.0	8.0	25		210k	ADE	TO3	C∅			
14	MP2100A†	1.2	106	∅	#J	25	5.0		2.0	60	200m∅	2.0	8.0	25		210k	ADE	TO3	C∅			
15	MP2200A†	1.2	106	∅	#J	25	5.0		2.0	80	200m∅	2.0	8.0	25		210k	ADE	TO3	C∅			
16	MP2300A†	1.2	106	∅	#J	25	5.0		2.0	100	200m∅	2.0	8.0	25		210k	ADE	TO3	C∅			
17	MP2400A†	1.2	106	∅	#J	25	5.0		2.0	120	200m∅	2.0	8.0	25		210k	ADE	TO3	C∅			
18#	SFT264	1.2	87	∅	#C	15		30	15	15	8.0m	2.0	5.0	25	100	300k†	A	TO36	C∅			
19#	SFT265	1.2	87	∅	#C	15	2.5	40	20	40	8.0m	2.0	5.0	25	45	300k†	A	TO36	C∅			
20#	SFT266	1.2	87	∅	#C	15	2.5	60	40	50	8.0m	2.0	5.0	25	45	300k†	AΔ	TO36	C∅			
21#	SFT267	1.2	87	∅	#S	15	2.5	80	60	60	8.0m	2.0	5.0	25	45	300k†	AΔ	TO36	C∅			
22	T13027	1.2	2.0	∅	#C	7.0	3.0	45	20	40	1.0m∅	2.0	3.0	40	250	#	A	TO3	C∅			
23	T13028	1.2	2.0	∅	#C	7.0	3.0	60	20	50	1.0m∅	2.0	3.0	40	250	#	A	TO3	C∅			
24	T13029	1.2	2.0	∅	#C	7.0	3.0	80	20	55	1.0m∅	2.0	3.0	40	250	#	A	TO3	C∅			
25	T13030	1.2	2.0	∅	#C	7.0	3.0	100	20	60	1.0m∅	2.0	3.0	40	250	#	A	TO3	C∅			
26	T13031	1.2	2.0	∅	#C	7.0	3.0	120	20	65	1.0m∅	2.0	3.0	40	250	#	A	TO3	C∅			
27	2N392	1.3		∅	#J	5.0	1.0	60	40	40	8.0m	2.0	1.0	200		6.0k	A	TO3	C∅			
28	2N1168	1.3		∅	#J	5.0	1.0	50	20	30	8.0m	2.0	1.0	70	110	10k	A	TO3	C∅			
29	2N1291	1.3		∅	#J	3.0	.50	35	15	30	1.5m	2.0	.50	30	90	150k	A	TO3	C∅			
30	2N1293	1.3		∅	#J	3.0	.50	60	15	45	2.0m	2.0	.50	30	90	150k	A	TO3	C∅			
31	2N1297	1.3		∅	#J	3.0	.50	100	15	80	4.0m	2.0	.50	30	90	150k	A	TO3	C∅			
32	2N1518†	1.3	50	∅	#J	25	4.0	50	30	40	4.0m	4.0	15	15	40	4.0k	A	TO36	C∅			
33	2N1519†	1.3	50	∅	#J	25	4.0	80	30	60	4.0m	4.0	15	15	40	4.0k	A	TO36	C∅			
34	2N1520†	1.3	50	∅	#J	35	6.0	50	30	40	4.0m	4.0	15	17	35	4.0k	A	TO36	C∅			
35	2N1521†	1.3	50	∅	#J	35	6.0	80	30	60	4.0m	4.0	15	17	35	4.0k	A	TO36	C∅			
36	2N1522†	1.3	50	∅	#J	50	8.0	50	30	40	4.0m	4.0	15	22	45	4.0k	A	TO36	C∅			
37	2N1523†	1.3	50	∅	#J	50	8.0	80	30	60	4.0m	4.0	15	22	45	4.0k	A	TO36	C∅			
38	2N1529A	1.3		∅	#J	5.0	5.0	40	20	30	2.0m	2.0	3.0	20	40	5.0kΔ	A	TO3	C∅			
39	2N1530A	1.3		∅	#J	5.0	5.0	60	30	45	2.0m	2.0	3.0	20	40	5.0kΔ	A	TO3	C∅			
40	2N1531A	1.3		∅	#J	5.0	5.0	80	40	60	2.0m	2.0	3.0	20	40	5.0kΔ	A	TO3	C∅			
41	2N1532A	1.3		∅	#J	5.0	5.0	100	50	75	2.0m	2.0	3.0	20	40	5.0kΔ	A	TO3	C∅			
42	2N1534A	1.3		∅	#J	5.0	5.0	40	20	30	2.0m	2.0	3.0	35	70	5.0kΔ	A	TO3	C∅			
43	2N1535A	1.3		∅	#J	5.0	5.0	60	30	45	2.0m	2.0	3.0	35	70	5.0kΔ	A	TO3	C∅			
44	2N1536A	1.3		∅	#J	5.0	5.0	80	40	60	2.0m	2.0	3.0	35	70	5.0kΔ	A	TO3	C∅			
45	2N1537A	1.3		∅	#J	5.0	5.0	100	50	75	2.0m	2.0	3.0	35	70	5.0kΔ	A	TO3	C∅			
46	2N2291	1.3	60	∅	#J	10	1.0	40	.75	40	1.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO3	C∅			
47	2N2292	1.3	60	∅	#J	10	1.0	80	.75	80	1.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO3	C∅			
48	2N2293	1.3	60	∅	#J	10	1.0	120	.75	120	2.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO3	C∅			
49	2N2294	1.3	60	∅	#J	10	1.0	40	.75	40	1.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO41	C∅			
50	2N2295	1.3	60	∅	#J	10	1.0	80	.75	80	1.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO41	C∅			
51	2N2296	1.3	60	∅	#J	10	1.0	120	.75	120	2.0m∅	2.0	5.0	50	120	1.5M†	DAΔ	TO41	C∅			
52	2N2423	1.3		∅	#J	5.0	5.0	100	30	80	5.0m	2.0	2.0	20	100		A	TO3	C∅			
53	2N2445	1.3	90	∅	#J	20	2.0	100	12	50	3.0m∅	2.0	10	20	60		A	TO41	A∅			
54	2N2636	1.3	∅	∅	#J	25		100		100	10m∅	2.0	10	35	140		4u#Z	DAΔ	TO41	C∅		
55	2N2637	1.3	∅	∅	#J	25		100		100	10m∅	2.0	10	35	140		4u#Z	DAΔ	TO41	C∅		
56	2N2638	1.3	∅	∅	#J	25		100		100	10m∅	2.0	10	35	140		3.5u#Z	DAΔ	TO41	C∅		
57	JAN2N5156†	1.3	90	∅	#A	10		100	60	60	4.0m	2.0	500m	60	250		100m	20u	TO3	C∅		
58#	2SB203	1.3	80	∅	#J	20		40		30	5.0m	1.5	15	20	40		A	MD18	C∅			
59#	2SB204	1.3	80	∅	#J	30		40		30	5.0m	1.5	15	50	100		A	MD18	C∅			
60#	2SB205	1.3	80	∅	#J	20		80		60	5.0m	1.5	15	20	40		A	MD18	C∅			
61#	2SB206	1.3	80	∅	#J	30		80		60	5.0m	1.5	15	50	100		A	MD18	C∅			
62#	2SB207	1.3	80	∅	#J	20		100		75	5.0m	1.5	15	20	40		A	MD18	C∅			
63#	2SB207A	1.3	80	∅	#J	20		140		85	5.0m	1.5	15	20	40		A	MD18	C∅			
64#	2SB208	1.3	80	∅	#J	30		100		75	5.0m	1.5	15	50	100		A	MD18	C∅			
65#	2SB208A	1.3	80	∅	#J	30		140		85	5.0m	1.5	15	50	100		A	MD18	C∅			
66#	2SB209	1.3	80	∅	#J	20		40	40	30	5.0m	1.5	15	20	40	2.5k	A	MD18	C∅			
67#	2SB210	1.3	80	∅	#J	30		40	40	30	5.0m	1.5	15	50	100	2.5k	A	MD18	C∅			
68#	2SB211	1.3	80	∅	#J	20		80	40	60	5.0m	1.5	15	20	40	2.5k	A	MD18	C∅			
69#	2SB212	1.3	80	∅	#J	30		80	40	60	5.0m	1.5	15	50	100	2.5k	A	MD18	C∅			
70#	2SB213	1.3	80	∅	#J	20		100	40	75	5.0m	1.5	15	20	40	2.5k	A	MD18	C∅			
71#	2SB213A	1.3	80	∅	#J	20		140	40	85	5.0m	1.5	15	20	40	2.5k	A	MD18	C∅			
72#	2SB214	1.3	80	∅	#J	30		100	40	75	5.0m	1.5	15	50	100	2.5k	A	MD18	C∅			
73#	2SB214A	1.3	80	∅	#J	30		140	40	85	5.0m	1.5	15	50	100	2.5k	A	MD18	C∅			
74#	2SB430	1.3	∅	∅	#C	20		70	1.0		2.0m	0.0	20	10		10kΔ	D	TO36	A			
75	B1181	1.3	∅	∅	#	25		160	2.0	160	10m∅	1.5	15	60	∅	2.0M†	DA	TO3	C∅			
76	CQT1075	1.3	90	∅	#J	25		140	140	70	2.0m∅	2.0	25	10		200kΔ	A	TO3	C∅			
77	CQT1076	1.3	90	∅	#J	25		115	115	60	2.0m∅	2.0	25	15		200kΔ	A	TO3	C∅			
78	CQT1077	1.3	90	∅	#J	15		100	100	45	2.0m∅	2.0	15	10		200kΔ	A					

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M A E X P	ABSOLUTE MAX. RATINGS @25°C					MAX. Icbo @ 25°C (A)	hFE			fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E	
						Ic (A)	Ib (A)	Vcbo (V)	Vcbo (V)	Vcbo (V)		MIN	MAX	MIN						MAX
1#	JAN2N174A	2.0	75	∅	#J	14	4.0	80	80	40	15m	2.0	1.2	40	80	100kΔ	60m	15u	MT56	∅
2	2N277	2.0	50	∅	#J	15	4.0	40	20	25	8.0m	2.0	1.0	35	70	10k	15u	15u	TO36	C∅
3	2N278	2.0	50	∅	#J	15	4.0	50	30	30	4.0m	2.0	1.0	35	70	10k	15u	15u	TO36	C∅
4	2N441	2.0	150	∅	#J	15	4.0	40	20	25	8.0m	2.0	1.0	20	40	10k	15u	15u	TO36	C∅
5	2N442	2.0	150	∅	#J	15	4.0	50	30	30	4.0m	2.0	1.0	20	40	10k	15u	15u	TO36	C∅
6	2N443	2.0	150	∅	#J	15	4.0	60	40	45	4.0m	2.0	1.0	20	40	10k	15u	15u	TO36	C∅
7	JAN2N456B	2.0	150	∅	#J	7.0	∅	40	30	30	500u∅	1.5∅	5.0	30	90	100m	100m	100m	TO3	C∅
8	JAN2N457B	2.0	150	∅	#J	7.0	∅	60	35	40	500u∅	1.5∅	5.0	30	90	100m	100m	100m	TO3	C∅
9	JAN2N458B	2.0	150	∅	#J	7.0	∅	80	40	45	500u∅	1.5∅	5.0	30	90	100m	100m	100m	TO3	C∅
10	2N511	2.0	150	∅	#J	25	5.0	40	30	30	15m	2.0	1.0	20	60	260k§	50m	∅	MD4	∅
11	2N511A	2.0	150	∅	#J	25	5.0	60	30	40	15m	2.0	1.0	20	60	260k§	50m	∅	MD4	∅
12	2N511B	2.0	150	∅	#J	25	5.0	80	30	45	15m	2.0	1.0	20	60	260k§	50m	∅	MD4	∅
13	2N512	2.0	150	∅	#J	25	5.0	40	30	30	15m	2.0	1.0	20	60	280k§	70m	∅	MD4	∅
14	2N512A	2.0	150	∅	#J	25	5.0	60	30	40	15m	2.0	1.0	20	60	280k§	70m	∅	MD4	∅
15	2N512B	2.0	150	∅	#J	25	5.0	80	30	45	15m	2.0	1.0	20	60	280k§	70m	∅	MD4	∅
16	2N513	2.0	150	∅	#J	25	5.0	40	30	30	15m	2.0	1.0	20	60	300k§	750m	∅	MD4	∅
17	2N513A	2.0	150	∅	#J	25	5.0	60	30	40	15m	2.0	1.0	20	60	300k§	750m	∅	MD4	∅
18	2N513B	2.0	150	∅	#J	25	5.0	80	30	45	15m	2.0	1.0	20	60	300k§	750m	∅	MD4	∅
19	2N514	2.0	150	∅	#J	25	5.0	40	30	30	15m	2.0	1.0	20	60	430k§	800m	∅	MD4	∅
20	2N514A	2.0	150	∅	#J	25	5.0	60	30	40	15m	2.0	1.0	20	60	430k§	800m	∅	MD4	∅
21	2N514B	2.0	150	∅	#J	25	5.0	80	30	45	15m	2.0	1.0	20	60	430k§	800m	∅	MD4	∅
22	JAN2N1021A	2.0	150	∅	#J	7.0	∅	100	50	50	500u∅	1.5∅	5.0	30	90	100m	100m	100m	TO3	C∅
23	JAN2N1022A	2.0	150	∅	#J	7.0	∅	120	60	55	500u∅	1.5∅	5.0	30	90	100m	100m	100m	TO3	C∅
24	JAN2N1358	2.0	150	∅	#J	15	∅	80	40	40	4.0m	2.0	1.0	25	50	5.0kΔ	60m	∅	TO36	C∅
25	2N1358At	2.0	50	∅	#J	15	4.0	100	60	60	4.0m	2.0	1.0	25	50	5.0k	60m	30u	TO36	C∅
26	2N1907	2.0	80	∅	#J	20	3.0	100	1.5	60	10m	1.5∅	15	20	20m§	70m	∅	TO3	C∅	
27	2N1908	2.0	80	∅	#J	20	3.0	130	1.5	50	10m	1.5∅	15	20	20m§	70m	∅	TO3	C∅	
28	2N1980	2.0	170	∅	#J	15	∅	50	20	30	6.0m	2.0	1.0	50	100	3.0kΔ	100m	∅	TO36	C∅
29	2N1981	2.0	170	∅	#J	15	∅	70	20	40	6.0m	2.0	1.0	50	100	3.0kΔ	100m	∅	TO36	C∅
30	2N1982	2.0	170	∅	#J	15	∅	90	20	50	6.0m	2.0	1.0	50	100	3.0kΔ	100m	∅	TO36	C∅
31	2N2075	2.0	170	∅	#J	15	∅	80	40	65	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
32	2N2075A	2.0	170	∅	#J	15	∅	80	40	65	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
33	2N2076	2.0	170	∅	#J	15	∅	70	35	55	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
34	2N2076A	2.0	170	∅	#J	15	∅	70	35	55	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
35	2N2077	2.0	170	∅	#J	15	∅	50	25	45	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
36	2N2077A	2.0	170	∅	#J	15	∅	50	25	45	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
37	2N2078	2.0	170	∅	#J	15	∅	40	20	25	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
38	2N2078A	2.0	170	∅	#J	15	∅	40	20	25	4.0m	2.0	1.0	20	40	10k	60m	9.0u	TO36	C∅
39	2N2079	2.0	170	∅	#J	15	∅	80	40	65	4.0m	2.0	1.0	35	70	10k	60m	6.0u	TO36	C∅
40	2N2079A	2.0	170	∅	#J	15	∅	80	40	65	4.0m	2.0	1.0	35	70	10k	60m	6.0u	TO36	C∅
41	2N2080	2.0	170	∅	#J	15	∅	70	35	55	4.0m	2.0	1.0	35	70	10k	60m	6.0u	TO36	C∅
42	2N2080A	2.0	170	∅	#J	15	∅	70	35	55	4.0m	2.0	1.0	35	70	10k	60m	6.0u	TO36	C∅
43	2N2081	2.0	170	∅	#J	15	∅	50	25	45	4.0m	2.0	1.0	35	70	10k	80m	6.0u	TO36	C∅
44	2N2081A	2.0	170	∅	#J	15	∅	50	25	45	4.0m	2.0	1.0	35	70	10k	80m	6.0u	TO36	C∅
45	2N2082	2.0	170	∅	#J	15	∅	40	20	25	4.0m	2.0	1.0	35	70	10k	80m	6.0u	TO36	C∅
46	2N2082A	2.0	170	∅	#J	15	∅	40	20	25	4.0m	2.0	1.0	35	70	10k	80m	6.0u	TO36	C∅
47	2N2152	2.0	170	∅	#J	30	∅	45	25	30	4.0m	2.0	1.0	50	100	2.7k	20m	∅	TO36	C∅
48	2N2152A	2.0	170	∅	#J	30	30	45	25	30	4.0m	2.0	1.0	50	100	2.0k	20m	∅	TO36	C∅
49	2N2153	2.0	170	∅	#J	30	∅	60	30	45	4.0m	2.0	1.0	50	100	2.7k	20m	∅	TO36	C∅
50	2N2153A	2.0	170	∅	#J	30	30	60	30	45	4.0m	2.0	1.0	50	100	2.0k	20m	∅	TO36	C∅
51	2N2154	2.0	170	∅	#J	30	∅	75	40	60	4.0m	2.0	1.0	50	100	2.7k	20m	∅	TO36	C∅
52	2N2154A	2.0	170	∅	#J	30	30	75	40	60	4.0m	2.0	1.0	50	100	2.0k	20m	∅	TO36	C∅
53	2N2156	2.0	170	∅	#J	30	∅	45	25	30	4.0m	2.0	1.0	80	160	2.7k	20m	∅	TO36	C∅
54	2N2156A	2.0	170	∅	#J	30	30	45	25	30	4.0m	2.0	1.0	80	160	2.0k	20m	∅	TO36	C∅
55	2N2157	2.0	170	∅	#J	30	∅	60	30	45	4.0m	2.0	1.0	80	160	2.7k	20m	∅	TO36	C∅
56	2N2157A	2.0	170	∅	#J	30	30	60	30	45	4.0m	2.0	1.0	80	160	2.0k	20m	∅	TO36	C∅
57	2N2158	2.0	170	∅	#J	30	∅	75	40	60	4.0m	2.0	1.0	80	160	2.7k	20m	∅	TO36	C∅
58	2N2158A	2.0	170	∅	#J	30	30	75	40	60	4.0m	2.0	1.0	80	160	2.0k	20m	∅	TO36	C∅
59	2N2357	2.0	170	∅	#J	50	∅	60	2.5	60	5.0m	1.5∅	20	30	90	18m	∅	TO41	C∅	
60	2N2358	2.0	170	∅	#J	50	∅	80	2.5	80	5.0m	1.5∅	20	30	90	18m	∅	TO41	C∅	
61	2N2359	2.0	170	∅	#J	50	∅	120	2.5	120	5.0m	1.5∅	20	30	90	18m	∅	TO41	C∅	
62	2N2490	2.0	170	∅	#J	15	∅	70	40	50	3.0m	2.0	1.0	20	40	10k	60m	20u	TO36	C∅
63	2N2491	2.0	170	∅	#J	15	∅	60	30	40	3.0m	2.0	1.0	35	70	10k	60m	20u	TO36	C∅
64	2N2492	2.0	170	∅	#J	15	∅	80	60	65	2.0m	2.0	1.0	25	50	10k	40m	20u	TO36	C∅
65	2N2493	2.0	170	∅	#J	15	∅	100	80	75	3.0m	2.0	1.0	25	50	10k	40m	20u	TO36	C∅
66	2N2691At	2.0	170	∅	#C	20	5.0	120	5.0	80	5.0m	1.5∅	20	50	100	600k§Δ	30m	700u	TO41	C∅
67	2N2728t	2.0	170	∅	#C	50	10	15	15	5.0	10m#	2.0	1.0	20	40	3.0kΔ	2.0m	25u	TO36	C∅
68	2N2730	2.0	170	∅	#J	65	10	80	30	60	5.0m	2.0	1.0	65	15	340k§	10m	10u	TO36	C∅
69	2N2731	2.0	170	∅	#J	65	10	60	30	45	5.0m	2.0	1.0	65	15	340k§	10m	10u	TO36	C∅
70	2N2732	2.0	170	∅	#J	65	10	40	20	30	5.0m	2.0	1.0	65	15	340k§	10m	10u	TO36	C∅
71	2N3146	2.0	150	∅	#C	15	3.0	150	60	65	10m	1.5∅	5.0	30	90	200k§Δ	80m	∅	TO3	C∅
72	2N3147	2.0	150	∅	#C	15	3.0	180	80	75	10m	1.5∅	5.0	30	90	200k§				

8. GERMANIUM PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E						
						I _c (A)	I _b (A)	BV _{ceo} (V)	BV _{ebo} (V)	BV _{ceo} (V)	BIAS						MIN	MAX		MAX. I _c @ 25°C (A)	V _{cb} (V)	V _{cb} (V)	I _c (A)	STRUCTURE	DWG. No.
											V _{cb} (V)	V _{cb} (V)	I _c (A)												
1	2N574A	2.5	187 ∅	#J	10	2.0	80	28	60	20m	2.0∅	10	9.0	22	100k∅	20m	20u	A	MT7						
2	2N575	2.5	187 ∅	#J	25	3.8	60	28	50	7.0m	2.0∅	25	10	42	150k∅	20m	15u	AΔ	MT7						
3	JAN2N575	2.5	187 ∅	#J	25		60	28	50	7.0m	2.0∅	100m	19		20m	20m			MT7						
4	2N575A	2.5	187 ∅	#J	25	3.8	80	28	55	20m	2.0∅	25	10		150k∅	20m	15u	AΔ	MT7						
5	JAN2N575A	2.5	187 ∅	#J	25		80	28	55	20m	2.0∅	10	19	42	20m	20m			MT7						
6	2N1157	2.5	187 ∅	#J	40	6.0	60	28	45	7.0m	2.0∅	40	10		200k∅	20m	10u		MT7						
7	2N1157A	2.5	187 ∅	#J	40	6.0	80	28	50	20m	2.0∅	40	10		200k∅	20m	10u		MT7						
8	JAN2N1157A	2.5	187 ∅	#J	40		80	28	50	20m	2.0∅	10	38	84	20m	20m			MT7						
9#	AD139	2.5	13	#J		.20	32	10	32	25u∅	0.0	1.0 Δ	33	110	10k			A	MD11						
10	DA3F3	2.5	187 ∅	#J		2.5	60	65	35		2.0∅	10	25				12u		MT7						
11	MP800	3.0	250 ∅	∅J	150		20	60	60	12m∅	2.0∅	150	15						X71	A					
12	MP801	3.0	250 ∅	∅J	150		20	45	45	12m∅	2.0∅	150	15						X71	A					
13	MP900†	3.0	250 ∅	∅J	150		80	2.0	60	10m	2.0∅	70	20		3.0m	25u			X71	A					
14	MP901†	3.0	250 ∅	∅J	150		110	2.0	90	10m	2.0∅	70	20		3.0m	25u			X71	A					
15	MP902†	3.0	250 ∅	∅J	150		140	2.0	120	10m	2.0∅	70	20		3.0m	25u			X71	A					
16#	2SB474	5.0	12 ∅	#J	2.0		35	6.0	35 ∅	200u	1.5∅	200m	100 ∅		700k†			A	TO3						

9. GERMANIUM NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A X P	ABSOLUTE MAX. RATINGS @25°C						MAX. hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E			
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcb @25°C (A)	BIAS							MAX. SAT. RES. (Ω)	tr (s)		STRUCTURE	DWG. No.	L C O D E
												Vcb (V)	Ic (A)											
1	2N95		2.5			1.5		25										X4		FØ				
2	2N142/13		4.0			.80		60		30	2.0m	4.0	.25	11				TO13		FØ				
3#	AC181K		2.5 Ø		#J	1.0		32		10	20uØ	1.0Ø	600m	50				X9b		FØ				
4#	AC194	2.5mØ	1.0 #		#C	1.0		25		10	25uØ		400mΔ	200 Ø				TO1						
5#	AC194K	2.5mØ	1.0 #		#C	1.0		25		10	25uØ		400mΔ	200 Ø				TO1						
6	2N4105	25m	1.6 Ø		#S	1.0		25		10	25uØ	10	5.0mΔ	70	350			TO1		A				
7	2N102/13	80m	1.0		#J	1.5		30		15	2.0m	1.5Ø	500m	11				TO13		FØ				
8	2N144/13	80m	1.0		#J	800m		60		30	6.0m	4.5Ø	250m	11				TO13		FØ				
9	JAN2N326	116m	7.0 Ø		#J	2.0		35		15	35 Ø	1.0Ø	1.0	15	60	150kΔ	1.2	TO13		FØ				
10	2N4077	116m	7.5 Ø		#A	1.0		32		10	20	25uØ	1.0Ø	500m	50	300	1.0mΔ	1.2	MD17		Ø			
11#	AD165	117m	6.0		#J	1.0		25		10	20	30uØ	1.0Ø	500m	60	185 Ø	20k	TO13						
12	2N326	125mØ	7.0 Ø		#J	2.0		35		15	35	300u	1.0Ø	1.0	15	60	150kΔ	1.2	MD9					
13#	AD161	222m	4.0		#J	1.0		32		10	20	500u	1.0Ø	500m	80	320	3.0MΔ		MD17c					
14	2N1218	270m	20		#C	3.0		45		15	45 §	100u	1.5Ø	1.0	30	120	7.0kΔ	1.0	TO3		CØ			
15	2N1292	333mØ	25		#J	3.0		35		15	30	1.0	2.0Ø	500m	30			TO3		CØ				
16	2N1294	333mØ	25		#J	3.0		60		15	45	2.0	2.0Ø	500m	30			TO3		CØ				
17	2N1296	333mØ	25		#J	3.0		80		15	60	Ø	3.0	2.0Ø	500m	30		TO3		CØ				
18	2N1298	333mØ	25		#J	3.0		100		15	80	4.0	2.0Ø	500m	30			TO3		CØ				
19	2N1321	333mØ	25		#J	3.0		35		15	30	1.0	2.0Ø	500m	30			TO10		FØ				
20	2N1323	333mØ	25		#J	3.0		60		15	45	2.0	2.0Ø	500m	30			TO10		FØ				
21	2N1325	333mØ	25		#J	3.0		80		15	60	3.0	2.0Ø	500m	30			TO10		FØ				
22	2N1327	333m	25		#J	3.0		100		15	80	4.0	2.0Ø	500m	30			TO10		FØ				
23	2N1329	333m	25		#J	3.0		35		15	30	1.0	2.0Ø	500m	30			TO13		FØ				
24	2N1330	333m	25		#J	3.0		60		15	45	2.0	2.0Ø	500m	30			TO13		FØ				
25	2N1332	333m	25		#J	3.0		80		15	60	3.0	2.0Ø	500m	30			TO13		FØ				
26	2N1334	333m	25		#J	3.0		100		15	80	4.0	2.0Ø	500m	30			TO13		FØ				

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE TO C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Icb0 @ 25°C (A)	BIAS hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E		
						Ic (A)	Ib (A)	V _{bc0} (V)	V _{ve0} (V)	V _{ve0} (V)		MIN	MAX				STRUC-TURE	DWG No.			
1#	2SA565		350			.50		50	4.0	50	.50m	3.0	10	40	200			TO1			
2#	2SA566		10			.70		120	4.0	100		4.0	50	35	200			TO66			
3#	2SA597		60			1.0		50	4.0	40	1.0u	3.0	150m	10	250	200	PE	TO39	A		
4	TRSP3254S		1.0			.40	40	350	5.0	325	.02m	10	20	30	30M			TO5			
5	TRSP3255S		2.0			.40	40	350	5.0	325	.02m	10	20	30	30M			MD14			
6	TRSP3504S		1.0			.40	40	375	5.0	350	.02m	10	20	30	30M			TO5			
7	TRSP3505S		2.0			.40	40	375	5.0	350	.02m	10	20	30	30M			MD14			
8	TRSP3754S		1.0			.40	40	400	5.0	375	.02m	10	20	30	30M			TO5			
9	TRSP3755S		2.0			.40	40	400	5.0	375	.02m	10	20	30	30M			MD14			
10	2N50231	2.2m	1.0			500m		30	5.0	30	1.0u	1.0	500m	40	100	200MΔ		1.7.	TO39	A0	
11	2N5091	2.6m	2.0			500m	500m	350	6.0	300	500n	1.5	100m	20	200	20MΔ			TO5	A0	
12	2N5093	2.6m	2.0			500m	500m	400	6.0	350	500n	1.5	100m	20	200	20MΔ			TO5	A0	
13	2N5094	2.6m	2.0			500m	500m	450	6.0	400	500n	1.5	100m	20	200	20MΔ			TO5	A0	
14	2N5096	2.6m	2.0			500m	500m	500	6.0	450	500n	1.5	100m	20	200	20MΔ			TO5	A0	
15	JAN2N34671	2.8m	1.0			500m		50	5.0	50	100n	1.0	500m	40	120	175MΔ		30n	TO5	A0	
16	JAN2N34681	2.8m	1.0			500m		50	5.0	50	100n	1.0	500m	25	75	150MΔ		1.2	TO5	A0	
17	JAN2N36351	2.8m	1.0			500m		140	5.0	100	100n	1.0	50m	100	300 #	200MΔ		400m	TO5	A0	
18	JAN2N36361	2.8m	1.0			500m		175	5.0	175	100n	1.0	50m	150	150 #	150MΔ		400m	TO5	A0	
19	JAN2N36371	2.8m	1.0			500m		175	5.0	175	100n	1.0	50m	100	300 #	200MΔ		400m	TO5	A0	
20	2N40361	2.8m	5.0			500m		80	7.0	65	100u	1.0	100u	50	300 #	200MΔ		400m	TO5	A0	
21	2N5160	2.8m	5.0			400m		60	4.0	40	1.0	5.0	50m	10	140	60MΔ		70n	TO5	A0	
22	2N5281	2.8m	2.0			500m	500m	175	5.0	150	1.0u	1.0	1.0m	20	200	20MΔ			TO5	A0	
23	2N5282	2.8m	2.0			500m	500m	325	5.0	300	1.0u	1.0	1.0m	20	200	20MΔ		5.0m	TO5	A0	
24	40406	2.8m	1.0			700m	200m	40	5.0	50	1.0u	1.0	100u	30	200	100M			TO5	A0	
25	2N34671	5.6m	1.0			500m		40	5.0	40	100n	1.0	500m	40	120 #	175MΔ		30n	TO5	A0	
26	2N34681	5.6m	1.0			500m		50	5.0	50	100n	1.0	500m	25	75 #	150MΔ		30n	TO5	A0	
27	2N4037	5.6m	1.0			500m		50	5.0	50	100n	1.0	500m	25	75 #	150MΔ		30n	TO5	A0	
28	2N4234	5.6m	1.0			500m		40	7.0	40	250n	1.0	150m	50	250	60MΔ		930m	TO5	A0	
29	2N4235	5.6m	1.0			200m	200m	40	7.0	40	100u	1.0	250m	30	150 #	3.0MΔ			TO5	A0	
30	2N4236	5.6m	1.0			200m	200m	60	7.0	60	100u	1.0	250m	30	150 #	3.0MΔ			TO5	A0	
31	2N4314	5.6m	1.0			500m		80	7.0	80	100u	1.0	250m	30	150 #	3.0MΔ			TO5	A0	
32	40537	5.6m	1.0			700m	200m	80	7.0	65	250n	1.0	150m	50	250	200MΔ		9.3	TO5	A0	
33	40538	5.6m	1.0			700m	200m	80	5.0	55	100u	4.0	50	300	100M		2.2	TO5	A0		
34	MM4001	5.6m	1.0			500m		150	4.0	150	1.0u	1.0	10m	20	#			DPE	TO5	A0	
35	MM4002	5.6m	1.0			500m		200	4.0	200	5.0u	1.0	10m	20	#			EA	TO39	A0	
36	MM4003	5.6m	1.0			500m		250	4.0	250	5.0u	1.0	10m	20	#			EA	TO39	A0	
37	JAN2N37631	5.7m	1.0			500m		60	5.0	60	100n	1.0	10m	35		150MΔ		10	35n	TO5	A0
38	2N5679	5.7m	1.0			500m		100	4.0	100	1.0u	2.0	1.0	40	150	30MΔ		2.0	TO5	A0	
39	2N5680	5.7m	1.0			500m		120	4.0	120	1.0u	2.0	1.0	40	150	30MΔ		2.0	TO5	A0	
40	2N5147	5.9m	1.0			500m		100	5.5	80	1.0m	5.0	1.0	30	90	50MΔ			TO39	A0	
41	2N5149	5.9m	1.0			500m		100	5.5	80	1.0m	5.0	1.0	30	90	60MΔ			TO39	A0	
42	2N5151	5.9m	1.0			500m		100	5.5	80	1.0m	5.0	1.0	30	90	60MΔ			TO39	A0	
43	2N5153	5.9m	1.0			500m		100	5.5	80	1.0m	5.0	1.0	30	90	60MΔ			TO39	A0	
44	TRSP2254	6.8m	1.0			400m	50m	225	5.0	225	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
45	TRSP2254S	6.8m	1.0			400m	50m	250	5.0	225	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
46	TRSP2504	6.8m	1.0			400m	50m	250	5.0	250	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
47	TRSP2504S	6.8m	1.0			400m	50m	250	5.0	250	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
48	TRSP2754	6.8m	1.0			400m	50m	275	5.0	275	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
49	TRSP2754S	6.8m	1.0			400m	50m	300	5.0	275	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
50	TRSP3014	6.8m	1.0			400m	50m	300	5.0	300	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
51	TRSP3014S	6.8m	1.0			400m	50m	325	5.0	300	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
52	TRSP3504	6.8m	1.0			400m	50m	350	5.0	350	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
53	TRSP3514S	6.8m	1.0			400m	50m	375	5.0	350	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
54	TRSP4014	6.8m	1.0			400m	50m	400	5.0	400	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
55	TRSP4014S	6.8m	1.0			400m	50m	425	5.0	400	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
56	TRSP4254S	6.8m	1.0			400m	50m	450	5.0	425	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
57	TRSP4504	6.8m	1.0			400m	50m	450	5.0	450	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
58	TRSP4504S	6.8m	1.0			400m	50m	475	5.0	450	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
59	TRSP4754S	6.8m	1.0			400m	50m	500	5.0	475	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
60	TRSP5014	6.8m	1.0			400m	50m	500	5.0	500	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
61	TRSP5014S	6.8m	1.0			400m	50m	525	5.0	500	3.0u	1.0	25m	25	#	50	20MΔ		200p	DMΔ	TO5
62	2N5864	7.1m	1.2			500m		90	8.0	70	500n	1.0	150m	50	500	50MΔ		3.0	TO5	A0	
63	ST720391	10m	#			500m		90	8.0	70	20u	1.0	2.0	30	120	20MΔ		500n	PL	TO5	
64	ST720401	10m	#			500m		120	8.0	100	20u	1.0	2.0	30	120	20MΔ		500n	PL	TO5	
65	ST720411	10m	#			500m		120	8.0	100	20u	1.0	2.0	30	120	20MΔ		500n	PL	TO5	
66	STC5802	10m	#			500m		40	10	40	3.0										

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	Dwg. No.	CODE
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @25°C (A)	Vcb						
1	2N4407†	28m	5.0	∅	SS	1.5		80	5.0	80	25n∅	5.0∅	500m	80	240 #	150MΔ	T039	A∅
2	2N4890†	28m	1.0		SS	500m		60	5.0	40	250n#	10∅	150m	50	250	100MΔ	T05	A∅
3	2N4929	28m	1.0		SS	500m		150	4.0	150	500n∅	10∅	1.0	20	100MΔ	T05	A∅	
4	2N4930	28m	1.0		SS	500m		200	4.0	200	1.0u∅	10∅	1.0	20	20MΔ	T05	A∅	
5	2N4931	28m	1.0		SS	500m		250	4.0	250	1.0u∅	10∅	1.0	20	20MΔ	T05	A∅	
6	2N5583	28m	5.0	∅	SS	500m		30	3.0	30	50n∅	2.0∅	100m	25	100	1.0GΔ	T039	A∅
7	2N5834	28m	5.0	∅	SS	1.0		60	4.0	40	10m†	5.0∅	250m	10			T039	A
8	40319	28m	1.0		SJ	700m	200m		2.5	40	250n	4.0∅	50m	35	200	100MΔ	T05	A∅
9	40362	28m	5.0	∅	SJ	700m	200m		4.0	70 §	10mΔ	4.0∅	50	35	200	100MΔ	T05	A∅
10	40634	28m	1.0		SA	700m	200m		7.0		10u*	4.0∅	150m	50	250		T05	A∅
11#	BC160†	28m	3.2		SJ	1.0	100m	40	5.0	40	100n§	1.0∅	100m	40	250 *	50MΔ	T039	A∅
12#	BC161†	28m	3.2		SJ	1.0	100m	60	5.0	60	100n§	1.0∅	100m	40	250 *	50MΔ	T039	A∅
13#	BSV15†	28m	3.2	∅	SJ	1.0	200m		5.0	40	100n§	1.0∅	100m	40	250 *	50MΔ	T039	A∅
14#	BSV16†	28m	3.2	∅	SJ	1.0	200m		5.0	60	100n§	1.0∅	100m	40	250 *	50MΔ	T039	A∅
15	MM3726†	28m	1.0		SJ	1.5			5.0	50	100n∅	2.0∅	500m	30	120	200MΔ	T05	A
16	MM4019	28m	5.0	∅	SJ	1.0		60	4.0	40	100u*	5.0∅	250m	10		75MΔ	T039	A
17	MM4645†	28m	5.0	∅	SJ	2.5		200	5.0	200	10u#	10∅	10m	20		40MΔ	T039	A∅
18	MM4646†	28m	5.0	∅	SJ	2.5		300	5.0	300	10u#	10∅	10m	20		40MΔ	T039	A∅
19	MM4647†	28m	5.0	∅	SJ	2.5		400	5.0	400	10u#	10∅	10m	20		30MΔ	T039	A∅
20	2N3719†	34m	6.0	∅	SJ	3.0	500m	40	4.0	40	10u	1.5∅	1.0	25	180 #	60MΔ	T05	A∅
21	2N3720†	34m	6.0	∅	SJ	3.0	500m	60	4.0	60	10u	1.5∅	1.0	25	180 #	60MΔ	T05	A∅
22	2N3867†	34m	1.0		SJ	3.0		40	4.0	40	150u	3.0∅	2.5	25		60MΔ	T05	A∅
23	2N3868†	34m	1.0		SJ	3.0		60	4.0	60	150u	3.0∅	2.5	20		60MΔ	T05	A∅
24	2N5675	40m§	5.0	∅	SJ	2.0	500m	125 †	6.0†	100	100n∅	5.0∅	500m	50	150 #	50MΔ	T05	A∅
25	2N5865†	40m	1.2		SS	1.0		70	5.0	50	200n∅	1.0∅	150m	40	200	100MΔ	T039	A∅
26	40394	40m	7.0		SJ	1.0	500m	60	7.0	40	250n	10∅	1.0m	15		60MΔ	T05	A
27	SDT3501	40m	7.0		SJ	2.0	1.0	40	6.0	40	100n	5.0	500m	30		50M	T05	A
28	SDT3502	40m	7.0		SJ	2.0	1.0	60	6.0	60	100n	5.0	500m	30		50M	T05	A
29	SDT3503	40m	7.0		SJ	2.0	1.0	80	6.0	80	100n	5.0	500m	30		50M	T05	A
30	SDT3504	40m	7.0		SJ	2.0	1.0	100	6.0	100	100n	5.0	500m	30		50M	T05	A
31	SDT3505	40m	7.0		SJ	2.0	1.0	40	6.0	40	100n	5.0	500m	50	150	50M	T05	A
32	SDT3506	40m	7.0		SJ	2.0	1.0	60	6.0	60	100n	5.0	500m	50	150	50M	T05	A
33	SDT3507	40m	7.0		SJ	2.0	1.0	80	6.0	80	100n	5.0	500m	50	150	50M	T05	A
34	SDT3508	40m	7.0		SJ	2.0	1.0	100	6.0	100	100n	5.0	500m	50	150	50M	T05	A
35	SDT3550	40m	7.0		SJ	2.0	1.0	60	6.0	60	1.0m	1.0	250m	30	100	10M	T05	A
36	SDT3551	40m	7.0		SJ	2.0	1.0	80	6.0	80	1.0m	1.0	250m	30	100	10M	T05	A
37	SDT3552	40m	7.0		SJ	2.0	1.0	40	5.0	40	100u	1.0	500m	20	100	10M	T05	A
38	SDT3553	40m	7.0		SJ	2.0	1.0	60	5.0	60	100u	1.0	500m	20	100	10M	T05	A
39	SDT3554	40m	7.0		SJ	2.0	1.0	80	5.0	80	100u	1.0	500m	20	100	10M	T05	A
40	SDT3775	40m	7.0		SJ	5.0	2.0	40	6.0	40	75u	2.0	2.0	20	60	10M	T05	A
41	SDT3776	40m	7.0		SJ	5.0	2.0	60	6.0	60	75u	2.0	2.0	20	60	10M	T05	A
42	SDT3777	40m	7.0		SJ	5.0	2.0	80	6.0	80	75u	2.0	2.0	20	60	10M	T05	A
43	SDT3778	40m	7.0		SJ	5.0	2.0	40	6.0	40	75u	2.0	2.0	40		10M	T05	A
44	SE8542	40m	1.0		SJ	1.0		30	5.0	30	50n	1.0∅	150m	40 #	540 #	500MΔ	T039	A
45	MM5005	45m	1.5		SJ	2.0		80	5.0	60	200n∅	2.5∅	150m	50	250	30MΔ	T039	A
46	MM5006	45m	1.5		SJ	2.0		100	5.0	80	200n∅	2.5∅	200m	50	250	30MΔ	T039	A
47	MM5007	45m	1.5		SJ	2.0		120	5.0	100	200n∅	2.5∅	250m	50	250	30MΔ	T039	A
48	MPSU55	45m	1.0		TJ	1.0		60	4.0	60	100n∅	5.0∅	50m	100	180	125MΔ	X81	A∅
49	MPSU56	45m	1.0		TJ	1.0		80	4.0	80	100n∅	5.0∅	50m	100	180	125MΔ	X81	A∅
50	2N2881	50m	8.5	∅	SJ	2.0	1.0	60	10	60	4.0∅	500m	20	60		T05	A∅	
51	2N2882	50m	8.5	∅	SJ	2.0	1.0	100	10	100	4.0∅	500m	20	60		T05	A∅	
52	2N3202	50m	8.7	∅	SC	3.0	1.5	40	10	40	75u#	2.0∅	1.0	20	60	1.0MΔ	T05	A∅
53	2N3203	50m	8.7	∅	SC	3.0	1.5	60	10	60	75u#	2.0∅	1.0	20	60	1.0MΔ	T05	A∅
54	2N3204	50m	8.7	∅	SC	3.0	1.5	80	10	80	75u#	2.0∅	1.0	20	60	1.0MΔ	T05	A∅
55	2N3208	50m	8.7	∅	SC	2.0	1.0	40	10	40	75u#	2.0∅	500m	20	60	1.0MΔ	T05	A∅
56	2N3795†	50m	5.0	∅	SJ	2.0	500m	120	10	120	1.0m#	2.0∅	10m	12	36	500kΔ	T05	A∅
57	SDT3321	50m	1.0		SJ	5.0	2.0	40	6.0	40	0.1m	5.0∅	2.0	40	120	40MΔ	T05	A
58	SDT3322	50m	1.0		SJ	5.0	2.0	60	6.0	60	0.1m	5.0∅	2.0	40	120	40MΔ	T05	A
59	SDT3323	50m	1.0		SJ	5.0	2.0	80	6.0	80	0.1m	5.0∅	2.0	40	120	40MΔ	T05	A
60	SDT3324	50m	1.0		SJ	5.0	2.0	100	6.0	100	0.1m	5.0∅	2.0	40	120	40MΔ	T05	A
61	SDT3325	50m	1.0		SJ	5.0	2.0	40	6.0	40	0.1m	5.0∅	2.0	20	60	40M†	T05	A
62	SDT3326	50m	1.0		SJ	5.0	2.0	60	6.0	60	0.1m	5.0∅	2.0	20	60	40M†	T05	A
63	SDT3327	50m	1.0		SJ	5.0	2.0	80	6.0	80	0.1m	5.0∅	2.0	20	60	40M†	T05	A
64	SDT3328	50m	1.0		SJ	5.0	2.0	100	6.0	100	0.1m	5.0∅	2.0	20	60	40M†	T05	A
65	SDT3329	50m	1.0		SJ	5.0	2.0	60	6.0	60	0.1m	5.0∅	2.0	20	60	40M†	T05	A
66	STC5610	50m	8.8	∅	SJ	750m	500m		10	40	4.0∅	150m	20	60	1.0MΔ	200m	T05	A
67	STC5611	50m	8.8	∅	SJ	750m	500m		10	60	4.0∅	150m	20	60	1.0MΔ	200m	T05	A
68	STC5612	50m	8.8	∅	SJ	750m	500m		10	100	4.0∅	150m	20	60	1.0MΔ	200m	T05	A
69	STC5624	50m	8.8	∅	J	1.0		120	10	120	3.0∅	0.1	12	36		DΔ	T05	A
70	MPSU52	54m	1.0		TJ	800m		60	5.0	40	100n#	1.0∅	150m	50	300	150MΔ	X81	A
71	JAN2N3867†	56m	1.0		SS	3.0		40	4.0	40	1.0u#	2.0∅	1.5	40	200	60MΔ	T05	A∅
72	JAN2N3868†	56m	1.0		SS	3.0		60	4.0	60	1.0u#	2.0∅	1.5	30	150	60MΔ	T05	A∅
73	2N5322†	56m	1.0	∅	SJ	2.0	1.0	100	7.0	75	100u#	4.0∅	500m	30	130	50MΔ	T05	A∅
74	2N5323†	56m	1.0	∅	SJ	2.0	1.0	75	5.0	50	100u#	4.0∅	500m	40	250	50MΔ	T05	A∅
75	2N5415	56m#	1.0	∅	SS	1.0	500m	200	4.0	200	50u∅	10∅	50m	30	150	15MΔ	T05	A∅
76	2N5416	56m#	1.0	∅	SS	1.0	500m	350	6.0	300	50u∅	10∅	50m	30	120	15MΔ	T05	A∅
77	40595	56m	1.2		SA	2.0	1.0		4.0		10u*	4.0∅	300m	70	350		T05	A∅
78	TRSP15X	56m	1.0	∅	SA	1.0	500m	175	12	150	100u	10∅	30m	900	40k	25MΔ	T05	A∅
79	TRSP20X	56m	1.0	∅	SA	1.0	500m	200	12	200	100u	10∅	30m	900	40k	25MΔ	T05	A∅
80	TRSP25X	56m	1.0	∅	SA	1.0	500m	250	12									

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C						hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E		
						Ic (A)	V _{cb0} (V)	V _{be0} (V)	V _{ceo} (V)	MAX. I _c @ 25°C (A)		MIN	MAX	STRUCTURE	DWG. No.								
										lc	(A)								V _{cb} (V)	V _{cb} (V)			
1#	2SA647	7.0	7.0	0	J	800m	110	5.0	100	1.0	4.0	300m	35	180	#	70M	1.0		PE†	X51b	P		
2#	2SA606	7.2m	9.0	0	J	700m	100	5.0	80	3.0	5.0	200m	30	100	#				PE	T05	A		
3	D41D11	7.2m	1.2	0	S	1.0		5.0	30	100m	2.0	100m	50	150					†	X51	A		
4	D41D21	7.2m	1.2	0	S	1.0		5.0	30	100m	2.0	100m	120	300					†	X51	A		
5	D41D41	7.2m	1.2	0	S	1.0		5.0	45	100m	2.0	100m	50	150					†	X51	A		
6	D41D51	7.2m	1.2	0	S	1.0		5.0	45	100m	2.0	100m	120	360					†	X51	A		
7	D41D71	7.2m	1.2	0	S	1.0		5.0	60	100m	2.0	100m	50	150					†	X51	A		
8	D41D81	7.2m	1.2	0	S	1.0		5.0	60	100m	2.0	100m	120	360					†	X51	A		
9	MPSU51	7.2m	1.0	0	J	1.5		5.0	30	100u	1.0	150m	70						AN†	X81	A		
10	ST750041	76m#	11	0	J	2.0		8.0	80	100	1.0	1.0	30	120	#				PL	T05			
11	ST750051	76m#	11	0	J	2.0		8.0	100	100	1.0	1.0	30	120	#				PL	T05			
12	ST750061	76m#	11	0	J	2.0		8.0	120	100	1.0	1.0	30	120	#				PL	T05			
13#	BD136Δ	100m	6.5	0	J	500m	100m	45	45	100	1.0	150m	40	250					PE	X58	B		
14#	BD136Δ	100m	6.5	0	J	500m	100m	45	45	100	2.0	150m	40	250					PE	X100	B		
15#	BD136Δ	100m	6.5	0	J	500m	100m	45	45	100	2.0	150m	40	250					PE†	TO126	B		
16#	BD138Δ	100m	6.5	0	J	500m	100m	60	60	100	1.0	150m	40	160					PE	X58	B		
17#	BD138Δ	100m	6.5	0	J	500m	100m	60	60	100	2.0	150m	40	160					PE	X100	B		
18#	BD138Δ	100m	6.5	0	J	500m	100m	60	60	100	2.0	150m	40	160					PE†	TO126	B		
19#	BD140Δ	100m	6.5	0	J	500m	100m	80	80	100	2.0	150m	40	160					PE	X100	B		
20	BD140Δ	100m	6.5	0	J	500m	100m	80	80	100	2.0	150m	40	160					PE†	TO126	B		
21	D43C11	100m	2.1	0	J	3.0		5.0	30	100u	1.0	200m	25						†	X51	A		
22	D43C21	100m	2.1	0	J	3.0		5.0	30	100u	1.0	200m	40	120					†	X51	A		
23	D43C31	100m	2.1	0	J	3.0		5.0	30	100u	1.0	200m	40	120					†	X51	A		
24	D43C41	100m	2.1	0	J	3.0		5.0	45	100u	1.0	200m	25						†	X51	A		
25	D43C51	100m	2.1	0	J	3.0		5.0	45	100u	1.0	200m	40	120					†	X51	A		
26	D43C61	100m	2.1	0	J	3.0		5.0	45	100u	1.0	200m	40	120					†	X51	A		
27	D43C71	100m	2.1	0	J	3.0		5.0	60	100u	1.0	200m	25						†	X51	A		
28	D43C81	100m	2.1	0	J	3.0		5.0	60	100u	1.0	200m	40	120					†	X51	A		
29	SDT3575	100m	17	0	J	2.0	1.0	40	40	100u	1.0	250m	30	150						TO66			
30	SDT3575	100m	17	0	J	2.0	1.0	60	60	100u	1.0	250m	30	150						TO66			
31	SDT3575	100m	17	0	J	2.0	1.0	80	80	100u	1.0	250m	30	150						TO66			
32	SDT3578	100m	17	0	J	2.0	1.0	40	40	100u	1.0	500m	25	100						PL	TO66		
33	SDT3578	100m	17	0	J	2.0	1.0	60	60	100u	1.0	500m	25	100						PL	TO66		
34	SDT3579	100m	17	0	J	2.0	1.0	80	80	100u	1.0	500m	25	100						PL	TO66		
35#	BD127	111m	14	0	J	150m	50m	350	7.0	300	120u	20	50m	50						ME	MD17		
36	2N4387	114m	20	0	J	2.0	300m	40	40	100u	1.0	500m	25	100							TO66		
37	2N4388	114m	20	0	J	2.0	300m	60	60	100u	1.0	500m	25	100							TO66		
38	2N5171	114m	20	0	J	1.5	1.0	80	80	100u	5.0	250m	10								TO60		
39	2N5597	114m	20	0	J	2.0	1.0	80	80	1.0m	5.0	1.0	70	200	#						TO66		
40	2N5599	114m	20	0	J	2.0	1.0	100	100	1.0m	5.0	1.0	30	90	#						TO66		
41	2N5601	114m	20	0	J	2.0	1.0	100	100	1.0m	5.0	1.0	70	200	#						TO66		
42	2N5603	114m	20	0	J	2.0	1.0	120	120	1.0m	5.0	1.0	30	90	#						TO66		
43#	2SA613	119m	15	0	J	2.0	500m	60	7.0	40	1.0m	5.0	500m	200	#					PE	TO66		
44	2SA614	119m	15	0	J	2.0	500m	80	7.0	60	1.0m	5.0	500m	200	#						TO66		
45	TRSP2006	133m	20	0	J	1.0	500m	200	6.0	200	100u	10	50m	300							TO66		
46	TRSP3006	133m	20	0	J	1.0	500m	300	6.0	300	100u	10	50m	300							TO66		
47	TRSP4006	133m	20	0	J	1.0	500m	400	6.0	400	100u	10	50m	300							TO66		
48	TRSP4016S	133m	20	0	J	1.0	500m	450	6.0	400	100u	10	50m	300							TO66		
49	TRSP4296	133m	20	0	J	1.0	500m	350	4.0	250	100u	10	50m	150							TO66		
50	TRSP4297	133m	20	0	J	1.0	500m	350	4.0	250	100u	10	50m	75							TO66		
51	TRSP4298	133m	20	0	J	1.0	500m	500	4.0	350	100u	10	50m	75							TO66		
52	TRSP4299	133m	20	0	J	1.0	500m	500	4.0	350	100u	10	50m	75							TO66		
53	TRSP4506	133m	20	0	J	1.0	500m	450	6.0	450	100u	10	50m	300							TO66		
54	TRSP5006	133m	20	0	J	1.0	500m	500	6.0	500	100u	10	50m	300							TO66		
55	TRSP6006	133m	20	0	J	1.0	500m	800	6.0	600	100u	10	50m	300							TO66		
56	TRSP7006	133m	20	0	J	1.0	500m	700	6.0	700	100u	10	50m	300							TO66		
57	TRSP8006	133m	20	0	J	1.0	500m	800	6.0	800	100u	10	50m	300							TO66		
58	2N2875	138m	20	0	J	2.0	200m	60	5.0	50	1.0u	6.0	15	60	#						PL	MT21	
59	2N4898	142m	25	0	J	1.0	1.0	40	5.0	40	100u	1.0	500m	20	100	#						TO66	
60	2N4899	142m	25	0	J	1.0	1.0	60	5.0	60	100u	1.0	500m	20	100	#						TO66	
61	2N4900	142m	25	0	J	1.0	1.0	80	5.0	80	100u	1.0	500m	20	100	#						TO66	
62	MJ2253	142m	25	0	J	3.0	500m	70	7.0	60	1.0m	4.0	250	20	100	#						TO66	
63	MJ2254	142m	25	0	J	3.0	500m	90	7.0	80	1.0m	4.0	250	20	100	#						TO66	
64	MJ3701	142m	25	0	J	3.0	500m	50	5.0	40	1.0m	4.0	250m	20	100	#						TO66	
65	MM4020	142m	25	0	J	1.0	1.0	36	4.0	18	50u	5.0	250m	15								MT75a	
66	STC5202	142m	25	0	J	3.0	40	10	40	10	3.0	1.0	20	60								TO8	
67	STC5203	142m	25	0	J	3.0	60	10	60	10	3.0	1.0	20	60								TO8	
68	STC5204	142m	25	0	J	3.0	80	10	80	10	3.0	1.0	20	60								TO8	
69	STC5205	142m	25	0	J	3.0	40	10	40	10	3.0	500m	20	60								TO8	
70	STC5206	142m	25	0	J	3.0	60	10	60	10	3.0	500m	20	60								TO8	
71	STC5207	142m	25	0	J	3.0	80	10	80	10	3.0	500m	20	60								TO8	
72	2N3740	143m	25	0	J	1.0	2.0	60	7.0	60	100n	1.0	250m	30	100							TO66	
73	2N3740A	143m	25	0	J	1.0	2.0	80	7.0	80	100n	1.0	250m	30	100							TO66	
74	2N3741	143m	25	0	J	1.0	2.0	80	7.0	80	100n	1.0	250m	30	100							TO66	
75	2N3741A	143m	25	0	J	1.0	2.0	80	7.0	80	100n	1.0	250m	30	100							TO66	
76	2N5605	143m	25																				

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O A D E		
						Ic (A)	Ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	Icbo @ MAX Vcbo @25°C (A)	Ic @ Vcbo (A)	Ic @ Vce (A)	MIN				MAX	STRUCTURE		DWG. No.	
1	SDT3725	160m	28			5.0	1.0	40	6.0	40	1.0m	3.0	2.0	40	10M			T066				
2	SDT3726	160m	28			5.0	1.0	40	5.0	40	100u	2.0	2.5	25	100	10M		T066				
3	SDT3727	160m	28			5.0	1.0	60	5.0	60	100u	2.0	2.5	25	100	10M		T066				
4	SDT3728	160m	28			5.0	1.0	80	5.0	80	100u	2.0	2.5	25	100	10M		T066				
5	SDT3729	160m	28			5.0	1.0	40	6.0	40	1.0m	3.0	3.0	10	30	10M		T066				
6	SDT3730	160m	28			5.0	1.0	60	6.0	60	1.0m	3.0	3.0	10	30	10M		T066				
7	SDT3731	160m	28			5.0	1.0	80	6.0	80	1.0m	3.0	3.0	10	30	10M		T066				
8	SDT3732	160m	28			5.0	1.0	100	6.0	100	1.0m	3.0	3.0	10	30	10M		T066				
9	SDT3733	160m	28			5.0	1.0	40	6.0	40	1.0m	3.0	3.0	40	10M			T066				
10	2N3021f	165m	25	∅	∅	3.0	500m	30	4.0	30	200u#	2.0	1.0	20	60	60MΔ	500m	100n∅	T03	C∅		
11	2N3022f	165m	25	∅	∅	3.0	500m	45	4.0	45	200u#	2.0	1.0	20	60	60MΔ	500m	100n∅	T03	C∅		
12	2N3023f	165m	25	∅	∅	3.0	500m	60	4.0	60	200u#	2.0	1.0	20	60	60MΔ	500m	100n∅	T03	C∅		
13	2N3024f	165m	25	∅	∅	3.0	500m	30	4.0	30	200u#	2.0	1.0	50	180	60MΔ	330m	100n∅	T03	C∅		
14	2N3025f	165m	25	∅	∅	3.0	500m	45	4.0	45	200u#	2.0	1.0	50	180	60MΔ	330m	100n∅	T03	C∅		
15	2N3026f	165m	25	∅	∅	3.0	500m	60	4.0	60	200u#	2.0	1.0	50	180	60MΔ	330m	100n∅	T03	C∅		
16	MM4021	166m	29	∅	∅	2.5		36	4.0	18	100u∅	5.0	500m	15					MT75a	R		
17	SDT3509	166m	30			2.0	1.0	40	6.0	40	100n	5.0	500m	30		50M		PL	T066			
18	SDT3510	166m	30			2.0	1.0	60	6.0	60	100n	5.0	500m	30		50M		PL	T066			
19	SDT3511	166m	30			2.0	1.0	80	6.0	80	100n	5.0	500m	30		50M		PL	T066			
20	SDT3512	166m	30			2.0	1.0	100	6.0	100	100n	5.0	500m	30		50M		PL	T066			
21	SDT3513	166m	30			2.0	1.0	40	6.0	40	100n	5.0	500m	50	150	50M		PL	T066			
22	SDT3514	166m	30			2.0	1.0	60	6.0	60	100n	5.0	500m	50	150	50M		PL	T066			
23	SDT3515	166m	30			2.0	1.0	80	6.0	80	100n	5.0	500m	50	150	50M		PL	T066			
24	SDT3516	166m	30			2.0	1.0	100	6.0	100	100n	5.0	500m	50	150	50M		PL	T066			
25#	BD132	167m	11	∅	∅	2.0	50	45	4.0	45	5.0	5.0	35	75	60MΔ			PE	X58			
26	2N4999	200m#	30	∅	∅	2.0	1.0	100	5.5	80	1.0m#	5.0	1.0	30	90	50MΔ			PE	T059	A	
27	2N5001	200m#	30	∅	∅	2.0	1.0	100	5.5	80	1.0m#	5.0	1.0	70	200	60MΔ			PE	T059	A	
28	2N5739	200m#	20	∅	∅	1.0	2.0	60	5.0	60	500uΔ	5.0	5.0	20	80	10MΔ	500m		D	T066	C∅	
29	2N5740	200m#	20	∅	∅	1.0	2.0	100	5.0	100	500uΔ	5.0	5.0	20	80	10MΔ	500m		D	T066	C∅	
30#	2SB434	200m	1.5	∅	∅	3.0	3.0	50	5.0	50	200u∅	5.0	2.5	15	25	3.0MΔ	400m		D	X75	A	
31#	2SB435	200m	1.5	∅	∅	3.0	3.0	35	5.0	35	200u∅	5.0	1.0	20	55	3.0MΔ	1.0		D	X75	A	
32	MJE370	200m	25	∅	∅	3.0	2.0	30	4.0	30	100u	1.0	1.0	25	#					X58	A	
33	SDT3801	200m	35			10	4.0	60	6.0	60	1.0m	2.0	1.0	25	90	10M			PL	T066	B	
34	SDT3802	200m	35			10	4.0	80	6.0	80	1.0m	2.0	1.0	25	90	10M			PL	T066		
35	SDT3803	200m	35			10	4.0	60	6.0	60	1.0m	2.0	1.0	50	180	10M			PL	T066		
36	SDT3804	200m	35			10	4.0	80	6.0	80	1.0m	2.0	1.0	50	180	10M			PL	T066		
37	SDT3805	200m	35			10	2.0	40	5.0	40	100u	5.0	5.0	20	80	10M			PL	T066		
38	SDT3806	200m	35			10	2.0	80	5.0	80	100u	5.0	5.0	20	80	10M			PL	T066		
39	SDT3807	200m	35			10	2.0	40	5.0	40	100u	5.0	5.0	40	10M			PL	T066			
40	ST40002†	200m#	300	∅	∅	60		80	8.0	80	100u∅	10	20	20	120	20MΔ		500n∅	PL	T063		
41	ST40003†	200m#	300	∅	∅	60		100	8.0	100	100u∅	10	20	20	120	20MΔ		500n∅	PL	T063		
42	ST40004†	200m#	300	∅	∅	60		120	8.0	120	100u∅	10	20	20	120	20MΔ		500n∅	PL	T063		
43#	MP8511	222m	3.0	∅	∅	1.2		60	7.0	60	1.0m	5.0	200m	30	60	100MΔ			PE	X95		
44#	MP8512	222m	3.0	∅	∅	1.2		60	7.0	60	1.0m	5.0	200m	50	120	100MΔ			PE	X95		
45#	MP8513	222m	3.0	∅	∅	1.2		60	7.0	60	1.0m	5.0	200m	100	100MΔ			PE	X95			
46#	MP8521	222m	3.0	∅	∅	1.2		35	7.0	35	1.0m	5.0	200m	20	60	100MΔ			PE	X95		
47#	MP8522	222m	3.0	∅	∅	1.2		35	7.0	35	1.0m	5.0	200m	50	120	100MΔ			PE	X95		
48#	MP8523	222m	3.0	∅	∅	1.2		35	7.0	35	1.0m	5.0	200m	100	100MΔ			PE	X95			
49#	MP8611	222m	5.0	∅	∅	1.5		60	7.0	60	1.0m	5.0	500m	30	60	100MΔ			PE	T066	C∅	
50#	MP8612	222m	5.0	∅	∅	1.5		60	7.0	60	1.0m	5.0	500m	50	120	100MΔ			PE	T066	C∅	
51#	MP8613	222m	5.0	∅	∅	1.5		60	7.0	60	1.0m	5.0	500m	100	100MΔ			PE	T066	C∅		
52#	MP8621	222m	5.0	∅	∅	1.5		35	7.0	35	1.0m	5.0	500m	20	60	100MΔ			PE	T066	C∅	
53#	MP8622	222m	5.0	∅	∅	1.5		35	7.0	35	1.0m	5.0	500m	50	120	100MΔ			PE	T066	C∅	
54#	MP8623	222m	5.0	∅	∅	1.5		35	7.0	35	1.0m	5.0	500m	100	100MΔ			PE	T066	C∅		
55	2N3199	227m	40	∅	∅	3.0	1.5	40	10	40	75u#	2.0	1.0	20	60	1.0MΔ	300m			MT42c	A∅	
56	2N3200	227m	40	∅	∅	3.0	1.5	60	10	60	75u#	2.0	1.0	20	60	1.0MΔ	300m			MT42c	A∅	
57	2N3201	227m	40	∅	∅	3.0	1.5	80	10	80	75u#	2.0	1.0	20	60	1.0MΔ	300m			MT42c	A∅	
58	2N3205	227m	40	∅	∅	2.0	1.0	40	10	40	75u#	2.0	500m	20	60	1.0MΔ	800m			T059	A∅	
59	2N3206	227m	40	∅	∅	2.0	1.0	60	10	60	75u#	2.0	500m	20	60	1.0MΔ	800m			T059	A∅	
60	2N3207	227m	40	∅	∅	2.0	1.0	100	10	100	75u#	2.0	500m	20	60	1.0MΔ	800m			T059	A∅	
61	2N5344†	228m	40	∅	∅	1.0	500m	250	5.0	250	100u	5.0	500m	25	100	60MΔ	3.0	100n			T066	C∅
62	2N5345†	228m	40	∅	∅	1.0	500m	300	5.0	300	100u	5.0	500m	25	100	60MΔ	3.0	100n			T066	C∅
63	2N5112	229m	34	∅	∅	1.0	500m	40	10	40	75u#	4.0	500m	15	60	100MΔ	1.8			T059	A∅	
64	2N5113	229m	34	∅	∅	1.0	500m	80	10	80	75u#	4.0	500m	15	60	100MΔ	1.8			T059	A∅	
65▼	2N5954	232m	40	∅	∅	6.0	2.0	85	5.0	75	100u#	4.0	2.0	20	100	5.0MΔ			D-E†	T066	C∅	
66▼	2N5955	232m	40	∅	∅	6.0	2.0	70	5.0	60	100u#	4.0	2.5	20	100	5.0MΔ			D-E†	T066	C∅	
67▼	2N5956	232m	40	∅	∅	6.0	2.0	50	5.0	40	100u#	4.0	3.0	20	100	5.0MΔ			D-E†	T066	C∅	
68	2N4918	238m	30	∅	∅	1.0	1.0	40	5.0	40	100u	1.0	500m	20	100	3.0MΔ				X58	B∅	
69	2N4919	238m	30	∅	∅	1.0	1.0	60	5.0	60	100u	1.0	500m	20	100	3.0MΔ				X58	B∅	
70	2N4920	238m	30	∅	∅	1.0	1.0	80	5.0	80	100u	1.0	500m	20	100	3.0MΔ				X58	B∅	
71	TIP30	238m	2.0	∅	∅	1.0	400m	40	5.0	40	300uΔ	4.0	200m	40	200	3.0kΔ		250n∅	D		X75b	B∅
72	TIP30A	238m	2.0	∅	∅	1.0	400m	60	5.0	60	300uΔ	4.0	200m	40	200	3.0kΔ		250n∅	D		X75b	B∅
73	TIP30B	238m	2.0	∅	∅	1.0	400m	80	5.0	80</												

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE TO C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Icb0 @ MAX Vcb @ 25°C (A)	BIAS hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E	
						lc (A)	lb (A)	BVcbo (V)	BVebo (V)	BVceo (V)		lc (A)	ic (A)								
1	SDT3760	300m	52			5.0	2.0	100	6.0	100	1.0m	3.0	2.0	10	30	10M			TO3		
2	SDT3761	300m	52			5.0	2.0	40	6.0	40	1.0m	3.0	2.0	10	30	10M			TO3		
3	SDT3762	300m	52			5.0	2.0	40	6.0	40	1.0m	3.0	3.0	10	30	10M			TO3		
4	SDT3763	300m	52			5.0	2.0	60	6.0	60	1.0m	3.0	3.0	10	30	10M			TO3		
5	SDT3764	300m	52			5.0	2.0	80	6.0	80	1.0m	3.0	3.0	10	30	10M			TO3		
6	SDT3765	300m	52			5.0	2.0	100	6.0	100	1.0m	3.0	3.0	10	30	10M			TO3		
7	SDT3766	300m	52			5.0	2.0	40	6.0	40	1.0m	3.0	3.0	40		10M			TO3		
8	2N5003	303m#	50	∅	\$J	5.0	2.0	100	5.5	80	1.0m#	5.0∅	2.5	30	90	#	60MΔ			TO59	A
9	2N5005	303m#	50	∅	\$J	5.0	2.0	100	5.5	80	1.0m#	5.0∅	2.5	70	200	#	70MΔ			TO59	A
10	2N5384	303m#	2.0	∅	\$J	5.0	1.0	100	6.0	80	10u#	4.0∅	2.0	20	80	#	30MΔ			TO111	A
11	2N5385	303m#	2.0	∅	\$J	5.0	1.0	100	6.0	80	10u#	4.0∅	2.0	20	80	#	30MΔ			TO111	A
12	2N5408†	303m#	30	∅	\$J	5.0	2.0	80	6.0	80	10m#	5.0∅	2.0	20	60	#	40MΔ	1.0	500n	TO111	A
13	2N5409†	303m#	30	∅	\$J	5.0	2.0	100	6.0	100	10m#	5.0∅	2.0	20	60	#	40MΔ	1.0	500n	TO111	A
14	2N5410†	303m#	30	∅	\$J	5.0	2.0	80	6.0	80	10m#	5.0∅	2.0	40	120	#	40MΔ	800m	500n	TO111	A
15	2N5411†	303m#	30	∅	\$J	5.0	2.0	100	6.0	100	10m#	5.0∅	2.0	40	120	#	40MΔ	800m	500n	TO111	A
16	SDT3301†	303m	2.0	∅	\$J	5.0	2.0	40	6.0	40	10m#	5.0∅	2.0	40	120	#	40MΔ			PE	TO111
17	SDT3302†	303m	2.0	∅	\$J	5.0	2.0	60	6.0	60	10m#	5.0∅	2.0	40	120	#	40MΔ			PE	TO111
18	SDT3303†	303m	2.0	∅	\$J	5.0	2.0	80	6.0	80	10m#	5.0∅	2.0	40	120	#	40MΔ			PE	TO111
19	SDT3304†	303m	2.0	∅	\$J	5.0	2.0	100	6.0	100	10m#	5.0∅	2.0	40	120	#	40MΔ			PE	TO111
20	SDT3305†	303m	2.0	∅	\$J	5.0	2.0	40	6.0	40	10u#	5.0∅	2.0	20	60	#	40MΔ			PE	TO111
21	SDT3306†	303m	2.0	∅	\$J	5.0	2.0	60	6.0	60	10u#	5.0∅	2.0	20	60	#	40MΔ			PE	TO111
22	SDT3307†	303m	2.0	∅	\$J	5.0	2.0	80	6.0	80	10u#	5.0∅	2.0	20	60	#	40MΔ			PE	TO111
23	SDT3308†	303m	2.0	∅	\$J	5.0	2.0	100	6.0	100	10u#	5.0∅	2.0	20	60	#	40MΔ			PE	TO111
24	SDT3309†	303m	2.0	∅	\$J	5.0	2.0	120	6.0	120	10u#	5.0∅	2.0	20	60	#	40MΔ			PE	TO111
25	ST72011	303m#	30	∅	\$J	5.0		40	7.0	40	1.0u#	2.0∅	1.5	30	200	#	30MΔ			PE	TO111
26	ST72012	303m#	30	∅	\$J	5.0		60	7.0	60	1.0u#	2.0∅	1.5	30	200	#	30MΔ			PE	TO111
27	ST72013	303m#	30	∅	\$J	5.0		80	7.0	80	1.0u#	2.0∅	1.5	30	200	#	30MΔ			PE	TO111
28	ST72014	303m#	30	∅	\$J	5.0		100	7.0	100	2.0u#	2.0∅	1.5	30	200	#	30MΔ			PE	TO111
29	2N5193	320m	40	∅	\$J	4.0	1.0	40	5.0	40	100u	2.0∅	1.5	25	100	#	2.0MΔ	350m		X58	B∅
30	2N5194	320m	40	∅	\$J	4.0	1.0	60	5.0	60	100u	2.0∅	1.5	25	100	#	2.0MΔ	350m		X58	B∅
31	2N5195	320m	40	∅	\$J	4.0	1.0	80	5.0	80	100u	2.0∅	1.5	20	80	#	2.0MΔ	350m		X58	B∅
32	MJE371	320m	40	∅	\$J	3.0	2.0	40	4.0	40	100u	1.0∅	1.0	40		#			X58	B∅	
33	TIP32†	320m	2.0	∅	\$J	3.0	1.0	40	5.0	40	500uΔ	4.0	1.0	20	100	#	3.0kΔ			X58	B∅
34	TIP32A†	322m	2.0	∅	\$J	3.0	1.0	60	5.0	60	500uΔ	4.0	1.0	20	100	#	3.0kΔ			X75b	B∅
35	TIP32B	322m	2.0	∅	\$J	3.0	1.0	80	5.0	80	500u	4.0∅	1.0	20	100	#	3.0kΔ			X75b	B∅
36	TIP32C	322m	2.0	∅	\$J	3.0	1.0	100	5.0	100	500u	4.0∅	1.0	20	100	#	3.0kΔ			X75b	B∅
37	2N5613	330m#	50	∅	\$J	5.0	2.0	80	5.5†	60	1.0m#	5.0∅	2.5	70	200	#	70MΔ			TO3	C∅
38	2N5615	330m#	50	∅	\$J	5.0	2.0	100	5.5†	80	1.0m#	5.0∅	2.5	30	90	#	60MΔ			TO3	C∅
39	2N5617	330m#	50	∅	\$J	5.0	2.0	100	5.5†	80	1.0m#	5.0∅	2.5	70	200	#	70MΔ			TO3	C∅
40	2N5619	330m#	50	∅	\$J	5.0	2.0	120	5.5†	100	1.0m#	5.0∅	2.5	30	90	#	60MΔ			TO3	C∅
41	2N5286	333m#	50	∅	\$J	5.0	2.0	100	5.5	100	1.0m#	5.0∅	2.5	30	90	#	60MΔ			TO3	C∅
42	2N5287	333m#	50	∅	\$J	5.0	2.0	100	5.5	100	1.0m#	5.0∅	2.5	70	200	#	70MΔ			TO59	A
43	ST72036†	333m#	45	∅	\$J	5.0		80	8.0	80	2.0u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
44	ST72037†	333m#	45	∅	\$J	5.0		100	8.0	100	2.0u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
45	ST72038†	333m#	45	∅	\$J	5.0		120	8.0	120	2.0u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
46	MJ500†	343m	60	∅	\$J	7.0	1.0	60	5.0	60	1.0u	2.0∅	2.0	25	180	#	30MΔ			TO59	A∅
47	MJ501†	343m	60	∅	\$J	7.0	1.0	80	5.0	80	1.0u	2.0∅	2.0	25	180	#	30MΔ			TO59	A∅
48	MJ6700†	343m	60	∅	\$J	7.0	1.0	60	5.0	60	1.0u	2.0∅	2.0	25	180	#	30MΔ			TO59	A∅
49	MJ6701†	343m	60	∅	\$J	7.0	1.0	80	5.0	80	1.0u	2.0∅	2.0	25	180	#	30MΔ			TO59	A∅
50	2SC642	400m	50	∅	\$J	1.0		1.1k	5.0	700	1.0u	1.5∅	150m	30	160	#	1.5M†			M	TO3
51	2SC643	400m	50	∅	\$J	2.5		1.1k	5.0	1.1k	1.0u	1.5∅	2.0	30	160	#	4.0M†			M	TO3
52	MM4022	400m	70	∅	\$J	4.0		36	4.0	18	250u#	5.0∅	500m	15		#				MT75a	R
53	ST78018†	400m#	60	∅	\$J	10		80	8.0	80	30u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
54	ST78019†	400m#	60	∅	\$J	10		100	8.0	100	30u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
55	ST78020†	400m#	60	∅	\$J	10		120	8.0	120	30u#	1.0∅	2.0	30	120	#	20MΔ			PL	TO59
56	STC5111/1	400m#	85	∅	\$C	3.0		80	10	80	3.0∅	3.0∅	1.0	20	60	#				MS8	TO3
57	2N3171	434m	75	∅	\$C	3.0	1.0	40	10	40	10m#	3.0∅	1.0	12	36	#	1.0MΔ	300m		TO3	C∅
58	2N3172	434m	75	∅	\$C	3.0	1.0	60	10	60	10m#	3.0∅	1.0	12	36	#	1.0MΔ	750m		TO3	C∅
59	2N3173	434m	75	∅	\$C	3.0	1.0	80	10	80	10m#	3.0∅	1.0	12	36	#	1.0MΔ	750m		TO3	C∅
60	2N3174	434m	75	∅	\$C	3.0	1.0	100	10	100	10m#	3.0∅	1.0	12	36	#	1.0MΔ	750m		TO3	C∅
61	2N3183	434m	75	∅	\$C	5.0	2.0	40	10	40	10m#	3.0∅	2.0	10	30	#	1.0MΔ	500m		TO3	C∅
62	2N3184	434m	75	∅	\$C	5.0	2.0	60	10	60	10m#	3.0∅	2.0	10	30	#	1.0MΔ	500m		TO3	C∅
63	2N3185	434m	75	∅	\$C	5.0	2.0	80	10	80	10m#	3.0∅	2.0	10	30	#	1.0MΔ	500m		TO3	C∅
64	2N3186	434m	75	∅	\$C	5.0	2.0	100	10	100	10m#	3.0∅	2.0	10	30	#	1.0MΔ	500m		TO3	C∅
65	2N3195	434m	75	∅	\$C	5.0	2.0	40	10	40	10m#	3.0∅	3.0	10	30	#	1.0MΔ	300m		TO3	C∅
66	2N3196	434m	75	∅	\$C	5.0	2.0	60	10	60	10m#	3.0∅	3.0	10	30	#	1.0MΔ	300m		TO3	C∅
67	2N3197	434m	75	∅	\$C	5.0	2.0	80	10	80	10m#	3.0∅	3.0	10	30	#	1.0MΔ	300m		TO3	C∅
68	2N3198	434m	75	∅	\$C	5.0	2.0	100	10	100	10m#	3.0∅	3.0	10	30	#	1.0MΔ	300m		TO3	C∅
69	2N3163	454m	85	∅	\$C	3.0	1.0	40	10	40	10m#	3.0∅	1.0	12	36	#	1.0MΔ	750m		TO3	C∅
70	2N3164	454m	85	∅	\$C	3.0	1.0	60	10	60	10m#	3.0∅	1.0	12	36	#	1.0MΔ	750m		TO3	C∅
71	2N3165	454m	85	∅	\$C	3.0	1.0	80	10	80	10m#	3.0∅	1.0	12	36	#	1.0MΔ</				

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc M T A E X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWC. No.	L C O A D E	
					Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ 25°C (A)	Vcb/Vcb (V)									ic (A)
1	2N5738	500m\$	50	\$J	10	2.0	100†	5.0†	100	500u#	5.0	5.0	20	80	10MSΔ	500m	700nZ	TO3	CØ	
2	2N5867†	500m	87	\$J	3.0	1.0	60†	5.0†	60	100u#	4.0	1.5	20	100	4.0MSΔ	500m	700nZ	TO3	CØ	
3	2N5868†	500m	87	\$J	3.0	1.0	80†	5.0†	80	100u#	4.0	1.5	20	100	4.0MSΔ	500m	700nZ	TO3	CØ	
4	BDY69	500m	3.5	\$J	12	4.0	100	4.0	80	50uΔ	4.0	6.0	20	80	30MSΔ			PE	TO61	A
5	MJ490	500m	5.0	\$J	4.0	1.0	40	5.0	40	1.0m	2.0	1.0	30	200	4.0MSΔ	400m		PE	TO3	CØ
6	MJ491	500m	5.0	\$J	4.0	1.0	60	5.0	60	1.0m	2.0	1.0	30	200	4.0MSΔ	400m		PE	TO3	CØ
7	MM4023	500m	87	\$J	6.0		36	4.0	18	500uØ	5.0	500m	15					PE	MT75a	R
8	SDT3101†	500m	3.0	\$J	20	5.0	40	6.0	40	10m#	5.0	10	30	90	30MSΔ	500n		PE	TO61	A
9	SDT3102†	500m	3.0	\$J	20	5.0	60	6.0	60	0.1m#	5.0	10	30	90	30MSΔ	50u		PE	TO61	A
10	SDT3103†	500m	3.0	\$J	20	5.0	80	6.0	80	10m#	5.0	10	30	90	30MSΔ	500n		PE	TO61	A
11	SDT3104†	500m	3.0	\$J	20	5.0	100	6.0	100	10m#	5.0	10	30	90	30MSΔ	500n		PE	TO61	A
12	SDT3105†	500m	3.0	\$J	20	4.0	40	6.0	40	10m#	5.0	5.0	30	90	30MSΔ	200n		PE	TO61	A
13	SDT3106†	500m	3.0	\$J	10	4.0	60	6.0	60	10m#	5.0	5.0	30	90	30MSΔ	200n		PE	TO61	A
14	SDT3107†	500m	3.0	\$J	10	4.0	80	6.0	80	10m#	5.0	5.0	30	90	30MSΔ	200n		PE	TO61	A
15	SDT3108†	500m	3.0	\$J	10	4.0	100	6.0	100	10m#	5.0	5.0	30	90	30MSΔ	200n		PE	TO61	A
16	SDT3109†	500m	3.0	\$J	10	4.0	120	6.0	120	10m#	5.0	5.0	30	90	30MSΔ	200n		PE	TO61	A
17	ST72015	500m\$	50	\$S	10		60	7.0	60	1.0uØ	2.0	3.0	30	200	30MSΔ			PE	TO61	A
18	ST72016	500m\$	50	\$S	10		80	7.0	80	2.0uØ	2.0	3.0	30	200	30MSΔ			PE	TO61	A
19	ST72017	500m\$	50	\$S	10		100	7.0	100	2.0uØ	2.0	3.0	30	200	30MSΔ			PE	TO61	A
20	TIP42	520m	2.0	\$J	6.0	3.0	40	5.0	40	700u	4.0	3.0	15	75	3.0 Δ			D	X75b	BØ
21	TIP42A	520m	2.0	\$J	6.0	3.0	60	5.0	60	700u	4.0	3.0	15	75	3.0 Δ			D	X75b	BØ
22	TIP42B	520m	2.0	\$J	6.0	3.0	80	5.0	80	700u	4.0	3.0	15	75	3.0 Δ			D	X75b	BØ
23	TIP42C	520m	2.0	\$J	6.0	3.0	100	5.0	100	700u	4.0	3.0	15	75	3.0 Δ			D	X75b	BØ
24	MJE105	522m	65	\$J	5.0	2.5	50	4.0	50	100u	2.0	2.0	25	100				D	X58a	BØ
25	SDT3875	552m	96	\$J	20	4.0	40	5.0	40	100u	5.0	10	20	80	10M				TO3	
26	SDT3876	552m	96	\$J	20	4.0	80	5.0	80	100u	5.0	10	20	80	10M				TO3	
27	SDT3877	552m	96	\$J	20	4.0	40	5.0	40	100u	5.0	10	40	80	10M				TO3	
28	2N5871†	572m	100	\$S	5.0	1.5	60†	5.0†	60	250u#	4.0	2.5	20	100	4.0MSΔ	250m	700nZ	TO3	CØ	
29	2N5872†	572m	100	\$S	5.0	1.5	80†	5.0†	80	250u#	4.0	2.5	20	100	4.0MSΔ	250m	700nZ	TO3	CØ	
30	TIP34B	625m	3.5	\$J	10	3.0	80	5.0	80	700u	4.0	1.0	30		3.0 Δ			D	X86	BØ
31	TIP34C	625m	3.5	\$J	10	3.0	100	5.0	100	700u	4.0	1.0	30		3.0 Δ			D	X86	BØ
32	TIP34†	641m	3.5	\$J	10	3.0	40	5.0	40	700uΔ	4.0	1.0	25	125	3.0kΔ			D	X86	BØ
33	TIP34A†	641m	3.5	\$J	10	3.0	60	5.0	60	700uΔ	4.0	1.0	25	125	3.0kΔ			D	X86	BØ
34	2N5741	650m\$	65	\$S	20	4.0	60†	5.0†	60	500uΔ	5.0	10	20	80	10MSΔ	250m			TO3	CØ
35	2N5742	650m\$	65	\$S	20	4.0	100†	5.0†	100	500uΔ	5.0	10	20	80	10MSΔ	250m			TO3	CØ
36	2N5007	666m#	100	\$S	10	3.0	100	5.0	100	1.0m#	5.0	5.0	30	90	30MSΔ				MT16a	A
37	2N5009	666m#	100	\$S	10	3.0	100	5.0	100	1.0m#	5.0	5.0	70	200	40MSΔ				MT16a	A
38	2N5290	666m#	100	\$S	10	3.0	100	5.0	100	1.0m#	5.0	5.0	30	90	30MSΔ				MT16a	A
39	2N5291	666m#	100	\$S	10	3.0	100	5.0	100	1.0m#	5.0	5.0	70	200	40MSΔ				MT16a	A
40	2N5621	667m#	100	\$S	10	3.0	80†	5.0†	80	1.0m#	5.0	5.0	70	200	40MSΔ				TO3	CØ
41	2N5623	667m#	100	\$S	10	3.0	100†	5.0†	100	1.0m#	5.0	5.0	30	90	30MSΔ				TO3	CØ
42	2N5625	667m#	100	\$S	10	3.0	100†	5.0†	100	1.0m#	5.0	5.0	70	200	40MSΔ				TO3	CØ
43	2N5627	667m#	100	\$S	10	3.0	120†	5.0†	100	1.0m#	5.0	5.0	30	90	30MSΔ				TO3	CØ
44	MJ2901	709m	120	\$S	10		50	7.0	50	1.0m#	5.0	5.0	15	60	4.0MSΔ	190m			TO3	
45	TIP36B	714m	3.5	\$J	25	5.0	80	5.0	80	1.0m	4.0	5.0	40		3.0 Δ			D	X86	BØ
46	TIP36C	714m	3.5	\$J	25	5.0	100	5.0	100	1.0m	4.0	5.0	40		3.0 Δ			D	X86	BØ
47	MJE2901	719m	90	\$S	10	5.0	60	4.0	60	100u	2.0	3.0	25	100	2.0MSΔ				X58a	B
48	MJE2955	719m	90	\$S	10	6.0	70	5.0	60	1.0m	4.0	4.0	20	70	2.0MSΔ				X58a	B
49	TIP36†	719m	3.5	\$J	25	5.0	40	5.0	40	1.0m	4.0	5.0	20	100	3.0kΔ				X86	BØ
50	TIP36A†	719m	3.5	\$J	25	5.0	60	5.0	60	1.0m	4.0	5.0	20	100	3.0kΔ				X86	BØ
51	2N4907	833m	150	\$S	10	7.0	40	5.0	40	2.0m#	4.0	4.0	20	80	4.0MSΔ	200m			TO3	CØ
52	2N4908	833m	150	\$S	10	7.0	60	5.0	60	2.0m#	4.0	4.0	20	80	4.0MSΔ	200m			TO3	CØ
53	2N4909	833m	150	\$S	10	7.0	80	5.0	80	2.0m#	4.0	4.0	20	80	4.0MSΔ	200m			TO3	CØ
54	2N3789	854m	150	\$S	10	4.0	60	7.0	60	5.0m#†	2.0	1.0	25	90	30kΔ	250m			TO3	CØ
55	2N3790	854m	150	\$S	10	4.0	80	7.0	80	5.0m#†	2.0	1.0	25	90	30kΔ	250m			TO3	CØ
56	2N3791	854m	150	\$S	10	4.0	80	7.0	80	5.0m#†	2.0	1.0	25	180	30kΔ	200m			TO3	CØ
57	JAN2N3791†	854m	150	\$S	10	4.0	60	7.0	60	1.0m#	2.0	3.0	50	150	4.0MSΔ				TO3	CØ
58	2N3792	854m	150	\$S	10	4.0	80	7.0	80	5.0m#†	2.0	3.0	50	180	30kΔ	200m			TO3	CØ
59	JAN2N3792†	854m	150	\$S	10	4.0	80	7.0	80	5.0m#†	2.0	3.0	50	150	4.0MSΔ				TO3	CØ
60	MJ450	854m	150	\$S	30	5.0	40	5.0	40	1.0m	2.0	10	20		2.0MSΔ				MD6d	
61	MJ2940	854m	150	\$S	10	4.0	60	4.0	60	100u	2.0	3.0	20	100	4.0MSΔ				MD6c	CØ
62	MJ2941	854m	150	\$S	10	4.0	80	4.0	80	100u	2.0	4.0	20	100	4.0MSΔ				MD6c	CØ
63	MJ2267	866m	150	\$S	10	3.0	40	5.0	40	1.0m#	2.0	1.0	20		3.0MSΔ				TO3	CØ
64	MJ2268	866m	150	\$S	5.0	3.0	55	5.0	55	1.0m	2.0	1.0	20		3.0MSΔ				TO3	CØ
65	2N5875†	875m	150	\$S	8.0	2.0	60†	5.0†	60	500u#	4.0	4.0	20	100	4.0MSΔ	200m	700nZ		TO3	CØ
66	2N5876†	875m	150	\$S	8.0	2.0	80†	5.0†	80	500u#	4.0	4.0	20	100	4.0MSΔ	200m	700nZ		TO3	CØ
67	2N5879†	915m	160	\$S	12	4.0	60†	5.0†	60	500u#	4.0	6.0	20	100	4.0MSΔ	142m	700nZ		TO3	CØ
68	2N5880†	915m	160	\$S	12	4.0	80†	5.0†	80	500u#	4.0	6.0	20	100	4.0MSΔ	142m	700nZ		TO3	CØ
69	2N5678†	1.0	\$	\$J	20	2.0	125†	6.0†	100	2.0uØ	5.0	10	25	75	20MSΔ				TO63	AØ
70	SDT3601	1.0	175	\$	60	10	40	5.0	40	10u	10	40	10	40	25M			PL		
71	SDT3602	1.0	175	\$	60	10	60	5.0	60	10u	10	40	10	40	25M			PL		
72	SDT3603	1.0	175	\$	60	10	80	5.0	80	10u	10	40	10	40	25M			PL		
73	SDT3604	1.0	175	\$	60	10	100	5.0	100	10u	10	40	10	40	25M			PL		
74	ST10007†	1.0	#	\$J	30		80	8.0	80	100uØ	10	10	30	120	20MSΔ			PL	TO63	
75	ST10008†	1.0	#	\$J	30		100	8.0	100	100uØ	10	10	30							

10. SILICON PNP - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	2 TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @25°C						MAX. icbo @ 25°C (A)	hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E
						ic	ib	BVcbo	BVebo	BVceo	MIN		MAX	MIN	MAX						
						(A)	(A)	(V)	(V)	(V)	(A)		(A)	(A)	(A)						
1	2N3781†	50	5.0	∅	\$J	1.0	500m	100	8.0	100	500u#	2.0	200m	10	40 #	1.0M\$Δ	3.0u∅		TO5	A∅	
2	2N3782†	50	5.0	∅	\$J	3.0	1.0	40	8.0	40	500u#	3.0	1.0	10	40 #	1.0M\$Δ	3.0u∅		TO5	A∅	
3	2N5404†	50	5.0	∅	\$J	5.0	2.0	80	6.0	80	10u#	5.0	2.0	20	60	40M\$Δ	500n		TO5	A∅	
4	2N5405†	50	5.0	∅	\$J	5.0	2.0	100	6.0	100	10u#	5.0	2.0	20	60	40M\$Δ	500n		TO5	A∅	
5	2N5406†	50	5.0	∅	\$J	5.0	2.0	80	6.0	80	10u#	5.0	2.0	40	120	40M\$Δ	800m		TO5	A∅	
6	2N5407†	50	5.0	∅	\$J	5.0	2.0	100	6.0	100	10u#	5.0	2.0	40	120	40M\$Δ	800m		TO5	A∅	
7	RS1875	50	3.5	∅	\$S	400m	55	4.0	55	10n	5.0	1.0m	20	20	1.2G\$	3.0		TO39	A∅		
8	STP30P	75	2.0	∅	\$A	500m	100m	300	5.0	300	3.0m	10	20m	20	250	20M\$Δ	200	300m	MD14		
9	STP40P	75	2.0	∅	\$A	500m	100m	400	5.0	400	3.0m	10	20m	20	250	20M\$Δ	200	300m	MD14		
10	STP50P	75	2.0	∅	\$A	500m	100m	500	5.0	500	4.0m	10	20m	20	250	20M\$Δ	200	300m	MD14		
11	STP60P	75	2.0	∅	\$A	500m	100m	600	5.0	600	4.0m	10	20m	20	250	20M\$Δ	200	300m	MD14		
12	STP70P	75	2.0	∅	\$A	300m	50m	700	5.0	700	5.0m	10	20m	20	250	20M\$Δ	200	350m	MD14		
13	STP20S	150	1.0	∅	\$A	400m	50m	200	5.0	200	3.0m	10	20m	20	250	20M\$Δ	200	200m	TO5		
14	STP30S	150	1.0	∅	\$A	400m	50m	300	5.0	300	3.0m	10	20m	20	250	20M\$Δ	200	200m	TO5		
15	STP40S	150	1.0	∅	\$A	400m	50m	400	5.0	400	3.0m	10	20m	20	250	20M\$Δ	200	200m	TO5		
16	STP50S	150	1.0	∅	\$A	400m	50m	500	5.0	500	4.0m	10	20m	20	250	20M\$Δ	200	250m	TO5		
17	STP60S	150	1.0	∅	\$A	400m	50m	600	5.0	600	4.0m	10	20m	20	250	20M\$Δ	200	250m	TO5		
18	STP70S	150	1.0	∅	\$A	200m	30m	700	5.0	700	5.0m	10	20m	20	250	20M\$Δ	200	250m	TO5		

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. Icb0 @ MAX Vcb @ 25°C (A)	hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L E A D E	
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)		Ic (A)	MIN						MAX	STRUC-TURE		DWG. No.
1	2N2239		1.0	∅	#J	500m		80	5.0	50	10.0	10	200m	50	∅	†	2.5M†		PE	TO37	A∅	
2	2SC281		1.0	∅	∅	3.0		70	5.0	40	3.0	2.0	1.0	70	∅	∅	90M\$		PE	TO5		
3	2SC282		1.0	∅	∅	3.0		100	5.0	60	3.0	2.0	100m	70	∅	∅	90M\$		PE	TO5		
4	2SC293		1.0	∅	∅	3.0		130	5.0	80	3.0	2.0	100m	70	∅	∅	90M\$		PE	TO5		
5	2SC517		1.0	∅	∅	3.0		60	4.0	60	1.0	5.0	500	10	∅	140	300M\$		PE	TO37	A	
6	2SC571		6.0	∅	∅	1.5		36	4.0	18	5.0	1.3	100m	30	∅	∅	250M\$		PE	TO39	∅	
7	2SC572		1.0	∅	∅	3.0		36	4.0	18	5.0	1.3	200m	40	∅	∅	250M\$		PE	TO60	∅	
8	2SC608T		1.0	∅	∅	1.5	#	75	4.0	60	5.0	4.0	10	10	∅	∅	250M\$		PE	TO60	∅	
9	2SC609T		1.0	∅	∅	1.5	#	75	4.0	60	5.0	4.0	10	10	∅	∅	250M\$		PE	MD25		
10	2SC664		5.0	∅	∅	5.0		100	5.0	5.0	5.0	1.0	35	200	∅	300k			TO3			
11	2SC680		8.0	∅	∅	2.0		200	6.0	120	10.0	2.0	60	240	∅	∅	∅			TO66		
12	2SC680A		8.0	∅	∅	2.0		200	6.0	140	10.0	2.0	45	180	∅	∅	∅			TO3		
13	2SC681		50	∅	∅	6.0		200	5.0	70	15m							20u#		TO3		
14	2SC681A		50	∅	∅	6.0		250	5.0	80								20u#		TO3		
15	2SC685		3.0	∅	∅	1.0		300	3.0	300	3.0	0.05	30	150	∅	20M\$		TD	TO3			
16	2SC685A		6.5	∅	∅	4.0		300	4.0	300	3.0	0.05	30	160	∅	25M\$		EM	TO5			
17	2SC756		10	∅	∅	4.0	800m	130	6.0	40	3.0	2.0	100m	80	∅	60M\$	450m			TO66		
18	2SC795		9.0	∅	∅	100m	10m	250	6.0	200	1.0	1.0	10m	70	∅	∅	∅			MD17		
19	2SC806		125	∅	∅	10	1.0	650	10		5.0	3.0	2.0	30	∅	5.5k	600m	D	TO3			
20	2SC806A		125	∅	∅	5.0		630	10		3.0	2.0	12	92	∅	3.0M\$	750m	DM	TO3			
21	2SC807		125	∅	∅	10	1.0	500	10	220	5.0	3.0	100	50	∅	5.5k	1.0	DM	TO3			
22	2SC807A		125	∅	∅	5.0		195	8.0	20	100	3.0	100m	30	∅	3.0M\$	1.6	DM	TO3			
23	2SC821		1.7	∅	∅	600m		40	4.0	20	1.0	1.3	100m	20	∅	350M\$		PE	TO39			
24	2SC822		2.5	∅	∅	800m		40	4.0	20	1.0	1.3	100m	20	∅	400M\$		PE	TO39			
25	2SC830		25	∅	∅	3.0		50	4.0	50	1.0	1.0	35	200	∅	20M\$		ME	TO66			
26	2SC833		25	∅	∅	2.0		450	6.0	300	1.0	1.0	40	80	∅	20M\$		ME	TO66			
27	2SC898		80	∅	∅	7.0	7 ∅	150	5.0	100	1.0	5.0	1.0	25	∅	120M\$		ME	TO3			
28	2SC931		10	∅	∅	3.0		50	4.0	50	5.0	2.0	1.0	70	∅	120M\$		ME	X101	F		
29	2SC932		10	∅	∅	3.0		30	4.0	20	5.0	2.0	1.0	70	∅	120M\$		ME	X101	F		
30	2SC935		12	∅	∅	2.5	∅	300	5.0	300	5.0	1.0	30	8.0	∅	∅	∅			TO3		
31	2SC936		12	∅	∅	1.0		1.0k	5.0	500	1.0	10	100m	30	∅	∅	∅			TO3		
32	2SC937		22	∅	∅	2.5		1.2k	6.0	500	5.0	10	300m	8.0	∅	∅	∅			TO3		
33	2SC996		1.2	∅	∅	100m		300	5.0	300	100	10	50m	80	∅	100M\$		DPL	TO37	A		
34	2SC1001		5.0	∅	∅	500m		36	4.0	18	10	2.0	100m	10	∅	800M\$		PE	TO5	A		
35	2SC1002		10	∅	∅	1.0		36	4.0	18	20	2.0	200m	10	∅	700M\$		PE	TO60	A		
36	2SC1003		20	∅	∅	2.0		36	4.0	18	5.0	2.0	400	20	∅	600k\$		PE	TO60	A		
37	2SC1024		25	∅	∅	3.0		60	4.0	50	1.0	2.0	1.0	70	∅	∅		ME	TO66			
38	2SC1025		25	∅	∅	3.0		120	4.0	80	1.0	4.0	200m	80	∅	∅		ME	TO66			
39	2SC1034		125	∅	∅	1.0		1.0k	13		100	3.0	750m	4.0	∅	5.0M\$	6.7	DM	MD40a	C		
40	2SC1086		125	∅	∅	4.0		1.0k	14		2.0	3.0	2.0	6.0	∅	5.0M\$		DM	MD40a	C		
41	2SC1105		7.0	∅	∅	100m		300	5.0	300	100	10	50m	40	∅	200		DM	TO66	C		
42	2SC1170		5.0	∅	∅	3.5		1.2k	5.0	500	10	10	3.0	5.0	∅	4.0M\$		ME	TO3	C		
43	2SC1170A		5.0	∅	∅	3.5		1.4k	5.0	500	10	10	3.0	5.0	∅	4.0M\$		ME	TO3	C		
44	2SD24		6.0	∅	∅	100m		300	2.0	300	1.5	10	50m	60	∅	25M\$		ME	TO66			
45	2SD28		18	∅	∅	3.0	1.0	70	1.0	40	20	1.0	100m	32	∅	276		D	MD17			
46	2SD29		18	∅	∅	3.0	1.0	70	1.0	60	20	1.0	100m	32	∅	276		D	MD17			
47	2SD49		18	∅	∅	3.0	1.0	100	1.0	60	20	3.0	1.0	25	∅	100		D	MD17			
48	2SD51		50	∅	∅	5.0	1.5	100	6.0	50	5.0	2.0	2.0	30	∅	120	2.0M†	ME	TO3			
49	2SD56		30	∅	∅	3.0	1.0	220	18	80	5.0	1.0	100m	15	∅	150	10k†	D	MD17			
50	2SD67		50	∅	∅	5.0	1.0	120	5.0	120	5.0	1.0	1.0	50	∅	∅	100M\$	ME	TO3			
51	2SD68		50	∅	∅	5.0		75	5.0	75	5.0	5.0	1.0	50	∅	∅	100M\$	ME	TO3			
52	2SD69		125	∅	∅	2.0		140	8.0	100	100	3.0	100m	50	∅	∅	13M\$	DM	TO3			
53	2SD88		83	∅	∅	5.0		300	8.0	80	100	3.0	2.0	34	∅	517	10M\$	DM	TO3			
54	2SD88A		125	∅	∅	10	2.0	300	8.0	80	100	3.0	2.0	34	∅	517	12M\$	DM	TO3			
55	2SD102		25	∅	∅	3.0		100	10		100	5.0	500m	30	∅	300	1.5M†	D	TO66	C		
56	100T2		85	∅	∅			80		80	10	12	2.0	40	∅	120	10k\$	PE	TO3			
57	104T2		85	∅	∅			80		80	10	12	2.0	40	∅	120	10k\$	PE	TO3			
58	BLY47†		40	∅	∅	3.0	2.0	100	8.0	75	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
59	BLY47A†		40	∅	∅	3.0	2.0	100	8.0	75	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
60	BLY48†		40	∅	∅	3.0	2.0	100	8.0	75	50	1.0	1.0	60	∅	200	15M\$Δ	DM	TO3	C		
61	BLY48A†		40	∅	∅	3.0	2.0	100	8.0	75	50	1.0	1.0	60	∅	200	15M\$Δ	DM	TO3	C		
62	BLY49†		40	∅	∅	3.0	2.0	250	8.0	150	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
63	BLY49A†		40	∅	∅	3.0	2.0	250	8.0	150	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
64	BLY50†		40	∅	∅	3.0	2.0	250	8.0	150	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
65	BLY50A†		40	∅	∅	3.0	2.0	250	8.0	150	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
66	BLY50A†		40	∅	∅	3.0	2.0	250	8.0	150	50	1.0	1.0	30	∅	100	15M\$Δ	DM	TO3	C		
67	BLY61		5.0	∅	∅	500m†		100m	36	4.0	18	100	5.0	250m	10	∅	400k		PE	TO39	A∅	
68	BLY62		11	∅	∅	2.0		500m	36	4.0	18	100	5.0	250m	10	∅	400k		PE	TO117	GE	
69	BLY63		17	∅	∅	5.0		2.0	36	4.0	18	100	5.0	250m	10	∅	400k		PE	TO117	GE	
70	BU106			∅	∅	10		3.0	8.0	325	∅	∅	∅	∅	∅	∅	1.2	DMΔ	TO3			
71	BU107		1.6	∅	∅	5.0		3.0	8.0	300	∅	∅	∅	∅	∅	∅	1.2	DMΔ	TO3			
72	PT896			∅	∅			45	5.0	50	3.0	0.5	∅	∅	∅	∅	∅	∅	∅	TO5		
73	SD1023		2.0	∅	∅	100m		45	3.5	25	40	5.0	720m	5.0	∅	700M\$	5.0	PE	TO60			
74	ST91085		30	∅	∅	5.0		125	10	80	20	10	2.0	30	∅	120	10M	PE	TO59			
75	ST91086		30	∅	∅	5.0		145	10	100	20	10	2.0	30	∅	120	10M	PE	TO59			
76	ST91087		30	∅	∅	5.0		170														

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc M A X	ABSOLUTE MAX. RATINGS @25°C					MAX. Icb @ 25°C (A)	BIAS hFE			MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	Dwg. No.	L C O A D E
					Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)		Vcb (V)	Vcb (V)	Ic (A)								
1	2N2987	5.7m	1.0	1.0	1.0	200m	95	7.0	80	30n	5.0	200m	25	75	30MΔ			T05	A0		
2	2N2988	5.7m	1.0	1.0	1.0	200m	155	7.0	100	30n	5.0	200m	25	75	30MΔ			T05	A0		
3	2N2989	5.7m	1.0	1.0	1.0	200m	95	7.0	80	30n	5.0	200m	60	120	30MΔ			T05	A0		
4	2N2990	5.7m	1.0	1.0	1.0	200m	155	7.0	100	30n	5.0	200m	60	120	30MΔ			T05	A0		
5	2N3418†	5.7m	1.0	1.0	1.0	3.0	85	8.0	60	500n#	2.0	1.0	20	60	40MΔ		300n	T05	A0		
6	2N3419†	5.7m	1.0	1.0	1.0	3.0	125	8.0	80	500n#	2.0	1.0	20	60	40MΔ		300n	T05	A0		
7	2N3420†	5.7m	1.0	1.0	1.0	3.0	85	8.0	60	500n#	2.0	1.0	40	120	40MΔ		300n	T05	A0		
8	2N3421†	5.7m	1.0	1.0	1.0	3.0	125	8.0	80	500n#	2.0	1.0	40	120	40MΔ		300n	T05	A0		
9	2N3439	5.7m	1.0	1.0	1.0	500m	450	7.0	350	20u	100	20m	40	160	15MΔ	10		T05	A0		
10	2N3440	5.7m	1.0	1.0	1.0	500m	300	7.0	250	20u	100	20m	40	160	15MΔ	10		T05	A0		
11	2N3444†	5.7m	1.0	1.0	1.0	1.0	80	5.0	50	500n	1.0	500m	20	60	150MΔ		35n	T05	A0		
12	2N3498	5.7m	1.0	1.0	1.0	500m	100	6.0	100	50n	100	150m	40	120	150MΔ			T05	A0		
13	2N3499	5.7m	1.0	1.0	1.0	500m	100	6.0	100	50n	100	150m	100	300	150MΔ			T05	A0		
14	2N3500	5.7m	1.0	1.0	1.0	300m	150	6.0	150	50n	100	150m	40	120	150MΔ			T05	A0		
15	2N3501	5.7m	1.0	1.0	1.0	300m	150	6.0	150	50n	100	150m	100	300	150MΔ			T05	A0		
16	2N3506†	5.7m	1.0	1.0	1.0	3.0	60	5.0	40	1.0m#	2.0	1.5	40	200	60MΔ	1.0	30n	T05	A0		
17	2N3507†	5.7m	1.0	1.0	1.0	3.0	80	5.0	50	1.0m#	2.0	1.5	30	150	60MΔ	1.0	30n	T05	A0		
18	2N3724A†	5.7m	1.0	1.0	1.0	1.2	50	6.0	30	500u	1.0	100m	60	150	300MΔ		30n	T05	A0		
19	2N3725A†	5.7m	1.0	1.0	1.0	1.2	80	6.0	50	500u	1.0	100m	60	150	300MΔ		30n	T05	A0		
20	JAN2N3735†	5.7m	1.0	1.0	1.0	1.5	75	5.0	50	250n	1.0	10m	35	150	250MΔ	20	40n	T05	A0		
21	2N5189†	5.7m	1.0	1.0	1.0	2.0	60	5.0	35	100u	1.0	1.0	15	15	400MΔ			T05	A0		
22	2N5262†	5.7m	1.0	1.0	1.0	2.0	75	5.0	50	1.0u	1.0	500m	40	150	350MΔ			PE	T039		
23	2N5681	5.7m	1.0	1.0	1.0	1.0	100	4.0	100	1.0u	2.0	250m	40	150	30MΔ	2.0		T05	A0		
24	2N5682	5.7m	1.0	1.0	1.0	1.0	120	4.0	120	1.0u	2.0	250m	40	150	30MΔ	2.0		T05	A0		
25	MM1812	5.7m	1.0	1.0	1.0	100m	175	4.0	175	100n	100	10m	35	200	150MΔ			T05	A0		
26	MM2258	5.7m	1.0	1.0	1.0	500m	120	5.0	120	50n	100	10m	35	200	150MΔ	16		AN	T05		
27	MM2259	5.7m	1.0	1.0	1.0	300m	175	5.0	175	50n	100	10m	50	200	150MΔ	16		AN	T05		
28	MM2260	5.7m	1.0	1.0	1.0	300m	175	5.0	175	50n	100	10m	50	200	150MΔ	16		AN	T05		
29	MM3000	5.7m	1.0	1.0	1.0	200m	5.0	100	*	1.0u	100	10m	20	20	150MΔ			AN	T05		
30	MM3001	5.7m	1.0	1.0	1.0	200m	5.0	150	*	1.0u	100	10m	20	20	150MΔ			AN	T05		
31	MM3002	5.7m	1.0	1.0	1.0	50m	5.0	200	*	5.0u	100	10m	20	20	150MΔ			AN	T039		
32	MM3003	5.7m	1.0	1.0	1.0	50m	5.0	250	*	5.0u	100	10m	20	20	150MΔ			AN	T039		
33	MM3008	5.7m	1.0	1.0	1.0	400m	6.0	120	*	100n	100	10m	40	40	50k			AN	T039		
34	MM3009	5.7m	1.0	1.0	1.0	400m	6.0	180	*	100n	100	10m	40	40	50MΔ			AN	T039		
35#	TIXS12	5.7m	1.0	1.0	1.0	200m	30	2.0	15	500u	100	50m	20	20	1.4G			PE	X39		
36#	TIXS13	5.7m	1.0	1.0	1.0	200m	30	2.0	15	500u	100	50m	20	20	1.2G			PE	X39		
37	2N5148	6.0m	1.0	1.0	1.0	1.0	100	6.0	80	1.0m#	5.0	1.0	30	90	50MΔ			T039	A0		
38	2N5150	6.0m	1.0	1.0	1.0	1.0	100	6.0	80	1.0m#	5.0	1.0	70	200	60MΔ			T039	A0		
39	2N5152	6.0m	1.0	1.0	1.0	1.0	100	6.0	80	1.0m#	5.0	2.5	30	90	60MΔ			T039	A0		
40	2N5154	6.0m	1.0	1.0	1.0	1.0	100	6.0	80	1.0m#	5.0	2.5	70	200	70MΔ			T039	A0		
41	2N3298	6.6m	1.0	1.0	1.0	100m	25	3.0	15	50u	1.0	10m	80	30	200MΔ			T039	A0		
42	2N4069	6.6m	1.0	1.0	1.0	200m	150	5.0	150	50n	100	30m	30	80	200MΔ			T018	A0		
43	2N5413†	6.6m	1.0	1.0	1.0	2.0	80	6.0	40	1.0u	2.0	2.0	25	100	250MΔ	100	37n	T039	A0		
44	2N5414†	6.6m	1.0	1.0	1.0	2.0	80	6.0	40	1.0u	2.0	2.0	20	100	250MΔ	100	37n	T039	A0		
45	2N5836	6.6m	2.0	2.0	2.0	200m	15	3.5	10	10u	6.0	50m	25	25	2.0GΔ			Δ	T046		
46	2N5837	6.6m	2.0	2.0	2.0	300m	10	3.5	5.0	10u	3.0	100m	25	25	1.7GΔ			Δ	T046		
47#	2SD78	6.6m	1.0	1.0	1.0	1.0	100	12	60	1.0u	2.0	500m	80	100	2.0GΔ			PE	T05		
48#	2SD120	6.6m	1.0	1.0	1.0	1.0	60	12	40	1.0u	2.0	200m	15	100	2.0GΔ			PE	T05		
49#	2SD121	6.6m	1.0	1.0	1.0	1.5	100	12	55	10u	4.0	200m	15	100	24k	5.0		D	T05		
50	40355	6.6m	1.0	1.0	1.0	50m	5.0	150	100n	100	10m	55	100	24k	5.0		D	T05			
51#	BCY65	6.6m*	1.0	1.0	1.0	200m	7.0	60	60	10n	5.0	2.0m	125	700	150MΔ			PL	R115		
52#	BCY66	6.6m*	1.0	1.0	1.0	200m	45	7.0	45	10n	5.0	2.0m	125	700	150MΔ			PL	T018		
53#	DT1110	6.6m	5.0	5.0	5.0	500m	50m	30	10	30	2.0u	6.0	300m	20	60	500k†	4.0	1.0u	D	T05	
54#	DT1111	6.6m	5.0	5.0	5.0	500m	50m	30	10	30	2.0u	6.0	300m	20	60	500k†	4.0	1.0u	D	T05	
55#	DT1112	6.6m	5.0	5.0	5.0	500m	50m	100	10	100	2.0u	6.0	300m	20	60	500k†	4.0	1.0u	D	T05	
56#	DT1120	6.6m	5.0	5.0	5.0	500m	50m	30	10	30	2.0u	6.0	300m	40	120	1.5M†	4.0	1.0u	D	T05	
57#	DT1121	6.6m	5.0	5.0	5.0	500m	50m	60	10	60	2.0u	6.0	300m	40	120	1.5M†	4.0	1.0u	D	T05	
58#	DT1122	6.6m	5.0	5.0	5.0	500m	50m	100	10	100	2.0u	6.0	300m	40	120	1.5M†	4.0	1.0u	D	T05	
59	MT1070	6.6m	1.5	1.5	1.5	80m	30	4.0	14	10u	5.0	5.0m	40	185	1.5G			PE	X77		
60	TRL2014	6.6m	1.0	1.0	1.0	3.0	200	4.0	200	10u	100	500m	15	35	20MΔ		400n	DM	T05		
61	TRL2254S	6.6m	1.0	1.0	1.0	3.0	250	4.0	225	10u	100	500m	15	35	20MΔ		400n	DM	T05		
62	TRL2504	6.6m	1.0	1.0	1.0	3.0	250	4.0	250	10u	100	500m	15	35	20MΔ		400n	DM	T05		
63	TRL2504S	6.6m	1.0	1.0	1.0	3.0	275	4.0	250	10u	100	500m	15	35	20MΔ		400n	DM	T05		
64	TRL2754S	6.6m	1.0	1.0	1.0	3.0	300	4.0	275	10u	100	500m	15	35	20MΔ		400n	DM	T05		
65	TRL3014	6.6m	1.0	1.0	1.0	3.0	300	4.0	300	10m	100	500m	15	35	20MΔ		400n	DM	T05		
66	TRL3014S	6.6m	1.0	1.0	1.0	3.0	325	4.0	300	10m	100	500m	15	35	20MΔ		400n	DM	T05		
67	TRL3504	6.6m	1.0	1.0	1.0	3.0	350	4.0	350	10m	100	500m	15	35	20MΔ		400n	DM	T05		
68	TRL4014	6.6m	1.0	1.0	1.0	3.0	400	4.0	400	10m	100	500m	15	35	20MΔ		400n	DM	T05		
69	TRL4014S	6.6m	1.0	1.0	1.0	3.0	425	4.0	400	10m	100	500m	15	35	20MΔ		400n	DM	T05		
70	TRL4504	6.6m	1.0	1.0	1.0	3.0	450	4.0	450	10m	100	500m	15	35	20MΔ		400n	DM	T05		
71	TRL5014	6.6m	1.0	1.0	1.0	3.0	500	4.0	500	10m	100	500m	15	35	20MΔ		400n	DM	T05		
72	TRL5014S	6.6m	1.0	1.0	1.0	3.0	525	4.0	500	10m	100	500m	15	35	20MΔ		400n	DM	T05		
73	TRL5504	6.6m	1.0	1.0	1.0	3.0	550	4.0	550	10m	100	500m	15	35	20MΔ		400n	DM	T05		
74	TRL6014	6.6m	1.0	1.0	1.0	3.0	600	4.0	600	10m	100	500m	15	35	20MΔ		400n	DM	T05		
75																					

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc MAX A X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. @ 25°C		hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E	
					Ic (A)	Ib (A)	BVcbo (V)	BVcbo (V)	BVceo (V)	Icbo (A)	Vcb (V)	Ic (A)	MIN						MAX
1#	2SC611	7.6m	1.2	5J	300m	30	5.0	20	1.0u	6.0	1.0m	50	90	180m		MEΔ	R56	T011	
2	2N343A	8.0m	1.0	5J	60m	60	1.0	60	1.0u	10	5.0 Δ	28	36	350			T05	A0	
3	2N2106	8.0m	1.0	5J	500m	60	8.0	60	2.0u	10	200m	12	36				T05	A0	
4	2N2107	8.0m	1.0	5J	500m	60	8.0	60	1.0u	10	200m	30	90				T05	A0	
5	2N2108	8.0m	1.0	5J	500m	60	8.0	60	1.0u	10	200m	75	200				T05	A0	
6	2N4073	8.6m	1.5	5S	150m	40	4.0	20	100n	2.0	25m	10	20				T05	A0	
7	JAN2N3418†	10m	1.0	5A	3.0	85	8.0	60	500n	2.0	1.0	20	60				T05	A0	
8	JAN2N3419†	10m	1.0	5A	3.0	125	8.0	80	500n	2.0	1.0	20	60				T05	A0	
9	JAN2N3420†	10m	1.0	5A	3.0	85	8.0	60	500n	2.0	1.0	40	120				T05	A0	
10	JAN2N3421†	10m	1.0	5A	3.0	125	8.0	80	500n	2.0	1.0	40	120				T05	A0	
11	2N5079	10m	1.8	5S	1.0	200m	60	5.0	30	10	150m	100	300	1.0			T018	A0	
12	2N5080	10m	1.8	5S	1.0	200m	60	5.0	30	10	150m	200	500	1.0			T018	A0	
13#	2SC213	10m	1.5	5J	600m	50			100p	10	20mΔ	50	150				T08		
14#	2SC214	10m	1.5	5J	600m	25			100p	10	20mΔ	50	150				T08		
15#	2SC215	10m	1.5	5J	600m	80			100p	10	20mΔ	50	150				T08		
16#	2SC223	10m	1.5	5J	1.0	50			100p	10	20mΔ	20	150				T08		
17#	2SC224	10m	1.5	5J	1.0	25			100p	10	20mΔ	20	150				T08		
18#	2SC225	10m	1.5	5J	1.0	80			100p	10	20mΔ	20	150				T08		
19#	2SC229	10m	1.5	5J	1.0	80	5.0	80	100p	1.0	100m	50	50	3.5	45n	PEΔ	T08		
20	KD4025	10m	1.0	5J	100m	20	2.0	10	300n	6.0	50m	20	120				X72	V	
21	ST91054†	10m	15	5J	5.0	125	10	80	20u	2.0	2.0	30	120				T05		
22	ST91055†	10m	15	5J	5.0	145	10	100	20u	10	2.0	30	120				T05		
23	ST91056†	10m	15	5J	5.0	170	10	120	20u	10	2.0	30	120				T05		
24	2N2991	11m	2.0	5C	1.0	200m	95	7.0	80	30n	5.0	200m	25	75			MT13	A0	
25	2N2992	11m	2.0	5C	1.0	200m	155	7.0	100	30n	5.0	200m	25	75			MT13	A0	
26	2N2993	11m	2.0	5C	1.0	200m	95	7.0	80	30n	5.0	200m	60	120			MT13	A0	
27	2N2994	11m	2.0	5C	1.0	200m	155	7.0	100	30n	5.0	200m	60	120			MT13	A0	
28	2N5581†	11m	2.0	5S	800m	75	6.0	40	10n	10	100u	20	35				T046	A0	
29	2N5582†	11m	2.0	5S	800m	75	6.0	40	10n	10	100u	35					T046	A0	
30	40081	11m	2.0	5S	250m				10u							DPL	T05	A0	
31	2N2952	12m	1.8	5C	250m	50m	5.0	60	60	100p	10	20	150	3.3			T018	A0	
32#	2SC130	12m	1.8	5J	400m	60			100n	10	20mΔ	20	150				T08		
33#	2SC234	12m	1.8	5J	1.5	100			1.0m	10	150mΔ	20	150				T08		
34#	2SC235	12m	1.8	5J	1.5	100			1.0m	10	150mΔ	20	150				T08		
35#	2SC236	12m	1.8	5J	500m	90			100p	10	20mΔ	17	17				T08		
36	2N1092†	13m	2.0	5A	500m	200m	60	12	30	50u	4.0	200m	15	75	1.2u		T05	A0	
37	2N3295	13m	2.0	5C	250m	50m	6.0	5.0	60	100n	10	20	60	3.3	1.2u		T05	A0	
38	2N5280	13m	15	5A	1.0	500m	400	7.0	300	20u	10	20m	40	160	10		MD14	A0	
39#	71T2	13m	2.0	5J		80	5.0	60	50uΔ	2.0	1.0	30	90				MD14	A0	
40#	72T2	13m	2.0	5J		80	5.0	60	50uΔ	2.0	1.0	75	200				MD14	A0	
41#	73T2	13m	2.0	5J		80	5.0	60	75u	10	200m	30	90				MD14	A0	
42#	74T2	13m	2.0	5J		80	5.0	60	75u	10	200m	75	200				MD14	A0	
43	TRL4015S	13m	2.0	5S	3.0	1.0	425	4.0	400	10u	100	500m	15	35			DM	MD14	
44	TRL4505	13m	2.0	5S	3.0	1.0	450	4.0	450	10u	100	500m	15	35			DM	MD14	
45	TRL5015	13m	2.0	5S	3.0	1.0	500	4.0	500	10u	100	500m	15	35			DM	MD14	
46	TRL5015S	13m	2.0	5S	3.0	1.0	525	4.0	500	10u	100	500m	15	35			DM	MD14	
47	TRL5505	13m	2.0	5S	3.0	1.0	550	4.0	550	10u	100	500m	15	35			DM	MD14	
48	TRL6015	13m	2.0	5S	3.0	1.0	600	4.0	600	10u	100	500m	15	35			DM	MD14	
49	TRL6505	13m	2.0	5S	3.0	1.0	650	4.0	650	10u	100	500m	15	35			DM	MD14	
50	TRL7015	13m	2.0	5S	3.0	1.0	700	4.0	700	10u	100	500m	15	35			DM	MD14	
51	TRL7505	13m	2.0	5S	3.0	1.0	750	4.0	750	10u	100	500m	15	35			DM	MD14	
52	TRL8015	13m	2.0	5S	3.0	1.0	800	4.0	800	10u	100	500m	15	35			DM	MD14	
53	TRM2015	13m	2.0	5S	3.0	1.0	200	6.0	200	3.0u	100	1.0	10	15			DM	MD14	
54	TRM2255S	13m	2.0	5S	3.0	1.0	250	6.0	225	3.0u	100	1.0	10	15			DM	MD14	
55	TRM2505	13m	2.0	5S	3.0	1.0	250	6.0	250	3.0u	100	1.0	10	15			DM	MD14	
56	TRM2505S	13m	2.0	5S	3.0	1.0	275	6.0	250	3.0u	100	1.0	10	15			DM	MD14	
57	TRM2755S	13m	2.0	5S	3.0	1.0	300	6.0	275	3.0u	100	1.0	10	15			DM	MD14	
58	TRM3015	13m	2.0	5S	3.0	1.0	300	6.0	300	3.0u	100	1.0	10	15			DM	MD14	
59	TRM3015S	13m	2.0	5S	3.0	1.0	325	6.0	300	3.0u	100	1.0	10	15			DM	MD14	
60	TRM3505	13m	2.0	5S	3.0	1.0	350	6.0	350	3.0u	100	1.0	10	15			DM	MD14	
61	TRM3515S	13m	2.0	5S	3.0	1.0	375	6.0	350	3.0u	100	1.0	10	15			DM	MD14	
62	TRM4015	13m	2.0	5S	3.0	1.0	400	6.0	400	3.0u	100	1.0	10	15			DM	MD14	
63	TRM4015S	13m	2.0	5S	3.0	1.0	425	6.0	400	3.0u	100	1.0	10	15			DM	MD14	
64	TRM4505	13m	2.0	5S	3.0	1.0	450	6.0	450	3.0u	100	1.0	10	15			DM	MD14	
65	TRM5015	13m	2.0	5S	3.0	1.0	500	6.0	500	3.0u	100	1.0	10	15			DM	MD14	
66	TRM5015S	13m	2.0	5S	3.0	1.0	525	6.0	500	3.0u	100	1.0	10	15			DM	MD14	
67	TRM5505	13m	2.0	5S	3.0	1.0	550	6.0	550	3.0u	100	1.0	10	15			DM	MD14	
68	TRM6015	13m	2.0	5S	3.0	1.0	600	6.0	600	3.0u	100	1.0	10	15			DM	MD14	
69	TRM6505	13m	2.0	5S	3.0	1.0	650	6.0	650	3.0u	100	1.0	10	15			DM	MD14	
70	TRM7015	13m	2.0	5S	3.0	1.0	700	6.0	700	3.0u	100	1.0	10	15			DM	MD14	
71	TRM7505	13m	2.0	5S	3.0	1.0	750	6.0	750	3.0u	100	1.0	10	15			DM	MD14	
72	TRM8015	13m	2.0	5S	3.0	1.0	800	6.0	800	3.0u	100	1.0	10	15			DM	MD14	
73	USA55191/33†	13m	2.3	5J	600m														

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		BIAS (V)	MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O A D E
						lc (A)	lb (A)	BVcbo (V)	BVebo (V)	BVceo (V)	lcbo (A)	Vcb (A)								
1	2N5109	20m	3.5	3.5	5	400m	400m	40	3.0	20	20mΔ	15	50m	40	120	1.2GΔ			T039	A
2	2N5470	20m	3.5	3.5	5	200m		55	3.5	55	1.0m								X82	A
3	2N5528	20m	3.5	3.5	5	10	4.0	60	3.0	40	1.0m	5.0	3.0	40	200	200mΔ	3.7		T059	A
4	2N5529	20m	3.5	3.5	5	10	4.0	60	3.0	40	1.0m	5.0	3.0	40	200	200mΔ	3.7		T061	A
5	2N5530	20m	3.5	3.5	5	10	4.0	60	3.0	40	1.0m	5.0	3.0	40	200	200mΔ	3.7		T061	A
6	2N5532	20m	3.5	3.5	5	10	4.0	90	3.0	75	1.0m	5.0	3.0	30	150	200mΔ	3.7		T059	A
7	2N5533	20m	3.5	3.5	5	10	4.0	90	3.0	75	1.0m	5.0	3.0	30	150	200mΔ	3.7		T061	A
8	2N5534	20m	3.5	3.5	5	10	4.0	90	3.0	75	1.0m	5.0	3.0	30	150	200mΔ	3.7		T061	A
9	2N5644	20m	3.5	3.5	5	250m		36	4.0	18	100u	5.0	100m	15		400mΔ			MT72h	A
10	2N5697	20m	3.5	3.5	5	500m		40	3.0	18	1.0mΔ	12	40m	30					T039	A
11	2N5710	20m	3.5	3.5	5	500m		40	3.0	20	100u	5.0	10m	20					T039	A
12	2N5943	20m	1.0	1.0	5	400m		40	3.5	30	100u	15	50m	25					T039	A
13	25C855	20m	3.0	3.0	5	400m		40	2.0	20	1.0u	5.0	100m	10	200	800m	2.0m		T05	A
14	25C1012A	20m	2.5	2.5	5	80m	10m	250	5.0	250	20	40m	20			100m	100		T039	A
15	40389	20m	3.5	3.5	5	700m		60	5.0	40	250n	10	150m	50	250	100m	9.1		MM9	A
16	40409	20m	3.0	3.0	5	700m	200m		4.0	90	1.0u	4.0	15m	50	250	100m	9.3		MM9	A
17	404501	20m	1.0	1.0	5			30	7.5	25	100n	10	100	100	200	175m	1.2	50m	R119	A
18	404511	20m	1.0	1.0	5			40	8.0	40	10n	10	125	300	175m	1.0	50m	R119	A	
19	40452	20m	1.0	1.0	5	300m	300m		8.0	40	10n	10	10m	75	300	80m	1.0		R119	A
20	40453	20m	1.0	1.0	5	200m	25m		7.5	25	100n	10	10m	165	600	80m	1.2		R119	A
21	40454	20m	1.0	1.0	5	200m	25m		7.5	25	100n	10	10m	75	300	80m	1.2		R119	A
22	40455	20m	1.0	1.0	5	200m	25m		7.0	18	500n	10	10m	165	600	80m	2.0		R119	A
23	40456	20m	1.0	1.0	5	200m	25m		7.0	18	500n	10	10m	75	300	80m	2.0		R119	A
24	404591	20m	1.0	1.0	5	10		60	8.0	40	10n	10	100	300	200m	1.0		R119	A	
25	40608	20m	3.5	3.5	5	400m		40	2.0	40	100u	15	50m	35	120	700m	20		T039	A
26	40625	20m	3.5	3.5	5	1.0		7.0	4.5	55	250n	10	150m	100	300				X84	A
27	40628	20m	3.5	3.5	5	1.0		7.0	4.5	55	250n	10	150m	100	300				X84	A
28	B3747	20m	1.5	1.5	5	800m			25	25									MT27	A
29	B3748	20m	1.5	1.5	5	800m			25	25									MT27	A
30	BFW16A	20m	1.5	1.5	5	150m		40	2.5	25	1.0u	50m	50m	25	25	1.2G	7.5		T039	A
31	BFW17A	20m	1.5	1.5	5	150m		40	2.5	25	1.0u	50m	50m	25	25	1.1G	7.5		T039	A
32	BLY38	20m	3.5	3.5	5			36	4.0	18		5.0	500m	50		1.3G	500m		X63a	A
33	MM1500	20m	3.5	3.5	5	200m		30	4.0	15	100n					1.5G		R70	A	
34	MM1501	20m	3.5	3.5	5	200m		30	4.0	15	100n					1.0G		R70	A	
35	MM8000	20m	3.5	3.5	5	400m		40	3.5	30	20u	15	50m	30		550m		T039	A	
36	MM8001	20m	3.5	3.5	5	400m		40	3.5	30	20u	15	50m	30		700m		T039	A	
37	MM8002	20m	3.5	3.5	5	400m		40	3.5	30	20u	15	50m	30		1.0G		T039	A	
38	MM8008	20m	3.5	3.5	5	100m		35	3.0	30	100u					1.1G	3.0		T017	A
39	MM8009	20m	3.5	3.5	5	400m		55	3.0	50	100u					1.0G	5.0		T039	A
40	MM8010	20m	3.5	3.5	5	100m		35	3.0	30	100u					1.1G	3.0		T017	A
41	MM8011	20m	3.5	3.5	5	100m		35	3.0	30	100u					1.1G	3.0		T017	A
42	MST10	20m	1.0	1.0	5	350m	100m	100	5.0	100	3.0u	10	55m	30	55	40m	25		T05	A
43	MST15	20m	1.0	1.0	5	350m	100m	150	5.0	150	3.0u	10	55m	30	55	40m	25		T05	A
44	MST20	20m	1.0	1.0	5	350m	100m	200	5.0	200	3.0u	10	55m	30	55	40m	25		T05	A
45	MST25	20m	1.0	1.0	5	350m	100m	250	5.0	250	3.0u	10	55m	30	55	40m	25		T05	A
46	MST30	20m	1.0	1.0	5	350m	100m	300	5.0	300	3.0u	10	55m	30	55	40m	25		T05	A
47	MST35	20m	1.0	1.0	5	350m	100m	350	5.0	350	3.0u	10	55m	30	55	40m	25		T05	A
48	MST40	20m	1.0	1.0	5	350m	100m	400	5.0	400	4.0u	10	45m	30	55	40m	30		T05	A
49	MST45	20m	1.0	1.0	5	350m	100m	450	5.0	450	4.0u	10	45m	30	55	40m	30		T05	A
50	MST50	20m	1.0	1.0	5	300m	100m	500	5.0	500	6.0u	10	25m	30	55	40m	55		T05	A
51	MST55	20m	1.0	1.0	5	300m	100m	550	5.0	550	6.0u	10	25m	30	55	40m	60		T05	A
52	MST60	20m	1.0	1.0	5	300m	100m	600	5.0	600	8.0u	10	25m	30	55	40m	60		T05	A
53	MST65	20m	1.0	1.0	5	300m	100m	650	5.0	650	8.0u	10	25m	30	55	40m	60		T05	A
54	MST70	20m	1.0	1.0	5	250m	100m	700	5.0	700	10u	10	25m	30	55	40m	65		T05	A
55	MST75	20m	1.0	1.0	5	250m	100m	750	5.0	750	10u	10	22m	30	55	40m	73		T05	A
56	MST80	20m	1.0	1.0	5	200m	50m	800	5.0	800	12u	10	22m	25	50	40m	73		T05	A
57	MST85	20m	1.0	1.0	5	200m	50m	850	5.0	850	12u	10	20m	25	50	40m	80		T05	A
58	MST90	20m	1.0	1.0	5	200m	50m	900	5.0	900	15u	10	20m	25	50	40m	80		T05	A
59	MST95	20m	1.0	1.0	5	150m	50m	950	5.0	950	15u	10	15m	25	50	40m	100		T05	A
60	MST100	20m	2.0	2.0	5			1.0k	5.0	1.0k	12u	10	20m	30	50	40k	90		T05	A
61	PT1515	20m	3.5	3.5	5	500m	200m	80	4.0	80	10u	28	100m	15	100				T05	A
62	PT1559	20m	3.5	3.5	5	500m	200m	80	5.0	50	50n	28	100m	10		140m	4.0		T05	A
63	SD1100	20m	3.5	3.5	5	400m		40	3.0	20	20u	15	75m	20	210	4.8G	5.0		T039	A
64	2N497	22m	4.0	4.0	5			60	8.0	60	10u	10	200m	12	36				T05	A
65	2N498	22m	4.0	4.0	5			100	8.0	100	10u	10	200m	12	36				T05	A
66	2N656	22m	4.0	4.0	5			60	8.0	60	10u	10	200m	30	90				T05	A
67	2N657	22m	4.0	4.0	5			100	8.0	100	10u	10	200m	30	90				T05	A
68	2N3118	22m	1.0	1.0	5	500m		85	4.0	60	100n	28	25m	50	275	250m	5.0	20u	T05	A
69	2N3119	22m	1.0	1.0	5	500m		100	4.0	80	50n	10	10m	40		250m	5.0	40n	T05	A
70	2N3734	22m	1.0	1.0	5	1.5		50	5.0	30	200n	1.5	1.0	30	120	300m	20		T05	A
71	2N3735	22m	1.0	1.0	5	1.5		75	5.0	50	200n	1.5	1.0	20	80	250m	20		T05	A
72	2S017	22m	2.0	2.0	5	400m		60	8.0	60	100u	10	200m	12	36	4.7m	15		T05	A
73	2S018	22m	2.0	2.0	5	400m		100	8.0	100	100u	10	200m	12	36	4.7m	15		T05	A
74	2S019	22m	2.0	2.0	5	400m		60	8.0	60	100u	10	200m	30	90	4.7m	10		T05	A
75	2S020	22m	2.0	2.0	5	400m		100	8.0	100	100u	10	200m	30	90	4.7m	10		T05	A
76	40346V1	22m	4.0	4.0	5	1.0	500m	175	5.0	75	5.0u	10	10m	25		10m	50		MM9	A
77	40412V1	22m	4.0	4.0	5	1.0	500m	250	5.0	100	1.0m	20								

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	PC A E M T A X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E				
					I _c (A)	I _b (A)	V _{cb0} (V)	V _{be0} (V)	V _{ceo} (V)	I _{cb0} @ MAX V _{cb0} @ 25°C (A)	V _{cb} (V)	I _c (A)						MIN	MAX		
1	TRS2004	26m	1.0	SA	400m	50m	200	6.0	200	2.0u	4.0	50m	20	∅	50k	30	T05	A			
2	TRS2254	26m	1.0	SA	400m	50m	225	6.0	225	3.0u	4.0	50m	22	∅	50k	30	T05	A			
3	TRS2504	26m	1.0	SA	400m	50m	250	6.0	250	2.0u	4.0	50m	22	∅	50k	30	T05	A			
4	TRS2754	26m	1.0	SA	400m	50m	275	6.0	275	3.0u	4.0	50m	22	∅	50k	30	T05	A			
5	TRS2804S	26m	1.0	SA	400m	50m	340	5.0	280	2.0u	8.0	200m	25	45 ∅	50M Δ	30	DM	T05	A		
6	TRS3014	26m	1.0	SA	400m	50m	300	6.0	300	2.0u	4.0	50m	30	#	50M Δ	30	T05	A			
7	TRS3204S	26m	1.0	SA	400m	50m	385	5.0	320	2.0u	8.0	200m	25	45 ∅	50M Δ	30	DM	T05	A		
8	TRS3254	26m	1.0	SA	400m	50m	325	6.0	325	3.0u	4.0	50m	22	∅	50k	30	T05	A			
9	TRS3504	26m	1.0	SA	400m	50m	350	6.0	350	2.0u	4.0	50m	22	#	50M Δ	38	T05	A			
10	TRS3604S	26m	1.0	SA	400m	50m	420	5.0	360	2.0u	8.0	200m	25	45 ∅	50M Δ	30	DM	T05	A		
11	TRS3754	26m	1.0	SA	400m	50m	375	6.0	375	3.0u	4.0	50m	22	∅	50k	30	T05	A			
12	TRS4004	26m	1.0	SA	400m	50m	400	6.0	400	2.0u	4.0	50m	30	#	50M Δ	30	T05	A			
13	TRS4014	26m	1.0	SA	400m	50m	400	6.0	400	2.0u	4.0	50m	30	∅	50k	30	T05	A			
14	TRS4014S	26m	1.0	SA	400m	50m	480	5.0	400	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
15	TRS4254	26m	1.0	SA	400m	50m	425	6.0	425	3.0u	4.0	50m	22	∅	50k	30	T05	A			
16	TRS4404S	26m	1.0	SA	400m	50m	530	5.0	440	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
17	TRS4504	26m	1.0	SA	400m	50m	450	6.0	450	2.0u	4.0	50m	30	#	50M Δ	30	T05	A			
18	TRS4754	26m	1.0	SA	400m	50m	475	6.0	475	2.0u	4.0	50m	22	∅	50k	30	T05	A			
19	TRS4804S	26m	1.0	SA	400m	50m	580	5.0	480	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
20	TRS5014	26m	1.0	SA	400m	50m	500	6.0	500	2.0u	5.0	25m	30	#	65 ∅	50M Δ	60	T05	A		
21	TRS5204S	26m	1.0	SA	400m	50m	625	5.0	520	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
22	TRS5254	26m	1.0	SA	400m	50m	525	6.0	525	2.0u	5.0	25m	22	∅	50k	72	T05	A			
23	TRS5404S	26m	1.0	SA	400m	50m	650	5.0	540	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
24	TRS5504	26m	1.0	SA	400m	50m	550	6.0	550	10u	5.0	25m	20	#	60 ∅	50M Δ	76	T05	A		
25	TRS5754	26m	1.0	SA	400m	50m	575	6.0	575	2.0u	5.0	25m	22	∅	50k	72	T05	A			
26	TRS5804S	26m	1.0	SA	400m	50m	700	5.0	580	10u	10	100m	20	3.0 ∅	50M Δ	60	DM	T05	A		
27	TRS6014	26m	1.0	SA	400m	50m	600	6.0	600	10u	5.0	25m	30	#	65 ∅	50M Δ	60	T05	A		
28	TRS6204S	26m	1.0	SA	400m	50m	750	5.0	620	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
29	TRS6504	26m	1.0	SA	400m	50m	650	6.0	650	10u	5.0	25m	25	#	50M Δ	60	T05	A			
30	TRS6604S	26m	1.0	SA	400m	50m	800	5.0	660	10u	10	100m	20	30 ∅	50M Δ	60	DM	T05	A		
31	TRS7014	26m	1.0	SA	400m	50m	700	6.0	700	10u	5.0	25m	25	#	50M Δ	60	T05	A			
32	TRS7014S	26m	1.0	SA	400m	50m	850	5.0	700	10u	10	100m	20	30 ∅	50M Δ	60	T05	A			
33	TRS7504	26m	1.0	SA	400m	50m	750	6.0	750	10u	5.0	25m	25	#	50M Δ	60	T05	A			
34	TRS8014	26m	1.0	SA	400m	50m	800	6.0	800	10u	5.0	25m	25	#	50M Δ	60	T05	A			
35 #	2SC555	27m	4.0	∅	SA	400m	55	3.5	30	20u	3.0	50m	10		800M Δ	10	PE	T039	A		
36	2N497A	28m	1.0	∅	SA	500m	60	8.0	60	10u	10	200m	12	36 #			10u	T05	A		
37	2N498A	28m	1.0	∅	SA	500m	100	8.0	100	10u	10	200m	12	36 #			10u	T05	A		
38	2N656A	28m	1.0	∅	SA	500m	60	8.0	60	10u	10	200m	30	90 #			10u	T05	A		
39	2N657A	28m	1.0	∅	SA	500m	100	8.0	100	10u	10	200m	30	90 #			10u	T05	A		
40	2N1479	28m	5.0	∅	SC	1.5	1.0	60	12	40	10u	4.0	200m	20	60	1.5M Δ	7.0	1.0u	ME Δ	T05	A
41	JAN2N1479	28m	1.0	∅	SA	1.5	1.0	60	12	40	5.0u	4.0	200m	20	60	800k Δ	3.8			T05	A
42	2N1480	28m	5.0	∅	SC	1.5	1.0	100	12	55	10u	4.0	200m	20	60	1.5M Δ	7.0	1.0u	ME Δ	T05	A
43	JAN2N1480	28m	1.0	∅	SA	1.5	1.0	100	12	55	5.0u	4.0	200m	20	60	800k Δ	3.8			T05	A
44	2N1481	28m	5.0	∅	SC	1.5	1.0	60	12	40	10u	4.0	200m	35	100	1.5M Δ	7.0	1.0u	ME Δ	T05	A
45	JAN2N1481	28m	1.0	∅	SA	1.5	1.0	60	12	40	5.0u	4.0	200m	35	100	800k Δ	3.8			T05	A
46	2N1482	28m	5.0	∅	SC	1.5	1.0	100	12	55	10u	4.0	200m	35	100	1.5M Δ	7.0	1.0u	ME Δ	T05	A
47	JAN2N1482	28m	1.0	∅	SA	1.5	1.0	100	12	55	5.0u	4.0	200m	35	100	800k Δ	3.8			T05	A
48	2N1613A	28m	1.0	∅	SA	500m	75	7.0	50	2.0u	10	150m	40	120 #	60M Δ				T05	A	
49	2N1613B	28m	1.0	∅	SA	500m	120	7.0	50	2.0u	10	100m	20	300 #	60M Δ	1.3			T05	A	
50	2N1711A	28m	1.0	∅	SA	1.0	75	7.0	50	2.0u	10	150m	100	300 #	70M Δ				T05	A	
51	2N1711B	28m	1.0	∅	SA	2.0	120	7.0	50	2.0u	10	100m	20	300 #	70M Δ	1.3			T05	A	
52	2N2017	28m	1.0	∅	SA	1.0	60	8.0	60	10u	10	200m	50	200	100M Δ	1.0			T05	A	
53	2N2102A	28m	1.0	∅	SA	1.0	120	7.0	65	2.0u	10	150m	40	120	60M Δ	2.0			T05	A	
54	2N2270	28m	1.0	∅	SA	1.0	60	7.0	45	50n	10	150m	50	200	100M Δ				T05	A	
55	2N2594	28m	1.0	∅	SA	1.0	80	7.0	80	100n	5.0	10	20	250	40M Δ	5.0			T05	A	
56	2N3053	28m	5.0	∅	SS	700m	60	5.0	40	2.5	150m	25	250	100M Δ	9.3			T05	A		
57	2N3053A	28m	5.0	∅	SS	700m	80	7.0	60	2.5	150m	25	250	100M Δ	2.0			T05	A		
58	2N3252I	28m	1.0	∅	SA	1.0	60	5.0	30	50n	1.0	500m	30	90	200M Δ		30n		T05	A	
59	2N3253I	28m	1.0	∅	SA	1.0	75	5.0	40	50n	1.0	375m	25	75	175M Δ		35n		T05	A	
60	JAN2N3253I	28m	1.0	∅	SA	1.0	75	5.0	40	500n	1.0	500m	25	75	175M Δ	1.2			T05	A	
61	JAN2N3444I	28m	1.0	∅	SS	1.0	80	5.0	50	500n	1.0	500m	20	60	175M Δ	1.2			T05	A	
62	2N3464	28m	5.0	∅	SS	5.0	60	5.0	40	100u	4.0	200m	35	100 #	30M Δ				T05	A	
63	JAN2N3498I	28m	1.0	∅	SA	500m	100	6.0	100	50n	10	150m	40	120 #	150M Δ				T05	A	
64	JAN2N3499I	28m	1.0	∅	SA	500m	100	6.0	100	50n	10	150m	100	300 #	150M Δ				T05	A	
65	JAN2N3500I	28m	1.0	∅	SA	300m	150	6.0	150	50n	10	150m	40	120 #	150M Δ				T05	A	
66	JAN2N3501I	28m	1.0	∅	SA	300m	150	6.0	150	50n	10	150m	100	300 #	150M Δ				T05	A	
67	JAN2N3506I	28m	1.0	∅	SA	3.0	80	5.0	40	1.0u	2.0	1.5	40	200 #	60M Δ				T05	A	
68	JAN2N3507I	28m	1.0	∅	SA	3.0	80	5.0	50	1.0u	2.0	1.5	40	150 #	60M Δ				T05	A	
69	2N3665	28m	5.0	∅	SS	1.0	120	8.0	80	50n	10	150m	40	120	60M Δ				T05	A	
70	2N3666	28m	5.0	∅	SS	1.0	120	8.0	80	50n	10	150m	100	300	60M Δ				T05	A	
71	2N3742	28m	1.0	∅	SS	50m	300	7.0	300	200n	10	30m	20	200	30M Δ				T05	A	
72	JAN2N3742	28m	1.0	∅	SS	50m	300	7.0	300	500n	10	30m	30	120 #	40M Δ				T039	A	
73	JAN2N3743	28m	1.0	∅	SS	50m	300	5.0	300	500n	10	30m	50	200 #	40M Δ				T039	A	
74	2N3866	28m	5.0	∅	SS	400m	55</														

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	I MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc MAX A X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. hFE		BIAS		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C E O D E	
					Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcb @ 25°C (A)	Vcb (V)	Ic (A)	MIN						MAX
1	40323	28m	1.0	5.0	700m	200m	2.5	18	250n	4.0	50m	70	350	100m			DPL	T05	A0
2	40360	28m	1.0	5.0	700m	200m	4.0	70	10m	4.0	10m	70	200	100m			DPL	T05	A0
3	40361	28m	1.0	5.0	700m	200m	4.0	70	10m	4.0	50m	70	350	100m			DPL	T05	A0
4	40366	28m	1.0	5.0	1.0	1.0	120	7.0	65	2.0n	10	150m	40	120 #			Δ	T05	A0
5	40367	28m	1.0	5.0	1.5	1.0	100	12	55	4.0n	4.0	200m	35	100	7.0		Δ	T05	A0
6	40385	28m	1.0	5.0	1.0	1.0	150	7.0	350	20u	10	20m	40	160			Δ	T05	A0
7	40407	28m	1.0	5.0	700m	200m	4.0	50	250n	10	1.0m	40	200	100m			D	T05	A0
8	40408	28m	1.0	5.0	700m	200m	4.0	90	1.0u	4.0	10m	40	200	100m			D	T05	A0
9	40578	28m	1.0	5.0	400m		55	3.5	100u	4.0	10m	40	200	100m			D	T05	A0
10	40581	28m	1.0	5.0	1.5	1.0	2.5	2.5	10u	4.0	50m	70	500	27M*			DPL	T039	A0
11	40611	28m	1.0	5.0	700m	200m	2.5	25	500n	4.0	50m	70	500			D	T05	A0	
12	40616	28m	1.0	5.0	700m	200m	2.5	32	500n	4.0	50m	70	500			D	T05	A0	
13	40635	28m	1.0	5.0	700m	200m	7.0		10u*	4.0	150m	50	250			PL	T05	A0	
14	A209	28m	5.0	5.0	500m#		40	25	15	15	50m	25	200	1.4Gs		PL	MT71	R	
15	A238	28m	5.0	5.0	800m#	2.0	36	4.0	18	5.0	250m	10	70	1.0Gs	2.0	PL	MT59h	R	
16	AZ67	28m	5.0	5.0	1.5	1.0	65	4.0	36	5.0	250m	10	10	1.0Gs	2.0	PE	MT59h	R	
17#	BC140†	28m	3.7	3.0	1.0	100m	80	7.0	40	100u	1.0	100m	63	250 *	50m	E	T039	A0	
18#	BC141†	28m	3.7	3.0	1.0	100m	100	7.0	60	100u	1.0	100m	63	250 *	50m	E	T039	A0	
19#	BFX33	28m*	2.9	2.0	400m		55	3.5	30	100n	15	80m	25	800m		PE	TP39	A0	
20#	BFX55	28m*	3.7	3.0	400m	100m	60	3.5	40	50n	2.0	50m	40	500m	8.0	PE	T039	A	
21#	BFY44	28m	5.0	5.0	1.0	200m	80	4.0	60	50n	5.0	500m	20	200m		PE	T039	A	
22#	BFY70	28m	5.0	5.0	1.0	200m	60	4.0	40	50n	5.0	500m	5.0	210m	200m	PE	T039	A	
23#	BSW29	28m	1.0	5.0	1.0	200m	40	4.0	30	700n	2.0	500m	35	200m	350m	PE	T05	A0	
24#	BSX47	28m	5.0	5.0	1.0	200m	40	7.0	80	30n	1.0	100m	63	160 *	50m	PE	T039	A	
25#	BSX62†	28m	7.7	7.0	3.0	500m	5.0	5.0	40	100n	1.0	100	250 *	70m		PE	T039	A	
26	MM2261†	28m	1.0	5.0	1.0	1.0	60	5.0	50	500n	10	50m	40	200	100m	AN	T05	A0	
27	MM2262†	28m	1.0	5.0	1.0	1.0	100	5.0	100	500n	10	50m	60	300	100m	AN	T05	A0	
28	MM2263†	28m	1.0	5.0	1.0	1.0	150	5.0	150	500n	10	50m	40	200	100m	AN	T05	A0	
29	MM3004	28m	1.1	1.0	1.5			25	100n	1.0	150m	70	25	50m	500m	AN	T039	A0	
30	MM3724†	28m	1.0	5.0	1.5			6.0	30	500n	2.0	500m	25	150	200m	AN	T05	A0	
31	MM3725†	28m	1.0	5.0	1.5			6.0	50	500n	2.0	500m	25	150	200m	AN	T05	A0	
32	MM4429	28m	5.0	5.0	1.5	250m	55	3.5	35	100u	15	50m	20	200	600m	AN	MT75	R	
33	MM4430	28m	5.0	5.0	1.5	250m	55	3.5	35	100u	15	50m	20	200	600m	AN	MT75	R	
34	MM8003	28m	5.0	5.0	400m		40	3.5	30	20u	15	50m	30	1.0Gs		∅	MT71	R	
35	MM8012	28m	5.0	5.0	400m		40	3.5	30	100u	20	50m	30	1.5Gs		∅	MT71d	R	
36	PT3500	28m	5.0	5.0	500m		60	3.0	40	100u	20	50m	15	100	600m	PL	T039	A	
37	S704	28m	5.0	5.0	400m		55	3.5	30	100u	5.0	50m	10	200	1.0Gs	EPL	T039	A	
38	S3010	28m	5.0	5.0	400m		55	3.5	30	20u	5.0	50m	10	200	1.2Gs	∅	MT59g	R	
39	SD1043	28m	5.0	5.0	500m		40	3.0	30	1.0m	15	50m	20	200	4.8Gs	PE	MT59j	R	
40	SD1101	28m	5.0	5.0	500m		40	3.0	20	20u	15	75m	20	210	4.8Gs	∅	T060	A	
41	SD1102	28m	5.0	5.0	500m		40	3.0	20	20u	15	75m	20	210	4.8Gs	∅	MT59j	R	
42	SD1103	28m	5.0	5.0	500m		40	3.0	20	20u	15	75m	20	210	4.8Gs	∅	MT66	R	
43	SD1180	28m	5.0	5.0	400m		55	3.5	30	20u	10	20m	40	160	1.2Gs	PE	T039	A	
44	SPT3440	28m	5.0	5.0	1.0	500	250	7.0	175	20u	10	20m	30	65	50m			T05	
45	TRS140HP	28m	5.0	5.0	1.0	140	160	6.0	140	10u	4.0	25m	30	65	50m			T05	
46	TRS160HP	28m	5.0	5.0	1.0	160	180	6.0	180	10u	4.0	25m	30	65	50m			T05	
47	TRS180HP	28m	5.0	5.0	1.0	180	200	6.0	200	10u	4.0	25m	30	65	50m			T05	
48	TRS200HP	28m	5.0	5.0	1.0	200	225	6.0	225	10u	4.0	25m	22	85	50m			T05	
49	TRS225HP	28m	5.0	5.0	1.0	225	250	6.0	250	10u	4.0	25m	22	90	50m			T05	
50	TRS250HP	28m	5.0	5.0	1.0	250	275	6.0	275	10u	4.0	25m	22	85	50m			T05	
51	TRS275HP	28m	5.0	5.0	1.0	275	300	6.0	300	10u	4.0	25m	22	85	50m			T05	
52	TRS301HP	28m	5.0	5.0	1.0	300	325	6.0	325	10u	4.0	25m	22	85	50m			T05	
53	TRS325HP	28m	5.0	5.0	1.0	325	350	6.0	350	10u	4.0	25m	22	90	50m			T05	
54	TRS350HP	28m	5.0	5.0	1.0	350	375	6.0	375	10u	4.0	25m	22	85	50m			T05	
55	TRS375HP	28m	5.0	5.0	1.0	375	400	6.0	400	10u	4.0	25m	22	85	50m			T05	
56	TRS401HP	28m	5.0	5.0	1.0	400	425	6.0	425	10u	4.0	25m	22	85	50m			T05	
57	TRS425HP	28m	5.0	5.0	1.0	425	45	3.5	30	20u	4.0	200m	20	60	1.5M	7.0	1.2u	R81n	A
58	VX3866	28m	5.0	5.0	1.5	1.0	80	12	40	10u	4.0	200m	20	60	1.5M	7.0	1.2u	R81n	A
59#	ZT1479†	28m	5.0	5.0	1.5	1.0	100	12	55	10u	4.0	200m	35	100	1.5M	7.0	1.2u	R81n	A
60#	ZT1480†	28m	5.0	5.0	1.5	1.0	100	12	55	10u	4.0	200m	35	100	1.5M	7.0	1.2u	R81n	A
61#	ZT1481†	28m	5.0	5.0	1.5	1.0	100	12	55	10u	4.0	200m	35	100	1.5M	7.0	1.2u	R81n	A
62#	ZT1482†	28m	5.0	5.0	1.5	1.0	100	12	55	10u	4.0	200m	35	100	1.5M	7.0	1.2u	R81n	A
63#	ZT1700	28m	5.0	5.0	1.0	750m	60	6.0	40	75u	4.0	100m	20	80	1.2M†	10	1.2u	T05	∅
64#	ZT2270	28m	1.0	5.0	1.0	1.0	60	7.0	45	100n	10	150m	50	200 #	60m	PL	T05	∅	
65	2N1700	28m	1.0	5.0	1.0	750m	60	6.0	40	75u	4.0	100m	20	80	400k†	10	1.2u	T05	∅
66	40539	28m	1.0	5.0	1.0	700m	60	5.0	55	10u*	4.0	500m	15	90	100m	DPL	T05	A0	
67	3TX620	30m	4.0	4.0	500m	100m	40	3.5	20	100u	5.0	50m	10	150	800m	PE	MT59	∅	
68#	BLY76	32m	4.0	4.0	300m		65	4.0	36	5.0	250m	30	∅	900m	2.0	PE	X63a	R	
69	2N1067†	33m	5.0	5.0	500m	200m	80	12	30	500u	4.0	200m	15	75	1.5M†	10	1.2u	T08	A0
70	2N5058	33m	1.0	5.0	150m		300	7.0	300	50n	25	30m	35	150 #	30m	D	T05	A0	
71	2N5059	33m	1.0	5.0	150m		250	6.0	250	50n	25	30m	30	150 #	30m	D	T05	A0	
72	2N5715	33m	6.0	6.0	200m	80m	50 †	3.5†	30	500u	5.0	50m	20	200	3.5Gs	D	T05	A0	
73#	2SC803†	33m	5.0	5.0	1.5		60	4.0	35	1.0u	4.0	400m	20	300	90m	PL	T05	∅	
74#	2SC876	33m	5.0	5.0	400m		55	3.5	35	100u	28	20m	10 #	180 #	1.2Gs	PL	MT78	V	
75	40250V1	33m	5.8	5.0	4.0		50	5.0	40	1.0m	4.0	1.5	25	100		D	MD30		
76	4032†	33m	1.0	5.0	1.0	500m		5.0	300	100u	10	20m	25	200		DPL	T05	A0	
77	40326	33m	1.0	5.0	1.0	700m		2.5	250n	4.0	10m	40	200			DPL	T05	A0	
78	40327	33m	1.0	5.0	1.0	500m		5.0	100u†	10	20m	40	250			D	T05	A0	
79	40372	33m	5.8	5.0	4.0	2.0	90	7.0	55	4									

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M A E M P	ABSOLUTE MAX. RATINGS @ 25°C						MAX. Vcb @ 25°C		hFE		f _{ae}	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E
						ic	ib	Vcbo (V)	VVebo (V)	VVceo (V)	icbo @ MAX Vcb (A)	Vcb (V)	ic	MIN	MAX						
						(A)	(A)	(V)	(V)	(V)	(A)	(V)	(A)								
1	2N3852T	40m	30 ∅	∅	∅	5.0	500m	60	5.0	40	100n∅	1.0∅	1.0	50	150 #	20M∅Δ	1.2	150n	TO59	A∅	
2	2N3853T	40m	30 ∅	∅	∅	5.0	500m	60	5.0	40	100n∅	1.0∅	1.0	30	90 #	20M∅Δ	1.2	150n	TO59	A∅	
3	2N3916	40m	5.0 ∅	∅	∅	150m	150m	150	5.0	150	1.0m∅	1.0∅	150m	40	200 #	50M∅Δ			MD28	∅	
4	2N3924	40m	7.0 ∅	∅	∅	500m		36	4.0	18	100u∅					250M∅Δ			TO39	A∅	
5	2N4349T	40m	7.0 ∅	∅	∅	2.0		65	5.0		100u#	1.0	1.0	20		350M∅Δ	500m	130ns	TO5	∅	
6	2N4350	40m	7.0 ∅	∅	∅	350m	100m	65	4.0	40	100u#	5.0∅	350m	10	200	300M∅Δ	2.9		TO5	A∅	
7	2N4862	40m∅	4.0 ∅	∅	∅	2.0	500m	140	8.0	120	100n∅	5.0∅	500m	50	150 #	50M∅Δ			TO46	A	
8	2N4863	40m∅	4.0 ∅	∅	∅	2.0	500m	140	8.0	120	100n∅	5.0∅	500m	50	150 #	50M∅Δ			TO5	A	
9	2N5090	40m∅	5.0 ∅	∅	∅	400m	400m	55	3.5	30	20uΔ	5.0∅	5.0m	10	200	500M∅Δ	10		TO60	A	
10	2N5102	40m	7.0 ∅	∅	∅	3.3	1.0	90	4.0	50 ∅	4.0∅	500m	10	100	150M∅Δ			TO60	A∅		
11	2N5252	40m	1.0	∅	∅	1.0	250m	300	6.0	300	10u	10∅	100m	40	120	30M∅Δ	5.0		TO39V	A∅	
12	2N5253	40m	1.0	∅	∅	1.0	250m	300	6.0	300	10u	10∅	100m	80	250	30M∅Δ	5.0		TO39	A∅	
13#	2N5916	40m∅	4.0 ∅	∅	∅	200m		55 ↑	3.5†	24	1.0m†	15∅	50m	20		1.0GΔ			MM14	R	
14#	2N5917	40m∅	4.0 ∅	∅	∅	200m		55 ↑	3.5†	24	1.0m†	15∅	50m	20		1.0GΔ			MM14	R	
15#	2SC354	40m	4.0 ∅	∅	∅	1.5		4.0	4.0		1.0u∅	4.0∅	500m	100 ∅		180M∅			TO5	A	
16#	2SC541	40m				1.0		50	4.0	35	5.0u∅	4.0∅	100m	25 ∅		450M∅			TO5	A	
17#	2SC547	40m	6.0 ∅	∅	∅	1.0		65	4.0	40	100u#	3.0∅	150m	10		400M∅	4.0		TO39	A	
18#	2SC548	40m				500m		36	4.0	18	100u#	3.0∅	150m	10		550M∅	4.0		TO39	A	
19#	2SC597	40m	6.0 ∅	∅	∅	1.0		65	4.0	40	28∅	100m	30 ↑			400M∅			R816	A∅	
20#	2SC665	40m	5.0 ∅	∅	∅	5.0	1.5	125	5.0	75	5.0∅	1.0	35	200		250k	300m		TO3	A∅	
21#	2ST909	40m	7.0 ∅	∅	∅	500m		40	3.0	40 ∅	50u∅	10∅	100m	5.0		800M∅			MT59b	GE	
22#	2SC973	40m	7.0 ∅	∅	∅	500m		40	3.0	40 ∅	50u	10∅	100m	5.0 #		1.0G∅			MT78	V∅	
23	3TC613	40m				500m	200m	65	5.0	50	100u					500M			TO39	∅	
24	3TY621	40m				1.0	200m	40	3.5	20	100u	5.0	50m	10	150	800M			MT59	∅	
25	40280	40m	7.0 ∅	∅	∅	500m		36	4.0	18	100uΔ					550M∅			TO39	A∅	
26	40280	40m	7.0 ∅	∅	∅	400m		4.0	4.0	#	100uΔ					500M∅			TO39	A∅	
27	40305	40m				1.0		65	4.0	40	100nΔ	5.0∅	150m	10					TO39	A∅	
28	40392	40m	7.0 ∅	∅	∅	700m		60	5.0	40	25n*∅	1.0∅	150m	50	250 #	100M∅Δ	7.1		MD28a	A∅	
29	40544	40m	7.0 ∅	∅	∅	700m		60	5.0	50 ∅	10u*	4.0∅	50m	35	200	100M∅	6.3		MD28	A∅	
30	40605	40m	1.0	∅	∅	330m		65	4.0	40	100nΔ					350M∅Δ	4.0		TO39	A∅	
31#	BC300	40m	7.0	∅	∅	#C 1.0		130	7.0	130 ∅	100∅	10∅	150m	40	140	120M∅			PLΔ	TO39	
32#	BC301	40m	7.0	∅	∅	#C 1.0		7.0	7.0	65	10u∅	10∅	150m	40	140	130M∅			PLΔ	TO39	
33#	BF111	40m∅	3.0 ∅	∅	∅	80m		5.0	200 ∅	200∅	200∅	20∅	60m	20		120M∅			D	TO39	
34#	BFS51	40m	5.0 ∅	∅	∅	750m		40	4.0	20	100uΔ	1.5	500m	15 #		450M∅Δ			PL	TO39	
35#	BLY33	40m	5.0 ∅	∅	∅	500m		4.0	4.0	33	5.0M∅	5.0∅	200m	10		400M∅			PL	TO39	
36#	BLY34	40m	5.0 ∅	∅	∅	5.0		4.0	4.0	20	5.0M∅	5.0∅	200m	10		500M∅			PL	TO39	
37	D7A30	40m	1.0	∅	∅			50	5.0	50 ∅	10u∅	10∅	200	12	36	15M†			ME	R133	
38	D7A31	40m	1.0	∅	∅			50	5.0	50 ∅	10u∅	10∅	200	30	90	15M†			ME	R133	
39	D7A32	40m	1.0	∅	∅			50	5.0	50 ∅	10u∅	10∅	200	75	200	15M†			ME	R133	
40	KS6101T	40m				500m	100m	60	4.5	60	500u	5.0	250m	15		350M†		15nZ	PE	TO39	
41	KS6102T	40m				500m	100m	40	4.5	40	500u	5.0	250m	15		350M†		20nZ	PE	TO39	
42	KSP1051	40m				5.0	1.0	225	8.0	200	1.0u	5.0	1.0	20	60	40M			PE	TO5	
43	KSP1052	40m				5.0	1.0	250	8.0	225	1.0u	5.0	1.0	20	60	40M			PE	TO5	
44	KSP1053	40m				5.0	1.0	275	8.0	250	1.0u	5.0	1.0	20	60	40M			PE	TO5	
45	KSP1054	40m				5.0	1.0	300	8.0	275	1.0u	5.0	1.0	20	60	40M			PE	TO5	
46	KSP1055	40m				5.0	1.0	325	8.0	300	1.0u	5.0	1.0	20	60	40M			PE	TO5	
47	MST20B	40m	2.0	∅	∅	1.0	400m	200	5.0	200 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
48	MST30B	40m	2.0	∅	∅	1.0	400m	300	5.0	300 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
49	MST40B	40m	2.0	∅	∅	1.0	400m	400	5.0	400 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
50	MST50B	40m	2.0	∅	∅	1.0	400m	500	5.0	500 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
51	MST60B	40m	2.0	∅	∅	1.0	400m	600	5.0	600 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
52	MST70B	40m	2.0	∅	∅	1.0	400m	700	5.0	700 ∅	12u	10∅	60m	30		20M∅	34		DM	TO5	
53	S715*	40m	7.0 ∅	∅	∅	800m		55	3.5	30	40uΔ†					800M∅	5.0		PE	TO39	
54	SD1181	40m	5.0 ∅	∅	∅	500m		55	3.5	30	20uΔ					1.2G∅			PE	TO60	
55	SD1182	40m	5.0 ∅	∅	∅	500m		55	3.5	30	20uΔ					1.2G∅			PE	TO60	
56	SD1183	40m	5.0 ∅	∅	∅	500m		55	3.5	30	20uΔ					1.2G∅			PE	TO60	
57	SD14855	40m∅	4.0 ∅	∅	∅	5.0		80	8.0	40	1.0u∅	5.0∅	1.0	100 #		20M∅Δ			PL	TO5	
58	SD14856	40m∅	4.0 ∅	∅	∅	5.0		100	8.0	80	1.0u∅	5.0∅	1.0	100 #		20M∅Δ			PL	TO5	
59	SD14883	40m∅	4.0 ∅	∅	∅	5.0		60	8.0	40	1.0u∅	5.0∅	1.0	20	60 #	20M∅Δ			PL	TO5	
60	SD14921	40m	7.0	∅	∅	5.0	1.0	225	8.0	200	1.0u	5.0	1.0	20	60	30M			PL	TO5	
61	SD14922	40m	7.0	∅	∅	5.0	1.0	250	8.0	225	1.0u	5.0	1.0	20	60	30M			PL	TO5	
62	SD14923	40m	7.0	∅	∅	5.0	1.0	275	8.0	250	1.0u	5.0	1.0	20	60	30M			PL	TO5	
63	SD14924	40m	7.0	∅	∅	5.0	1.0	300	8.0	275	1.0u	5.0	1.0	20	60	30M			PL	TO5	
64	SD14925	40m	7.0	∅	∅	5.0	1.0	325	8.0	300	1.0u	5.0	1.0	20	60	30M			PL	TO5	
65	SDT5001	40m∅	4.0 ∅	∅	∅	2.0	500m	60	8.0		100n∅	2.0∅	500m	50	150 #	50M∅Δ			PL	TO46	
66	SDT5002	40m∅	4.0 ∅	∅	∅	2.0	500m	80	8.0		100n∅	2.0∅	500m	50	150 #	50M∅Δ			PL	TO46	
67	SDT5003	40m∅	4.0 ∅	∅	∅	2.0	500m	100	8.0		100n∅	2.0∅	500m	50	150 #	50M∅Δ			PL	TO46	
68	SDT5004	40m∅	4.0 ∅	∅	∅	2.0	500m	140	8.0		100n∅	2.0∅	500m	50	150 #	50M∅Δ			PL	TO46	
69	SDT5005	40m∅	4.0 ∅	∅	∅	2.0	500m	180	8.0		100n∅	2.0∅	500m	50	150 #	50M∅Δ			PL	TO46	
70	SDT5006	40m∅	4.0 ∅	∅	∅	2.0	500m	60	8.0		100n∅	2.0∅	500m	30 #		50M∅Δ			PL	TO46	
71	SDT5007	40m∅	4.0 ∅	∅	∅	2.0	500m	80	8.0		100n∅	2.0∅	500m	30 #		50M∅Δ			PL	TO46	
72	SDT5008	40m∅	4.0 ∅	∅	∅	2.0	500m	100	8.0		100n∅	2.0∅	500m	30 #		50M∅Δ			PL	TO46	
73	SDT5009	40m∅	4.0 ∅	∅	∅	2.0	500m	140	8.0		100n∅	2.0∅	500m	30 #		50M∅Δ			PL	TO46	

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	Tjmax	ABSOLUTE MAX. RATINGS @25°C					MAX. Vcb		hFE		MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E		
						Ic	Ib	BVcbo	BVebo	BVceo	Icbo	Vcb	Ic	MIN			MAX	fae (Hz)		STRUC-TURE	DWG. No.
1	SDT9002	40m	4.0	5.0	5.0	500m	70	5.0	50	1.0	2.0	1.0	20	#	10M	PL	T05	A0			
2	SDT9003	40m	4.0	5.0	5.0	500m	90	5.0	70	1.0	2.0	1.0	20	#	10M	PL	T05	A0			
3	SDT9004	40m	4.0	5.0	5.0	500m	50	5.0	30	1.0	2.0	1.0	30	#	10M	PL	T05	A0			
4	SDT9005	40m	4.0	5.0	5.0	500m	70	5.0	50	1.0	2.0	1.0	30	#	10M	PL	T05	A0			
5	SDT9006	40m	4.0	5.0	5.0	500m	90	5.0	70	1.0	2.0	1.0	30	#	10M	PL	T05	A0			
6	SDT9007	40m	4.0	5.0	5.0	500m	50	5.0	30	1.0	2.0	1.0	50	#	10M	PL	T05	A0			
7	SDT9008	40m	4.0	5.0	5.0	500m	70	5.0	50	1.0	2.0	1.0	50	#	10M	PL	T05	A0			
8	SDT9009	40m	4.0	5.0	5.0	500m	90	5.0	70	1.0	2.0	1.0	50	#	10M	PL	T05	A0			
9	SDT9010	40m	4.0	5.0	5.0	500m	50	5.0	30	1.0	2.0	1.0	100	#	10M	PL	T05	A0			
10	SDT9011	40m	4.0	5.0	5.0	500m	70	5.0	50	1.0	2.0	1.0	100	#	10M	PL	T05	A0			
11	SDT9012	40m	4.0	5.0	5.0	500m	90	5.0	70	1.0	2.0	1.0	100	#	10M	PL	T05	A0			
12	SE8042	40m	1.0	1.0	1.0	30	6.0	30	30	50n	1.0	150m	40	#	230M	DPL	T039	A			
13	STT4451	40m	1.2	1.2	1.2	5.0		80	8.0	40	1.0	5.0	1.0	20	#	20M	PL	T05	A0		
14	STT4452	40m	1.2	1.2	1.2	5.0		100	8.0	80	1.0	5.0	1.0	20	#	20M	PL	T05	A0		
15	STT4453	40m	1.2	1.2	1.2	5.0		80	8.0	40	1.0	5.0	1.0	40	#	20M	PL	T05	A0		
16	STT4454	40m	1.2	1.2	1.2	5.0		100	8.0	80	1.0	5.0	1.0	40	#	20M	PL	T05	A0		
17	STT4455	40m	1.2	1.2	1.2	5.0		80	8.0	40	1.0	5.0	1.0	100	#	20M	PL	T05	A0		
18	STT4456	40m	1.2	1.2	1.2	5.0		100	8.0	80	1.0	5.0	1.0	100	#	20M	PL	T05	A0		
19	STT4483	40m	1.2	1.2	1.2	5.0		60	5.0	40	1.0	5.0	1.0	20	#	20M	PL	T05	A0		
20	STT9001	40m	1.2	1.2	1.2	5.0		50	5.0	30	1.0	5.0	1.0	20	#	10M	PL	T05	A0		
21	STT9002	40m	1.2	1.2	1.2	5.0		70	5.0	50	1.0	5.0	1.0	20	#	10M	PL	T05	A0		
22	STT9003	40m	1.2	1.2	1.2	5.0		90	5.0	70	1.0	5.0	1.0	20	#	10M	PL	T05	A0		
23	STT9004	40m	1.2	1.2	1.2	5.0		50	5.0	30	1.0	5.0	1.0	30	#	10M	PL	T05	A0		
24	STT9005	40m	1.2	1.2	1.2	5.0		70	5.0	50	1.0	5.0	1.0	30	#	10M	PL	T05	A0		
25	STT9006	40m	1.2	1.2	1.2	5.0		90	5.0	70	1.0	5.0	1.0	30	#	10M	PL	T05	A0		
26	STT9007	40m	1.2	1.2	1.2	5.0		50	5.0	30	1.0	5.0	1.0	50	#	10M	PL	T05	A0		
27	STT9008	40m	1.2	1.2	1.2	5.0		70	5.0	50	1.0	5.0	1.0	50	#	10M	PL	T05	A0		
28	STT9009	40m	1.2	1.2	1.2	5.0		90	5.0	70	1.0	5.0	1.0	50	#	10M	PL	T05	A0		
29	STT9010	40m	1.2	1.2	1.2	5.0		50	5.0	30	1.0	5.0	1.0	100	#	10M	PL	T05	A0		
30	STT9011	40m	1.2	1.2	1.2	5.0		70	5.0	50	1.0	5.0	1.0	100	#	10M	PL	T05	A0		
31	STT9012	40m	1.2	1.2	1.2	5.0		90	5.0	70	1.0	5.0	1.0	100	#	10M	PL	T05	A0		
32#	XB401	40m	7.0	1.0	1.0	400m	60	4.0	40	1.0	5.0	1.0			350M	PE	T039	A0			
33#	ZT210	40m	1.0	1.0	1.0	1.0	60	7.0	60	250n	100	150m	30	150		70n	PE	T05	A0		
34#	ZT211	40m	1.0	1.0	1.0	1.0	90	7.0	85	20n	100	150m	40	120		70n	PE	T05	A0		
35	2N5212	43m	7.5	1.0	1.0	600m	80	4.0	80	100	5.0	200m	10	60	200M	925m	PL	T037	AZ		
36	2N5213	43m	7.5	1.0	1.0	500m	70	4.0	70	100	5.0	200m	10	80	350M	1.0	PL	T037	AZ		
37	2N5217	43m	7.5	1.0	1.0	500m	80	4.0	80	100	5.0	200m	10	80	350M	1.0	PL	T037	AZ		
38	2N5914	45m	5.7	1.0	1.0	500m	36	3.5	14	300	5.0	500m	5.0		500M	1.0	PE	MT78	R		
39	A270	45m	8.0	1.0	1.0	500m	65	4.0	36	5.0	5.0	500m	5.0		500M	1.0	PE	T039	A0		
40	A274	45m	8.0	1.0	1.0	750m	36	4.0	18	5.0	5.0	500m	5.0		700M	1.0	PE	T039	A0		
41#	BFS22	45m	8.0	1.0	1.0	750m	36	4.0	18	5.0	5.0	500m	5.0		700M	1.0	PE	T039	A0		
42	BFS22R	45m	8.0	1.0	1.0	750m	36	4.0	18	5.0	5.0	500m	5.0		700M	1.0	PE	T039	A0		
43	BFS23	45m	8.0	1.0	1.0	750m	65	4.0	36	5.0	5.0	500m	5.0		700M	1.0	PE	T039	A0		
44	BFS23R	45m	8.0	1.0	1.0	750m	65	4.0	36	5.0	5.0	500m	5.0		700M	1.0	PE	T039	A0		
45	MPSU03	45m	1.0	1.0	1.0	1.0	120	5.0	120	100	10m	40			100M	2.5	ANT	X81	A		
46	MPSU04	45m	1.0	1.0	1.0	1.0	170	5.0	180	100	10m	40			100M	2.5	ANT	X81	A		
47	MPSU05	45m	1.0	1.0	1.0	1.0	60	4.0	60	100	5.0	50m	100	180	150M	2.4	ANT	X81	A0		
48	MPSU06	45m	1.0	1.0	1.0	1.0	80	4.0	80	100	5.0	50m	100	180	150M	2.4	ANT	X81	A0		
49	MPSU10	45m	1.0	1.0	1.0	1.0	300	8.0	300	200	150	1.0m	25		60M	75	AN	X81	A0		
50	2N2033	50m	5.0	1.0	1.0	3.0	80	10	60	25u	4.0	50	20	60	1.5k	.80	DA	T05	A0		
51	2N2034	50m	5.0	1.0	1.0	3.0	80	10	60	25u	4.0	50	20	60	1.5k	.80	DA	T05	A0		
52	JAN2N2631	50m	8.8	1.0	1.0	1.5	80	4.0	60	100	100	300m	30	150	#	150M	670m	PL	R81	A0	
53	2N2876	50m	18	1.0	1.0	2.5	80	4.0	60	100	100	300m	30	150	#	200M		PL	T060	A0	
54	2N2911	50m	5.0	1.0	1.0	3.0	150	10	125	2.0	1.0	20	60		1.0M		PL	T05	A0		
55	2N3262	50m	1.0	1.0	1.0	1.5	100	4.0	80	100	4.0	500m	40		150M	600m	PLD	T039	A0		
56	2N3619	50m	7.5	1.0	1.0	2.5	500m	75	4.0	40	25u	5.0	1.0	40	#	200M		R50		A0	
57	2N3620	50m	7.5	1.0	1.0	2.5	500m	75	4.0	40	25u	5.0	1.0	40	#	200M		MT27		A0	
58	2N3623	50m	7.5	1.0	1.0	2.5	500m	75	4.0	40	1.0	5.0	1.0	40	#	200M		R50		A0	
59	2N3624	50m	7.5	1.0	1.0	2.5	500m	75	4.0	40	1.0	5.0	1.0	40	#	200M		MT27		A0	
60	2N3627	50m	7.5	1.0	1.0	2.5	500m	100	4.0	50	1.0	5.0	1.0	40	#	200M		R50		A0	
61	2N3628	50m	7.5	1.0	1.0	2.5	500m	100	4.0	50	1.0	5.0	1.0	40	#	200M		MT27		A0	
62	2N3675	50m	8.8	1.0	1.0	3.0	1.0	90	7.0	55	5.0	1.0	1.0	12	60	1.0M	800m	5.0u	T05	A0	
63	2N3676	50m	8.8	1.0	1.0	3.0	1.0	90	7.0	90	5.0	1.0	1.0	12	60	1.0M	800m	5.0u	T05	A0	
64	2N3928	50m	5.0	1.0	1.0	3.0	500m	80	4.0	40	1.0	1.5	20	300	#	200M		R114	A0		
65	2N4054	50m	4.0	1.0	1.0	100m	300	7.0	300	100	100	50m	30	90	15M	67	L	X51	A0		
66	2N4055	50m	4.0	1.0	1.0	100m	250	7.0	250	100	100	50m	30	90	15M	67	L	X51	A0		
67	2N4056	50m	4.0	1.0	1.0	100m	200	7.0	200	100	100	50m	30	90	15M	67	L	X51	A0		
68	2N4057	50m	4.0	1.0	1.0	100m	150	7.0	150	100	100	50m	30	90	15M	67	L	X51	A0		
69	2N4132	50m	7.5	1.0	1.0	600m	100m	90	5.0	80	1.0	5.0	200m	10	80	200M		T037	AZ	A0	
70	2N4150	50m	5.0	1.0	1.0	5.0	100	5.0	80	100	5.0	5.0	40	120	#	15M	200n	T05	A0		
71	JAN2N4150	50m	1.5	1.0	1.0	1.0	100	7.0	70	100	5.0	5.0	40	120	#	15M	500n	T05	A	A0	
72	2N4225	50m	1.5	1.0	1.0	1.0	80	6.0	40	1.0	5.0	1.0	40	150	#	15M	.03u	R114		A0	
73	2N4226	50m	1.5	1.0	1.0	1.0	100	6.0	60	1.0	5.0	1.0	40	150	#	15M	.03u	R114		A0	
74	2N5237	50m	5.0	1.0	1.0	5.0	150	5.0	120	10u	5.0	5.0	40	120	#	50M	500n	T05	A0	A0	
75	JAN2N5237	50m	1.5	1.0	1.0	1.0	150	7.0	120	100	5.0	5.0	40	120	#	15M	500n	T05	A	A0	
76	2N5238	50m	5.0	1.0	1.0	5.0	200	5.0	170	10u	5.0	5.0	40								

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E			
						Ic (A)	Ib (A)	V _{cb0} (V)	V _{be0} (V)	V _{ce0} (V)	Icbo @ 25°C (A)	V _{cb} (V)	Ic (A)				MIN	MAX		STRUCTURE	DWG. No.	
1	B3607	50m	4.0	0.8	SC	5.0		70	5.0	50	1.0u	1.0	20				PE	T05				
2	B3608	50m	4.0	0.8	SC	5.0		90	5.0	70	1.0u	1.0	20				PE	T05				
3	B3609	50m	4.0	0.8	SC	5.0		50	5.0	30	1.0u	1.0	30	90			PE	T05				
4	B3610	50m	4.0	0.8	SC	5.0		70	5.0	50	1.0u	1.0	30	90			PE	T05				
5	B3611	50m	4.0	0.8	SC	5.0		90	5.0	70	1.0u	1.0	30	90			PE	T05				
6	B3612	50m	4.0	0.8	SC	5.0		50	5.0	30	1.0u	1.0	50	150			PE	T05				
7	B3613	50m	4.0	0.8	SC	5.0		70	5.0	50	1.0u	1.0	50	150			PE	T05				
8	B3614	50m	4.0	0.8	SC	5.0		90	5.0	70	1.0u	1.0	50	150			PE	T05				
9	B3615	50m	4.0	0.8	SC	5.0		50	5.0	30	1.0u	1.0	100				PE	T05				
10	B3616	50m	4.0	0.8	SC	5.0		70	5.0	50	1.0u	1.0	100				PE	T05				
11	B3617	50m	4.0	0.8	SC	5.0		90	5.0	70	1.0u	1.0	100				PE	T05				
12	B3749	50m	3.7	0.8	SJ	5.0				50								MT27				
13	B3750	50m	3.7	0.8	SJ	5.0				50								MT27				
14	D40N1	50m	6.2	0.8	SJ	100m			5.0	250	10u	10	20m	30	90	80M			X51a	F		
15	D40N3	50m	6.2	0.8	SJ	100m				300	10u	10	20m	30	90	80M			X51a	F		
16#	DT1311	50m	5.0		SJ	1.5	500m	60	12	60	1.5u	4.0	200m	20	60	1.5M	3.7			T05		
17#	DT1312	50m	5.0		SJ	1.5	500m	100	12	100	1.5u	4.0	200m	20	60	1.5M	3.7			T05		
18#	DT1321	50m	5.0		SJ	1.5	500m	60	12	60	1.5u	4.0	200m	40	120	2.5M	3.7			T05		
19#	DT1322	50m	5.0		SJ	1.5	500m	100	12	100	1.5u	4.0	200m	40	120	2.5M	3.7			T05		
20	K56103†	50m			SJ	1.0	200m	60	4.5	60	500u	5.0	500m	15		300M†		20nZ		TO39		
21	K56104†	50m			SJ	1.0	200m	40	4.5	40	500u	5.0	500m	15		300M†		25nZ		TO39		
22	MSP10	50m	2.0		SA	400m	150m	100	5.0	100	3.0u	10	55m	30	55	40M	25			DM	MD14	
23	MSP15	50m	2.0		SA	400m	150m	150	5.0	150	3.0u	10	55m	30	55	40M	25			DM	MD14	
24	MSP20	50m	2.0		SA	400m	150m	200	5.0	200	3.0u	10	55m	30	55	40M	25			DM	MD14	
25	MSP25	50m	2.0		SA	400m	150m	250	5.0	250	3.0u	10	55m	30	55	40M	25			DM	MD14	
26	MSP30	50m	2.0		SA	400m	150m	300	5.0	300	3.0u	10	55m	30	55	40M	25			DM	MD14	
27	MSP35	50m	2.0		SA	400m	150m	350	5.0	350	3.0u	10	55m	30	55	40M	25			DM	MD14	
28	MSP40	50m	2.0		SA	400m	150m	400	5.0	400	4.0u	10	45m	30	55	40M	30			DM	MD14	
29	MSP45	50m	2.0		SA	400m	150m	450	5.0	450	4.0u	10	45m	30	55	40M	30			DM	MD14	
30	MSP50	50m	2.0		SA	350m	150m	500	5.0	500	6.0u	10	25m	30	55	40M	55			DM	MD14	
31	MSP55	50m	2.0		SA	350m	150m	550	5.0	550	6.0u	10	25m	30	55	40M	60			DM	MD14	
32	MSP60	50m	2.0		SA	350m	150m	600	5.0	600	8.0u	10	25m	30	55	40M	60			DM	MD14	
33	MSP65	50m	2.0		SA	350m	150m	650	5.0	650	8.0u	10	25m	30	55	40M	60			DM	MD14	
34	MSP70	50m	2.0		SA	350m	100m	700	5.0	700	10u	10	25m	30	55	40M	65			DM	MD14	
35	MSP75	50m	2.0		SA	300m	100m	750	5.0	750	10u	10	22m	30	55	40M	73			DM	MD14	
36	MSP80	50m	2.0		SA	300m	100m	800	5.0	800	12u	10	22m	25	50	40M	73			DM	MD14	
37	MSP85	50m	2.0		SA	250m	75m	850	5.0	850	12u	10	20m	25	50	40M	80			DM	MD14	
38	MSP90	50m	2.0		SA	250m	75m	900	5.0	900	15u	10	20m	25	50	40M	80			DM	MD14	
39	MSP95	50m	2.0		SA	200m	50m	950	5.0	950	15u	10	15m	25	50	40M	100			DM	MD14	
40	MSP100	50m	2.0		SA	400m	100m	1.0k	5.0	1.0k	12u	10	20m	30	180	35M	45			DM	MD14	
41	PT4925	50m	8.8		S	10	5.0	100	5.0	80	1.0m	5.0	5.0	80	200	60M	250m	350nZ		PL	T05	A
42	PT4961	50m	9.0		S	5.0	2.0	140	6.0	120	1.0m	1.0	500m	40	120	50M	700m	350nZ		PL	T05	A
43	SDT3421	50m	1.0		S	5.0	2.0	40	6.0	40	.01m	5.0	2.0	40	120	40MΔ	50	50u	PEΔ	T05		
44	SDT3422	50m	1.0		S	5.0	2.0	60	6.0	60	.01m	5.0	2.0	40	120	40MΔ	50	50u	PEΔ	T05		
45	SDT3423	50m	1.0		S	5.0	2.0	80	6.0	80	.01m	5.0	2.0	40	120	40MΔ	50	50u	PEΔ	T05		
46	SDT3424	50m	1.0		S	5.0	2.0	100	6.0	100	.01m	5.0	2.0	40	120	40MΔ	50	50u	PEΔ	T05		
47	SDT3425	50m	1.0		S	5.0	2.0	40	6.0	40	.01m	5.0	2.0	20	60	40MΔ	60	50u	PEΔ	T05		
48	SDT3426	50m	1.0		S	5.0	2.0	60	6.0	60	.01m	5.0	2.0	20	60	40MΔ	60	50u	PEΔ	T05		
49	SDT3427	50m	1.0		S	5.0	2.0	80	6.0	80	.01m	5.0	2.0	20	60	40M†	60	50u	PEΔ	T05		
50	SDT3428	50m	1.0		S	5.0	2.0	100	6.0	100	.01m	5.0	2.0	20	60	40M†	60	50u	PEΔ	T05		
51	SDT3429	50m	1.0		S	5.0	2.0	120	6.0	120	.01m	5.0	2.0	20	60	40M†	60	50u	PEΔ	T05		
52	SDT4301	50m	8.7		S	2.0	500m	40	10	40	150u	4.0	500m	20	60	4.0M				ME	T05	
53	SDT4302	50m	8.7		S	2.0	500m	60	10	60	150u	4.0	500m	20	60	4.0M				ME	T05	
54	SDT4303	50m	8.7		S	2.0	500m	80	10	80	150u	4.0	500m	20	60	4.0M				ME	T05	
55	SDT4304	50m	8.7		S	2.0	500m	40	10	40	150u	4.0	500m	40	120	4.0M				ME	T05	
56	SDT4305	50m	8.7		S	2.0	500m	60	10	60	150u	4.0	500m	40	120	4.0M				ME	T05	
57	SDT4306	50m	8.7		S	2.0	500m	80	10	80	150u	4.0	500m	40	120	4.0M				ME	T05	
58	SDT4307	50m	8.7		S	2.0	500m	40	10	40	150u	4.0	1.0	20	60	4.0M				ME	T05	
59	SDT4308	50m	8.7		S	2.0	500m	60	10	60	150u	4.0	1.0	20	60	4.0M				ME	T05	
60	SDT4309	50m	8.7		S	2.0	500m	80	10	80	150u	4.0	1.0	20	60	4.0M				ME	T05	
61	SDT4310	50m	8.7		S	2.0	500m	40	10	40	150u	4.0	1.0	40	120	4.0M				ME	T05	
62	SDT4311	50m	8.7		S	2.0	500m	60	10	60	150u	4.0	1.0	40	120	4.0M				ME	T05	
63	SDT4312	50m	8.7		S	2.0	500m	80	10	80	150u	4.0	1.0	40	120	4.0M				ME	T05	
64	SDT7401	50m	5.0	0.8	SJ	5.0	2.0	60	5.0	40	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
65	SDT7402	50m	5.0	0.8	SJ	5.0	2.0	80	5.0	60	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
66	SDT7403	50m	5.0	0.8	SJ	5.0	2.0	100	5.0	80	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
67	SDT7411	50m	5.0	0.8	SJ	5.0	2.0	60	5.0	40	1.0u	5.0	5.0	20	60	15MΔ				PLA	T05	A
68	SDT7412	50m	5.0	0.8	SJ	5.0	2.0	80	5.0	60	1.0u	5.0	5.0	20	60	15MΔ				PLA	T05	A
69	SDT7413	50m	5.0	0.8	SJ	5.0	2.0	100	5.0	80	1.0u	5.0	5.0	20	60	15MΔ				PLA	T05	A
70	SDT7414	50m	5.0	0.8	SJ	5.0	2.0	60	5.0	40	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
71	SDT7415	50m	5.0	0.8	SJ	5.0	2.0	80	5.0	60	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
72	SDT7416	50m	5.0	0.8	SJ	5.0	2.0	100	5.0	80	1.0u	5.0	5.0	40	120	15MΔ				PLA	T05	A
73	SDT7417	50m	5.0	0.8	SJ	5.0	2.0	60	5.0	40	1.0u	5.0	5.0	100	#	15MΔ				PLA	T05	A
74	SDT7418	50m	5.0	0.8	SJ	5.0	2.0	80	5.0	60	1.0u	5.0	5.0	100	#	15MΔ				PLA	T05	A
75	SDT7419	50m	5.0	0.8	SJ																	

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb		BIAS hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E	
						Ic (A)	Ib (A)	Vcbo (V)	Vvebo (V)	VVceo (V)	Icbo @ 25°C (A)	Vcb (V)	Ic (A)	MIN						MAX
1#	2SC974	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
2#	2SC1011	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
3	40390	57m	3.5	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
4	40446	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
5	40582	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
6	40594	57m	1.2	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
7	PT2620	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
8	PT2620A	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
9	PT2640	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
10	PT2660	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
11	PT2670†	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
12	PT3502	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
13	PT3503	57m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
14	S708*	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
15	S2002	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
16	SD1120	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
17	SDT6110	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
18	SDT6111	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
19	SDT6112	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
20	TRS25X	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
21	TRS30X	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
22	TRS35X	57m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
23	TRS3742	57m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
24	TRS4926	57m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
25	TRS4927	57m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
26	B3538	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
27	B3539	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
28	B3540	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
29	B3541	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
30	B3542	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
31	B3543	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
32	B3544	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
33	B3545	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
34	B3546	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
35	B3568	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
36	B3569	58m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
37	KS6105†	60m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
38	KS6106†	60m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
39	KS6107†	60m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
40	KS6108†	60m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
41	40666	62m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
42#	XB436	63m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
43#	XB475	63m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
44	2N4440	65m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
45	2N1068†	66m	10	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
46	2N2201	66m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
47	2N2202	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
48	2N2203	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
49	2N2204	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
50	2N2472	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
51	2N2611	66m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
52	2N3016	66m	3.3	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
53	2N3017	66m	3.3	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
54	2N3375	66m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
55	JAN2N3375	66m	2.6	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
56	2N3589	66m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
57	2N3590	66m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
58	2N3591	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
59	2N3592	66m	1.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
60	2N3861	66m	2.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
61	2N3926	66m	12	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
62	2N4012	66m	11	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
63	2N4271	66m	5.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
64	2N4272	66m	5.0	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
65	2N4305†	66m	1.5	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
66	2N4307†	66m	1.5	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
67	2N4309†	66m	1.5	∅	∅															

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. I _{cb} @ 25°C (A)		BIAS hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O A D E	
					I _c (A)	I _b (A)	BV _{ceo} (V)	BV _{ebo} (V)	BV _{ceo} (V)	I _{cb} @ MAX V _{cb} (A)	I _{cb} @ MAX V _{cb} (A)	I _c (A)	MIN						MAX	STRUCTURE		DWG. No.
1	40281f	66m	12 ∅	SJ	1.0		36	4.0	18	100uΔ	5.0 ∅	150m	10		400M			PE	TO60	A ∅		
2	40291	66m	11 ∅	SJ	500m			4.0	50 #	100uΔ					500M			PE	TO60	A ∅		
3	40306	66m	11 ∅	SJ	1.5		65	4.0	40	100nΔ	5.0 ∅	150m	10					PE	TO60	A ∅		
4	40346	66m	1.0	SJ	1.0	500m			175 ∅	5.0uΔ ∅	10 ∅	10m	25		10M			DA	TO5	A ∅		
5	40346V2	66m	1.0	SJ	1.0	500m			175 ∅	5.0uΔ ∅	10 ∅	10m	25		10M			DA	MD34	A ∅		
6	40347V2	66m	1.0	SJ	1.5	500m			40	1.0u*	4.0 ∅	450m	20		2.2			D	MD34	A ∅		
7	40348V2	66m	1.0	SJ	1.5	500m			65	1.0u*	4.0 ∅	300m	30	100	2.5			D	MD34	A ∅		
8	40349V2	66m	1.0	SJ	1.5	500m			140	1.0u*	4.0 ∅	150m	25	100	3.3			D	MD34	A ∅		
9	40412	66m	1.0	SJ	1.0	500m			250 ∅	1.0m* ∅	20 ∅	30m	40		10M			DA	TO5	A ∅		
10	40412V2	66m	1.0	SJ	1.0	500m			250 ∅	1.0m* ∅	20 ∅	30m	40		10M			DA	MD34	A ∅		
11	B3570	66m	10 ∅	SC	5.0		80	8.0	40	1.0u ∅	1.0 ∅	20	60		30M	500m		PE	MT27			
12	B3571	66m	10 ∅	SC	5.0		100	8.0	80	1.0u ∅	1.0 ∅	20	60		30M	500m		PE	MT27			
13	B3572	66m	10 ∅	SC	5.0		80	8.0	40	1.0u ∅	1.0 ∅	40	120		30M	500m		PE	MT27			
14	B3573	66m	10 ∅	SC	5.0		100	8.0	80	1.0u ∅	1.0 ∅	40	120		30M	500m		PE	MT27			
15	B3574	66m	10 ∅	SC	5.0		80	8.0	40	1.0u ∅	1.0 ∅	100			30M	500m		PE	MT27			
16	B3575	66m	10 ∅	SC	5.0		100	8.0	80	1.0u ∅	1.0 ∅	100			30M	500m		PE	MT27			
17	B3576	66m	10 ∅	SC	5.0		60	5.0	40	1.0u ∅	1.0 ∅	20	60		30M	500m		PE	MT27			
18	B143000	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	45	90					Δ	TO5	A ∅	
19	B143001	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	70	140					Δ	TO5	A ∅	
20	B143002	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	120	240					Δ	TO5	A ∅	
21	B143003	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	45	90					Δ	TO5	A ∅	
22	B143004	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	70	140					Δ	TO5	A ∅	
23	B143005	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	120	240					Δ	TO5	A ∅	
24	B143006	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	45	90					Δ	TO5	A ∅	
25	B143007	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	70	140					Δ	TO5	A ∅	
26	B143008	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	120	240					Δ	TO5	A ∅	
27	B143009	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
28	B143010	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
29	B143011	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
30	B143012	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
31	B143013	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
32	B143014	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0							Δ	TO5	A ∅	
33	B143015	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	45	90					Δ	MT27		
34	B143016	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	70	140					Δ	MT27		
35	B143017	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0	120	240					Δ	MT27		
36	B143018	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	45	90					Δ	MT27		
37	B143019	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	70	140					Δ	MT27		
38	B143020	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0	120	240					Δ	MT27		
39	B143021	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	45	90					Δ	MT27		
40	B143022	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	70	140					Δ	MT27		
41	B143023	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0	120	240					Δ	MT27		
42	B143024	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0							Δ	MT27		
43	B143025	66m	5.0	SJ	5.0	1.0	50	5.0	40	1.0m ∅	10 ∅	3.0							Δ	MT27		
44	B143026	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0							Δ	MT27		
45	B143027	66m	5.0	SJ	5.0	1.0	70	5.0	60	1.0m ∅	10 ∅	3.0							Δ	MT27		
46	B143028	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0							Δ	MT27		
47	B143029	66m	5.0	SJ	5.0	1.0	90	5.0	80	1.0m ∅	10 ∅	3.0							Δ	MT27		
48	BD115	66m	6.0	SJ	150m	30m	220	5.0												Δ	TO39	A ∅
49	BLY78	66m	8.0 ∅	SJ	1.0		40	4.0	20	100uΔ	15	750m	15 #		450M			PE	MT24a	A ∅		
50	BR100B	66m	7.5 ∅	SJ	5.0	1.0	60	3.0	40	1.0m ∅	5.0 ∅	3.0	40	200 #	300M						A ∅	
51	BR101B	66m	7.5 ∅	SJ	5.0	1.0	90	3.0	75	1.0m ∅	5.0 ∅	3.0	30	150 #	300M						A ∅	
52	MJ400	66m	2.5	SA	250m	200m	350	5.0	325	1.0m ∅	10 ∅	50m	30	300	15M			DM	MD14	C ∅		
53	MSP5405	66m	2.0	SA	400m	200m	650	5.0	540	10u	10 ∅	100m	20		50M		60					
54	MSP6605	66m	2.0	SA	400m	200m	800	5.0	660	10u	10 ∅	100m	20		50M		60					
55	PPR1006	66m	7.5 ∅	SJ	5.0		60	4.0	40		5.0 ∅	3.0	40								A ∅	
56	PPR1008	66m	7.5 ∅	SJ	5.0		90	4.0	75		5.0 ∅	3.0	30								A ∅	
57	PT5916	66m	11	SJ	5.0	2.0	100	6.0	80	1.0m	2.0 ∅	1.0	40	150	30M	250m	350n ∅	PL	MT27	TO5	A	
58	SDT6104	66m	11	SJ	5.0	2.0	65	4.0	30	10u	5.0	2.0	10		450M			PL	TO60			
59	SDT6105	66m	11	SJ	5.0	2.0	65	4.0	40	10u	5.0	2.0	10		450M			PL	TO60			
60	SDT6106	66m	11	SJ	5.0	2.0	65	4.0	50	10u	5.0	2.0	10		450M			PL	TO60			
61	SDT9901	66m	115	SJ	15	3.0	60	12	40	1.0u	5.0	5.0	20	60	5.0M			ME	TO61			
62	SDT9902	66m	115	SJ	15	3.0	80	12	60	1.0u	5.0	5.0	20	60	5.0M			ME	TO61			
63	SDT9903	66m	115	SJ	15	3.0	100	12	80	1.0u	5.0	5.0	20	60	5.0M			ME	TO61			
64	SDT9904	66m	115	SJ	15	3.0	120	12	100	1.0u	5.0	5.0	20	60	5.0M			ME	TO61			
65	TRS25X5	66m	2.0	SJ	1.0	500m	300	12	250	100u	10 ∅	20m	1.6k	30k	50k						MD14	
66	TRS30X5	66m	2.0	SJ	1.0	500m	400	12	300	100u	10 ∅	20m	2.5k	32k	50k						MD14	
67	TRS35X5	66m	2.0	SJ	1.0	500m	450	12	350	100u	10 ∅	20m	1.6k	30k	50k						MD14	
68	TRS1005	66m	2.0	SJ	400m	50m	100	6.0	100	3.0u ∅	4.0 ∅	50m	30	∅	50k		30				MD14	
69	TRS1205	66m	2.0	SJ	400m	50m	120	6.0	120	3.0u ∅	4.0 ∅	50m	30	∅	50k		30				MD14	
70	TRS1405	66m	2.0	SJ	400m	50m	140	6.0	140	3.0u ∅	4.0 ∅	50m	30	∅	50k		30				MD14	
71	TRS1605	66m	2.0	SJ	400m	50m	160	6.0	160	3.0u ∅	4.0 ∅	50m	30	∅	50k		30				MD14	
72	TRS1805	66m	2.0	SJ	400m	50m	180	6.0	180	3.0u ∅	4.0 ∅	50m	30	∅	50k		30				MD14	
73	TRS2005	66m	2.0	SJ	400m	50m	200	6.0	200	2.0u ∅	4.0 ∅	50m	20	∅	50k		38				MD14	
74	TRS2255	66m	2.0	SJ	400m	50m	225	6.0	225	3.0u ∅	4.0 ∅	50m	22	∅	50k		36				MD14	
75	TRS2505	66m	2.0	SJ	400m	50m	250	6.														

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	M T A X E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E	
					Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ 25°C (A)	MAX Vcb						STRUCTURE	DWG. No.		
											(V)									(A)
1#	ZSC891	88m	10	5J	600m		40	4.0	20	5.0	100	500m	15 #	600mΔ		PE	MT59d	SZ		
2	MSA8506	88m	12	5J	1.0		4.0t	18	18	5.0	100	500m	5.0 #	300mΔ		PE	MT72e	R		
3	PT6635	69m	12	5S	600m		55	3.5	30	5.0	100	500m	5.0 #	300mΔ		PE	MT72e	R		
4#	ZSC1017	70m	7.0	5J	1.0		75	4.0	35	1.0	100	100m	10 #	200m		PE†	X51b	P		
5#	ZSC1018	70m	7.0	5J	1.0		75	4.0	35	1.0	100	100m	10 #	200m		PE†	X51b	P		
6#	ZSC1155	70m	7.0	5J	1.0		70	5.0	60	1.0	100	100m	10 #	200m		PE†	X51b	P		
7#	ZSC1156	70m	7.0	5J	1.0		90	5.0	80	1.0	100	100m	10 #	200m		PE†	X51b	P		
8#	ZSC1157	70m	7.0	5J	1.0		800m	5.0	100	1.0	100	100m	35 #	70m	1.0	PE†	X51b	P		
9#	ZSC959	71m	9.0	5J	700m		120	5.0	80	3.0	100	200m	35 #	70m	1.0	PE†	X51b	P		
10	D40D11	72m	1.2	5S	1.0		5.0	30	30	100n	2.0	100m	50	200m	1.0		X51	A		
11	D40D21	72m	1.2	5S	1.0		5.0	30	30	100n	2.0	100m	120	200m	1.0		X51	A		
12	D40D31	72m	1.2	5S	1.0		5.0	30	30	100n	2.0	100m	290	200m	1.0		X51	A		
13	D40D41	72m	1.2	5S	1.0		5.0	45	45	100n	2.0	100m	50	200m	1.0		X51	A		
14	D40D51	72m	1.2	5S	1.0		5.0	45	45	100n	2.0	100m	120	200m	1.0		X51	A		
15	D40D71	72m	1.2	5S	1.0		5.0	45	45	100n	2.0	100m	50	200m	2.0		X51	A		
16	D40D81	72m	1.2	5S	1.0		5.0	60	60	100n	2.0	100m	120	200m	2.0		X51	A		
17	MPSU01	72m	1.0	1J	1.5		1.0	5.0	60	100n	2.0	100m	120	200m	2.0		X51	A		
18	PT2610	74m	13	5J	1.0	400m	100	4.0	60	100n	2.0	100m	70	50mΔ	1.0	AN†	X81	A		
19	PT2630	74m	1.0	5J	1.0		100	4.0	60	100n	2.0	100m	20	600m	1.6	PL	T05			
20	JAN2N2034†	75m	1.0	5A	3.0		80	10	60	20u#	4.0	1.0	20	1.0mΔ			T05			
21	JAN2N2858†	75m	1.0	5A	3.0		100	10	80	20u#	4.0	1.0	20	1.0mΔ			T05			
22	JAN2N2859†	75m	1.0	5A	3.0		120	10	100	20u#	4.0	1.0	20	1.0mΔ			T05			
23	JAN2N2911†	75m	1.0	5A	3.0		150	10	125	20u#	4.0	1.0	20	1.0mΔ			T05			
24#	ZSC515	76m	6.0	5J	100m		300	3.0	300	100u#	1.0	50mΔ	30	20m		ME	T06			
25#	BD106	76m	12	5J	2.5		36	5.0	36	50n	2.0	500m	50	300*	100k	PE	MD6h	CØ		
26#	BD106A	76m	12	5J	2.5		36	5.0	36	500n	2.0	500m	50	150	100m	PE	MD6g	AØ		
27#	BD106B	76m	12	5J	2.5		36	5.0	36	500n	2.0	500m	100	300*	100m	PE	MD6g	AØ		
28#	BD107	76m	12	5J	2.5		64	5.0	64	50n	2.0	500m	50	300*	100k	PE	MD6h	CØ		
29#	BD107A	76m	12	5J	2.5		64	5.0	64	500n	2.0	500m	50	150	100m	PE	MD6g	AØ		
30#	BD107B	76m	12	5J	2.5		64	5.0	64	500n	2.0	500m	100	300	100m	PE	MD6g	AØ		
31#	BDY15A	76m	12	5J	2.5	#	36	5.0	36*	100n	2.0	500m	50	150	100m	PE	MD23b	AØ		
32#	BDY15B	76m	12	5J	2.5	#	36	5.0	36*	100n	2.0	500m	100	300	100m	PE	MD23b	AØ		
33#	BDY15C	76m	12	5J	2.5	#	36	5.0	36*	100n	2.0	500m	200	600	100m	PE	MD23b	AØ		
34#	BDY16A	76m	12	5J	2.5	#	64	5.0	64	100n	2.0	500m	50	150	100m	PE	MD23b	AØ		
35#	BDY16B	76m	12	5J	2.5	#	64	5.0	64	100n	2.0	500m	100	300	100m	PE	MD23b	AØ		
36	ST74049†	76m#	11	5J	2.0		125	10	80*	1.0	100	1.0	30	30mΔ		PL	T05			
37	ST74050†	76m#	11	5J	2.0		145	10	100*	1.0	100	1.0	30	30mΔ		PL	T05			
38	ST74051†	76m#	11	5J	2.0		170	10	120*	1.0	100	1.0	30	30mΔ		PL	T05			
39#	ZN5918	80m	5	5S	750m		75	4.0t	24	5.0m†	1.0	500m	100	180m		PE	MD29	AØ		
40#	ZSC355	80m	15	5J	300m		100	4.0	60	1.0u	4.0	500m	100	180m		PE	MT59h	R		
41#	ZSC893	80m	12	5J	300m		100	4.0	60	1.0u	4.0	500m	100	180m		PE	MT59h	R		
42	A237	80m	10	5J	3.0		65	4.0	36	1.0u	5.0	500m	10	800m	1.0	PL	T06			
43#	BLY53A	80m	10	5J	1.3		36	4.0	20	5.0m	5.0	200m	10	450m		PL	T08			
44#	BLY55	80m	10	5J	1.0		60	4.0	18	100u	5.0	150	20	40	40	PE	MD29	AØ		
45#	FT027	80m	13	5C	1.0		60	6.0	40	100u	5.0	25m	20	40	40	PE	MD29	AØ		
46	K56109†	80m	12	5J	2.0	500m	80	4.5	80	500u	5.0	1.0	15	400m†		PE	T06			
47	K56110†	80m	12	5J	2.0	500m	80	4.5	40	500u	5.0	1.0	15	350m†		PE	T06			
48	K56111†	80m	12	5J	2.0	500m	80	4.5	80	500u	5.0	1.0	15	400m†		PE	T06			
49	K56112†	80m	12	5J	2.0	500m	40	4.5	40	500u	5.0	1.0	15	350m†		PE	T06			
50	MSP60A	80m	12	5J	1.0	#	600	5.0	600	1.0u	10	100m	30	30m	2.0	DM	MD14			
51	MSP70A	80m	12	5J	1.0	#	700	5.0	700	1.0u	10	100m	30	30m	2.0	DM	MD14			
52	SE7020	80m	10	5J	400m		300	5.0	300	1.0u	10	100m	40	240	30m	DPL	T06	CØ		
53#	SFT440	80m	12	5S	1.0		80	4.0	80	100u	10	100m	10	50	200m	2.4		T06		
54#	SFT443A	80m	12	5S	1.0		80	4.0	80	100u	10	100m	15	40	180m	1.8		T06		
55#	ZN5921	83m	14	5S	700m		50	3.5†	50	1.0m†	5.0	100m	5.0	200mΔ			MM15	A		
56#	ZN5915	85m	10	5S	1.5		35	3.5†	14	1.0mΔ	5.0	100m	5.0	200mΔ			MT78	R		
57	ZN5589	86m	15	5S	600m		38	4.0	18	1.0m	5.0	100m	5.0	200mΔ			MT71c	R		
58#	ZSC22	86m	13	5J	600m		75	5.0	50	2.0m	10	150m	20	100	110m	2.4	PE	T08		
59#	ZSC23	86m	13	5J	500m		75	5.0	50	5.0m	10	150m	20	100	110m	2.4	PE	T08		
60#	ZSC24	86m	12	5J	500m		100	5.0	70	5.0m	10	150m	20	100	110m	2.4	PE	T08		
61#	ZSC592	86m	13	5J	2.5	400m	75	4.0	50	1.0u	4.0	500m	25	100	800m	1.0	DPL	T06		
62	A253	86m	10	5J	1.5		36	4.0	18	5.0	5.0	1.0	50	700m		PL	MT59h	R		
63#	BLY37	86m	10	5J	3.0	#	65	4.0	36	5.0	5.0	1.0	50	700m		PL	MT59e	S		
64#	BLY53	86m	10	5J	3.0	#	36	4.0	18	5.0	5.0	1.0	50	700m		PL	MT59e	S		
65	PT600Z	86m	13	5J	2.0		60	4.0	45	1.0u	12	1.0	15	210m	2.0	PL	T08	A		
66	PT601Z	86m	13	5J	2.0		60	4.0	45	1.0u	12	1.0	30	210m	2.0	PL	T08	A		
67	PT612	86m	2.0	5J	2.0		75	5.0	60	500u	10	350m	7.5	75	60mΔ	PE	T08	A		
68#	ZSC1102	88m	11	5J	50m		300	7.0	300	100u	10	10m	40	200	500m	1.0	ME	T06	CØ	
69	A271	90m	16	5J	750m		65	4.0	38	5.0mΔ	5.0	500m	5.0	500m		PE	MT72c	R		
70	A275	90m	16	5J	1.2		36	4.0	18	5.0mΔ	5.0	500m	5.0	500m		PE	MT72c	R		
71#	BLY91	90m	16	5J	750m		65	4.0	38	5.0mΔ	5.0	500m</								

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc MAX (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					hFE					f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O A D E
						Ic (A)	Ib (A)	BVcbo (V)	BVcbo (V)	BVceo (V)	hFE MIN (A)	hFE MAX (A)	hFE MIN (A)	hFE MAX (A)							
1	D42C41	100m	2.1	2.1	3.0	3.0		5.0	45	10u	1.0	200m	25	50M	500m	100n	†	X51	A		
2	D42C51	100m	2.1	2.1	3.0	3.0		5.0	45	10u	1.0	200m	40	50M	500m	100n	†	X51	A		
3	D42C61	100m	2.1	2.1	3.0	3.0		5.0	45	10u	1.0	200m	40	50M	500m	100n	†	X51	A		
4	D42C71	100m	2.1	2.1	3.0	3.0		5.0	80	10u	1.0	200m	25	50M	500m	100n	†	X51	A		
5	D42C81	100m	2.1	2.1	3.0	3.0		5.0	80	10u	1.0	200m	40	50M	500m	100n	†	X51	A		
6	MJ3201	100m	15	15	10	10		225	3.0	225	10m	100	30 #	15M	150	100n	†	T066	A		
7	MJ3202	100m	15	15	10	10		300	3.0	300	100u	100	30 #	15M	150	100n	†	T066	A		
8	MSP10A	100m	4.0	4.0	2.0	2.0	500m	100	5.0	100	10u	100	25	30M	30			DM	MD14		
9	MSP15A	100m	4.0	4.0	2.0	2.0	500m	150	5.0	150	10u	100	25	30M	30			DM	MD14		
10	MSP20A	100m	4.0	4.0	2.0	2.0	500m	200	5.0	200	10u	100	25	30M	30			DM	MD14		
11	MSP25A	100m	4.0	4.0	2.0	2.0	500m	250	5.0	250	10u	100	25	30M	30			DM	MD14		
12	MSP30A	100m	4.0	4.0	2.0	2.0	500m	300	5.0	300	10u	100	25	30M	30			DM	MD14		
13	MSP35A	100m	4.0	4.0	2.0	2.0	500m	350	5.0	350	10u	100	25	30M	30			DM	MD14		
14	MSP40A	100m	4.0	4.0	2.0	2.0	500m	400	5.0	400	10u	100	25	30M	30			DM	MD14		
15	MSP45A	100m	4.0	4.0	2.0	2.0	500m	450	5.0	450	10u	100	25	30M	30			DM	MD14		
16	MSP50A	100m	4.0	4.0	2.0	2.0	500m	500	5.0	500	10u	100	25	30M	30			DM	MD14		
17	MSP55A	100m	4.0	4.0	2.0	2.0	500m	550	5.0	550	10u	100	25	30M	30			DM	MD14		
18	PT4690	100m	17	17	10	10		60	3.0	40	200u	200	15	100 #				PE	MT59		
19	S550	100m	11	11	1.5	1.5		65	4.0	40	5.0m	5.0	250m	10	700M	4.0		PE			
20	S552	100m	11	11	1.5	1.5		65	4.0	40	5.0m	5.0	250m	10	900M	4.0		PE			
21	S800	100m	17	17	2.5	2.5		80	4.0	40	100u	5.0	100	150	200M			PE	T060		
22	S801	100m	17	17	2.5	2.5		80	4.0	45	100u	5.0	100	50	200M			PE	T060		
23	S1000	100m	17	17	1.0	1.0		40	4.0	30	2.0m	5.0	100n	20	1.2G			PE	MT66		
24	SDT4551	100m	18	18	5.0	5.0	500m	80	8.0	40	1.0u	2.0	1.0	20	60 #	30M	500m	80n	PL	MT9	
25	SDT4552	100m	18	18	5.0	5.0	500m	100	8.0	80	1.0u	2.0	1.0	20	60 #	30M	500m	80n	PL	MT9	
26	SDT4553	100m	18	18	5.0	5.0	500m	80	8.0	40	1.0u	2.0	1.0	40	120 #	30M	500m	80n	PL	MT9	
27	SDT4554	100m	18	18	5.0	5.0	500m	100	8.0	80	1.0u	2.0	1.0	40	120 #	30M	500m	80n	PL	MT9	
28	SDT4555	100m	18	18	5.0	5.0	500m	80	8.0	40	1.0u	2.0	1.0	100 #	30M	500m	80n	PL	MT9		
29	SDT4556	100m	18	18	5.0	5.0	500m	100	8.0	80	1.0u	2.0	1.0	100 #	30M	500m	80n	PL	MT9		
30	SDT4583	100m	18	18	5.0	5.0	500m	60	5.0	40	1.0u	5.0	1.0	20	60	30M	500m	80n	PL	MT9	
31	SE7006	100m	12	12	5.0m	5.0m		150	5.0	150	10u	10	30 #	80	60M			DPL	T066		
32	STC1800	100m	18	18	2.5	2.5		60	6.0	40	15u	4.0	300m	20	80	2.5M	5.0	900n	D	T037	
33	STC1850	100m	18	18	3.0	3.0		80	6.0	60	15u	4.0	15	60	3.0M	750m	900n	D	T037		
34	STC1860	100m	17	17	3.0	3.0	1.0	90	7.0	55	1.0m	5.0	500m	25	100			D	T037		
35	STC1861	100m	17	17	3.0	3.0	1.0	160	7.0	140	5.0m	4.0	500m	20	80			D	T037		
36	STC1862	100m	17	17	3.0	3.0	1.0	50	5.0	40	1.0m	4.0	1.5	25	100			D	T037		
37	STT2400	100m	10	10	7.5	7.5	1.0	150	12	150	1.0u	15	2.0	30	90 #	25M		DPL	T05		
38	STT2401	100m	10	10	7.5	7.5	1.0	140	12	120	1.0u	15	2.0	30	90 #	25M		DPL	T05		
39	STT2402	100m	10	10	7.5	7.5	1.0	140	12	120	1.0u	15	2.0	50	150 #	25M		DPL	T05		
40	STT2403	100m	10	10	7.5	7.5	1.0	120	12	100	1.0u	15	2.0	30	90 #	25M		DPL	T05		
41	STT2404	100m	10	10	7.5	7.5	1.0	100	12	80	1.0u	15	2.0	30	90 #	25M		DPL	T05		
42	STT2405	100m	10	10	7.5	7.5	1.0	75	10	60	1.0u	15	2.0	30	90 #	25M		DPL	T05		
43	STT2406	100m	10	10	7.5	7.5	1.0	40	10	30	500u	15	2.0	25 #	25M			DPL	T05		
44	2N5765	103m	19	19	1.5	1.5	500m	55	3.5	25	7.5m	5.0	100m	20	200	600M		PE	MT77		
45	2N4431	108m	18	18	2.0	2.0	1.0	55	3.5	40	4.0m	5.0	100m	20	200	600M		ME	T066		
46	2SC692	110m	17	17	1.0	1.0		60	4.0	40	200u	10	100m	5.0 #	400M			PE	MT59b		
47	BD1281	111m	16	16	150m	50m	500m	400	7.0	350	200u	20	50m	30	50	20M	500n	ME	MD17b		
48	BD129	111m	16	16	150m	50m	500m	350	5.0	350	1.0u	20	50m	40	60	10M	200	ME	MD17b		
49	2N5424	114m	20	20	4.0	4.0	2.0	36	4.0	18	1.0u	5.0	2.0	20	100	250M	250m	PE	T060		
50	2N5598	114m	20	20	2.0	2.0	1.0	80	6.0	60	1.0m	5.0	1.0	70	200 #	60M		PE	T066		
51	2N5600	114m	20	20	2.0	2.0	1.0	100	6.0	80	1.0m	5.0	1.0	30	90 #	50M		PE	T066		
52	2N5602	114m	20	20	2.0	2.0	1.0	100	6.0	80	1.0m	5.0	1.0	70	200 #	60M		PE	T066		
53	2N5604	114m	20	20	2.0	2.0	1.0	120	6.0	100	1.0m	5.0	1.0	30	90 #	50M		PE	T066		
54	2N5847	114m	20	20	2.0	2.0		38	4.0	18	1.0m	5.0	500m	5.0				PE	MT72h		
55	2SC599	114m	20	20	1.5	1.5		60	4.0	40	500u	28	100m	15 #	60 #	300M		PE	MT59b		
56	2SC737	114m	20	20	1.5	1.5		60	4.0	40	500u	10	100m	5.0 #	300M		PE	MT59b			
57	2SC975	114m	20	20	2.0	2.0		40	3.0	40	200u	10	100m	5.0 #	1.0G		PE	MT78			
58	PT2600	114m	1.0	1.0	1.0	1.0	400m	100	4.0	100	100u	40	300m	20	100 #			D	MT40		
59	PT6636	114m	20	20	1.0	1.0		55	3.5	30											
60	ZT2887	114m	20	20	1.2	1.2	400m	100	4.0	80	500u	25	400m	15	100	420M	1.2		PL	MT59	
61	2N5483	115m	20	20	700m	200m	700m	45	3.0	30	6.0m	5.0	100m	20	250			PE	MT74		
62	XB437	115m	20	20	2.0	2.0		38	4.0	18								PE	T0117		
63	2SC892	117m	17	17	1.2	1.2		40	4.0	20	10u	10	15 #		900M			PE	MT59d		
64	2N5768	118m	20	20	700m	125m	55	3.5	25	10m	5.0	100m	20	20	1.5G			DM	MT77		
65	2N5595	120m	20	20	1.2	1.2	500m	55	3.5	30	4.0m	5.0	50m	20	20	20M	400m		DM	MT73a	
66	2SC487	120m	15	15	1.5	1.5	110	5.0	110		120u	2.0	200m	40	250	1.5G		DM	T066		
67	2SC491	120m	15	15	1.5	1.5	50	5.0	35	10u	2.0	500m	30	250							

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb @ 25°C		BIAS		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E
						Ic (A)	Ib (A)	BVcbo (V)	BVceo (V)	BVebo (V)	Icbo (A)	Vcb (V)	Ic (A)	Vcb (V)								
1#	2SC553	133m	20	0	h	3.0		65	4.0	40	250u#	30	300m	10		400M\$	2.0		PE	TO60	A	
2#	2SC585	133m	20	0	h	3.0		65	4.0	40	12u#	28	200mΔ	30	∅	400M\$	2.0		PE	MT68	A	
3#	2SC591	133m	20	0	h	1.5		100	4.0	50	1.0m#	10	150m	10		160M\$	1.6		PE	TO8	A	
4#	2SC600	133m	20	0	h	3.0		65	4.0	40	12u#	28	200m	30	†	400M\$	2.0		PE	MT68	A	
5#	2SC636	133m	20	0	h	3.0		65	4.0	40	5.0u#	10	500m	20		400M\$	2.0		PE	TO60	A	
6#	2SC638	133m	20	0	h	2.0		40	4.0	20	20u#	14	1.0	20	#	400M\$	2.0		PE	MT68	A	
7#	2SD48	133m	20	0	h	3.0	1.0	100	10	55	15u#	4.0	750m	20		80	1.5M†		D	TO8		
8#	2SD146	133m	20	0	h	1.0		40	5.0	35	20u#	4.0	500m	30		150 *	1.4M†		D	MD10b		
9#	2SD147	133m	20	0	h	1.0		60	5.0	50	20u#	4.0	500m	20		150 *	1.4M†		D	MD10b		
10#	2SD154	133m	20	0	h	3.0	1.0	80	5.0	60	1.0m#	2.0	2.0	∅	40		145		PE	MD10		
11#	2SD155	133m	20	0	h	3.0	1.0	80	5.0	60	1.0m#	2.0	2.0	∅	40		145		PE	TO66	C∅	
12	3TX615	133m	23	0	h	1.2	300m	65	4.0	50	250u					300M			PE	TO60		
13	40281	133m	23	0	h	1.2	300m	65	4.0	50	250u					300M			PE	TO60		
14	40282	133m	23	0	h	2.0		36	4.0	18	250uΔ					300M\$			PE	MT59	A	
15	40292	133m	23	0	h	1.2			4.0	50	250uΔ					300M\$			PE	TO60	A	
16#	BD124†	133m	17	0	h	2.0	500m#	70	6.0	45	2.0u#	5.0	500m	35	150	60M\$	500m	75n	PE	MD17c	A	
17#	BLY35	133m	17	0	h	1.5			4.0	33						250M\$			PE	TO60	A	
18#	BLY38	133m	17	0	h	1.5			4.0	33						250M\$			PE	TO60	A	
19#	BLY79	133m	16	0	h	2.0		40	4.0	20	250uΔ	15	1.0	15	#	400M\$	2.0		PE	MT24a	A	
20	MJ2249	133m	20	0	h	2.0	500m	60	6.0	60	1.0m	4.0	100m	25	200 *	10M\$	2.5		PE	TO66	A	
21	MJ2250	133m	20	0	h	2.0	500m	60	6.0	60	1.0m	4.0	100m	25	200 *	10M\$	2.5		PE	TO66	A	
22	MJ3101	133m	20	0	h	2.0	500m	80	6.0	40	1.0m	4.0	100m	25	200 *	10M\$	3.3		PE	TO66	C∅	
23	PT665	133m	20	0	h	2.0		75	4.0	60	10u#	28	350m	7.5	75	210M\$			PL	MT39		
24	PT665A	133m	20	0	h	2.0		100	5.0	90	10u#	28	350m	7.5	75	150M\$	5.0		PL	MT39		
25	SDT6113	133m	23	0	h	1.0		4.0	65	4.0	30	10u	5.0	5.0	10			PL	TO60			
26	SDT6114	133m	23	0	h	1.0		4.0	65	4.0	30	10u	5.0	5.0	10			PL	TO60			
27	SDT6115	133m	23	0	h	1.0		4.0	65	4.0	30	10u	5.0	5.0	10			PL	TO60			
28	SPT3738	133m	20	0	h	3.0	1.0	250	6.0	225	500u#	10	250m	50		100M\$	10		Δ	TO66		
29	TRS2006	133m	20	0	h	1.0	500m	200	6.0	200	100u	10	50m	30	300	50M				TO66		
30	TRS3006	133m	20	0	h	1.0	500m	300	6.0	300	100u	10	50m	30	300	50M				TO66		
31	TRS4006	133m	20	0	h	1.0	500m	400	6.0	400	100u	10	50m	30	300	50M				TO66		
32	TRS4016S	133m	20	0	h	1.0	500m	450	6.0	400	100u	10	50m	30	300	50M				TO66		
33	TRS4506	133m	20	0	h	1.0	500m	450	6.0	450	100u	10	50m	30	300	50M				TO66		
34	TRS5006	133m	20	0	h	1.0	500m	500	6.0	500	100u	10	20m	30	300	50M				TO66		
35	TRS6006	133m	20	0	h	1.0	500m	600	6.0	600	100u	10	20m	30	300	50M				TO66		
36	TRS7006	133m	20	0	h	1.0	500m	700	6.0	700	100u	10	20m	30	300	50M				TO66		
37	TRS8006	133m	20	0	h	1.0	500m	800	6.0	800	100u	10	20m	30	300	50M				TO66		
38	2N3327	134m	20	0	h	2.0	200m	80	6.0	80	100u	10	20m	30	300	50M				TO66	A	
39	2N122	140m	9.0	0	h	2.0	140m	120	1.0	100	100u	35	100m	3.0		100M\$	200		G	MT31	A	
40	2N1483	142m	25	0	h	3.0	1.5	60	12	40	15u#	4.0	750m	20	60	1.2M†	2.6		D	TO8	A	
41	JAN2N1483	142m	25	0	h	3.0	1.5	60	12	40	15u#	4.0	750m	20	60	1.2M†	2.6		D	TO8	A	
42	2N1484	142m	25	0	h	3.0	1.5	100	12	55	15u#	4.0	750m	20	60	600k†			D	TO8	A	
43	JAN2N1484	142m	1.7	0	h	3.0	1.5	100	12	55	15u#	4.0	750m	20	60	600k†			D	TO8	A	
44	2N1485	142m	25	0	h	3.0	1.5	60	12	40	15u#	4.0	750m	35	100	1.2M†	1.0		D	TO8	A	
45	JAN2N1485	142m	1.7	0	h	3.0	1.5	60	12	40	15u#	4.0	750m	35	100	600k†			D	TO8	A	
46	2N1486	142m	25	0	h	3.0	1.5	100	12	55	15u#	4.0	750m	35	100	1.2M†	1.0		D	TO8	A	
47	JAN2N1486	142m	1.7	0	h	3.0	1.5	100	12	55	15u#	4.0	750m	35	100	600k†			D	TO8	A	
48	2N2035	142m	14	0	h	3.0	1.0	80	10	60	25u	4.0	1.5	15	45	150k†	300m	1.8u	Δ	TO8	A	
49	2N2304	142m	25	0	h	3.0	1.5	60	6.0	40	100u#	4.0	300m	20	80	3.0M	3.0		D	TO8	A	
50	2N2308	142m	25	0	h	3.0	1.5	100	12	80	50u#	4.0	1.0	20	80	1.0M\$	1.0		D	TO8	A	
51	2N2887	142m	25	0	h	1.2	400m	100	4.0	80		28	350m	15	80	#	1.0M\$	1.2		PL	MT39	A
52	2N3054	142m	25	0	h	4.0	2.0	90	7.0	60	1.0m#	4.0	500m	25	100	30kΔ	2.0			MD6e	A	
53	2N3142	142m	25	0	h	2.0	200m	65	1.0	65	100u#	10	1.0	10		10M\$				MT46		
54	2N3143	142m	25	0	h	2.0	200m	140	1.0	140	100u#	10	1.0	10		10M\$				MT46		
55	2N3144	142m	25	0	h	2.0	200m	65	1.0	65	100u#	10	1.0	10		10M\$				MT46		
56	2N3145	142m	25	0	h	2.0	200m	140	1.0	140	100u#	10	1.0	10		10M\$				MT46		
57	2N3226	142m	75	0	h	3.0	2.6	35	6.0	35	200u#	3.0	2.0	20	50	30kΔ	500m			TO3	C∅	
58	2N3441	142m	25	0	h	3.0	2.0	160	7.0	140	100mΔ	4.0	500m	25	100	2.2				TO66	C∅	
59	JAN2N3441	142m	2.5	0	h	3.0	2.0	180	7.0	140	1.0m#	4.0	500m	20	80	2.0				TO66	C∅	
60	2N3442	142m	25	0	h	3.0	2.0	180	7.0	140	200mΔ	4.0	3.0	20	70	2.2				TO3	C∅	
61	2N4127	142m	25	0	h	2.0	500m	60	†	4.0	500u#	5.0	200m	10	80	300M\$	1.0			MT59	GE	
62	2N4910	142m	25	0	h	1.0	1.0	40	5.0	40	100u	1.0	500m	20	100	3.0M				TO66	C∅	
63	2N4911	142m	25	0	h	1.0	1.0	60	5.0	60	100u	1.0	500m	20	100	3.0M				TO66	C∅	
64	2N4912	142m	25	0	h	1.0	1.0	80	5.0	80	100u	1.0	500m	20	100	3.0M				TO66	C∅	
65	2N5216	142m	25	0	h	3.0	400m	80	4.0	80	100u	1.0	500m	10	60	350M\$	800m			MT62b	FZ	
66#	2SC297	142m	10	0	h	3.0	600m	70	5.0	40	3.0u#	2.0	100m	30	173	90M\$	400m	60n	PE	TO37		
67#	2SC298	142m	10	0	h	3.0	600m	130	5.0	60	3.0u#	2.0	100m	30	173	90M\$	400m	60n	PE	TO37		
68#	2SC299	142m	10	0	h	3.0	600m	130	5.0	60	3.0u#	2.0	100m	30	173	90M\$	400m	60n	PE	TO37		
69#	2SC703	142m	25	0	h	2.0		40	4.0	20	1.0m#	10	100m	5.0	#	150M\$			PE†	MT59b	R	
70#	2SC916†	142m	2.0	0	h	2.0		100	6.0	70	5.0u#	1.0	400m	40	120			60n	PE†	TO8		
71	40368	142m	15	0	h	3.0	1.5	100	12	55	9.0u#	4.0	750m	35	100				PE	TO8	A	
72#	BD109	142m	15	0	h	2.0	50m	60	5.0	40	100n#					50M\$			PE	MD6b	A	
73#	DT3301	142m	15	0	h	5.7	2.0	60	8.0	60	10u	5.0	500m	25	100	1.0M\$	500m	</				

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc MAX	Tj MAX	ABSOLUTE MAX. RATINGS @ 25°C						MAX. hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D A D E	
						Ic	Ib	BVcbo	BVebo	BVceo	Icbo @ MAX Vcb @ 25°C (A)	BIAS		MIN	MAX				DESCRIPTION STRUCTURE	DWG. No.		
												Vcb	Ic									DESCRIPTION
1	2N4001†	149m	1.0	1.0	1.0	500m	120	8.0	100	2.0u	2.00	500m	40	120 #	40MΔ	300n∅	T05	A∅				
2	2N4300	149m	15 ∅	1.0	1.0	100	8.0	80	10u	2.00	1.0	30	120 #	30MΔ			T05	A∅				
3	2N5487†	149m	15 ∅	1.0	1.0	120	8.0	80	10u	2.00	1.0	100	300 #	40MΔ			R113	A∅				
4	2N5488†	149m	15 ∅	1.0	1.0	150	8.0	100	10u	2.00	1.0	40	120 #	40MΔ			R113	A∅				
5	2N5552	150m	15 ∅	1.0	1.0	120 †	7.0†	80	200n	2.00	500m	40	250 #	30MΔ			R113	A∅				
6	2N5662†	150m	15 ∅	1.0	1.0	200m	250	6.0	200	1.0u	5.00	500m	40	150 #	20MΔ			T05	A∅			
7	2N5663†	150m	15 ∅	1.0	1.0	200m	400	6.0	300	1.0u	5.00	500m	40	150 #	20MΔ			T05	A∅			
8	2N5666†	150m	15 ∅	1.0	1.0	600m	250	6.0	200	1.0u	5.00	1.0	40	120 #	20MΔ			T05	A∅			
9	2N5667†	150m	15 ∅	1.0	1.0	600m	400	6.0	300	1.0u	5.00	1.0	40	120 #	20MΔ			T05	A∅			
10#	BDY65	150m	1.0	1.0	1.0	200m	150	7.0	100	500uΔ	5.00	200m	50	300	30M			T05				
11#	BDY66	150m	2.0	1.0	1.0	200m	150	7.0	100	500uΔ	5.00	200m	50	300	30M			PL	MT13			
12#	BUY41	150m	1.0	1.0	1.0	125	8.0	80		2.00	1.0	40	300	40M			PL	T05				
13	KS6113†	150m		1.0	1.0	800m	30	4.5	30	500u	5.0	2.0	15		250M†			PE	T060	∅		
14	KS6114†	150m		1.0	1.0	800m	20	4.5	20	500u	5.0	2.0	15		250M†			PE	T060	∅		
15	TI486†	150m	1.0	1.0	1.0	125	8.0	80		3.0u	5.00	200m	20	80 #	50M			DPL	T05	A∅		
16	TI487†	150m	2.0	1.0	1.0	80	6.0	60		3.0u	5.00	200m	20	80 #	50M			DPL	MT13	A∅		
17	2N5487-1†	154m	1.2	1.0	1.0	120	8.0	80		1.0u	5.00	5.0	25		40M	2.0	45ut	PE	T05			
18	2N5487-3†	154m	1.5	1.0	1.0	120	8.0	80		1.0u	5.00	5.0	25		40M	2.0	45ut	PE	MT32			
19	2N5488-1†	154m	1.2	1.0	1.0	150	8.0	100		1.0u	5.00	5.0	15		40M	2.0	55ut	PE	T05			
20	2N5488-3†	154m	1.5	1.0	1.0	150	8.0	100		1.0u	5.00	5.0	15		40M	2.0	55ut	PE	MT32			
21	2N5552-4†	154m	1.5	1.0	1.0	120	8.0	80		2.0u	5.00	1.0	30		25M	1.0	70ut	PE	MT20			
22	2N4864	160m	16 ∅	1.0	1.0	500m	140	8.0	120	100u	5.00	500m	50	150 #	50MΔ	500m				T066	C∅	
23	2N5655	160m	20 ∅	1.0	1.0	500m	250	6.0†	250	10u	100	100m	30	250	10MΔ	10m				X58	B∅	
24	2N5656	160m	20 ∅	1.0	1.0	500m	250	6.0†	300	10u	100	100m	30	250	10MΔ	10m				X58	B∅	
25	2N5657	160m	20 ∅	1.0	1.0	500m	250	3.75 †	350	10u	100	100m	30	250	10MΔ	10m				X58	B∅	
26#	2SC50	160m	20 ∅	1.0	1.0	180	5.0			120u	5.00	4.0	40	∅	60M			DM	T066			
27#	2SC508	160m	20 ∅	1.0	1.0	180	5.0	180 ∅		120u	5.00	4.0	20	40 ∅	25M†	500m			DM	T066	C∅	
28#	2SC779	160m	20 ∅	1.0	1.0	300	6.0	250		100u	100	100m	30	80 ∅	10M			ME	T066			
29#	2SC782	160m	20 ∅	1.5	1.5 ∅	300	5.0	300		100u	100	100m	30	250	10M	1.8		DM	T066	C∅		
30#	2SC783	160m	20 ∅	1.5	1.5 ∅	200	5.0	200		100u	100	100m	30	250	10M	1.8		DM	T066	C∅		
31#	2SC840	160m	20 ∅	1.0	1.0 #	100	5.0	60		5.0m	3.00	1.0	30		50M	750m		DM	T066	C∅		
32#	2SC840A	160m	20 ∅	1.0	1.0 #	150	5.0	100		5.0m	3.00	1.0	30		50M	750m		DM	T066	C∅		
33#	2SC990	160m	24 ∅	1.0	1.0	50	4.0	25		10u	100	1.0	15	200 #	300MΔ			PE	MT66a	C∅		
34#	2SC1104	160m	20 ∅	1.0	1.0	700m	300	5.0	300	100u	100	400m	40	200				ME	T066	C∅		
35#	2SD57	160m	20 ∅	1.0	1.0	30	10	20		200u	4.00	1.0	20	180	3.5M†			D	MD17	C∅		
36#	2SD58	160m	20 ∅	1.0	1.0	60	10	40		40u	4.00	1.0	20	180	3.5M†			D	MD17	C∅		
37#	2SD90†	160m	20 ∅	1.0	1.0	30	10	20		2.0m	4.00	1.0	20	40 ∅	5.0M†	500m	1.0u	D	T09			
38#	2SD91†	160m	20 ∅	1.0	1.0	60	10	40		2.0m	4.00	1.0	20	40 ∅	5.0M†	500m	1.0u	D	T09			
39#	2SD92†	160m	20 ∅	1.0	1.0	100	10	55		2.0m	4.00	1.0	20	40 ∅	5.0M†	500m	1.0u	D	T09			
40#	2SD93†	160m	20 ∅	1.0	1.0	150	10	70		2.0m	4.00	1.0	20	40 ∅	5.0M†	500m	1.0u	D	T09			
41#	2SD94†	160m	20 ∅	1.0	1.0	200	10	80		2.0m	4.00	1.0	20	40 ∅	5.0M†	500m	1.0u	D	T09			
42	2N2947	166m	25 ∅	1.5	1.5	500m	60	3.0	60 ∅	1.0u	2.00	400m	2.5	55 #	100MΔ	500m				T03	C∅	
43	2N2948	166m	25 ∅	1.5	1.5	500m	40	2.0	40 ∅	1.0u	2.00	400m	2.5	100 #	100MΔ	500m				T03	C∅	
44	2N3297	166m	25 ∅	1.5	1.5	500m	60	3.0	40 ∅	1.0u	2.00	400m	2.5	35	100MΔ	500m				T03	C∅	
45	2N3818	166m	25 ∅	1.5	1.5	60	4.0	60 ∅		1.0u	2.00	400m	5.0	50	150MΔ					T060	C∅	
46	2N4273	166m	25 ∅	1.5	1.5	175	9.0	140		100u	100	1.0	20	140 #	10MΔ					T066	A∅	
47#	2SD184†	166m	25 ∅	1.5	1.5	60	12	40		10u	4.00	750m	20	100	1.5M†	2.0	500n	ME	T08			
48#	2SD185†	166m	25 ∅	1.5	1.5	100	12	55		10u	4.00	750m	20	100	1.5M†	1.0	500n	ME	T08			
49	40250	166m	29 ∅	1.5	1.5	4.0	2.0			1.0m	4.00	1.5	25	100	10M	1.0		D	T066	C∅		
50	40310	166m	29 ∅	1.5	1.5	2.5	35			10u	2.00	1.0	20	120	750k			D	T066	C∅		
51	40312	166m	29 ∅	1.5	1.5	60	2.5	60		10u	2.00	1.0	20	120	750k			D	T066	C∅		
52	40316	166m	29 ∅	1.5	1.5	40	35			10u	2.00	1.0	20	120	750k			D	T066	C∅		
53	40324	166m	29 ∅	1.5	1.5	35	10u			10u	2.00	1.0	20	120	750k			D	T066	C∅		
54	A272	166m	29 ∅	1.5	1.5	65	4.0	36		10mΔ	5.00	500m	5.0		500M	600m		PE	MT72c	R		
55	A276	166m	29 ∅	1.5	1.5	36	4.0	18		10mΔ	5.00	500m	5.0		700M	600m		PE	MT72c	R		
56#	BD148	166m	24 ∅	1.0	1.0	7.0	60	60 ∅		2.0m	1.50	500m	40	250	1.0M			D	MD17f	A∅		
57#	BD149	166m	24 ∅	1.0	1.0	7.0	80	80 ∅		2.0m	1.50	500m	40	160	1.0M			D	MD17f	A∅		
58#	BD162	166m	15 ∅	1.0	1.0	40	7.0	20		2.00	1.5	30			750k				MD17			
59#	BD163	166m	15 ∅	1.0	1.0	60	7.0	40		2.00	1.5	20			750k				MD17			
60#	BLY88	166m	29 ∅	1.5	1.5	36	4.0	18		10mΔ	5.00	500m	5.0		700M	600m			MT72	GC∅		
61#	BLY92	166m	29 ∅	1.5	1.5	65	4.0	36		10mΔ	5.00	500m	5.0		500M	600m		PE	MT72c	R		
62#	BUY43	166m	24 ∅	1.0	1.0	7.0	40	40		1.0m	1.50	500m	40	60	1.0M			DA	MD17e	C∅		
63#	BUY46	166m	24 ∅	1.0	1.0	7.0	55	55		1.0m†	1.50	500m	25	100	1.0M			DA	MD17e	C∅		
64	MJE340	166m	20 ∅	1.0	1.0	500m	3.0	300		100u	100	50m	30	240						X58	B	
65	PP3083	166m	30 ∅	1.0	1.0	7.0	2.0	80		6.0	80	1.0	20		1.0M	750m		DM	T066	C∅		
66	PP3084	166m	30 ∅	1.0	1.0	7.0	2.0	100		6.0	100	4.00	1.0	20	1.0M	750m		DM	T066	C∅		
67	PP3085	166m	30 ∅	1.0	1.0	7.0	2.0	40		6.0	40	4.00	3.0	20	1.0M	1.0		DM	T066	C∅		
68	PP3086	166m	30 ∅	1.0	1.0	7.0	2.0	60		6.0	60	4.00	3.0	20	1.0M	1.0		DM	T066	C∅		
69	PP3087	166m	30 ∅	1.0	1.0	7.0	2.0	80		6.0	80	4.00	3.0	20	1.0M	1.0		DM	T066	C∅		
70	PP3088	166m	30 ∅	1.0	1.0	7.0	2.0	100		6.0	100	4.00	3.0	20	1.0M	1.0		DM	T066	C∅		
71	PP3250	166m	30 ∅	1.0	1.0	50	6.0	40		1.0m∅	4.00	1.5	25	100	1.0M	1.5		DM	T066	C∅		
72	PP3310																					

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR (25°C)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @25°C						MAX. hFE		MIN	MAX	f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo (A)	MAX Vcb @25°C (A)	Vcb (V)						Ic (A)	MIN	
1	KS6118†	180m	65	0	SJ	7.0	1.0	20	4.5	20	500u	5.0	5.0	15	250M†			PE	TO60	∅	
2	2N4070†	185m	65	0	SJ	7.0	5.0	120	8.0	100	10u	5.0	5.0	40	20MΔ	150m	500n∅		TO3	A∅	
3	2N4071†	185m	65	0	SJ	10	5.0	200	8.0	150	10u	5.0	5.0	40	20MΔ	150m	500n∅		TO3	A∅	
4	2N3583	200m	35	0	SJ	1.0	1.0	250	6.0	175	1.0m∅	1.0	500m	40	200	10MΔ	5.0		D	TO66	C∅
5	2N3584†	200m	35	0	SJ	2.0	1.0	330	6.0	250	1.0m∅	2.0	1.0	8.0	140	10MΔ	750m	3.0u		TO66	C∅
6	JAN2N3584†	200m	2.5	0	SJ	2.0	1.0	375	6.0	250	3.0m∅	1.0	1.0	25	100 #	15MΔ		3.0u		TO66	C∅
7	2N3585†	200m	35	0	SJ	2.0	1.0	440	6.0	300	1.0m∅	2.0	1.0	8.0	140	10MΔ	750m	3.0u		TO66	C∅
8	JAN2N3585†	200m	2.5	0	SJ	2.0	1.0	500	6.0	300	3.0m∅	1.0	1.0	25	100 #	15MΔ		3.0u		TO66	C∅
9	2N3621	200m	30	0	SJ	5.0	1.0	75	4.0	40	25u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
10	2N3622	200m	30	0	SJ	5.0	1.0	75	4.0	40	25u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
11	2N3625	200m	30	0	SJ	5.0	1.0	75	4.0	40	1.0u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
12	2N3626	200m	30	0	SJ	5.0	1.0	75	4.0	40	1.0u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
13	2N3629	200m	30	0	SJ	5.0	1.0	100	4.0	50	1.0u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
14	2N3630	200m	30	0	SJ	5.0	1.0	100	4.0	50	1.0u∅	5.0	1.0	40 #		200MΔ				TO61	A∅
15	JAN2N3739	200m	20	0	SS	3.0	1.0	325	6.0	300	100u	1.0	100m	40	200 #	10MΔ				TO66	C∅
16	2N3878	200m	35	0	SJ	4.0	4.0	120	7.0	50	25m∅	5.0	500m	50	200	40MΔ	500m			TO66	C∅
17	2N3879†	200m	35	0	SJ	7.0	5.0	120	7.0	75	25m∅	2.0	4.0	12	100	40MΔ	300m	400n		TO66	C∅
18	2N3919†	200m	15	0	SJ	2.0	2.0	120	6.0	60	5.0m∅	2.0	2.0	40	120 #	80MΔ				TO3	C∅
19	2N3920†	200m	15	0	SJ	1.0	1.0	120	6.0	60	5.0m∅	2.0	2.0	100	300 #	80MΔ				TO3	C∅
20	2N3929†	200m	20	0	SJ	3.0	500m	80	4.0†	40	1.0m∅	1.0	1.5	20	300 #	200MΔ		30n		TO59	A∅
21	2N4231	200m	35	0	SJ	3.0	1.0	40	5.0	40	5.0u	2.0	1.5	25	100 #	4.0MΔ				TO66	A∅
22	2N4232	200m	35	0	SJ	3.0	1.0	60	5.0	60	50u	2.0	1.5	25	100 #	4.0MΔ				TO66	A∅
23	2N4233	200m	35	0	SJ	3.0	1.0	80	5.0	80	50u	2.0	1.5	25	100 #	4.0MΔ				TO66	A∅
24	2N4240†	200m	35	0	SJ	2.0	1.0	440	1.60†	300	2.0m∅	2.0	750m	6.0	240	15MΔ	1.3	500n		TO66	C∅
25	2N4428	200m	3.5	0	SJ	430m	150m	55	3.5	35	1.0m∅	5.0	50m	20	200	700MΔ				TO39	A∅
26	2N4998	200m	30	0	SJ	2.0	1.0	100	6.0	80	1.0m∅	5.0	1.0	30	90 #	50MΔ				TO59	A∅
27	2N5000	200m	30	0	SJ	2.0	1.0	100	6.0	80	1.0m∅	5.0	1.0	70	200 #	60MΔ				TO59	A∅
28	2N5016	200m	30	0	SS	4.5	1.5	65	4.0	30	4.0	500m	10	200	500MΔ					TO60	G∅
29	JAN2N5016	200m	2.6	0	SS	4.5	1.5	65	4.0	30	5.0m	4.0	500m	10	200 #	500MΔ				TO60	A∅
30	2N5083†	200m	35	0	SJ	10	2.0	120	6.0	60	1.0m∅	2.0	2.0	40	120 #	50MΔ		300n		TO59	C∅
31	2N5084†	200m	35	0	SJ	10	2.0	120	6.0	60	1.0m∅	2.0	2.0	100	300 #	50MΔ		300n		TO59	C∅
32	2N5085†	200m	35	0	SJ	10	2.0	150	6.0	80	1.0m∅	2.0	2.0	40	120 #	50MΔ		300n		TO59	C∅
33	2N5202†	200m	35	0	SJ	4.0	2.0	100	6.0	75	1.0m∅	1.2	4.0	10	100	60MΔ	300m			TO66	C∅
34	2N5326†	200m	20	0	SJ	5.0	1.0	100	6.0	80	1.0u	1.0	1.0	50	150 #	80MΔ		150n		TO59	A∅
35	2N5660†	200m	20	0	SJ	1.0	200m	250	6.0	200	1.0u	5.0	500m	40	150 #	20MΔ		150n		TO66	A∅
36	2N5661†	200m	20	0	SJ	1.0	200m	400	6.0	300	1.0u	5.0	500m	40	150 #	20MΔ		150n		TO66	A∅
37	2N5700	200m	35	0	SS	3.0	3.0	40	4.0†	18	2.0mΔ	100	50m	15						TO129	R
38	2N5701	200m	35	0	SS	3.0	3.0	40	4.0†	18	2.5mΔ	100	50m	15						TO129	R
39	2N5919	200m	25	0	SS	1.5	1.5	65	4.0†	30	10mΔ†	100	50m	15						MT78	R
40	2N5938	200m	2.5	0	SJ	3.0	1.0	60	4.0	50	100u	3.0	1.0	30	150 #	150MΔ				u79	A∅
41	2SC679	200m	30	0	SJ	3.0	1.0	300	6.0	300	1.0m∅	100	100m	35	200	230k				MD10f	A∅
42	2SC690	200m	35	0	SJ	3.0	1.0	60	4.0	40	1.0m∅	100	100m	5.0 #		200M				MT59b	R
43	2SC825	200m	30	0	SJ	2.0	3.0	300	6.0	300	20u∅	100	500m	20	250	15M				TO66	C∅
44	2SD129	200m	25	0	SJ	3.0	3.0	90	10	80	1.0m∅	5.0	1.0	30	200	1.0				TO66	A∅
45	2SD130	200m	25	0	SJ	3.0	3.0	80	10	50	1.0m∅	5.0	500m	30	200 *	1.0M	500m			TO66	C∅
46	2SD158	200m	30	0	SJ	1.0	1.0	200	3.0	200	20u∅	100	500m	20	250 *	15M	6.0			TO66	A∅
47	2SD159	200m	30	0	SJ	1.0	1.0	300	3.0	300	20u∅	100	500m	20	250 *	15M	6.0			TO66	A∅
48	2SD226	200m	25	0	SJ	2.0	1.0 #	40	10	40	30u∅	3.0	1.0	20	90	25k	700m			TO66	C∅
49	2SD226A	200m	25	0	SJ	2.0	1.0 #	60	10	60	30u∅	3.0	1.0	20	90	25k	700m			TO66	C∅
50	2SD226B	200m	25	0	SJ	2.0	1.0 #	80	10	80	30u∅	3.0	1.0	20	90	25k	700m			TO66	C∅
51	2SD2340	200m	1.5	0	SJ	3.0	3.0	60	10	50	200u∅	5.0	500m	70	140	1.0M	400m			X75	D
52	2SD234R	200m	1.5	0	SJ	3.0	3.0	60	10	50	200u∅	5.0	500m	40	80	1.0M	400m			X75	D
53	2SD234Y	200m	1.5	0	SJ	3.0	3.0	60	10	50	200u∅	5.0	500m	120	240	1.0M	400m			X75	D
54	2SD2350	200m	1.5	0	SJ	3.0	3.0	40	10	35	200u∅	5.0	500m	70	140	1.0M	1.0			X75	D
55	2SD235R	200m	1.5	0	SJ	3.0	3.0	40	10	35	200u∅	5.0	500m	40	80	1.0M	1.0			X75	D
56	2SD235Y	200m	1.5	0	SJ	3.0	3.0	40	10	35	200u∅	5.0	500m	120	240	1.0M	1.0			X75	D
57	1714-0402†	200m	35	0	SJ	10 #	2.0 #	40	7.0	40	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
58	1714-0405†	200m	35	0	SJ	10 #	2.0 #	40	7.0	40	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
59	1714-0602†	200m	35	0	SJ	10 #	2.0 #	60	7.0	60	2.5m∅	2.0	2.0	20		40MΔ	300m	400n		EM	TO66
60	1714-0605†	200m	35	0	SJ	10 #	2.0 #	60	7.0	60	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
61	1714-0802†	200m	35	0	SJ	10 #	2.0 #	80	7.0	80	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
62	1714-0805†	200m	35	0	SJ	10 #	2.0 #	80	7.0	80	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
63	1714-1002†	200m	35	0	SJ	10 #	2.0 #	100	7.0	100	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
64	1714-1005†	200m	35	0	SJ	10 #	2.0 #	100	7.0	100	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
65	1714-1202†	200m	35	0	SJ	10 #	2.0 #	120	7.0	120	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
66	1714-1205†	200m	35	0	SJ	10 #	2.0 #	120	7.0	120	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
67	1714-1402†	200m	35	0	SJ	10 #	2.0 #	140	7.0	140	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
68	1714-1405†	200m	35	0	SJ	10 #	2.0 #	140	7.0	140	2.5m∅	2.0	5.0	20		40MΔ	150m	400n		EM	TO66
69	1714-1602†	200m	35	0	SJ	10 #	2.0 #	160	7.0	160	2.5m∅	2.0	2.0	20		40MΔ	300m	300n		EM	TO66
70	1714-1605†	200m	35	0	SJ	10 #	2.0 #	160													

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E X P	ABSOLUTE MAX. RATINGS @25°C					MAX. I _{cb0} @ 25°C		BIAS		f _{ae}	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	STRUCTURE	DWG. No.	L C O D E	
						I _c	I _b	V _{cb0}	V _{eb0}	V _{ceo}	I _{cb0}	I _{cb0}	V _{cb}	V _{cb}								MIN
1	KSP1072	200m				5.0	1.0	250	8.0	225	1.0u	5.0	1.0	20	60	40M			PE	T066	Ø	
2	KSP1073	200m				5.0	1.0	275	8.0	250	1.0u	5.0	1.0	20	60	40M			PE	T066	Ø	
3	KSP1074	200m				5.0	1.0	300	8.0	275	1.0u	5.0	1.0	20	60	40M			PE	T066	Ø	
4	KSP1075	200m				5.0	1.0	325	8.0	300	1.0u	5.0	1.0	20	60	40M			PE	T066	Ø	
5	MJE520	200m	25	Ø	\$J	3.0	2.0	30	4.0	30	100u	1.0Ø	1.0	25	#				PL	X58	B	
6	SDT4901	200m	35	Ø		5.0	1.0	225	8.0	200	1.0u	5.0	1.0	20	60	30M			PL	T066	Ø	
7	SDT4902	200m	35	Ø		5.0	1.0	250	8.0	225	1.0u	5.0	1.0	20	60	30M			PL	T066	Ø	
8	SDT4903	200m	35	Ø		5.0	1.0	275	8.0	250	1.0u	5.0	1.0	20	60	30M			PL	T066	Ø	
9	SDT4904	200m	35	Ø		5.0	1.0	300	8.0	275	1.0u	5.0	1.0	20	60	30M			PL	T066	Ø	
10	SDT4905	200m	35	Ø		5.0	1.0	325	8.0	300	1.0u	5.0	1.0	20	60	30M			PL	T066	Ø	
11	SDT6901	200m	20	Ø	\$J	5.0	500m	145	8.0		1.0uØ	2.0Ø	1.0	20	60	#	20M	Δ	PL	T066	Ø	
12	SDT6902	200m	20	Ø	\$J	5.0	500m	170	8.0		1.0uØ	2.0Ø	1.0	20	60	#	20M	Δ	PL	T066	Ø	
13	SDT6903	200m	20	Ø	\$J	5.0	500m	195	8.0		1.0uØ	2.0Ø	1.0	20	60	#	20M	Δ	PL	T066	Ø	
14	SDT6904	200m	20	Ø	\$J	5.0	500m	220	8.0		1.0uØ	2.0Ø	1.0	20	60	#	20M	Δ	PL	T066	Ø	
15	SDT6905	200m	20	Ø	\$J	5.0	500m	145	8.0		1.0uØ	2.0Ø	1.0	40	120	#	20M	Δ	PL	T066	Ø	
16	SDT6906	200m	20	Ø	\$J	5.0	500m	170	8.0		1.0uØ	2.0Ø	1.0	40	120	#	20M	Δ	PL	T066	Ø	
17	SDT6907	200m	20	Ø	\$J	5.0	500m	195	8.0		1.0uØ	2.0Ø	1.0	40	120	#	20M	Δ	PL	T066	Ø	
18	SDT6908	200m	20	Ø	\$J	5.0	500m	220	8.0		1.0uØ	2.0Ø	1.0	40	120	#	20M	Δ	PL	T066	Ø	
19	SDT7511	200m	20	Ø	\$J			60	5.0	40	1.0u		5.0	20	60				TO8			
20	SDT7512	200m	20	Ø	\$J			80	5.0	60	1.0uØ		5.0	20	60				TO8			
21	SDT7513	200m	20	Ø	\$J			100	5.0	80	1.0uØ		5.0	20	60				TO8			
22	SDT7514	200m	20	Ø	\$J			60	5.0	40	1.0u		5.0	40	120				TO8			
23	SDT7515	200m	20	Ø	\$J			80	5.0	60	1.0uØ		5.0	40	120				TO8			
24	SDT7516	200m	20	Ø	\$J			100	5.0	80	1.0uØ		5.0	40	120				TO8			
25	SDT7517	200m	20	Ø	\$J			60	5.0	40	1.0u		5.0	100					TO8			
26	SDT7518	200m	20	Ø	\$J			80	5.0	60	1.0uØ		5.0	100					TO8			
27	SDT7519	200m	20	Ø	\$J			100	5.0	80	1.0uØ		5.0	100					TO8			
28	ST140301	200m	300	Ø	\$J	60		125	10	80 *	100uØ	10Ø	20	30	120	#	10M	Δ	PL	T063		
29	ST140311	200m	300	Ø	\$J	60		145	10	100 *	100uØ	10Ø	20	30	120	#	10M	Δ	PL	T063		
30	ST140321	200m	300	Ø	\$J	60		170	10	120 *	100uØ	10Ø	20	30	120	#	10M	Δ	PL	T063		
31	2N1768	220m	40	Ø	\$A	3.0	1.5	60	12	40	15uØ	4.0Ø	750m	35	100		600k	1.0	Δ	MT5	AØ	
32	2N1769	220m	40	Ø	\$A	3.0	1.5	100	12	55	15uØ	4.0Ø	750m	35	100		600k	1.0	Δ	MT5	AØ	
33	2SC1015	220m	33	Ø	\$S	3.0		40	5.0	18	500u	10Ø	100m	5.0	#		1.0G		PE	MT78	VZ	
34	2N2036	222m	17	Ø	\$S	5.0		80	10	60	10m	4.0Ø	2.0	15	45		2.0M	500m	Δ	TO37	AØ	
35	MP8111	222m	3.0	Ø	\$J	1.2		60	7.0	60	5.0u	5.0Ø	200m	30	60		100M	600m	PE	X95		
36	MP8112	222m	3.0	Ø	\$J	1.2		60	7.0	60	5.0u	5.0Ø	200m	50	120		100M	600m	PE	X95		
37	MP8113	222m	3.0	Ø	\$J	1.2		60	7.0	60	5.0u	5.0Ø	200m	100	240		100M	600m	PE	X95		
38	MP8121	222m	3.0	Ø	\$J	1.2		35	7.0	35	5.0u	5.0Ø	200m	20	60		100M	600m	PE	X95		
39	MP8122	222m	3.0	Ø	\$J	1.2		35	7.0	35	5.0u	5.0Ø	200m	50	120		100M	600m	PE	X95		
40	MP8123	222m	3.0	Ø	\$J	1.2		35	7.0	35	5.0u	5.0Ø	200m	100	240		100M	600m	PE	X95		
41	MP8211	222m	5.0	Ø	\$J	400m		60	7.0	60	1.0m	5.0Ø	500m	30	60		100M		PE	T066	CØ	
42	MP8212	222m	5.0	Ø	\$J	400m		60	7.0	60	1.0m	5.0Ø	500m	50	120		100M		PE	T066	CØ	
43	MP8213	222m	5.0	Ø	\$J	400m		60	7.0	60	1.0m	5.0Ø	500m	100	240		100M		PE	T066	CØ	
44	MP8221	222m	5.0	Ø	\$J	400m		35	7.0	35	1.0m	5.0Ø	500m	20	60		100M		PE	T066	CØ	
45	MP8222	222m	5.0	Ø	\$J	1.5		35	7.0	35	1.0m	5.0Ø	500m	50	120		100M		PE	T066	CØ	
46	MP8223	222m	5.0	Ø	\$J	1.5		35	7.0	35	1.0m	5.0Ø	500m	100	240		100M		PE	T066	CØ	
47	2N5596	225m	40	Ø	\$S	2.5	1.0	55	3.5	30	4.0m	5.0Ø	50m	20			1.5G		PE	MT73a	R	
48	JAN2N1047A	227m	1.0	Ø	\$S	500m			10	80	15uØ	10Ø	50m	12	36	#	2.0M	15	PL	T057	AØ	
49	JAN2N1048A	227m	1.0	Ø	\$S	500m			10	120	15u	10Ø	50m	12	36	#	2.0M	15	PL	T057	AØ	
50	JAN2N1049A	227m	1.0	Ø	\$S	500m			10	80	15u	10Ø	50m	30	90	#	2.0M	15	PL	T057	AØ	
51	JAN2N1050A	227m	1.0	Ø	\$S	500m			10	120	15u	10Ø	50m	30	90	#	2.0M	15	PL	T057	AØ	
52	2N4128	227m	40	Ø	\$A	4.0	1.0	60	4.0	40	1.0m	5.0Ø	200m	10	80		200M	500m		MT59	R	
53	2SC704	227m	40	Ø	\$J	4.0		40	4.0	20	2.0m	10Ø	100m	5.0	#		100M		PE	MT59b	R	
54	PT5693	227m	40	Ø	\$J	4.0		40	4.0	20	5.0m	14Ø	100m	15	120				PL	MT59	R	
55	2N1047	228m	1.0	Ø	\$J	500m		80	6.0	80	15uØ	10Ø	500m	12	36	#				T057	AØ	
56	2N1047A	228m	1.0	Ø	\$J	500m	500m	80	10	80	350u	10Ø	500m	12	36	#	75k			T057	AØ	
57	2N1047B	228m	1.0	Ø	\$J	750m	500m	80	10	80	10uØ	10Ø	500m	12	36	#	125k			T057	AØ	
58	2N1048	228m	1.0	Ø	\$J	500m		120	6.0	100	15uØ	10Ø	500m	12	36	#				T057	AØ	
59	2N1048A	228m	1.0	Ø	\$J	500m	500m	120	10	120	350u	10Ø	500m	12	36	#	75k			T057	AØ	
60	2N1048B	228m	1.0	Ø	\$J	750m	500m	120	10	120	10uØ	10Ø	500m	12	36	#	125k			T057	AØ	
61	2N1049	228m	1.0	Ø	\$J	500m		80	6.0	80	15uØ	10Ø	500m	30	90	#				T057	AØ	
62	2N1049A	228m	1.0	Ø	\$J	500m	500m	80	10	80	350u	10Ø	500m	30	90	#	75k			T057	AØ	
63	2N1049B	228m	1.0	Ø	\$J	750m	500m	80	10	80	10uØ	10Ø	500m	30	90	#	125k			T057	AØ	
64	2N1050	228m	1.0	Ø	\$J	500m		120	6.0	100	15uØ	10Ø	500m	30	90	#				T057	AØ	
65	2N1050A	228m	1.0	Ø	\$J	500m	500m	120	10	120	350u	10Ø	500m	30	90	#	75k			T057	AØ	
66	2N1050B	228m	1.0	Ø	\$J	750m	500m	120	10	120	10uØ	10Ø	500m	30	90	#	125k			T057	AØ	
67	2N1690	228m	1.0	Ø	\$J	500m	500m	80	10	80	350u	10Ø	500m	20	60	#	90k			MT5	AØ	
68	2N1691	228m	1.0	Ø	\$J	500m	500m	120	10	120	350u	10Ø	500m	20	60	#	90k			MT5	AØ	
69	2N5177	228m	40	Ø	\$J	4.0	1.0	55	3.5	35	10m	#	500	100m	10	150		200M		FZ	MD36	
70	2N54271	228m	40	Ø	\$J	7.0	1.0	80	6.0	80	10u	2.0Ø	2.0	50	120	#	30M	100n	D	T066	CØ	
71	2N54281	228m	40	Ø	\$J	7.0	1.0	80	6.0	80	10u	2.0Ø	2.0	60	240	#	30M	100n	D	T066	CØ	
72	2N54291	228m	40	Ø	\$J	7.0	1.0	100	6.0	100	10u	2.0Ø	2.0	30	120	#	30M	100n	D	T066	CØ	
73	2N54301	228m	40	Ø	\$J	7.0	1.0	100	6.0	100	10u	2.0Ø	2.0	60	240	#	30M	100n	D	T066	CØ</	

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L C O D E		
						Ic (A)	Ib (A)	V _{cb0} (V)	V _{eb0} (V)	V _{ce0} (V)	I _{cb0} (A)	MAX V _{cb} (V)	V _{cb} (V)	Ic (A)				MIN	MAX		STRUC-TURE	DWG. No.
1	SDT7902	250m#	25	0	5J	10		250	8.0	225	1.0u	5.0	5.0	20	60	#	50M#Δ		PL	TO86	CØ	
2	SDT7903	250m#	25	0	5J	10		275	8.0	250	1.0u	5.0	5.0	20	60	#	50M#Δ		PL	TO86	CØ	
3	SDT7904	250m#	25	0	5J	10		325	8.0	300	1.0u	5.0	5.0	20	60	#	50M#Δ		PL	TO86	CØ	
4	SDT7905	250m#	25	0	5J	10		350	8.0	325	1.0u	5.0	5.0	20	60	#	50M#Δ		PL	TO86	CØ	
5	SDT7907	250m#	43	0	5J	10	2.0	200	8.0	200	1.0u	5.0	5.0	15	60	#	50M#Δ		PL	TO86	CØ	
6	SDT7908	250m#	43	0	5J	10	2.0	250	8.0	250	1.0u	5.0	5.0	15	60	#	50M#Δ		PL	TO86	CØ	
7	SDT7909	250m#	43	0	5J	10	2.0	300	8.0	300	1.0u	5.0	5.0	15	60	#	50M#Δ		PL	TO86	CØ	
8	SDT7910	250m#	43	0	5J	10	2.0	150	8.0	150	1.0u	5.0	5.0	10	60	#	50M#Δ		PL	TO86	CØ	
9	ST15043T	250m#	187	0	5J	40	2.0	125	10	80	100u	10	10	30	120	#	10M#Δ	500nØ	PL	TO63		
10	ST15044T	250m#	187	0	5J	40	2.0	145	10	100*	100u	10	10	30	120	#	10M#Δ	500nØ	PL	TO63		
11	ST15045T	250m#	187	0	5J	40	2.0	170	10	120*	100u	10	10	30	120	#	10M#Δ	500nØ	PL	TO63		
12	2N5025	256m	45	0	5S	5.0		75	4.5	75	1.0u	2.0	2.0	20	100	#	150M#Δ		PL	TO60	AØ	
13	2N5026	256m	45	0	5S	5.0		90	4.5	90	1.0u	2.0	2.0	20	100	#	150M#Δ		PL	TO60	AØ	
14	2N5713	256m	45	0	5S	5.0		90	4.0†	40	500u#	10	10	10	100	#	150M#Δ		PL	TO60	AØ	
15	2N1648	263m	40	0	5S	3.0		120	6.0	80	100u	10	500m	15	45	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
16	2N1650	263m	40	0	5S	3.0		120	6.0	80	100u	10	500m	15	45	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
17	2N2018	263m#	20	0	5S	2.0	500m	150	6.0	125	100u	10	500m	20	60	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
18	2N2019	263m#	20	0	5S	2.0	500m	200	6.0	140	100u	10	500m	20	60	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
19	2N1647	266m	40	0	5S	3.0		80	6.0	80	100u	10	500m	15	45	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
20	2N1649	266m	40	0	5S	3.0		80	6.0	80	100u	10	500m	15	45	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
21	2N1886	266m	40	0	5S	3.0		80	6.0	60	350u	10	500m	20	60	#	3.0M#Δ	3.0	1.0u	Δ	MT11	AØ
22	2N2632	266m	40	0	5J	5.0	500m	90	8.0	60	100n	2.0	1.0	40	120	#	30M	250m	80n	PL	MT24	
23	2N2633	266m	40	0	5J	5.0	500m	120	8.0	80	100n	2.0	1.0	40	120	#	30M	250m	80n	PL	MT24	
24	2N2634	266m	40	0	5J	5.0	500m	150	8.0	100	100n	2.0	1.0	40	120	#	30M	250m	80n	PL	MT24	
25	2N2866	266m	40	0	5C	2.0	150m	120	10	80	5.0	5.0	500m	20	60	#	20M	750m	750m	PL	MT21	
26	2N2867	266m	40	0	5C	2.0	150m	120	10	80	5.0	5.0	500m	20	60	#	20M	750m	750m	PL	MT21	
27	2N5050†	266m	40	0	5J	2.0	1.0	125	6.0	125	500u#	5.0	750m	25	100	#	10M#Δ					
28	2N5051†	266m	40	0	5J	2.0	1.0	150	6.0	150	500u#	5.0	750m	25	100	#	10M#Δ					
29	2N5052†	266m	40	0	5J	2.0	1.0	200	6.0	200	500u#	5.0	750m	25	100	#	10M#Δ					
30#	2S033†	266m	4.0	0	5J	3.0	2.0	100	8.0	75	2.0m	10	1.0	30	100	#	15M#Δ					
31#	2S034†	266m	4.0	0	5J	3.0	2.0	100	8.0	75	2.0m	10	1.0	30	100	#	15M#Δ					
32#	2S035†	266m	4.0	0	5J	3.0	2.0	150	8.0	100	2.0m	10	1.0	30	100	#	15M#Δ					
33#	2S036†	266m	4.0	0	5J	3.0	2.0	150	8.0	100	2.0m	10	1.0	30	100	#	15M#Δ					
34#	D44C11	266m	1.3	0	5J	3.0		5.0	5.0	30	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
35#	D44C21	266m	1.3	0	5J	3.0		5.0	5.0	30	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
36#	D44C31	266m	1.3	0	5J	3.0		5.0	5.0	30	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
37#	D44C41	266m	1.3	0	5J	3.0		5.0	5.0	45	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
38#	D44C51	266m	1.3	0	5J	3.0		5.0	5.0	45	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
39#	D44C61	266m	1.3	0	5J	3.0		5.0	5.0	45	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
40#	D44C71	266m	1.3	0	5J	3.0		5.0	5.0	60	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
41#	D44C81	266m	1.3	0	5J	3.0		5.0	5.0	60	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
42#	D44C91	266m	1.3	0	5J	3.0		5.0	5.0	60	1.0u	1.0	200m	25	50	#	50M	500m	100nØ	†	X102	D
43	SDT6001	266m	40	0	5J	5.0		100	5.0	50	1.0u	5.0	1.0	10	60	#	30M	1.0		PL	MT24	
44	SDT6011	266m	40	0	5J	5.0		80	8.0	40	1.0u	5.0	1.0	20	60	#	30M	500m		PL	MT24	
45	SDT6012	266m	40	0	5J	5.0		100	8.0	80	1.0u	5.0	1.0	20	60	#	30M	500m		DPL	MT24	
46	SDT6013	266m	40	0	5J	5.0		80	8.0	40	1.0u	5.0	1.0	40	120	#	30M	500m		PL	MT24	
47	SDT6014	266m	40	0	5J	5.0		100	8.0	80	1.0u	5.0	1.0	40	120	#	30M	500m		PL	MT24	
48	SDT6015	266m	40	0	5J	5.0		80	8.0	40	1.0u	5.0	1.0	100	#	30M	500m		PL	MT24		
49	SDT6016	266m	40	0	5J	5.0		100	8.0	80	1.0u	5.0	1.0	100	#	30M	500m		PL	MT24		
50	SDT6031	266m	40	0	5J	5.0	500m	60	5.0	40	1.0u	5.0	1.0	20	60	#	30M	500m		PL	MT24	
51	2N2020	267m	40	0	5S	2.0		150	6.0	125	100u	10	500m	40	90	#	3.0M#Δ	6.0		Δ	MT11	CØ
52	2N2021	267m	40	0	5S	2.0		200	6.0	140	100u	10	500m	40	90	#	3.0M#Δ	6.0		Δ	MT11	CØ
53	40613	277m	1.8	0	5A	4.0	2.0	5.0	5.0	25	2.0u	4.0	1.0	30	120	#	50M	500m	100nØ	†	X75a	T
54	40618	277m	1.8	0	5A	4.0	2.0	5.0	5.0	30	2.0u	4.0	1.0	30	120	#	50M	500m	100nØ	†	X75a	T
55	40621	277m	1.8	0	5A	4.0	2.0	5.0	5.0	32	2.0u	4.0	1.5	25	100	#	500u*	4.0	1.5	H	X75a	T
56	40622	277m	1.8	0	5A	4.0	2.0	5.0	5.0	40	2.0u	4.0	1.5	25	100	#	500u*	4.0	1.5	H	X75a	T
57	40629	277m	1.8	0	5A	4.0	2.0	5.0	5.0	40	2.0u	4.0	1.5	25	100	#	500u*	4.0	1.5	H	X75a	T
58	40630	277m	1.8	0	5A	4.0	2.0	5.0	5.0	40	2.0u	4.0	1.5	25	100	#	500u*	4.0	1.5	H	X75a	T
59	40631	277m	1.8	0	5A	4.0	2.0	5.0	5.0	40	2.0u	4.0	1.5	25	100	#	500u*	4.0	1.5	H	X75a	T
60#	2SC101A	280m	35	0	5J	5.0		70	5.0	50	1.0m	10	500m	30	†		20M#			H	X75a	T
61	SPT3439	280m	50	0	5J	5.0	1.0	500	7.0	400	2.0u	10	200	20	20	#	20M#Δ			ME	TO66	
62	B5001	285m	29	0	5J	3.0	1.0			35	1.5m	14	500m	30	250	#		1.2				
63	B5002	285m	29	0	5J	3.0	1.0			60	1.5m	14	500m	30	250	#		1.2				
64	B5021	285m	29	0	5J	3.0	1.0			35	1.5m	14	500m	30	75	#		1.2				
65	B5022	285m	29	0	5J	3.0	1.0			60	1.5m	14	500m	30	75	#		1.2				
66	B5031	285m	29	0	5J	3.0	1.0			35	1.5m	14	500m	60	120	#		1.2				
67	B5032	285m	29	0	5J	3.0	1.0			60	1.5m	14	500m	60	120	#		1.2				
68	B5041	285m	29	0	5J	3.0	1.0			35	1.5m	14	500m	100	175	#		1.2				
69	B5042	285m	29	0	5J	3.0	1.0			60	1.5m	14	500m	100	175	#		1.2				
70	B5051	285m	29	0																		

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A X P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb @ 25°C			BIAS hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	STRUCTURE	DWG. No.	L O D E
						ic (A)	ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	lcb0 (A)	Vcb (V)	lc (A)	MIN	MAX									
						ic (A)	ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	lcb0 (A)	Vcb (V)	lc (A)	MIN	MAX									
1	SDT7715	300m	55			15	3.0	140	20	125	10u	5.0	5.0	20	80	5.0M	650m	200n	PL	TO111				
2	SDT7716	300m	55			15	3.0	165	20	150	10u	5.0	5.0	20	80	5.0M	650m	200n	PL	TO111				
3	BD121	303m	45			5.0	1.0	60	6.0	35	100u	100	100m	15		60M	650m	200n	D	TO3		C		
4	BD123	303m	45			5.0	1.0	90	6.0	60	100u	100	100m	15		60M	650m	200n	D	TO3		C		
5	PT4926	303m	53			4.0	5.0	100	5.0	80	1.0m	5.0	5.0	80	200	60M	350m	350n	PL	TO59		A		
6	2N5190	320m	40			4.0	1.0	40	5.0	40	100u	2.0	1.5	25	100	2.0M	350m				X58		B	
7	2N5191	320m	40			4.0	1.0	60	5.0	60	100u	2.0	1.5	25	100	2.0M	350m				X58		B	
8	2N5192	320m	40			4.0	1.0	80	5.0	80	100u	2.0	1.5	20	80	2.0M	350m				X58		B	
9	MJE521	320m	40			3.0	2.0	40	4.0	40	100u	1.0	1.0	40	#						X58		B	
10	TIP311	322m	2.0			3.0	1.0	40	5.0	40	500u	4.0	1.0	20	100	3.0k	450n		D		X75b		B	
11	TIP31A1	322m	2.0			3.0	1.0	60	5.0	60	500u	4.0	1.0	20	100	3.0k	450n		D		X75b		B	
12	TIP31B	322m	2.0			3.0	1.0	80	5.0	80	500u	4.0	1.0	20		3.0			D		X75b		B	
13	TIP31C	322m	2.0			3.0	1.0	100	5.0	100	500u	4.0	1.0	20		3.0			D		X75b		B	
14	2N5614	330m	50			5.0	2.0	80	6.0	80	1.0m	5.0	2.5	70	200	70M					TO3		C	
15	2N5616	330m	50			5.0	2.0	100	6.0	80	1.0m	5.0	2.5	30	90	60M					TO3		C	
16	2N5618	330m	50			5.0	2.0	100	6.0	80	1.0m	5.0	2.5	70	200	70M					TO3		C	
17	2N5620	330m	50			5.0	2.0	120	6.0	100	1.0m	5.0	2.5	30	90	60M					TO3		C	
18	40464	330m	40			5.0	1.0	35	4.0	35	250u	1.0	2.0	30	170	2.0M					TO3		C	
19	40465	330m	40			5.0	1.0	40	4.0	40	100u	1.0	2.0	50	170	2.0M					TO3		C	
20	40466	330m	40			5.0	1.0	50	4.0	50	100u	1.0	2.0	50	170	2.0M					TO3		C	
21	2N1069f	333m	50			4.0	1.3	60	9.0	45	1.0n	4.0	1.5	10	50	1.2M	2.0	1.8u			TO3		C	
22	2N1070f	333m	50			4.0	1.3	60	9.0	45	1.0n	4.0	1.5	10	50	1.2M	2.0	1.8u			TO3		C	
23	2N1470	333m	50			3.0		60	3.0	60	5.0m	5.0	1.0	15		1.0M	3.0				TO3		C	
24	2N1202	333m	1.0			1.0		120	7.0	65	2.0n	100	10m	35		60M	3.3				TO5		A	
25	2N3744f	333m	30			5.0		500m	6.0	7.0	40	100n	5.0	1.0	20	60	30M				MT53		G	
26	2N3745f	333m	30			5.0		500m	8.0	8.0	40	100n	5.0	1.0	20	60	30M				MT53		G	
27	2N3746f	333m	30			5.0		500m	10.0	8.0	40	100n	5.0	1.0	20	60	30M				MT53		G	
28	2N3747f	333m	30			5.0		500m	6.0	7.0	40	100n	5.0	1.0	40	120	40M				MT53		G	
29	2N3748f	333m	30			5.0		500m	8.0	8.0	60	100n	5.0	1.0	40	120	40M				MT53		G	
30	2N3749f	333m	30			5.0		500m	10.0	8.0	60	100n	5.0	1.0	40	120	40M				MT53		G	
31	2N3750f	333m	30			5.0		500m	6.0	7.0	40	100n	5.0	1.0	100	300	50M				MT53		G	
32	2N3751f	333m	30			5.0		500m	8.0	8.0	60	100n	5.0	1.0	100	300	50M				MT53		G	
33	2N3752f	333m	30			5.0		500m	10.0	8.0	80	100n	5.0	1.0	100	300	50M				MT53		G	
34	JAN2N3996f	333m	2.0			5.0		100	8.0	80	5.0u	2.0	1.0	40	120	40M					MT53		M	
35	JAN2N3997f	333m	2.0			5.0		100	8.0	80	5.0u	2.0	1.0	80	240	40M					MT53		M	
36	JAN2N3998f	333m	2.0			5.0		100	8.0	80	5.0u	2.0	1.0	40	120	40M					MT42a		A	
37	JAN2N3999f	333m	2.0			5.0		100	8.0	80	5.0u	2.0	1.0	80	240	40M					MT42a		A	
38	2N4111	333m	30			5.0	2.0	100	8.0	60	2.0m	5.0	2.0	40	120	50M					TO3		A	
39	2N4112	333m	30			5.0	2.0	100	8.0	60	2.0m	5.0	2.0	100	300	60M					TO3		A	
40	2N4113	333m	30			5.0	2.0	120	8.0	80	2.0m	5.0	2.0	40	120	50M					TO3		A	
41	2N4114	333m	30			5.0	2.0	120	8.0	80	2.0m	5.0	2.0	100	300	60M					TO3		A	
42	2N5002	333m	50			5.0	2.0	100	6.0	80	1.0m	5.0	2.5	30	90	60M					TO59		A	
43	2N5004	333m	50			5.0	2.0	100	6.0	80	1.0m	5.0	2.5	70	200	70M					TO59		A	
44	2N5284	333m	50			5.0	2.0	120	6.0	80	1.0m	5.0	2.5	30	90	60M					TO59		A	
45	2N5285	333m	50			5.0	2.0	120	6.0	80	1.0m	5.0	2.5	70	200	70M					TO59		A	
46	2N5328f	333m	30			10	2.0	100	5.0	80	2.0	1.0	100	300	100M	120m	200n				TO59		A	
47	2S012	333m	38			2.0	500m	60	10	60	10u	10	1.0	10	60	1.5k	5.0				MS3		C	
48	2SC846	333m	25			4.0		60	5.0	60	10u	4.0	2.5	20	200	50M	380m			D	DM	TO3	C	
49	2SD50	333m	50			6.0	3.0	100	10	55	15u	4.0	1.5	15	60	1.5k					TO3		C	
50	2SD174	333m	50			5.0	3.0	60	6.0	40	20u	4.0	5.0	10	60	1.2M					TO3		C	
51	2SD175	333m	50			5.0	3.0	100	6.0	60	20u	4.0	5.0	10	60	1.2M	3.0				TO3		C	
52	2SD198	333m	25			1.0	500m	300	6.0	300	5.0m	5.0	300m	30		25M					DM	TO3	C	
53	2SD199	333m	25			250m	500m	800	6.0	550	1.0m	100	200m	30		18M					DM	TO3	C	
54	1718-0402f	333m	33			10	2.0	40	7.0	40	200u	2.0	5.0	20		48M	250m	300n			EM	TO111	G	
55	1718-0405f	333m	33			10	2.0	40	7.0	40	200u	2.0	5.0	20		40M	120m	400n			EM	TO111	G	
56	1718-0602f	333m	33			10	2.0	60	7.0	60	200u	2.0	5.0	20		40M	250m	300n			EM	TO111	G	
57	1718-0605f	333m	33			10	2.0	60	7.0	60	200u	2.0	5.0	20		40M	120m	400n			EM	TO111	G	
58	1718-0802f	333m	33			10	2.0	80	7.0	80	200u	2.0	5.0	20		40M	250m	300n			EM	TO111	G	
59	1718-0805f	333m	33			10	2.0	80	7.0	80	200u	2.0	5.0	20		40M	120m	400n			EM	TO111	G	
60	1718-1002f	333m	33			10	2.0	100	7.0	100	200u	2.0	5.0	20		40M	250m	300n			EM	TO111	G	
61	1718-1005f	333m	33			10	2.0	100	7.0	100	200u													

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	2	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb @ 25°C		BIAS hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L E A D E
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcb (A)	Vcb (V)	Vcb (A)									
1		B145007	333m	25	∅	10	2.0	90	5.0	80	1.0m	100	3.0	70	140			2.0u	Δ	T061	A	
2		B145008	333m	25	∅	10	2.0	90	5.0	80	1.0m	100	3.0	120	240			2.0u	Δ	T061	A	
3		B145009	333m	25	∅	10	2.0	50	5.0	40	1.0m							2.0u	Δ	T061	A	
4		B145010	333m	25	∅	10	2.0	50	5.0	40	1.0m							2.0u	Δ	T061	A	
5		B145011	333m	25	∅	10	2.0	70	5.0	60	1.0m							2.0u	Δ	T061	A	
6		B145012	333m	25	∅	10	2.0	70	5.0	60	1.0m							2.0u	Δ	T061	A	
7		B145013	333m	25	∅	10	2.0	90	5.0	80	1.0m							2.0u	Δ	T061	A	
8		B145014	333m	25	∅	10	2.0	90	5.0	80	1.0m							2.0u	Δ	T061	A	
9		BU111	333m	25	∅	4.0	1.5		6.0	300	15m	100	1.0m	8.0				2.0u	Δ	T061	A	
10		DT3200	333m	15	∅	5.0												2.0u	Δ	T061	A	
11		DT3201	333m	15	∅	5.0	330m	45	8.0	30	15u	5.00	3.0	15	45		600m		D	T08		
12		DT4011	333m	30	∅	5.0	330m	100	8.0	60	15u	5.00	3.0	15	45		600m		D	T08		
13		NS9002†	333m	20	∅	5.0					50u	5.00	3.0	20					D	T03		
14		SDT3401†	333m	2.0	∅	5.0	500m	100	8.0	80	200n	5.00	1.0	30		20M	250m	250n	PL	MT42	A	
15		SDT3402†	333m	2.0	∅	5.0	500m	40	8.0	40	10u	5.00	2.0	40	120	40M	500n	500n	PE	TO111		
16		SDT3403†	333m	2.0	∅	5.0	500m	60	8.0	60	10u	5.00	2.0	40	120	40M	500n	500n	PE	TO111		
17		SDT3404†	333m	2.0	∅	5.0	500m	80	8.0	80	10u	5.00	2.0	40	120	40M	500n	500n	PE	TO111		
18		SDT3405†	333m	2.0	∅	5.0	500m	100	8.0	100	10u	5.00	2.0	40	120	40M	500n	500n	PE	TO111		
19		SDT3406†	333m	2.0	∅	5.0	500m	40	8.0	40	10u	5.00	2.0	20	60	40M	500n	500n	PE	TO111		
20		SDT3407†	333m	2.0	∅	5.0	500m	60	8.0	60	10u	5.00	2.0	20	60	40M	500n	500n	PE	TO111		
21		SDT3408†	333m	2.0	∅	5.0	500m	80	8.0	80	10u	5.00	2.0	20	60	40M	500n	500n	PE	TO111		
22		SDT3409†	333m	2.0	∅	5.0	500m	100	8.0	100	10u	5.00	2.0	20	60	40M	500n	500n	PE	TO111		
23		SDT6308	333m	30	∅	5.0	500m	60	8.0	40	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT42		
24		SDT6309	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT42		
25		SDT6310	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT42		
26		SDT6311	333m	30	∅	5.0	500m	80	8.0	40	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT42		
27		SDT6312	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT42		
28		SDT6313	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT42		
29		SDT6314	333m	30	∅	5.0	500m	60	8.0	40	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT42		
30		SDT6315	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT42		
31		SDT6316	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT42		
32		SDT6408	333m	30	∅	5.0	500m	80	8.0	40	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT53	GN	
33		SDT6409	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT53	GN	
34		SDT6410	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	20	60	30M	500m		PLD	MT53	GN	
35		SDT6411	333m	30	∅	5.0	500m	60	8.0	40	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT53	GN	
36		SDT6412	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT53	GN	
37		SDT6413	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	40	120	30M	500m		PLD	MT53	GN	
38		SDT6414	333m	30	∅	5.0	500m	60	8.0	40	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT53	GN	
39		SDT6415	333m	30	∅	5.0	500m	80	8.0	60	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT53	GN	
40		SDT6416	333m	30	∅	5.0	500m	100	8.0	80	1.0u	2.00	1.0	100	#	30M	500m		PLD	MT53	GN	
41		ST18015	333m	30	∅	5.0		375	10	30	1.0u	2.5	20						PE	TO59		
42		ST18016	333m	30	∅	5.0		300	10	30	1.0u	2.5	20						PE	TO59		
43		ST18017	333m	30	∅	5.0		250	10	25	1.0u	2.5	20						PE	TO59		
44		ST18018	333m	30	∅	5.0		200	10	20	1.0u	2.5	20						PE	TO59		
45		ST92006	333m	30	∅	2.0		125	10	80	20u	10	1.0	20	120	10M	2.0	1.5u	P	TO59		
46		ST92007	333m	30	∅	2.0		145	10	100	20u	10	1.0	20	120	10M	2.0	1.5u	P	TO59		
47		ST92008	333m	30	∅	2.0		170	10	120	20u	10	1.0	20	120	10M	2.0	1.5u	P	TO59		
48		STT6309	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	20	60	30M			P	TO111		
49		STT6310	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	20	60	30M			P	TO111		
50		STT6312	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	40	120	30M			P	TO111		
51		STT6313	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	40	120	30M			P	TO111		
52		STT6315	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	100	#	30M			P	TO111		
53		STT6316	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	100	#	30M			P	TO111		
54		STT6409	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	20	60	30M			P	TO111		
55		STT6410	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	20	60	30M			P	TO111		
56		STT6412	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	40	120	30M			P	TO111		
57		STT6413	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	40	120	30M			P	TO111		
58		STT6415	333m	30	∅	5.0	500m	80	8.0	60	1.0u	5.00	1.0	100	#	30M			P	TO111		
59		STT6416	333m	30	∅	5.0	500m	100	8.0	80	1.0u	5.00	1.0	100	#	30M			P	TO111		
60		2N5643	342m	60	∅	5.0		65	4.0	35	1.0m	5.00	500m	5.0					PL	MT111	R	
61		2N1079	344m	60	∅	3.0	500m	60	10	60	10m	5.00	1.0	20	80				D	TO53	A	
62		2N1080	344m	60	∅	3.0	500m	60	10	60	10m	5.00	1.0	20	80				D	TO53	A	
63		2N5214	344m	60	∅	5.0	2.0	95	4.0	95	1.0m	5.00	1.0	10	75	150M	330m		D	MT62a	F	
64		2N5346†	344m	60	∅	7.0	1.0	80	6.0	80	10u	2.00	2.0	30	120	30M	100u			TO59	A	
65		2N5347†	344m	60	∅	7.0	1.0	80	6.0	80	10u	2.00	2.0	60	240	30M	100u			TO59	A	
66		2N5348†	344m	60	∅	7.0	1.0	100	6.0	100	10u	2.00	2.0	30	120	30M	100u			TO59	A	
67		2N5349†	344m	60	∅	7.0	1.0	100	6.0	100	10u	2.00	2.0	60	240	30M	100u			TO59	A	
68		2N5478	344m	60	∅	7.0	1.0	80	6.0	80	10u	2.00	2.0	30	120	30M	100u			TO59	A	
69		2N5478	344m	60	∅	7.0	1.0	80	6.0	80	10u	2.00	2.0	60	240	30M	100u			TO59	A	
70		2N5478	344m	60	∅	7.0	1.0	100	6.0	100	10u	2.00	2.0	30	120	30M	100u			TO59	A	
71		2N5480	344m	60	∅	7.0	1.0	100	6.0	100	10u	2.00	2.0	60	240	30M	100u			TO59	A	
72		2SD217	357m	60	∅	7.0	2.0	120	7.0	80	2.0m	5.00	4.0	25	60				EM	TO3	C	
73		2SD218	357m	60	∅	7.0	2.0	150	7.0	100	2.0m	5.00	4.0	30								

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C						MAX. hFE				MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		C O D E
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcbj @25°C (A)	BIAS			MAX. fae (Hz)			MAX. STRUCTURE	DWG. No.	
												Vcbj (V)	Ic (A)	MIN						
1	2N5714	400m	70	∅	\$S	8.0		80	4.0	40	1.0m	100	10m	10			MD36	FZ	A	
2	2N5939s	400m	2.0	∅	\$J	10	4.0	80	5.0	80	500u	4.0	5.0	40	200 #	120MΔ	TO111	A	A	
3	2N5940s	400m	2.0	∅	\$J	10	4.0	70	5.0	70	500u	4.0	5.0	40	200 #	120MΔ	TO111	A	A	
4	2SC41	400m	50	∅	\$J	5.0	1.5	150	6.0	60	60m	100	1.0	12	92	20M	ME	TO3		
5	2SC42	400m	50	∅	\$J	5.0	1.5	150	6.0	60	60m	100	1.0	4.0	185	20M	ME	TO3		
6	2SC42A	400m	50	∅	\$J	5.0	1.5	200	6.0	75	30u	100	1.0	12	128	20M	ME	TO3		
7	2SC43	400m	50	∅	\$J	5.0	1.5	150	6.0	60	60m	100	1.0	4.0	185	20M	ME	TO3		
8	2SC44	400m	50	∅	\$J	5.0	1.5	150	6.0	60	60m	100	1.0	4.0	185	20M	ME	TO3		
9	2SC270	400m	50	∅	\$J	5.0	1.5	270	6.0	75	1.0m	3.0	2.0	24	92	20M	ME	TO3		
10	2SC493	400m	50	∅	\$J	5.0	5.0	80	5.0	80	10m	5.0	1.0	20	200 *	10M	DM	TO3	C∅	
11	2SC494	400m	50	∅	\$J	5.0	5.0	50	5.0	50	10m	5.0	1.0	20	200 *	10M	DM	TO3	C∅	
12	2SC519A1	400m	50	∅	\$J	7.0	7.0	130	5.0	110	1.0m	5.0	1.0	20	200 *	20M	DM	TO3	C∅	
13	2SC520A1	400m	50	∅	\$J	7.0	7.0	100	5.0	80	1.0m	5.0	1.0	30	20M	DM	TO3	C∅		
14	2SC521A1	400m	50	∅	\$J	7.0	7.0	70	5.0	50	1.0m	5.0	1.0	30	20M	DM	TO3	C∅		
15	2SC558	400m	50	∅	\$J	5.0	5.0	250	5.0	250	1.0m	5.0	5.0	20	40	20M	DM	TO3	C∅	
16	2SC642	400m	50	∅	\$J	1.0		1.1k	5.0		10u	150	150m	30	160	500M	ME	TO3	C∅	
17	2SC643	400m	50	∅	\$J	2.5		1.1k	5.0		150	150	7.0			200k	ME	TO3	C∅	
18	2SC939t	400m	50	∅	\$J	5.0		150	7.0		2.0m	5.0	5.0	15	120		ME	TO3	C∅	
19	2SC940t	400m	50	∅	\$J	5.0		200	7.0	60	2.0m	5.0	5.0	15	120		ME	TO3	C∅	
20	2SC1004	400m	50	∅	\$J	500m		1.1k		700	2.0m	150	150m	30	160	2.0M	ME	TO3	C∅	
21	2SC1021	400m	80	∅	\$J	6.0		60	5.0	40	2.0m	100	100m	5.0	#	400M	PE	MT79	V	
22	2SC1022	400m	80	∅	\$J	6.0		60	5.0	40	2.0m	100	100m	5.0	#	400M	PE	MT79	V	
23	2SC1100	400m	50	∅	\$J	3.0		1.1k	7.0	400	1.0m	150	3.0	10			ME	TO3	C∅	
24	2SC1101	400m	50	∅	\$J	3.0		1.1k	5.0	500	1.0m	150	500m	30	120		ME	TO3	C∅	
25	2SD45	400m	50	∅	\$J	5.0	1.5	150	6.0	100	15m	100	1.0	12	128	20M	ME	TO3		
26	2SD46	400m	50	∅	\$J	5.0	1.5	150	6.0	75	15m	100	1.0	12	184	20M	ME	TO3		
27	2SD47	400m	50	∅	\$J	5.0	1.5	100	6.0	50	15m	100	1.0	12	184	20M	ME	TO3		
28	2SD59	400m	50	∅	\$J	6.0		100	5.0	60	30u	4.0	1.0	35	180	3.0M	D	TO3	C∅	
29	2SD60	400m	50	∅	\$J	6.0		150	10	75	30u	4.0	1.0	35	180	3.0M	D	TO3	C∅	
30	2SD73	400m	80	∅	\$J	7.5	1.5	100	5.0	60	5.0m	100	1.0	25	80	#	EM	TO3		
31	2SD74	400m	80	∅	\$J	7.5	1.5	150	5.0	90	5.0m	100	1.0	25	80	#	EM	TO3		
32	2SD80t	400m	50	∅	\$J	6.0	3.0	30	10	20	200u	4.0	1.0	40	60	1.5M	D	TO3	C∅	
33	2SD81t	400m	50	∅	\$J	6.0	3.0	60	10	40	50u	4.0	1.0	40	60	1.5M	D	TO3	C∅	
34	2SD82t	400m	50	∅	\$J	6.0	3.0	100	10	60	30u	4.0	1.0	40	60	1.5M	D	TO3	C∅	
35	2SD83t	400m	50	∅	\$J	6.0	3.0	150	10	75	30u	4.0	1.0	40	60	1.5M	D	TO3	C∅	
36	2SD84t	400m	50	∅	\$J	6.0	3.0	200	10	85	30u	4.0	1.0	40	60	1.5M	D	TO3	C∅	
37	2SD124AH	400m	60	∅	\$J	7.0	3.0	75	10	50	25u	4.0	1.5	20	80	12k	D	TO3	C∅	
38	2SD125AH	400m	60	∅	\$J	7.0	3.0	100	10	75	25u	4.0	1.5	20	80	12k	D	TO3	C∅	
39	2SD126H	400m	60	∅	\$J	7.0	3.0	150	5.0	100	25u	4.0	1.5	20	80	12k	D	TO3	C∅	
40	2SD180	400m	50	∅	\$J	5.0	2.0	80	7.0	60	2.0m	2.0	3.0	30		20kΔ	EM	TO3		
41	2SD200	400m	10	∅	\$J	2.5	2.5	1.5k	5.0	1.5k	1.0m	5.0	3.0	2.5						
42	2SD201	400m	50	∅	\$S	6.0	3.0	90	7.0	80	50u	4.0	3.0	20	40	8.0M				
43	2SD202	400m	50	∅	\$S	6.0	3.0	110	7.0	80	30u	4.0	3.0	20	40	8.0M				
44	2SD203	400m	50	∅	\$S	6.0	3.0	130	7.0	100	30u	4.0	3.0	20	40	8.0M				
45	184T2C	400m	85	∅	\$J	6.0	3.0	200	10	200	1.0m	4.0	2.0	75	180	10M				
46	40340	400m	70	∅	\$J	3.3		60	4.0	25	10m						PE	TO60	AZ	
47	40341	400m	70	∅	\$J	3.3		70	4.0	35	10m						PE	TO60	AZ	
48	40624	400m	1.8	∅	\$A	6.0	3.0	5.0	45	55	500u*	4.0	2.5	20	100		H	X75a	T	
49	40627	400m	1.8	∅	\$A	6.0	3.0	5.0	55	70	500u*	4.0	2.5	20	100		H	X75a	T	
50	40632	400m	1.8	∅	\$A	6.0	3.0	5.0	50	50	500u*	4.0	2.5	20	70		H	X75a	T	
51	A705	400m	10	∅	\$J	2.5	2.5	#	750	5.0	750	1.0m			7.5M	600m	500n#	Δ	TO3	C∅
52	B146000	400m	25	∅	\$J	10	2.0	50	5.0	40	1.0m	100	3.0	45	90		Δ	TO61	A∅	
53	B146001	400m	25	∅	\$J	10	2.0	50	5.0	40	1.0m	100	3.0	70	140		Δ	TO61	A∅	
54	B146002	400m	25	∅	\$J	10	2.0	50	5.0	40	1.0m	100	3.0	120	240		Δ	TO61	A∅	
55	B146003	400m	25	∅	\$J	10	2.0	70	5.0	60	1.0m	100	3.0	45	90		Δ	TO61	A∅	
56	B146004	400m	25	∅	\$J	10	2.0	70	5.0	60	1.0m	100	3.0	70	140		Δ	TO61	A∅	
57	B146005	400m	25	∅	\$J	10	2.0	70	5.0	60	1.0m	100	3.0	120	240		Δ	TO61	A∅	
58	B146006	400m	25	∅	\$J	10	2.0	90	5.0	80	1.0m	100	3.0	45	90		Δ	TO61	A∅	
59	B146007	400m	25	∅	\$J	10	2.0	90	5.0	80	1.0m	100	3.0	70	140		Δ	TO61	A∅	
60	B146008	400m	25	∅	\$J	10	2.0	90	5.0	80	1.0m	100	3.0	120	240		Δ	TO61	A∅	
61	B146009	400m	25	∅	\$J	10	2.0	50	5.0	40	1.0m	100	3.0				Δ	TO61	A∅	
62	B146010	400m	25	∅	\$J	10	2.0	50	5.0	40	1.0m	100	3.0				Δ	TO61	A∅	
63	B146011	400m	25	∅	\$J	10	2.0	70	5.0	60	1.0m	100	3.0				Δ	TO61	A∅	
64	B146012	400m	25	∅	\$J	10	2.0	70	5.0	60	1.0m	100	3.0				Δ	TO61	A∅	
65	B146013	400m	25	∅	\$J	10	2.0	90	5.0	80	1.0m	100	3.0				Δ	TO61	A∅	
66	B146014	400m	25	∅	\$J	10	2.0	90	5.0	80	1.0m	100	3.0				Δ	TO61	A∅	
67	BU105	400m	8.0	∅	\$J	2.5	2.5	#	1.5k	5.0	1.5k	50u			2.5		1.5u#	Δ	TO3	C∅
68	DT4303	400m	30	∅	\$J	5.0	2.0	200	5.0	200	10m	5.0	5.0	10	50	.60	D	TO3		
69	DT4304	400m	30	∅	\$J	5.0	2.0	300	5.0	300	10m	5.0	5.0	10	50	.60	D	TO3		
70	DT4305	400m	30	∅	\$J	5.0	2.0	400	5.0	400	10m	5.0	5.0	10	50	.60	D	TO3		
71	DT4306	400m	30	∅	\$J	5.0	2.0	500	5.0	500	10m	5.0	5.0	10	50	.60	D	TO3		
72	PT1949t	400m	50	∅	\$J	10	1.0	140	5.0	100	10m	2.0	1.0	10	30		PL	X15		
73	PT1963	400m	50	∅	\$J	10	1.0	140	5.0	100	10m	2.0	1.0	10	30	50M	PL	MT10		
74	PT5950	400m	70	∅	\$J	20	10	120	7.0	90	5.0m	3.0	5.0	40	120	20M	PL	X15		
75	SDM2301	400m	70	∅	\$J	10	500m	60	10	40	1.0u	5.0	5.0	2.0k		30M	PL	X21		
76	SDM2302	400m	70	∅	\$J	10	500m	80	10	60	1.0u	5.0	5.0	2.0k		30M	PL	X21		
77	SDM2303	400m	70	∅	\$J	10	500m	100	10	80	1.0u	5.0	5.0	2.0k		30M	PL	X21		
78	SDD1150	400m	70	∅	\$J	1.0	250	8.0	200	5.0m	5.0	1.0	15		2.0M	PL	TO3			
79	SDD1151																			

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J TO C (W/C)	MAX FREE AIR @ 25°C (W)	M T A E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		BIAS ic	MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O A D E			
					ic (A)	ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	icbo @ MAX Vcb @25°C (A)	Vcb (V)									ic (A)		
1	2N1490	424m	75	SC	6.0	3.0	100	10	55	25	4.0	1.5	25	75	1.0M	1.0	1.0u	MEΔ	MD6	TO3	CØ	
2	JAN2N1490	424m	75	SC	6.0	3.0	100	10	55	25	4.0	1.5	25	75	500kΔ	1.0	1.0u	MEΔ	TO3	TO3	CØ	
3	2N2305	424m	75	SA	6.0	3.0	60	10	40	200	4.0	800m	15	60	2.0							CØ
4	40369	424m	75	SC	6.0	3.0	100	10	55	10	4.0	1.5	25	75	800m			Δ	TO3	TO3	CØ	
5#	ZT1702	424m	75	SC	5.0	2.5	60	6.0	40	200	4.0	800m	15	60	1.0M	4.0	1.2uØ	Δ	TO3	TO3	CØ	
6	2N1702	425m	75	SJ	5.0	2.5	60	6.0	40	200	4.0	800m	15	60	110MΔ	4.0		Δ	MD6	TO3	CØ	
7	2N1703	425m	75	SJ	5.0	2.5	60	6.0	40	200	4.0	800m	15	60	300kΔ	4.0		Δ	TO36	TO3	CØ	
8#	2SC851	427mØ	75	SJ	8.0	3.0	50	5.0	25	500	5.0	5.0	20	250	110MΔ	200m		Δ	PE	TO3	DØ	
9	2N1511	428m	75	SJ	6.0	3.0	60	10	40	500	4.0	1.5	15	45	300k	1.2				TO36	CØ	
10	2N1512	428m	75	SJ	6.0	3.0	100	10	55	500	4.0	1.5	15	45	300k	1.2				TO36	CØ	
11	2N1513	428m	75	SJ	6.0	3.0	60	10	40	500	4.0	1.5	15	45	300k	1.0				TO36	CØ	
12	2N1514	428m	75	SJ	6.0	3.0	100	10	55	500	4.0	1.5	15	45	300k	1.0				TO36	CØ	
13#	ZT1487T	429m	75	VC	6.0	#	3.0	60	10	40	25	4.0	1.5	15	45	1.0M	2.0	1.2uØ	D	TO3	CØ	
14#	ZT1488T	429m	75	VC	6.0	#	3.0	100	10	55	25	4.0	1.5	15	45	1.0M	2.0	1.2uØ	D	TO3	CØ	
15#	ZT1489T	429m	75	VC	6.0	#	3.0	60	10	40	25	4.0	1.5	15	45	1.0M	670m	1.2uØ	D	TO3	CØ	
16#	ZT1490T	429m	75	VC	6.0	#	3.0	100	10	55	25	4.0	1.5	15	45	1.0M	670m	1.2uØ	D	TO3	CØ	
17	2N5635	430m	75	SS	1.0		60	4.0	35	100	5.0	100m	5.0		500MΔ					MT71b	R	
18	STC1080	434m	75	SJ	3.0		10	10	40	10m	15	1.0	12	36	750m			Δ		TO3	CØ	
19	STC1081	434m	75	SJ	3.0		10	10	60	10m	15	1.0	12	36	750m			Δ		TO3	CØ	
20	STC1082	434m	75	SJ	3.0		10	10	80	10m	15	1.0	12	36	750m			Δ		TO3	CØ	
21	STC1083	434m	75	SJ	5.0		10	10	40	10m	15	2.0	10	30	500m			Δ		TO3	CØ	
22	STC1084	434m	75	SJ	5.0		10	10	60	10m	15	2.0	10	30	500m			Δ		TO3	CØ	
23	STC1085	434m	75	SJ	5.0		10	10	80	10m	15	2.0	10	30	500m			Δ		TO3	CØ	
24	2N2101	450m	75	SJ	3.0	3.0 Ø	60	10	40	30	15	1.0	15	60	5.0			Δ		MT10	AØ	
25	STC1550	450m	85	SJ	3.0		10	10	40	10m	15	1.0	12	36	750m			Δ		MT10	AØ	
26	STC1551	450m	85	SJ	3.0		10	10	60	10m	15	1.0	12	36	750m			Δ		MT10	AØ	
27	STC1552	450m	85	SJ	3.0		10	10	80	10m	15	1.0	12	36	750m			Δ		MT10	AØ	
28	STC1553	450m	85	SJ	5.0		10	10	40	10m	15	2.0	10	30	500m			Δ		MT10	AØ	
29	STC1554	450m	85	SJ	5.0		10	10	60	10m	15	2.0	10	30	500m			Δ		MT10	AØ	
30	STC1555	450m	85	SJ	5.0		10	10	80	10m	15	2.0	10	30	500m			Δ		MT10	AØ	
31	STC1500	455m	85	SJ	2.5		60	6.0	40	10m	4.0	80	15	60	2.5M	4.0	.90u			MT10	AØ	
32	2N5706	460m	80	SS	7.0		36	4.0	18	3.0mΔ	5.0	100m	15							X92	R	
33	2N389	476m	85	SJ	2.0		10	10	60	10m	15	1.0	12	60	5.0			Δ		TO53	AØ	
34	2N389A	476mØ	85	SJ	2.0		60	10	60	10m	15	1.0	12	60	2.0M	750m		Δ		TO53	AØ	
35	2N424A	476m	85	SJ	3.0		80	10	80	10m	15	1.0	12	60	2.0M	750m		Δ		TO53	AØ	
36	2N1260	476m	85	SJ	2.0	1.0	120	10	120	10m	15	1.0	12	60	50kΔ	10				TO53	AØ	
37#	2S012A	476m	4.0	SJ	2.0	500m		12	70	15	1.5	20	50	5.0M	5.0	1.5u	D		MS3	TO61	AØ	
38#	2S013A	476m	4.0	SJ	1.5	500m		12	60	10m	15	1.5	15	50	5.0M	10		D		MS3	TO61	AØ
39	2N1616A	480m	85	SJ	7.5	2.0	60	10	60	1.0m	4.0	2.0	15	45	1.5k	500m	1.8u	D		TO61	AØ	
40	2N1617A	480m	85	SJ	7.5	2.0	80	10	70	1.0m	4.0	2.0	15	45	1.5k	500m	1.8u	D		TO61	AØ	
41	2N1618A	480m	85	SJ	7.5	2.0	100	10	80	1.0m	4.0	2.0	15	45	1.5k	500m	1.8u	D		TO61	AØ	
42#	2SC793BL	480m	60	SJ	7.0	7.0 Ø	100	5.0	80	1.0m	5.0	1.0	85	200	9.0M	460m		DM		TO3	CØ	
43#	2SC793R	480m	60	SJ	7.0	7.0 Ø	100	5.0	80	1.0m	5.0	1.0	30	70	9.0M	460m		DM		TO3	CØ	
44#	2SC793Y	480m	60	SJ	7.0	7.0 Ø	100	5.0	80	1.0m	5.0	1.0	50	120	9.0M	460m		DM		TO3	CØ	
45#	2SD188	480m	60	SJ	7.0	#	100	7.0	70	2.0m	2.0	3.0	20	120	#	300m		EM		TO3	CØ	
46	STC1024	480m	85	SJ	5.0		80	9.0	60	10m	4.0	1.5	25	75	2.5M	1.0	900n			TO53	AØ	
47	2N424	485m	85	SJ	2.0		60	10	80	10m	15	1.0	12	60	10			ME		TO53	AØ	
48	2N1208	485m	85	SS	5.0		60	10	60	10m	12	2.0	15		2.5					TO61	AØ	
49	2N1209	485m	3.5	SS	5.0		45	5.0	45	20m	15	1.0	20	80	3.0MΔ	2.5				TO61	AØ	
50	2N1212	485m	3.5	SS	5.10		60	10	60	10m	15	1.0	12	36	3.0MΔ	5.0				TO61	AØ	
51	2N1235	485m	85	SJ	2.0	1.0	120	10	120	10m	15	1.0	12	#	60	50k				TO53	AØ	
52	2N1250	485m	85	SS	5.0		60	10	60	10m	12	2.0	15		2.5					MS2	AØ	
53	2N2032	485m	85	SS	5.0		45	5.0	45	20m	12	2.0	20		2.5					MS3	AØ	
54	2S721	485m	85	SS	2.0		60	10	60	10m	12	2.0	20	80	3.0MΔ	5.0		D		MS3	AØ	
55	2S722	485m	85	SS	2.0		100	10	100	10m	15	1.0	20	60	3.0M	5.0		D		MS3	AØ	
56	2S723	485m	85	SS	2.0		60	10	60	10m	15	1.0	40	120	3.0M	3.0		D		MS3	AØ	
57	2S724	485m	85	SS	2.0		100	10	100	10m	15	1.0	40	120	3.0M	3.0		D		MS3	AØ	
58	STC7114	485m	85	SC	7.5		80	10	60	4.0	2.0	50	150		380m					TO53	AØ	
59	STC7115	485m	85	SC	7.5		100	10	80	4.0	2.0	50	150		380m					TO53	AØ	
60	STC7116	485m	85	SC	7.5		120	10	100	4.0	2.0	50	150		380m					TO53	AØ	
61	STC7117	485m	85	SC	7.5		140	10	120	4.0	2.0	50	150		380m					TO53	AØ	
62	STC7518	485m	85	SC	7.5		80	10	60	4.0	2.0	50	150		380m					TO61	AØ	
63	STC7519	485m	85	SC	7.5		100	10	80	4.0	2.0	50	150		380m					TO61	AØ	
64	STC7520	485m	85	SC	7.5		120	10	100	4.0	2.0	50	150		380m					TO61	AØ	
65	STC7521	485m	85	SC	7.5		140	10	120	4.0	2.0	50	150		380m					TO61	AØ	
66	JAN2N389	500m	85	SS			60	10	60	10m*	15	1.0	15	60	#	5.0				TO53	AØ	
67	JAN2N424	500m	85	SS			80	10	80	10m*	15	1.0	15	60	#	10				TO53	AØ	
68	2N2383	500m	85	SS	2.0		80	8.0	60	1.0m	4.0	1.5	20	60	3.0M	670m	900n	D		MS3	AØ	
69	2N2384	500m	85	SS	5.0		80	8.0	60	1.0m	4.0	1.5	20	60	3.0M	670m	900n	D		MT10	AØ	
70	JAN2N2812†	500m	4.0	SC	10	2.0	80	8.0	60	100n	5.0	5.0	40	120	#	15MΔ	350nØ			TO61	AØ	
71	JAN2N2814†	500m	4.0	SC	10	2.0	120	8.0	80	100n	5.0	5.0	40	120	#	15MΔ	350nØ			TO61	AØ	
72	2N4301	500m	50	SJ	10	4.0	100	8.0	80	10u	4.0	5.0	30	120	#	40MΔ				TO61	AØ	
73	2N4395†	500m	62	SJ	5.0	900m	60	4.0	40	100u	1.0	2.0	50	170	4.0MΔ	180m				TO3	CØ	
74	2N4396†	500m	62	SJ	5.0	900m	80	4.0	40	100u	1.0	2.0	40	170	4.0MΔ	180m				TO3	CØ	

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. Icbo @ MAX Vcbo @25°C (A)	BIAS		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L O A D E
						Ic (A)	Ib (A)	Vcbo (V)	Vbebo (V)	Vcvo (V)		Vcb (V)	Ic (A)								
1#	183T2C	500m	85	∅	\$J	6.0	3.0	300	10	180	1.0m∅	4.0∅	2.0	75	180	10M∅Δ			EM	T03	C∅
2#	184T2A	500m	85	∅	\$J	6.0	3.0	400	10	200	1.0m∅	4.0∅	2.0	15	45	10M∅Δ			EM	T03	C∅
3#	184T2B	500m	85	∅	\$J	6.0	3.0	400	10	200	1.0m∅	4.0∅	2.0	30	90	10M∅Δ			EM	T03	C∅
4#	185T2A	500m	85	∅	\$J	6.0	3.0	500	10	250	1.0m∅	4.0∅	2.0	15	45	10M∅Δ			EM	T03	C∅
5#	185T2B	500m	85	∅	\$J	6.0	3.0	500	10	250	1.0m∅	4.0∅	2.0	30	90	10M∅Δ			EM	T03	C∅
6#	185T2C	500m	85	∅	\$J	6.0	3.0	500	10	250	1.0m∅	4.0∅	2.0	75	180	10M∅Δ			EM	T03	C∅
7	1716-0402†	500m	50	∅	\$J	10 #	2.0 #	40	7.0	40	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
8	1716-0405†	500m	50	∅	\$J	10 #	2.0 #	40	7.0	40	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
9	1716-0602†	500m	50	∅	\$J	10 #	2.0 #	60	7.0	60	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
10	1716-0605†	500m	50	∅	\$J	10 #	2.0 #	60	7.0	60	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
11	1716-0802†	500m	50	∅	\$J	10 #	2.0 #	80	7.0	80	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
12	1716-0805†	500m	50	∅	\$J	10 #	2.0 #	80	7.0	80	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
13	1716-1002†	500m	50	∅	\$J	10 #	2.0 #	100	7.0	100	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
14	1716-1005†	500m	50	∅	\$J	10 #	2.0 #	100	7.0	100	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
15	1716-1202†	500m	50	∅	\$J	10 #	2.0 #	120	7.0	120	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
16	1716-1205†	500m	50	∅	\$J	10 #	2.0 #	120	7.0	120	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
17	1716-1402†	500m	50	∅	\$J	10 #	2.0 #	140	7.0	140	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
18	1716-1405†	500m	50	∅	\$J	10 #	2.0 #	140	7.0	140	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
19	1716-1602†	500m	50	∅	\$J	10 #	2.0 #	160	7.0	160	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
20	1716-1605†	500m	50	∅	\$J	10 #	2.0 #	160	7.0	160	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
21	1716-1802†	500m	50	∅	\$J	10 #	2.0 #	180	7.0	180	∅	200u#	2.0∅	2.0	20	40M∅Δ	250m	300n∅	EM	T061	A
22	1716-1805†	500m	50	∅	\$J	10 #	2.0 #	180	7.0	180	∅	200u#	2.0∅	2.0	20	40M∅Δ	120m	400n∅	EM	T061	A
23	B5000	500m	25	∅	\$J	3.0	1.0			35	1.5m∅	14∅	500m	30	250 *				PE	X53	A
24#	BDY63	500m	3.5	∅	\$J	10	4.0	100	8.0	80	100uΔ	4.0∅	5.0	30	150	40M∅			PE	T061	A
25#	BLY17A	500m	75	∅	\$J	10	2.0	100	5.0	100	∅	10m∅		10 Δ	5.0	70k∅			D	T036	C∅
26#	BLY17C	500m		∅	\$J	10	2.0	100	5.0							70M∅			PD	T036	A
27#	BUY18†	500m	62	∅	\$J	10		300	5.0	150	10u∅	5.0∅	1.0	30 #		50M∅Δ	1.0u∅		DPE	T03	C∅
28	KS6117†	500m		∅	\$J	10	2.0	100	4.5	100	500u	5.0	5.0	15		150M†	30n∅	PE	T03	C∅	
29	KS6118†	500m		∅	\$J	10	2.0	60	4.5	60	500u	5.0	5.0	15		150M†	35n∅	PE	T03	C∅	
30	KS6119†	500m		∅	\$J	10	2.0	40	4.5	40	500u	5.0	5.0	15		150M†	40n∅	PE	T03	C∅	
31	KS6123†	500m		∅	\$J	10	2.0	80	4.5	80	500u	5.0	5.0	15		150M†	20n∅	PE	T03	C∅	
32	KS6124†	500m		∅	\$J	10	2.0	40	4.5	40	500u	5.0	5.0	15		150M†	25n∅	PE	T03	C∅	
33	KSP1101	500m		∅	\$J	10	2.0	225	8.0	200	10u	5.0	5.0	20	80	50M			PE	T061	A
34	KSP1102	500m		∅	\$J	10	2.0	250	8.0	225	10u	5.0	5.0	20	60	50M			PE	T061	A
35	KSP1103	500m		∅	\$J	10	2.0	275	8.0	250	10u	5.0	5.0	20	60	50M			PE	T061	A
36	KSP1104	500m		∅	\$J	10	2.0	300	8.0	275	10u	5.0	5.0	20	60	50M			PE	T061	A
37	KSP1105	500m		∅	\$J	10	2.0	325	8.0	300	10u	5.0	5.0	20	60	50M			PE	T061	A
38	KSP1151	500m		∅	\$J	10	2.0	60	8.0	40	1.0u	5.0	5.0	20	60	60M			PE	T061	A
39	KSP1152	500m		∅	\$J	10	2.0	100	8.0	80	1.0u	5.0	5.0	20	60	60M			PE	T061	A
40	KSP1153	500m		∅	\$J	10	2.0	140	8.0	120	1.0u	5.0	5.0	20	60	60M			PE	T061	A
41	KSP1154	500m		∅	\$J	10	2.0	60	8.0	40	1.0u	5.0	5.0	40	120	60M			PE	T061	A
42	KSP1155	500m		∅	\$J	10	2.0	100	8.0	80	1.0u	5.0	5.0	40	120	60M			PE	T061	A
43	KSP1156	500m		∅	\$J	10	2.0	140	8.0	120	1.0u	5.0	5.0	40	120	60M			PE	T061	A
44	MJ480	500m	5.0	∅	\$J	4.0	1.0	40	5.0	40	1.0m	2.0∅	1.0	30	200	4.0M∅Δ	400m			T03	C∅
45	MJ481	500m	5.0	∅	\$J	4.0	1.0	60	5.0	60	1.0m	2.0∅	1.0	30	200	4.0M∅Δ	400m			T03	C∅
46	PPR1010s	500m∅	50	∅	\$	25		60		50		5.0∅	10	60						T061	A∅
47	PPR1011s	500m∅	50	∅	\$	25		60		50		5.0∅	10	60						T061	A∅
48	PPR1012s	500m∅	50	∅	\$	25		90		75		5.0∅	10	60						T061	A∅
49	PPR1013s	500m∅	50	∅	\$	25		90		75		5.0∅	10	60						T061	A
50	PT2981	500m	88	∅	\$	10	5.0	130	6.0	80	1.0m	5.0∅	10	15	90	60M	1.0	350n∅	PL	X15	A
51	PT6963	500m	80	∅	\$	20	10	120	8.0	100	5.0m	2.0∅	10	40	150	70M	100m		PE	X15	A
52	SDT3201†	500m	3.0	∅	\$J	20	5.0	40	6.0	40	10u#	5.0∅	10	30	90 #	30M∅Δ		500n	PE	T061	A
53	SDT3202†	500m	3.0	∅	\$J	20	5.0	60	6.0	60	10u#	5.0∅	10	30	90 #	30M∅Δ		500n	PE	T061	A
54	SDT3203†	500m	3.0	∅	\$J	20	5.0	80	6.0	80	10u#	5.0∅	10	30	90 #	30M∅Δ		500n	PE	T061	A
55	SDT3204†	500m	3.0	∅	\$J	20	5.0	100	6.0	100	10u#	5.0∅	10	30	90 #	30M∅Δ		500n	PE	T061	A
56	SDT3205†	500m	3.0	∅	\$J	10	4.0	40	6.0	40	10u#	5.0∅	5.0	30	90 #	30M∅Δ		300n	PE	T061	A
57	SDT3206†	500m	3.0	∅	\$J	10	4.0	60	6.0	60	10u#	5.0∅	5.0	30	90 #	30M∅Δ		300n	PE	T061	A
58	SDT3207†	500m	3.0	∅	\$J	10	4.0	80	6.0	80	10u#	5.0∅	5.0	30	90 #	30M∅Δ		300n	PE	T061	A
59	SDT3208†	500m	3.0	∅	\$J	10	4.0	100	6.0	100	10u#	5.0∅	5.0	30	90 #	30M∅Δ		300n	PE	T061	A
60	SDT3209†	500m	3.0	∅	\$J	10	4.0	120	6.0	120	10u#	5.0∅	5.0	30	90 #	30M∅Δ		300n	PE	T061	A
61	SDT7011	500m	50	∅	\$J	10	2.0	60	5.0	40	1.0u∅	5.0∅	5.0	20	60 #	15M∅Δ			PL	T061	C∅
62	SDT7012	500m	50	∅	\$J	10	2.0	80	5.0	60	1.0u∅	5.0∅	5.0	20	60 #	15M∅Δ			PL	T061	C∅
63	SDT7013	500m	50	∅	\$J	10	2.0	100	5.0	80	1.0u∅	5.0∅	5.0	20	60 #	15M∅Δ			PL	T061	C∅
64	SDT7014	500m	50	∅	\$J	10	2.0	60	5.0	40	1.0u∅	5.0∅	5.0	40	120 #	15M∅Δ			PL	T061	C∅
65	SDT7015	500m	50	∅	\$J	10	2.0	80	5.0	60	1.0u∅	5.0∅	5.0	40	120 #	15M∅Δ			PL	T061	C∅
66	SDT7016	500m	50	∅	\$J	10	2.0	100	5.0	80	1.0u∅	5.0∅	5.0	40	120 #	15M∅Δ			PL	T061	C∅
67	SDT7017	500m	50	∅	\$J	10	2.0	60	5.0	40	1.0u∅	5.0∅	5.0	100 #		15M∅Δ			PL	T061	C∅
68	SDT7018	500m	50	∅	\$J	10	2.0	80	5.0	60	1.0u∅	5.0∅	5.0	100 #		15M∅Δ			PL	T061	C∅
69	SDT7019	500m	50	∅	\$J	10	2.0	100	5.0	80	1.0u∅	5.0∅	5.0	100 #		15M∅Δ			PL	T061	C∅
70	SDT7140	500m	87	∅	\$J	10	2.0	1													

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	PC AIR @ 25°C (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E	
						lc (A)	lb (A)	BVcbo (V)	BVebo (V)	BVceo (V)	lcb0 @ MAX @ 25°C (A)	Vcbo (V)	Vcbo (A)								lc (A)
1	2N5840†	572m	57	100	SJ	3.0	1.5	375	6.0	375	#	3.0	2.0	10	50	5.0MΔ	250m	1.7uΔ	TO3	C0	
2	2N5873†	572m	100	100	SJ	5.0	1.5	60	10	60		4.0	2.5	20	100	4.0MΔ	250m	700nΔ	TO3	C0	
3	2N5874†	572m	100	100	SJ	5.0	1.5	80	10	80		4.0	2.5	20	100	4.0MΔ	250m	700nΔ	TO3	C0	
4	2N4347	577m	100	30	SJ	5.0	3.0	140	120	120		4.0	2.0	15	60	200mΔ	250m	1.0u#	TO3	C0	
5	BU 110	588m	100	30	SJ	8.0	2.5	100	6.0	150		1.5	6.0	8.0		15mΔ	250m	1.0u#	MD17f	C0	
6	KS6120†	600m	100	30	SJ	15	3.0	100	4.5	100		5.0	1.0	15		15MΔ	250m	20nΔ	TO3	C0	
7	KS6121†	600m	100	30	SJ	15	3.0	60	4.5	60		5.0	1.0	15		15MΔ	250m	20nΔ	TO3	C0	
8	KS6122†	600m	100	30	SJ	15	3.0	40	4.5	40		5.0	1.0	15		15MΔ	250m	20nΔ	TO3	C0	
9	KS6125†	600m	100	30	SJ	15	3.0	80	4.5	80		5.0	1.0	15		15MΔ	250m	20nΔ	TO3	C0	
10	KS6126†	600m	100	30	SJ	15	3.0	40	4.5	40		5.0	1.0	15		15MΔ	250m	25nΔ	TO3	C0	
11	2SD55A	620m	200	62	SJ	20	2.0	130	6.0	12		5.0	5.0	12	48	1.0M†	400m	500n	TO3	C0	
12	2N5804†	625m	62	62	SJ	5.0	2.0	300	6.0	300	#	4.0	5.0	10	100	15MΔ	400m	500n	TO3	C0	
13	2N5805†	625m	62	62	SJ	5.0	2.0	375	6.0	375	#	4.0	5.0	10	100	15MΔ	400m	500n	TO3	C0	
14	BU 108	625m	12	12	SJ	5.0	3.5	1.5k	5.0	5.0		4.5	3.0	3.0		3.0kΔ	450n#	450n#	TO3	C0	
15	TIP33†	625m	3.5	3.5	SJ	10	3.0	40	5.0	40		4.0	1.0	25	125	3.0kΔ	1.1	450n#	X86	B0	
16	TIP33A†	625m	3.5	3.5	SJ	10	3.0	60	5.0	60		4.0	1.0	25	125	3.0kΔ	1.1	450n#	X86	B0	
17	TIP33B	625m	3.5	3.5	SJ	10	3.0	80	5.0	80		4.0	1.0	30		3.0kΔ	1.1	450n#	X86	B0	
18	TIP33C	625m	3.5	3.5	SJ	10	3.0	100	5.0	100		4.0	1.0	30		3.0kΔ	1.1	450n#	X86	B0	
19	TIP3055	625m	3.5	3.5	SJ	15	7.0	100	7.0	70	‡	5.0	4.0	20	70	20 Δ			X86	B0	
20	2SC1106	630m	80	80	SJ	2.0	5.0	350	5.0	250		1.0	15	40	200	80MΔ	90m	350n#	TO3	C0	
21	2N5329	645m	65	65	SJ	20	5.0	150	8.0	90		2.0	10	40	120	80MΔ	90m	350n#	TO3	C0	
22	2N3055	660m	115	115	SC	15	7.0	100	7.0	70	‡	5.0	4.0	20	70	10kΔ	8.0		TO3	C0	
23	BU 115	660m	50	50	SJ	4.0	4.0	800	6.0	500		10	2.0	20					TO3	A0	
24	BU 120	660m	50	50	SJ	4.0	4.0	400	6.0	250		10	2.0	20					TO3	A0	
25	KSP1141	660m				10	2.0	225	8.0	200		5.0	5.0	20	60	50M			TO3	C0	
26	KSP1142	660m				10	2.0	250	8.0	225		5.0	5.0	20	60	50M			TO3	C0	
27	KSP1143	660m				10	2.0	275	8.0	250		5.0	5.0	20	60	50M			TO3	C0	
28	KSP1144	660m				10	2.0	300	8.0	275		5.0	5.0	20	60	50M			TO3	C0	
29	KSP1145	660m				10	2.0	325	8.0	300		5.0	5.0	20	60	50M			TO3	C0	
30	KSP1171	660m				10	2.0	60	8.0	40		1.0	5.0	20	60	60M			TO3	C0	
31	KSP1172	660m				10	2.0	100	8.0	80		1.0	5.0	20	60	60M			TO3	C0	
32	KSP1173	660m				10	2.0	140	8.0	120		1.0	5.0	20	60	60M			TO3	C0	
33	KSP1174	660m				10	2.0	60	8.0	40		1.0	5.0	20	60	60M			TO3	C0	
34	KSP1175	660m				10	2.0	100	8.0	80		1.0	5.0	20	60	60M			TO3	C0	
35	KSP1176	660m				10	2.0	140	8.0	120		1.0	5.0	20	60	60M			TO3	C0	
36	2N1722	666m	50	50	SJ	7.5	5.0	175	10	80		10	15	20	90	10MΔ	500m		TO53	A0	
37	JAN2N1722	666m	3.0	3.0	SA	5.0	1.0	175	10	80		5.0	15	30	90	10MΔ	500m		TO53	A0	
38	2N1722A	666m	50	50	SJ	7.5	5.0	180	10	120		10	15	20	150	10MΔ	500m		TO53	A0	
39	2N1723	666m	50	50	SJ	7.5	5.0	120	10	80		10	15	20	150	10MΔ	500m		TO53	A0	
40	2N1724	666m	50	50	SJ	7.5	5.0	175	10	80		10	15	20	90	10MΔ	500m		TO53	A0	
41	JAN2N1724	666m	3.0	3.0	SA	5.0	1.0	175	10	80		5.0	15	30	90	10MΔ	500m		TO53	A0	
42	2N1724A	666m	3.0	3.0	SJ	5.0	1.0	180	10	120		10	15	20	90	10MΔ	500m		TO53	A0	
43	2N1725	666m	3.0	3.0	SJ	5.0	5.0	120	10	80		10	15	20	150	10MΔ	500m		TO53	A0	
44	JAN2N3055†	666m	6.0	6.0	SJ	15	7.0	100	7.0	70		1.0	4.0	20	60	800 Δ	6.0uΔ		TO3	C0	
45	2N3232	666m	117	117	SC	7.5	3.0	80	6.0	60		1.0	10	18	55	1.0MΔ			MD21	C0	
46	2N3233	666m	117	117	SC	7.5	3.0	110	6.0	100		1.0	10	18	55	1.0MΔ			MD21	C0	
47	2N3234	666m	117	117	SC	7.5	3.0	160	6.0	160		1.0	10	18	55	1.0MΔ			MD21	C0	
48	2N3235	666m	117	117	SC	15	7.0	85	7.0	55		5.0	4.0	20	70	1.0MΔ			MD21	C0	
49	2N3263†	666m	84	84	SJ	25	10	150	7.0	90		2.0	15	20	55	20MΔ	500n		X21	D0	
50	2N3264†	666m	84	84	SJ	25	10	120	7.0	60		2.0	15	25	80	20MΔ	500n		X21	D0	
51	JAN2N3442	666m	4.0	4.0	SJ	10	7.0	160	7.0	140		1.0	4.0	20	70	20MΔ	500n		TO3	C0	
52	2N3445†	666m	115	115	SC	7.5	4.0	80	6.0	60		10	5.0	30	20	60	10MΔ	500m	350n#	EA	TO3
53	2N3446†	666m	115	115	SJ	7.5	4.0	100	10	80		10	5.0	30	20	60	10MΔ	500m	350n#	EA	TO3
54	2N3447†	666m	115	115	SJ	7.5	4.0	80	6.0	60		10	5.0	40	120	10MΔ	500m	350n#	EA	TO3	
55	2N3448†	666m	115	115	SJ	7.5	4.0	100	10	80		10	5.0	40	120	10MΔ	500m	350n#	EA	TO3	
56	2N3487†	666m	115	115	SC	7.5	4.0	80	10	60		10	5.0	30	20	60	10MΔ	500m	350n#	EA	TO3
57	2N3488†	666m	115	115	SC	7.5	4.0	100	10	80		10	5.0	30	20	60	10MΔ	500m	350n#	EA	TO3
58	2N3489†	666m	115	115	SC	7.5	4.0	120	10	100		10	5.0	30	15	45	10MΔ	500m	350n#	EA	TO3
59	2N3490†	666m	115	115	SC	7.5	4.0	80	10	60		10	5.0	40	120	10MΔ	500m	350n#	EA	TO3	
60	2N3491†	666m	115	115	SC	7.5	4.0	100	10	80		10	5.0	40	120	10MΔ	500m	350n#	EA	TO3	
61	2N3492†	666m	115	115	SC	7.5	4.0	120	10	100		10	5.0	30	90	10MΔ	500m	350n#	EA	TO3	
62	2N3788	666m	100	100	SJ	2.0	1.0	400	5.0	325		5.0	5.0	30	180	50kΔ	2.0		TO3	C0	
63	2N3864†	666m	117	117	SC	7.5	3.0	110	7.0	90		1.0	2.0	30	90	500kΔ	330m	8.0u#	TO3	C0	
64	2N3865†	666m	117	117	SC	7.5	3.0	160	7.0	150		1.0	2.0	30	90	500kΔ	330m	8.0u#	TO3	C0	
65	2N5006	666m	100	100	SJ	10	3.0	100	6.0	80		1.0	5.0	30	90	30MΔ					

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. Vcb @ 25°C		hFE			f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L E O D A D E
					Ic	Ib	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ 25°C (A)	Ic	MIN	MAX	f _{ae}				STRUCTURE	DWG. No.	
1	40513	666m	83	8	6.0	6.0	5.0	2.5m*	4.0	20	70	#	800kΔ	400m		D	M59a	C		
2	40514	666m	83	8	6.0	6.0	5.0	2.5m*	4.0	20	70	#	800kΔ	400m		D	M59	C		
3	40542	666m	83	8	6.0	6.0	5.0	1.0m*	4.0	20	70	#	800kΔ	400m		D	M59	C		
4	40543	666m	83	8	8.0	6.0	5.0	1.0m*	4.0	20	70	#	800kΔ	330m		H	M59	C		
5	40633	666m	2.0	8	8.0	6.0	5.0	500n*	4.0	20	70	#	800kΔ	330m		H	M59	C		
6	40636	666m	115	8	15	7.0	7.0	500n*	4.0	20	70	#	800kΔ	330m		H	M59	C		
7	40675*	666m#	100	8	10	3.5	35	30m#	4.0	20	120	*	15k	400m		PE	L68	C		
8	B148000†	666m	100	8	20	4.0	7.0	10u#	5.0	20	160	#	60MΔ	100m	200n		T061	A		
9	B148001†	666m	100	8	20	4.0	7.0	10u#	5.0	20	160	#	60MΔ	100m	200n		T061	A		
10	B148002†	666m	100	8	15	4.0	7.0	10u#	5.0	20	160	#	60MΔ	100m	200n		T061	A		
11	B148003†	666m	100	8	15	4.0	7.0	10u#	5.0	20	160	#	60MΔ	100m	200n		T061	A		
12	B148004†	666m	100	8	20	4.0	7.0	10u#	5.0	20	160	#	60MΔ	100m	200n		T061	A		
13	B170000	666m	60	8	6.0	3.0	50	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
14	B170001	666m	90	8	10	5.0	50	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
15	B170002	666m	120	8	15	7.0	50	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
16	B170003	666m	60	8	6.0	3.0	80	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
17	B170004	666m	90	8	10	5.0	80	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
18	B170005	666m	120	8	15	7.0	80	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
19	B170006	666m	60	8	6.0	3.0	100	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
20	B170007	666m	90	8	10	5.0	100	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
21	B170008	666m	120	8	15	7.0	100	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
22	B170009	666m	60	8	6.0	3.0	50	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
23	B170010	666m	90	8	10	5.0	50	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
24	B170011	666m	120	8	15	7.0	50	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
25	B170012	666m	60	8	6.0	3.0	80	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
26	B170013	666m	90	8	10	5.0	80	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
27	B170014	666m	120	8	15	7.0	80	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
28	B170015	666m	60	8	6.0	3.0	100	30m†	4.0	20	120	*	15k	400m		DM	T03	C		
29	B170016	666m	90	8	10	5.0	100	30m†	4.0	20	120	*	15k	270m		DM	T03	C		
30	B170017	666m	120	8	15	7.0	100	30m†	4.0	20	120	*	15k	300m		DM	T03	C		
31	B170018†	666m	60	8	6.0	3.0	50	30m†	4.0	20	120	*	15k	400m	4.0u	DM	T03	C		
32	B170019†	666m	90	8	10	5.0	50	30m†	4.0	20	120	*	15k	270m	6.0u	DM	T03	C		
33	B170020†	666m	120	8	15	7.0	50	30m†	4.0	20	120	*	15k	300m	8.0u	DM	T03	C		
34	B170021†	666m	60	8	6.0	3.0	80	30m†	4.0	20	120	*	15k	400m	4.0u	DM	T03	C		
35	B170022†	666m	90	8	10	5.0	80	30m†	4.0	20	120	*	15k	270m	4.0u	DM	T03	C		
36	B170023†	666m	120	8	15	7.0	80	30m†	4.0	20	120	*	15k	300m	8.0u	DM	T03	C		
37	B170024†	666m	60	8	6.0	3.0	100	30m†	4.0	20	120	*	15k	400m	4.0u	DM	T03	C		
38	B170025†	666m	90	8	10	5.0	100	30m†	4.0	20	120	*	15k	270m	6.0u	DM	T03	C		
39	B170026†	666m	120	8	15	7.0	100	30m†	4.0	20	120	*	15k	300m	8.0u	DM	T03	C		
40	B176000	666m#	50	8	5.0	2.5	250	2.0u#	5.0	25	100	m	500m	25			T03	C		
41	B176001	666m#	50	8	5.0	2.5	250	2.0u#	5.0	25	100	m	500m	20			T03	C		
42	B176002	666m#	50	8	5.0	2.5	250	2.0u#	5.0	25	100	m	500m	10			T03	C		
43	B176003	666m#	50	8	5.0	2.5	250	2.0u#	5.0	25	100	m	500m	10			T03	C		
44	B176004	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	25			T03	C		
45	B176005	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	20			T03	C		
46	B176006	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	10			T03	C		
47	B176007	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	10			T03	C		
48	B176008	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	25			T03	C		
49	B176009	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	20			T03	C		
50	B176010	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	10			T03	C		
51	B176011	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	10			T03	C		
52	B176012	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	25			T03	C		
53	B176013	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	20			T03	C		
54	B176014	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	10			T03	C		
55	B176015	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	10			T03	C		
56	B176024	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	10			T03	C		
57	B176025	666m#	50	8	5.0	2.5	400	2.0u#	5.0	25	100	m	500m	10			T03	C		
58	B176026	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	10			T03	C		
59	B176027	666m#	50	8	5.0	2.5	550	2.0u#	5.0	25	100	m	500m	10			T03	C		
60	B176028	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	10			T03	C		
61	B176029	666m#	50	8	5.0	2.5	650	2.0u#	5.0	25	100	m	500m	10			T03	C		
62#	BD130	666m	117	8	15	7.0	100	7.0	4.0	20	70	#	1.3MΔ			PL	T03	C		
63#	BD141	666m	117	8	10	7.0	160	7.0	4.0	20	70	#	1.3MΔ			PL	T03	C		
64#	BD142	666m	117	8	15	7.0	50	5.0	4.0	12	160	#	1.0MΔ			PL	T03	C		
65#	BDY17	666m	115	8	10	2.0	80	7.0	4.0	10	10	#	1.0MΔ			D	T03	C		
66#	BDY18	666m	115	8	10	2.0	120	7.0	4.0	10	10	#	1.0MΔ			D	T03	C		
67#	BDY19	666m	115	8	10	2.0	150	7.0	4.0	10	10	#	1.0MΔ			D	T03	C		
68#	BDY38	666m	115	8	6.0	2.0	50	7.0	4.0	20	30	#	1.0MΔ			D	T03	C		
69#	BDY39	666m	75	8	10	7.0	50	7.0	4.0	20	70	#	1.1MΔ	200m		D	T03	C		
70#	BLV17	666m	100	8	10	2.0	100	4.0	100	5	25	∅	70MΔ			DPL	T036	C		
71	DT5701	666m	50	8	1.0	250m	800	5.0	150m	∅	20	20	1.5MΔ			PL	T03	C		
72	DT5702	666m	50	8	3.0	1.0	5.0	1.0k	500uΔ	5.0	2.0	2.5	1.5MΔ			PL	T03	C		
73	DT5704	666m	50	8	3.0	1.0	5.0	1.0k	500uΔ	5.0	2.0	2.5	1.5MΔ	1.0u#		PL	T03	C		
74	DT5721	666m	50	8	3.0	1.0	5.0	1.0k	500uΔ	5.0	2.0	2.5	1.5MΔ	1.0u#		PL	T03	C		
75	DT5723	666m	50	8	3.0	1.0	5.0	1.0k	500uΔ	5.0	2.0	2.5	1.5MΔ			PL	T03	C		
76	MJ3010	666m	100	8	10	2.0	50	200	500m	5.0	20	180	#	670m		PL	T03	C		
77	MJ3011	666m	100	8	10	2.0	325	50	500m	5.0	20	180	#	670m		PL	T03	C		
78	PP3000	666m	115	8	15	7.0	60	50	4.0	12	12	#	40MΔ			DM	T03	C		
79	PP3001	666m	115	8	15	7.0	100	80	4.0	12	12	#	30M			DM	T03	C		
80	PP3002	666m	115	8	15	7.0	120	100	4.0	12	12	#	60MΔ			DM	T03	C		
81	PP3003	666m	115	8	15	7.0	60	50	4.0	12	12	#	60MΔ			DM	T03	C		
82	PP3004	666m	115	8	15	7.0	100	80	4.0	12	12	#	60MΔ			DM	T03	C		

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1] MIN. DERATE TO C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc	Tj	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE			MAX. SAT. RES. (Ω)	tr (s)	STRUCTURE		L C O D E				
						Ic	Ib	BVcbo	BVbeo	BVceo	Icbo @ MAX Vcb @25°C (A)	BIAS				MAX	fae (Hz)		MIN	MAX	D	DWG. No.
												Vcb	Ic									
1	SDT8110	666m	115			20	4.0	80	8.0	60	10u	5.0	10	100		PL	X21					
2	SDT8111	666m	115			20	4.0	100	8.0	80	10u	5.0	10	100		PL	X21					
3	SDT8112	666m	115			20	4.0	80	8.0	60	10u	5.0	10	20	60	PL	X21					
4	SDT8113	666m	115			20	4.0	100	8.0	80	10u	5.0	10	20	60	PL	X21					
5	SDT8114	666m	115			20	4.0	40	5.0	25	10u	5.0	10	40		PL	X21					
6	SDT8115	666m	115			20	4.0	80	8.0	60	10u	5.0	10	40	120	PL	X21					
7	SDT8116	666m	115			20	4.0	100	8.0	80	10u	5.0	10	40	120	PL	X21					
8	SDT8131	666m	115			20	4.0	80	8.0	60	10u	5.0	10	40	120	PL	X21					
9	SDT8132	666m	115			20	4.0	100	8.0	80	10u	5.0	10	40	120	PL	X21					
10	SDT8133	666m	115			20	4.0	80	8.0	60	10u	5.0	10	100		PL	X21					
11	SDT8134	666m	115			20	4.0	100	8.0	80	10u	5.0	10	100		PL	X21					
12	SDT9201	666m	115			10	7.0	55	7.0	45	5.0m#	4.0	4.0	20	70	200k	250m	CØ				
13	SDT9202	666m	115			10	7.0	100	7.0	80	5.0m#	4.0	4.0	20	70	200k	250m	CØ				
14	SDT9203	666m	115			10	7.0	120	7.0	100	5.0m#	4.0	4.0	20	70	200k	250m	CØ				
15	SDT9204	666m	115			10	7.0	140	7.0	120	5.0m#	4.0	4.0	20	70	200k	250m	CØ				
16	SDT9205	666m	115			15	7.0	55	12	45	5.0m#	4.0	4.0	15	70		250m	CØ				
17	SDT9206	666m	115			15	7.0	80	12	60	5.0m#	4.0	4.0	15	70		250m	CØ				
18	SDT9207	666m	115			15	7.0	100	12	80	5.0m#	4.0	4.0	15	70		250m	CØ				
19	SDT9208	666m	115			15	7.0	120	12	100	5.0m#	4.0	4.0	15	70		250m	CØ				
20	SDT9209	666m	115			15	7.0	140	12	120	5.0m#	4.0	4.0	15	70		250m	CØ				
21	SDT9210	666m	115			15	7.0	40	5.0	30	5.0m#	2.0	2.0	15			500m	CØ				
22	SPT3713	666m	115			15	7.0	40	5.0	30	5.0m#	2.0	2.0	15			550m	CØ				
23	ST18011	666m	50			10		375	10	375		10	5.0	20		10M	300m	PE				
24	ST18012	666m	50			10		300	10	300		10	5.0	20		10M	300m	PE				
25	ST18013	666m	50			10		250	10	250		10	5.0	20		10M	300m	PE				
26	ST18014	666m	50			10		200	10	200		10	5.0	20		10M	300m	PE				
27	STC4242	666m	117			7.5	3.0	6.0	4.0	4.0	5.0m#	1.0	3.0	18	55 #		MD21	D				
28	STS1121	666m	117			10	5.0	200	7.0	200	2.0m#	4.0	3.0	20	70	20kΔ	330m	DM				
29	STS1122	666m	115			15	5.0	200	7.0	200	2.0m#	4.0	4.0	20	70	20kΔ	280m	DM				
30	STS1131	666m	115			7.5	2.0	225	7.0	200	1.0m#	10	3.0	18	60	4.0MΔ	500m	DM				
31	STS1132	666m	115			7.5	2.0	275	7.0	250	1.0m#	10	3.0	18	60	4.0MΔ	500m	DM				
32	STS1133	666m	115			7.5	2.0	350	7.0	300	1.0m#	10	3.0	18	60	4.0MΔ	500m	DM				
33	STS1134	666m	115			7.5	2.0	400	7.0	330	1.0m#	10	3.0	18	60	4.0MΔ	500m	DM				
34	T11121	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
35	T11122	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
36	T11123	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
37	T11124	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
38	T11125	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
39	T11126	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
40	T11131	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
41	T11132	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
42	T11133	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
43	T11134	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
44	T11135	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	2.0	30	120 #	7.5MΔ	500m	ME				
45	T11136	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	2.0	15	60 #	7.5MΔ	500m	ME				
46	T11141	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
47	T11142	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
48	T11143	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
49	T11144	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
50	T11145	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
51	T11146	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
52	T11151	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
53	T11152	666m#	80			7.5	5.0	200	8.0	100	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
54	T11153	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
55	T11154	666m#	80			7.5	5.0	150	8.0	75	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
56	T11155	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	5.0	20	80 #	7.5MΔ	500m	ME				
57	T11156	666m#	80			7.5	5.0	100	8.0	50	10m	4.0	5.0	10	40 #	7.5MΔ	500m	ME				
58	TK9201	666m	115			10	7.0	55	7.0	45	5.0m#	4.0	4.0	18		2.0MΔ	275m	TC				
59	TK30551	666m	115			15	7.0	55	7.0	45	2.0mΔ	4.0	4.0	20	70	2.0MΔ	275m	TC				
60	TK30552	666m	115			15	7.0	100	7.0	80	700uΔ	4.0	4.0	20	70	2.0MΔ	275m	TC				
61	TK30553	666m	115			15	7.0	120	7.0	100	700uΔ	4.0	4.0	20	70	2.0MΔ	275m	TC				
62	TK30554	666m	115			15	7.0	140	7.0	120	700uΔ	4.0	4.0	20	70	2.0MΔ	275m	TC				
63	TK30555	666m	115			15	7.0	55	7.0	45	2.0mΔ	4.0	4.0	15	70	2.0MΔ	275m	TC				
64	TK30556	666m	115			15	7.0	80	7.0	60	700uΔ	4.0	4.0	15	70	2.0MΔ	275m	TC				
65	TK30557	666m	115			15	7.0	100	7.0	80	700uΔ	4.0	4.0	15	70	2.0MΔ	275m	TC				
66	TK30558	666m	115			15	7.0	120	7.0	100	700uΔ	4.0	4.0	15	70	2.0MΔ	275m	TC				
67	TK30559	666m	115			15	7.0	140	7.0	120	700uΔ	4.0	4.0	15	70	2.0MΔ	275m	TC				
68	TK30560	666m	115			15	7.0	40	5.0	30	5.0mΔ	2.0	2.0	15		2.0MΔ	275m	TC				
69#	ZT3442	666m	117			10	7.0	160	7.0	140	30m#	4.0	3.0	20	70	80kΔ	500m	TC				
70	2N3863†	667m	100			7.5	3.0	70	7.0	50	1.0m#	2.0	3.0	30	60	500kΔ	33	8.0uΩ	Δ			
71	2N5622	667m#	100			10	3.0	80	6.0	60	1.0m#	5.0	5.0	70	200 #	40MΔ			TC			
72	2N5624	667m#	100			10	3.0	100	6.0	80	1.0m#	5.0	5.0	30	90 #	30MΔ			TC			
73	2N5626	667m#	100			10	3.0	100	6.0	80	1.0m#	5.0	5.0	70	200 #	40MΔ			TC			
74	2N5628	667m#	100			10	3.0	120	6.0	100	1.0m#	5.0	5.0	30	90 #	30MΔ			TC			
75	2N3667	670m	117			7.5	7.0	50	5.0	50	5.0m#	3.0	8.0	15	60 #	500kΔ			TC			
76*	1756-0440†	670m	240			7.5	15	40	7.0	40	5.0m#	3.0	6.0	15	#	20MΔ	500nΩ	EM	T063			
77*	1756-0460†	670m	240			7.5	15	40	7.0	40	5.0m#	3.0	6.0	15	#	20MΔ	600nΩ	EM	T063			
78*	1756-0640†	670m	240			7.5	15	60	7.0	60	5.0m#	3.0	6.0	15	#	20MΔ	500nΩ	EM	T063			
79*	1756-0660†	670m	240			7.5	15	60	7.0	60	5.0m#	3.0	6.0	15	#	20MΔ	600nΩ	EM	T063			
80*	1756-0840†	670m	240			7.5	15	80	7.0	80	5.0m#	3.0	6.0	15	#	20MΔ	500nΩ	EM	T063			
81*	175																					

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	2	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	M T A E X P	ABSOLUTE MAX. RATINGS @25°C						hFE				f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O A D E
						I _c (A)	I _b (A)	V _{cb0} (V)	V _{be0} (V)	V _{ce0} (V)	MAX. I _c @ 25°C (A)	V _{cb} (V)	V _{bc} (V)	MIN	MAX					
1		STT2650	751m\$	75 ∅	\$J	7.5	1.0	150	12	150	1.0u\$	15	2.0	30	90 #	25M\$		DPLA	TO61	A
2		STT2651	751m\$	75 ∅	\$J	7.5	1.0	140	12	120	1.0u\$	15	2.0	30	90 #	25M\$		DPLA	TO61	A
3		STT2652	751m\$	75 ∅	\$J	7.5	1.0	140	12	120	1.0u\$	15	2.0	50	150 #	25M\$		DPLA	TO61	A
4		STT2653	751m\$	75 ∅	\$J	7.5	1.0	120	12	100	1.0u\$	15	2.0	30	90 #	25M\$Δ		DPLA	TO61	A
5		STT2654	751m\$	75 ∅	\$J	7.5	1.0	100	12	80	1.0u\$	15	2.0	30	90 #	25M\$Δ		DPLA	TO61	A
6		STT2655	751m\$	75 ∅	\$J	7.5	1.0	100	12	80	1.0u\$	15	2.0	30	90 #	25M\$Δ		DPLA	TO61	A
7		STT2656	751m\$	75 ∅	\$J	7.5	1.0	40	10	30	500u\$	15	2.0	25 #		25M\$Δ		DPLA	TO61	A
8		2N4130	800m	120 ∅	\$J	10	2.0	80	4.0	65	20u	5.0	2.0	10	60 #	1.2M\$Δ	125m	500n	TO3	DΔ
9		2N50381	800m	140 ∅	\$J	20	5.0	150	7.0	90	50m#	5.0	2.0	20	100	60M\$Δ	125m	500n	TO3	C∅
10		2N50391	800m	140 ∅	\$J	20	5.0	120	7.0	90	50m#	5.0	2.0	20	100	60M\$Δ	125m	500n	TO3	C∅
11		2N53301	800m\$	80 ∅	\$J	30	5.0	150	8.0	100	250u#	2.0	2.0	40	120	80M\$Δ	60m	350n∅	TO3	TO61
12		2N5466	800m\$	80 ∅	\$J	3.0	1.0	500	8.0	400	250u#	2.0	3.0	15	60 #	2.5M\$			TO3	A
13		2N5467	800m\$	80 ∅	\$J	3.0	1.0	700	8.0	400	250u#	2.0	3.0	15	60 #	2.5M\$			TO3	A
14		2N56711	800m	140 ∅	\$J	30	10	120	7	90	10mΔ	2.0	15	20	100	50M\$Δ	50m	500n∅	TO3	E
15		2N56721	800m	140 ∅	\$J	30	10	150	7	120	10mΔ	2.0	15	20	100	50M\$Δ	50m	500n∅	TO3	E
16		2N5709	800m	140 ∅	\$J	12	3.0	70	4.0	50	10m\$†	2.0	200m	5.0	30	50M\$Δ			X82	
17		2SC4071	800m	100 ∅	\$J	10	3.0	150	4.0	100	50m	5.0	5.0	10	400	400k	300m	1.0u	TO3	
18		2SD118BL	800m	100 ∅	\$J	7.0	3.0	130	10	110	50u∅	5.0	1.0	80	200	2.0M\$			TO3	D
19		2SD118R	800m	100 ∅	\$J	7.0	3.0	130	10	110	50u∅	5.0	1.0	30	70	2.0M\$			TO3	D
20		2SD118Y	800m	100 ∅	\$J	7.0	3.0	130	10	110	50u∅	5.0	1.0	50	120	2.0M\$			TO3	D
21		2SD119BL	800m	100 ∅	\$J	7.0	3.0	100	10	80	50u∅	5.0	1.0	80	200	2.0M\$			TO3	D
22		2SD119R	800m	100 ∅	\$J	7.0	3.0	100	10	80	50u∅	5.0	1.0	30	70	2.0M\$			TO3	D
23		2SD119Y	800m	100 ∅	\$J	7.0	3.0	100	10	80	50u∅	5.0	1.0	50	120	2.0M\$			TO3	D
24		KS61291	800m	140 ∅	\$J	24	6.0	80	4.5	80	2.0m	5.0	2.0	15		120M†	20nΔ	25nΔ	TO3	PE
25		KS61301	800m	140 ∅	\$J	24	6.0	40	4.5	40	2.0m	5.0	2.0	15		120M†	20nΔ	25nΔ	TO3	PE
26		MJ1800	800m	100 ∅	\$J	5.0	1.0	150	5.0	250	200u*	5.0	400m	40	120 #		125m	400n∅	TO3	PL
27		PT6994	800m	140 ∅	\$	20	5.0	100	7.0	100	50m	5.0	12	20	100	50M	125m	400n∅	TO3	K
28		PT6995	800m	140 ∅	\$	20	5.0	120	7.0	75	50m	5.0	12	20	100	50M	125m	400n∅	TO3	K
29		SDM2401	800m	140 ∅	\$	10	500m	60	10	40	1.0u	5.0	5.0	2.0k		30M			TO61	
30		SDM2402	800m	140 ∅	\$	10	500m	80	10	60	1.0u	5.0	5.0	2.0k		30M			TO61	
31		SDM2403	800m	140 ∅	\$	10	500m	100	10	80	1.0u	5.0	5.0	2.0k		30M			TO61	
32		SDT1050	800m	140 ∅	\$	5.0	1.0	250	8.0	200	5.0	1.0	15			2.0M			TO3	
33		SDT1051	800m	140 ∅	\$	5.0	1.0	400	8.0	325	5.0	1.0	15			2.0M			TO3	
34		SDT1052	800m	140 ∅	\$	5.0	1.0	500	8.0	400	5.0	1.0	15			2.0M			TO3	
35		SDT1053	800m	140 ∅	\$	5.0	1.0	800	8.0	400	5.0	1.0	15			2.0M			TO3	
36		SDT1054	800m	140 ∅	\$	5.0	1.0	700	8.0	400	5.0	1.0	15			2.0M			TO3	
37		SDT1055	800m	140 ∅	\$	5.0	1.0	250	8.0	200	1.0m	5.0	2.0	10		50	2.0M		TO3	
38		SDT1056	800m	140 ∅	\$	5.0	1.0	400	8.0	325	1.0m	5.0	2.0	10		50	2.0M		TO3	
39		SDT1057	800m	140 ∅	\$	5.0	1.0	500	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO3	
40		SDT1058	800m	140 ∅	\$	5.0	1.0	800	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO3	
41		SDT1059	800m	140 ∅	\$	5.0	1.0	700	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO3	
42		SDT1060	800m	140 ∅	\$	5.0	1.0	250	8.0	200	1.0m	5.0	3.0	10			2.0M		TO3	
43		SDT1061	800m	140 ∅	\$	5.0	1.0	400	8.0	325	1.0m	5.0	3.0	10			2.0M		TO3	
44		SDT1062	800m	140 ∅	\$	5.0	1.0	500	8.0	400	1.0m	5.0	3.0	10			2.0M		TO3	
45		SDT1063	800m	140 ∅	\$	5.0	1.0	800	8.0	400	1.0m	5.0	3.0	10			2.0M		TO3	
46		SDT1064	800m	140 ∅	\$	5.0	1.0	700	8.0	400	1.0m	5.0	3.0	10			2.0M		TO3	
47		SDT1250	800m	140 ∅	\$	5.0	1.0	250	8.0	200	5.0m	5.0	1.0	15			2.0M		TO61	
48		SDT1251	800m	140 ∅	\$	5.0	1.0	400	8.0	325	5.0m	5.0	1.0	15			2.0M		TO61	
49		SDT1252	800m	140 ∅	\$	5.0	1.0	500	8.0	400	5.0m	5.0	1.0	15			2.0M		TO61	
50		SDT1253	800m	140 ∅	\$	5.0	1.0	700	8.0	400	5.0m	5.0	1.0	15			2.0M		TO61	
51		SDT1254	800m	140 ∅	\$	5.0	1.0	700	8.0	400	5.0m	5.0	1.0	15			2.0M		TO61	
52		SDT1255	800m	140 ∅	\$	5.0	1.0	250	8.0	200	1.0m	5.0	2.0	10		50	2.0M		TO61	
53		SDT1256	800m	140 ∅	\$	5.0	1.0	400	8.0	325	1.0m	5.0	2.0	10		50	2.0M		TO61	
54		SDT1257	800m	140 ∅	\$	5.0	1.0	500	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO61	
55		SDT1258	800m	140 ∅	\$	5.0	1.0	800	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO61	
56		SDT1259	800m	140 ∅	\$	5.0	1.0	700	8.0	400	1.0m	5.0	2.0	10		50	2.0M		TO61	
57		SDT1260	800m	140 ∅	\$	5.0	1.0	250	8.0	200	1.0m	5.0	3.0	10			2.0M		TO61	
58		SDT1261	800m	140 ∅	\$	5.0	1.0	400	8.0	325	1.0m	5.0	3.0	10			2.0M		TO61	
59		SDT1262	800m	140 ∅	\$	5.0	1.0	500	8.0	400	1.0m	5.0	3.0	10			2.0M		TO61	
60		SDT1263	800m	140 ∅	\$	5.0	1.0	600	8.0	400	1.0m	5.0	3.0	10			2.0M		TO61	
61		SDT1264	800m	140 ∅	\$	5.0	1.0	700	8.0	400	1.0m	5.0	3.0	10			2.0M		TO61	
62		SDT3225	800m	140 ∅	\$	10	2.0	40	6.0	40	10u	5.0	5.0	20	80	40M			TO111	G
63		SDT3226	800m	140 ∅	\$	10	2.0	60	6.0	60	10u	5.0	5.0	20	80	40M			TO111	G
64		SDT3227	800m	140 ∅	\$	10	2.0	80	6.0	80	10u	5.0	5.0	20	80	40M			TO111	G
65		SDT3228	800m	140 ∅	\$	10	2.0	100	6.0	100	10u	5.0	5.0	20	80	40M			TO111	G
66		SDT3229	800m	140 ∅	\$	10	2.0	120	6.0	120	10u	5.0	5.0	20	80	40M			TO111	G
67		2SD196	833m	125 ∅	\$J	10	10	100	12	50	20u∅	4.0	5.0	10	50		300m		TO36	DA
68		2SD197	833m	125 ∅	\$J	10	10	130	12	70	20u∅	4.0	5.0	10	50		240m		TO36	DA
69		SDT9801	833m	90 ∅	\$	15	3.0	60	12	60	1.0u	5.0	5.0	20	60	5.0M			TO3	ME
70		SDT9802	833m	90 ∅	\$	15	3.0	80	12	80	1.0u	5.0	5.0	20	60	5.0M			TO3	ME
71		SDT9803	833m	90 ∅	\$	15	3.0	100	12	100	1.0u	5.0	5.0	20	60	5.0M			TO3	ME
72		SDT9804	833m	90 ∅	\$	15	3.0	120	12	100	1.0u	5.0	5.0	20	60	5.0M			TO3	ME
73		JAN2N2015	854m	150 ∅	\$C	10	6.0	100	10	50	50u∅	4.0	5.0	15	50	25k			TO36	DΔ
74		JAN2N2015	854m	150 ∅	\$C	10	6.0	100	10	100	50u∅	4.0	5.0	15	50	25k			TO36	DΔ
75		JAN2N2015	854m	150 ∅	\$C	10	6.0	130	10	65										

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. I _{cb} @ 25°C		BIAS hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C E O D E	
						I _c (A)	I _b (A)	V _{cb} (V)	V _{eb} (V)	V _{ce} (V)	I _{cb} (A)	V _{cb} (V)	I _c (A)	MIN							MAX
1	1743-0830T	854m	85	85	\$	40	10	80	7.0	80	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
2	1743-1010T	854m	85	85	\$	40	10	100	7.0	100	5.0m#	2.00	10	20 #	30MΔ		300n	EM	T03	C0	
3	1743-1020T	854m	85	85	\$	40	10	100	7.0	100	5.0m#	2.50	20	20 #	30MΔ		450n	EM	T03	C0	
4	1743-1030T	854m	85	85	\$	40	10	100	7.0	100	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
5	1743-1210T	854m	85	85	\$	40	10	120	7.0	120	5.0m#	2.00	10	20 #	30MΔ		300n	EM	T03	C0	
6	1743-1220T	854m	85	85	\$	40	10	120	7.0	120	5.0m#	2.50	20	20 #	30MΔ		450n	EM	T03	C0	
7	1743-1230T	854m	85	85	\$	40	10	120	7.0	120	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
8	1743-1410T	854m	85	85	\$	40	10	140	7.0	140	5.0m#	2.00	10	20 #	30MΔ		300n	EM	T03	C0	
9	1743-1420T	854m	85	85	\$	40	10	140	7.0	140	5.0m#	2.50	20	20 #	30MΔ		450n	EM	T03	C0	
10	1743-1430T	854m	85	85	\$	40	10	140	7.0	140	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
11	1743-1610T	854m	85	85	\$	40	10	160	7.0	160	5.0m#	2.00	10	20 #	30MΔ		300n	EM	T03	C0	
12	1743-1620T	854m	85	85	\$	40	10	160	7.0	160	5.0m#	2.50	20	20 #	30MΔ		450n	EM	T03	C0	
13	1743-1630T	854m	150	85	\$	40	#	160	7.0	160	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
14	1743-1810T	854m	85	85	\$	40	10	180	7.0	180	5.0m#	2.00	10	20 #	30MΔ		300n	EM	T03	C0	
15	1743-1820T	854m	85	85	\$	40	10	180	7.0	180	5.0m#	2.50	20	20 #	30MΔ		450n	EM	T03	C0	
16	1743-1830T	854m	150	85	\$	40	#	180	7.0	180	5.0m#	3.00	30	20 #	30MΔ		500n	EM	T03	C0	
17	1763-0610	854m	85	85	\$	40	#	60	7.0	60	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
18	1763-0620	854m	85	85	\$	40	#	60	7.0	60	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
19	1763-0630	854m	85	85	\$	40	#	60	7.0	60	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
20	1763-0810	854m	85	85	\$	40	#	80	7.0	80	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
21	1763-0820	854m	85	85	\$	40	#	80	7.0	80	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
22	1763-0830	854m	85	85	\$	40	#	80	7.0	80	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
23	1763-1010	854m	85	85	\$	40	#	100	7.0	100	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
24	1763-1020	854m	85	85	\$	40	#	100	7.0	100	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
25	1763-1030	854m	85	85	\$	40	#	100	7.0	100	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
26	1763-1210	854m	85	85	\$	40	#	120	7.0	120	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
27	1763-1220	854m	85	85	\$	40	#	120	7.0	120	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
28	1763-1230	854m	85	85	\$	40	#	120	7.0	120	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
29	1763-1410	854m	85	85	\$	40	#	140	7.0	140	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
30	1763-1420	854m	85	85	\$	40	#	140	7.0	140	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
31	1763-1430	854m	85	85	\$	40	#	140	7.0	140	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
32	1763-1610	854m	85	85	\$	40	#	160	7.0	160	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
33	1763-1620	854m	85	85	\$	40	#	160	7.0	160	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
34	1763-1630	854m	85	85	\$	40	#	160	7.0	160	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
35	1763-1810	854m	85	85	\$	40	#	180	7.0	180	500u#	2.00	10	20 #	30MΔ		300n	EMΔ	T03	C0	
36	1763-1820	854m	85	85	\$	40	#	180	7.0	180	500u#	2.50	20	20 #	30MΔ		450n	EMΔ	T03	C0	
37	1763-1830	854m	85	85	\$	40	#	180	7.0	180	500u#	3.00	30	20 #	30MΔ		500n	EMΔ	T03	C0	
38	1843-2005T	854m	85	85	\$	30	#	200	7.0	200	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
39	1843-2010T	854m	85	85	\$	30	#	200	7.0	200	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
40	1843-2020T	854m	85	85	\$	30	#	200	7.0	200	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
41	1843-2205T	854m	85	85	\$	30	#	225	7.0	225	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
42	1843-2210T	854m	85	85	\$	30	#	225	7.0	225	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
43	1843-2220T	854m	85	85	\$	30	#	225	7.0	225	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
44	1843-2505T	854m	85	85	\$	30	#	250	7.0	250	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
45	1843-2510T	854m	85	85	\$	30	#	250	7.0	250	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
46	1843-2520T	854m	85	85	\$	30	#	250	7.0	250	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
47	1843-2705T	854m	85	85	\$	30	#	275	7.0	275	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
48	1843-2710T	854m	85	85	\$	30	#	275	7.0	275	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
49	1843-2720T	854m	85	85	\$	30	#	275	7.0	275	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
50	1843-3005T	854m	85	85	\$	30	#	300	7.0	300	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
51	1843-3010T	854m	85	85	\$	30	#	300	7.0	300	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
52	1843-3020T	854m	85	85	\$	30	#	300	7.0	300	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
53	1843-3205T	854m	85	85	\$	30	#	325	7.0	325	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
54	1843-3210T	854m	85	85	\$	30	#	325	7.0	325	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
55	1843-3220T	854m	85	85	\$	30	#	325	7.0	325	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
56	1843-3505T	854m	85	85	\$	30	#	350	7.0	350	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
57	1843-3510T	854m	85	85	\$	30	#	350	7.0	350	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
58	1843-3520T	854m	85	85	\$	30	#	350	7.0	350	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
59	1843-3705T	854m	85	85	\$	30	#	375	7.0	375	3.0m#	5.00	5.0	20 #	25MΔ		500n	EM	T03	C0	
60	1843-3710T	854m	85	85	\$	30	#	375	7.0	375	3.0m#	5.00	10	15 #	25MΔ		500n	EM	T03	C0	
61	1843-3720T	854m	85	85	\$	30	#	375	7.0	375	3.0m#	5.00	20	10 #	25MΔ		500n	EM	T03	C0	
62	40411	854m	150	85	\$	30	15	4.0	4.0	90	500u*	4.00	4.0	35	100	800kΔ	200m	EM	T03	C0	
63	B177000	854m	150	85	\$	30		100	7.0	80	5.0m	4.00	10	15	60	800kΔ	200m	DM	T03	C0	
64	MJ2840	854m	150	85	\$	10	4.0	60	4.0	60	100u	2.00	3.0	20	100 #	2.0MΔ		MD6c	T03	C0	
65	MJ2841	854m	150	85	\$	10	4.0	80	4.0	80	100u	2.00	4.0	20	100 #	2.0MΔ		MD6c	T03	C0	
66	MJ37711	854m	150	85	\$	10	7.5	50	5.0	40	2.0m	4.00	15	15	60 #	2.0MΔ	350n	EM	T03	C0	
67	MJ37721	854m	150	85	\$	20	5.0	100	7.0	60	5.0m	4.00	10	15	60 #	2.0MΔ	350n	EM	T03	C0	
68	MJ7000	854m	150	85	\$	10	10	100	7.0	100	5.0u	4.00	10	20	100 #	30MΔ		Δ	T063	C0	
69	PT6996	854m	150	85	\$	20	5.0	160	7.0	140	2.0m	4.00	8.0	15	60	50M	170m	700n	PL	T03	K
70	SDT9701	854m	150	85	\$	30	3.0	100	7.0	80	5.0m	5.0	8.0	15	60	100k		ME	T03		
71	SDT9702	854m	150	85	\$	30	3.0	120	7.0	100	5.0m	5.0	8.0	15	60	100k		ME	T03		
72	SDT9703	854m	150	85	\$	30															

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	Pc MAX	M T A X E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		BIAS Vcb (V)	MIN (A)	MAX (A)	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUC-TURE	DWC No.	L E O A D E
						Ic (A)	Ib (A)	Vcbo (V)	Vebo (V)	Vceo (V)	Icbo (A)	hFE (A)									
1	PT5983	1.0	100		\$	30	10	120	7.0	70	5.0m	4.0	3.0	10		30M	60m	PL	T063	A	
2	PT5994	1.0	6.0		\$	50	10	120	8.0	100	10m	5.0	30	50		100M	33m	PL	T063	A	
3	PT6905A†	1.0	175		\$	30		325	6.0	300	5.0m	5.0	10	15	75	100M	100m	PL	T063	A	
4	PT6905B†	1.0	175		\$	30		325	6.0	300	5.0m	5.0	10	15	75	100M	100m	PL	T063	A	
5	PT6905C†	1.0	175		\$	30		325	6.0	300	5.0m	5.0	10	15	75	100M	100m	PL	T03	A	
6	PT6951	1.0	175		\$	30	10	160	8.0	100	10m	5.0	10	40	200	100M	80m	PL	T03	A	
7	PT6952	1.0	175		\$	30	10	200	8.0	140	10m	5.0	10	30	150	100M	100m	PL	T03	A	
8	SDT7731	1.0	175		\$	15	3.0	60	20	40	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
9	SDT7732	1.0	175		\$	15	3.0	80	20	60	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
10	SDT7733	1.0	175		\$	15	3.0	100	20	80	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
11	SDT7734	1.0	175		\$	15	3.0	120	20	100	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
12	SDT7735	1.0	175		\$	15	3.0	140	20	125	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
13	SDT7736	1.0	175		\$	15	3.0	165	20	150	10u	5.0	5.0	20	80	5.0M		PL	T03	A	
14	SDT7761	1.0	175		\$	15	3.0	60	20	40	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
15	SDT7762	1.0	175		\$	15	3.0	80	20	60	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
16	SDT7763	1.0	175		\$	15	3.0	100	20	80	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
17	SDT7764	1.0	175		\$	15	3.0	120	20	100	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
18	SDT7765	1.0	175		\$	15	3.0	140	20	125	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
19	SDT7766	1.0	175		\$	15	3.0	165	20	150	10u	5.0	5.0	20	80	5.0M		PL	T061	A	
20	SDT8002	1.0	\$		\$	20		80	8.0	60	100u	5.0	10	40		20M		D	T063	A	
21	SDT8003	1.0	\$		\$	20		100	8.0	80	100u	5.0	10	40		20M		D	T063	A	
22	SDT8012	1.0	\$		\$	20		80	8.0	60	100u	5.0	10	20	60	25M		PL	T063	A	
23	SDT8013	1.0	\$		\$	20		100	8.0	80	100u	5.0	10	20	60	25M		PL	T063	A	
24	SDT8015	1.0	\$		\$	20		80	8.0	60	100u	5.0	10	40	120	25M		PL	T063	A	
25	SDT8016	1.0	\$		\$	20		100	8.0	80	100u	5.0	10	40	120	25M		PL	T063	A	
26	SDT8045	1.0	\$		\$	20		40	5.0	25	100u	5.0	10	40		25M		PL	T063	A	
27	SDT8070	1.0	\$		\$	20		80	8.0	60	100u	5.0	10	100		25M		PL	T063	A	
28	SDT8071	1.0	\$		\$	20		100	8.0	80	100u	5.0	10	100		25M		PL	T063	A	
29	SDT8151	1.0	175		\$	20		150	8.0	120	100u	5.0	10	40	120	30M		PL	T063	A	
30	SDT8152	1.0	175		\$	20	4.0	100	8.0	80	100u	5.0	10	40	120	30M		PL	T063	A	
31	SDT8153	1.0	175		\$	20	4.0	80	8.0	60	100u	5.0	10	40	120	30M		PL	T063	A	
32	SDT8154	1.0	175		\$	20	4.0	100	8.0	80	100u	5.0	10	100		30M		PL	T063	A	
33	SDT8155	1.0	175		\$	20	4.0	80	8.0	60	100u	5.0	10	100		30M		PL	T063	A	
34	SDT8156	1.0	175		\$	20	4.0	150	8.0	120	100u	5.0	10	20	60	30M		PL	T063	A	
35	SDT8157	1.0	175		\$	20	4.0	100	8.0	80	100u	5.0	10	20	60	30M		PL	T063	A	
36	SDT8158	1.0	175		\$	20	4.0	80	8.0	60	100u	5.0	10	20	60	30M		PL	T063	A	
37	SDT8159	1.0	175		\$	20	4.0	40	5.0	25	100u	5.0	10	20		30M		PL	T063	A	
38	SDT8301	1.0	\$		\$	30		80	8.0	60	100u	5.0	10	40	120	25M		PL	T063	A	
39	SDT8302	1.0	\$		\$	30		100	8.0	80	100u	5.0	10	40	120	25M		PL	T063	A	
40	SDT8303	1.0	\$		\$	30		80	8.0	60	100u	5.0	10	100		25M		PL	T063	A	
41	SDT8304	1.0	\$		\$	30		100	8.0	80	100u	5.0	10	100		25M		PL	T063	A	
42	SDT8751	1.0	175		\$	20	4.0	120	8.0	100	10u	5.0	10	15	60	25M		PL	T063	A	
43	SDT8752	1.0	175		\$	20	4.0	140	8.0	120	10u	5.0	10	15	60	25M		PL	T063	A	
44	SDT8753	1.0	175		\$	20	4.0	170	8.0	150	10u	5.0	10	15	60	25M		PL	T063	A	
45	SDT8754	1.0	175		\$	20	4.0	200	8.0	180	10u	5.0	10	15	60	25M		PL	T063	A	
46	SDT8755	1.0	175		\$	20	4.0	120	8.0	100	10u	5.0	10	30	90	25M		PL	T063	A	
47	SDT8756	1.0	175		\$	20	4.0	140	8.0	120	10u	5.0	10	30	90	25M		PL	T063	A	
48	SDT8757	1.0	175		\$	20	4.0	170	8.0	150	10u	5.0	10	30	90	25M		PL	T063	A	
49	SDT8758	1.0	175		\$	20	4.0	200	8.0	180	10u	5.0	10	30	90	25M		PL	T063	A	
50	SDT8801	1.0	\$		\$	20		200	8.0	200	1.0u	5.0	10	15	60	30M		PL	T063	A	
51	SDT8802	1.0	\$		\$	20		225	8.0	225	1.0u	5.0	10	15	60	30M		PL	T063	A	
52	SDT8803	1.0	\$		\$	20		250	8.0	250	1.0u	5.0	10	15	60	30M		PL	T063	A	
53	SDT8804	1.0	\$		\$	20		275	8.0	275	1.0u	5.0	10	15	60	30M		PL	T063	A	
54	SDT8805	1.0	\$		\$	20		300	8.0	300	1.0u	5.0	10	15	60	30M		PL	T063	A	
55	ST17060†	1.0	#		#	30		125	10	80	100u	10	10	30	120	10M		PL	T063	A	
56	ST17061†	1.0	#		#	30		145	10	100	100u	10	10	30	120	10M		PL	T063	A	
57	ST17062†	1.0	#		#	30		170	10	120	100u	10	10	30	120	10M		PL	T063	A	
58	ST18007	1.0	100		\$	20		375	10	375		10	10	20		10M	150m	PE	T063	A	
59	ST18008	1.0	100		\$	20		300	10	300		10	10	20		10M	150m	PE	T063	A	
60	ST18009	1.0	100		\$	20		250	10	250		10	10	20		10M	150m	PE	T063	A	
61	ST18010	1.0	100		\$	20		200	10	200		10	10	20		10M	150m	PE	T063	A	
62	STC1726	1.0	\$		\$	20	4.5	10	10	80	2.0m	3.0	10	20	80	100m		ME	MT18	A	
63	STC1728	1.0	\$		\$	30	4.5	10	10	80	2.0m	3.0	20	10	40	80m		ME	MT18	A	
64	STC1731	1.0	\$		\$	20	4.5	10	10	100	2.0m	3.0	10	20	80	100m		ME	MT18	A	
65	STC1733	1.0	\$		\$	30	4.5	10	10	100	2.0m	3.0	20	10	40	80m		ME	MT18	A	
66	STC1736	1.0	\$		\$	20	4.5	10	10	150	2.0m	3.0	10	20	80	100m		ME	MT18	A	
67	STC1738	1.0	\$		\$	30	4.5	10	10	150	2.0m	3.0	20	10	40	80m		ME	MT18	A	
68	STC2220	1.0	\$		\$	20		80	10	80	2.0m	3.0	10	10	50	150m	1.0u	D	MD21	A	
69	STC2221	1.0	\$		\$	20		100	10	100	2.0m	3.0	10	10	50	150m	1.0u	D	MD21	A	
70	STC2222	1.0	\$		\$	20		150	10	150	2.0m	3.0	10	10	50	150m	1.0u	D	MD21	A	
71	STC2223	1.0	\$		\$	20		200	10	200	2.0m	3.0	10	10	50	150m	1.0u	D	MD21	A	
72	STC2224	1.0	\$		\$	25		80	10	80	2.0m	3.0	15	10	50	100m	6.0u	D	MD21	A	
73	STC2225	1.0	\$		\$	25		100	10	100	2.0m	3.0	15	10	50	100m	6.0u	D	MD21	A	
74	STC2226	1.0	\$		\$	25		150	10	150	2.0m	3.0	15	10	50	100m	6.0u	D	MD21	A	
75	STC2227	1.0	\$		\$	25		200	10	200	2.0m	3.0	15	10	50	100m	6.0u	D	MD21	A	
76	STC2228	1.0	\$		\$	30		80	10	80	2.0m	3.0	20	10	40	80m	6.0u	D	MD21	A	
77	STC2229	1.0	\$		\$	30		100	10	100	2.0m	3.0	20	10	40	80m	6.0u	D	MD21	A	
78	STC2230	1.0	\$		\$	30		150	10	150	2.0m	3.0	20	10	40	80m	6.0u	D	MD21	A	
79	STC2231	1.0	\$		\$	30		200	10												

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	Pc	M T A E M P	ABSOLUTE MAX. RATINGS @ 25°C					MAX. Vcb @ 25°C			hFE		fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	STRUCTURE	DWG. No.	L C O D E
						Ic (A)	Ib (A)	Vcbo (V)	Vbeo (V)	Vceo (V)	Icbo (A)	Vcb (V)	Ic (A)	MIN	MAX							
1	1561-1210	1.1	150	0	SC	30	7.0	120	7.0	120	2.0 #	4.0	10	15	80	800 Δ	140m				TO3	
2	1561-1215	1.1	150	0	SC	30	7.0	120	7.0	120	2.0 #	4.0	10	15	80	800 Δ	130m				TO3	
3	1561-1410	1.1	150	0	SC	30	7.0	140	7.0	140	2.0 #	4.0	10	15	80	800 Δ	140m				TO3	
4	1561-1415	1.1	150	0	SC	30	7.0	140	7.0	140	2.0 #	4.0	10	15	80	800 Δ	130m				TO3	
5	1561-1610	1.1	150	0	SC	30	7.0	160	7.0	160	2.0 #	4.0	10	15	80	800 Δ	140m				TO3	
6	1561-1615	1.1	150	0	SC	30	7.0	160	7.0	160	2.0 #	4.0	10	15	80	800 Δ	130m				TO3	
7	1561A608	1.1	150	0	SC	30	7.0	60	7.0	60	2.0 #	4.0	8.0	15	80	800 Δ	180m				TO3	
8	1561A615	1.1	150	0	SC	30	7.0	60	7.0	60	2.0 #	4.0	15	15	80	800 Δ	130m				TO3	
9	BDY57	1.1	150	0	SC	30	15	120	10	80	5.0m	4.0	10	20	60	10MΔ	140m	200n	ME		TO3	CØ
10	BDY58	1.1	150	0	SJ	30	15	160	10	125	5.0m	4.0	10	20	60	10MΔ	140m	200n	ME		TO3	CØ
11	MJ802	1.1	200	0	SJ	30	7.5	100	4.0	90	1.0m	2.0	7.5	25	100 #	2.0MΔ					TO3	CØ
12	ST28135	1.1	150	0	SJ	30	8.0	70	10	40	500u	1.0	15	30	150	10M	130m			PE	TO3	
13	ST28136	1.1	150	0	SJ	30	8.0	90	10	60	500u	1.0	15	30	150	10M	130m			PE	TO3	
14	ST28137	1.1	150	0	SJ	30	8.0	110	10	80	500u	1.0	15	30	150	10M	130m			PE	TO3	
15	ST28138	1.1	150	0	SJ	20	6.0	70	10	40	500u	1.0	10	30	150	10M	130m			PE	TO3	
16	ST28139	1.1	150	0	SJ	20	6.0	90	10	60	500u	1.0	10	30	150	10M	130m			PE	TO3	
17	ST28140	1.1	150	0	SJ	20	6.0	110	10	80	500u	1.0	10	30	150	10M	130m			PE	TO3	
18	STC1094	1.1	200	0	SJ	20	4.5	90	10	90	15m	4.0	10	7.5			3.0			D	TO3	CØ
19	2N5241†	1.2	125	0	SJ	5.0	20	400	5.0	400	500u#	5.0	2.5	15	35	2.5MΔ	500m			DM	TO3	CØ
20	2SC1079	1.2	100	0	SJ	12		150	5.0	110	100u	5.0	2.0	40	240	3.0M				DM	TO3	CØ
21	2SC1080	1.2	100	0	SJ	12		110	5.0	110	100u	5.0	2.0	40	240	3.0M				DM	TO3	CØ
22	PT6953	1.2	220	0	SJ	5	10	120	8.0	70	10m	5.0	20	40	200	100M	30m	350n	PL	TO3	K	
23	PT6954	1.2	220	0	SJ	5	10	160	8.0	100	10m	5.0	20	30	150	100M	40m	350n	PL	TO3	K	
24	PT6955	1.2	220	0	SJ	5	10	200	8.0	140	10m	5.0	20	30	150	100M	50m	350n	PL	TO3	K	
25	ST15010	1.2	125	0	SJ	40	8.0	150	12	100	10u	5.0	40	10		10MΔ	60m			PE	TO3	
26	2N3429†	1.3	150	0	SJ	5.0	3.0	50	25	50	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
27	2N3430†	1.3	150	0	SC	5.0	3.0	100	25	100	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
28	2N3431†	1.3	150	0	SC	5.0	3.0	150	25	150	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
29	2N3432†	1.3	150	0	SC	5.0	3.0	200	25	200	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
30	2N3433†	1.3	150	0	SC	5.0	3.0	250	25	250	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
31	2N3434†	1.3	150	0	SC	5.0	3.0	300	25	300	2.0m#	2.0	5.0	10	35	20kΔ	200m	5.0u			MT52	B
32	2N3902†	1.3	100	0	SJ	2.5	1.0	400	5.0	400	250u#	5.0	1.0	30	90	40kΔ	1.0	800n			TO3	CØ
33	JAN2N3902†	1.3	100	0	SA	3.5	2.0	400	5.0	400	250uΔ	5.0	1.0	30	90	2.8MΔ	800m	800n			TO3	CØ
34	2N5157†	1.3	100	0	SJ	3.5	2.0	700	5.0	500	500u#	5.0	1.0	30	90	2.8MΔ	710m	800n			TO3	CØ
35	153-04†	1.3	200	0	SJ	7.5	3.0	65	25	40	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
36	153-05	1.3	200	0	SJ	7.5	3.0	75	25	50	10m#	4.0	1.5	30	∅	870m	3.0u			FΔ	MT5z	
37	153-06†	1.3	200	0	SJ	7.5	3.0	85	25	60	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
38	153-07	1.3	200	0	SJ	7.5	3.0	95	25	70	10m#	4.0	1.5	30	∅	870m	3.0u			FΔ	MT5z	
39	153-08†	1.3	200	0	SJ	7.5	3.0	105	25	80	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
40	153-09	1.3	200	0	SJ	7.5	3.0	115	25	90	10m#	4.0	1.5	30	∅	870m	3.0u			FΔ	MT5z	
41	153-10†	1.3	200	0	SJ	7.5	3.0	125	25	100	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
42	153-12†	1.3	200	0	SJ	7.5	3.0	145	25	120	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
43	153-14†	1.3	200	0	SJ	7.5	3.0	165	25	140	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
44	153-16†	1.3	200	0	SJ	7.5	3.0	185	25	160	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
45	153-18†	1.3	200	0	SJ	7.5	3.0	205	25	180	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
46	153-20†	1.3	200	0	SJ	7.5	3.0	225	25	200	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
47	153-22†	1.3	200	0	SJ	7.5	3.0	245	25	220	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
48	153-24†	1.3	200	0	SJ	7.5	3.0	265	25	240	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
49	153-26†	1.3	200	0	SJ	7.5	3.0	285	25	260	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
50	153-28†	1.3	200	0	SJ	7.5	3.0	305	25	280	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
51	153-30†	1.3	200	0	SJ	7.5	3.0	325	25	300	10m#	4.0	1.5	15		866m	3.0u			FΔ	MT58	
52	154-04†	1.3	200	0	SJ	7.5	3.0	65	25	40	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
53	154-05	1.3	200	0	SJ	7.5	3.0	75	25	50	10m#	4.0	1.5	42	∅	830m	3.0u			FΔ	MT52	
54	154-06†	1.3	200	0	SJ	7.5	3.0	85	25	60	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
55	154-07	1.3	200	0	SJ	7.5	3.0	95	25	70	10m#	4.0	1.5	42	∅	830m	3.0u			FΔ	MT5z	
56	154-08†	1.3	200	0	SJ	7.5	3.0	105	25	80	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
57	154-09	1.3	200	0	SJ	7.5	3.0	115	25	90	10m#	4.0	1.5	42	∅	830m	3.0u			FΔ	MT5z	
58	154-10†	1.3	200	0	SJ	7.5	3.0	125	25	100	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
59	154-12†	1.3	200	0	SJ	7.5	3.0	145	25	120	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
60	154-14†	1.3	200	0	SJ	7.5	3.0	165	25	140	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
61	154-16†	1.3	200	0	SJ	7.5	3.0	185	25	160	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
62	154-18†	1.3	200	0	SJ	7.5	3.0	205	25	180	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
63	154-20†	1.3	200	0	SJ	7.5	3.0	225	25	200	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
64	154-22†	1.3	200	0	SJ	7.5	3.0	245	25	220	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
65	154-24†	1.3	200	0	SJ	7.5	3.0	265	25	240	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
66	154-26†	1.3	200	0	SJ	7.5	3.0	285	25	260	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
67	154-28†	1.3	200	0	SJ	7.5	3.0	305	25	280	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
68	154-30†	1.3	200	0	SJ	7.5	3.0	325	25	300	10m#	4.0	1.5	25		833m	3.0u			FΔ	MT58	
69	DTS103†	1.3	125	0	SJ	15	5.0	80	5.0	60	250uΔ	1.5	5.0	20	55	4.0MΔ	180m	550n		DM	TO3	CØ
70	DTS104†	1.3	125	0	SJ	15	5.0	80</														

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX. FREE AIR @ 25°C (W)	M T A X E M P	ABSOLUTE MAX. RATINGS @25°C					MAX. lcoB @ MAX Vcb @ 25°C (A)		BIAS		MIN	MAX	f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	STRUCTURE	DWG. No.	L C O A D E
					Ic (A)	Ib (A)	Vcbo (V)	Vcbo (V)	Vcbo (V)	Vcb (V)	Ic (A)	Ic (A)										
1	SDT8652	1.6	290		60	8.0	225	8.0	225	10u	10	40	10	40	15M			PL	T068			
2	SDT8653	1.6	290		60	6.0	250	8.0	250	10u	10	40	10	40	15M			PL	T068			
3	SDT8654	1.6	290		60	6.0	275	8.0	275	10u	10	40	10	40	15M			PL	T068			
4	SDT8655	1.6	290		60	6.0	300	8.0	300	10u	10	40	10	40	15M			PL	T068			
5	2N5685	1.7	300		50	15	60	5.0	60	2.0m	2.0	25	15	60	2.0MΔ				MD6d	CØ		
6	2N5686	1.7	300		50	15	80	5.0	80	2.0m	2.0	25	15	60	2.0MΔ				MD6d	CØ		
7#	BUY231	1.7	100		10	3.0	600	8.0	250	2.0m	5.0	2.5	20	200	25MΔ		1.0uØ	DM	T03	CØ		
8#	BUY23A1	1.7	100		10	3.0	700	8.0	300	2.0m	5.0	2.5	20	200	25MΔ		1.0uØ	DM	T03	CØ		
9	MJ7200	1.7	300		60	20	100	6.0	80	100u	5.0	20	20	100	20MΔ			Δ	MT69a			
10	MJ7201	1.7	300		60	20	120	6.0	100	100u	5.0	20	20	100	20MΔ			Δ	MT69a			
11	2N1936	2.0	150		20	10	125	6.0	60	10m#	100	10	10	50	4.0MΔ	75m		ME	T063	AØ		
12	2N1937	2.0	150		20	10	125	6.0	80	10m#	100	10	10	50	4.0MΔ	75m		ME	T063	AØ		
13	2N2226	2.0	150		10	1.0	50	15	50	20m#	6.0	9.0	100	500	7.0kΔ	380m			MT1	AØ		
14	2N2227	2.0	150		10	1.0	100	15	100	20m#	6.0	9.0	100	500	7.0kΔ	380m			MT1	AØ		
15	2N2228	2.0	150		10	1.0	150	15	150	20m#	6.0	9.0	100	500	7.0kΔ	380m			MT1	AØ		
16	2N2229	2.0	150		10	1.0	200	15	200	20m#	6.0	9.0	100	500	7.0kΔ	380m			MT1	AØ		
17	2N2230	2.0	150		10	1.0	50	15	50	20m#	6.0	9.0	350		4.0kΔ	380m			MT1	AØ		
18	2N2231	2.0	150		10	1.0	100	15	100	20m#	6.0	9.0	350		4.0kΔ	380m			MT1	AØ		
19	2N2232	2.0	150		10	1.0	150	15	150	20m#	6.0	9.0	350		4.0kΔ	380m			MT1	AØ		
20	2N2233	2.0	150		10	1.0	200	15	200	20m#	6.0	9.0	350		4.0kΔ	380m			MT1	AØ		
21	2N27391	2.0	200		20	7.5	50	15	50	15m#	4.0	10	10		150m	6.0uØ			MT1	B		
22	2N27401	2.0	200		20	7.5	100	15	100	15m#	4.0	10	10		150m	6.0uØ			MT1	B		
23	2N27411	2.0	200		20	7.5	150	15	150	15m#	4.0	10	10		150m	6.0uØ			MT1	B		
24	2N27421	2.0	200		20	7.5	200	15	200	15m#	4.0	10	10		150m	6.0uØ			MT1	B		
25	2N27431	2.0	200		20	7.5	250	15	250	15m#	4.0	10	10		100m	6.0uØ			MT1b	B		
26	2N27441	2.0	200		20	7.5	300	15	300	15m#	4.0	10	10		100m	6.0uØ			MT1b	B		
27	2N27451	2.0	200		20	7.5	50	15	50	15m#	4.0	15	10		100m	6.0uØ			MT1	B		
28	2N27461	2.0	200		20	7.5	100	15	100	15m#	4.0	15	10		100m	6.0uØ			MT1	B		
29	2N27471	2.0	200		20	7.5	150	15	150	15m#	4.0	15	10		100m	6.0uØ			MT1	B		
30	2N27481	2.0	200		20	7.5	200	15	200	15m#	4.0	15	10		100m	6.0uØ			MT1	B		
31	2N27511	2.0	200		20	7.5	50	15	50	15m#	4.0	20	10		75m	7.0uØ			MT1	B		
32	2N27521	2.0	200		20	7.5	100	15	100	15m#	4.0	20	10		75m	7.0uØ			MT1	B		
33	2N27531	2.0	200		20	7.5	150	15	150	15m#	4.0	20	10		75m	7.0uØ			MT1	B		
34	2N27541	2.0	200		20	7.5	200	15	200	15m#	4.0	20	10		75m	7.0uØ			MT1	B		
35	2N27551	2.0	200		20	7.5	250	15	250	15m#	4.0	20	10		75m	7.0uØ			MT1b	B		
36	2N27561	2.0	200		20	7.5	300	15	300	15m#	4.0	20	10		75m	7.0uØ			MT1b	B		
37	2N27571	2.0	200		30	7.5	50	15	50	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
38	2N27581	2.0	200		30	7.5	100	15	100	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
39	2N27591	2.0	200		30	7.5	150	15	150	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
40	2N27601	2.0	200		30	7.5	200	15	200	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
41	2N27611	2.0	200		30	7.5	250	15	250	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
42	2N27621	2.0	200		30	7.5	300	15	300	15m#	4.0	10	10		150m	6.0uØ			MT33	A		
43	2N27631	2.0	200		30	7.5	50	15	50	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
44	2N27641	2.0	200		30	7.5	100	15	100	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
45	2N27651	2.0	200		30	7.5	150	15	150	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
46	2N27661	2.0	200		30	7.5	200	15	200	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
47	2N27671	2.0	200		30	7.5	250	15	250	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
48	2N27681	2.0	200		30	7.5	300	15	300	15m#	4.0	15	10		100m	6.0uØ			MT33	A		
49	2N27691	2.0	200		30	7.5	50	15	50	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
50	2N27701	2.0	200		30	7.5	100	15	100	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
51	2N27711	2.0	200		30	7.5	150	15	150	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
52	2N27721	2.0	200		30	7.5	200	15	200	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
53	2N27731	2.0	200		30	7.5	250	15	250	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
54	2N27741	2.0	200		30	7.5	300	15	300	15m#	4.0	20	10		75m	7.0uØ			MT33	A		
55	2N27751	2.0	200		30	7.5	50	15	50	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
56	2N27761	2.0	200		30	7.5	100	15	100	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
57	2N27771	2.0	200		30	7.5	150	15	150	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
58	2N27781	2.0	200		30	7.5	200	15	200	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
59	2N27791	2.0	200		30	7.5	250	15	250	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
60	2N27801	2.0	200		30	7.5	300	15	300	15m#	4.0	25	10		60m	8.0uØ			MT33	A		
61	2N3149	2.0	300		70	15	80	10	80	2.0m#	3.0	50	10	#	100kΔ	30m	10uØ	D D	MT49	Ø		
62	2N3150	2.0	300		70	15	100	10	100	2.0m#	3.0	50	10	#	100kΔ	30m	10uØ	D D	MT49	Ø		
63	2N3151	2.0	300		70	15	150	10	150	2.0m#	3.0	50	10	#	100kΔ	30m	10uØ	D D	MT49	Ø		
64	2N3470	2.0	150		10	1.0	50	15	50	20m#	6.0	9.0	100	500	7.0kΔ	390m		F F	MT33			
65	2N3471	2.0	150		10	1.0	100	15	100	20m#	6.0	9.0	100	500	7.0kΔ	390m		F F	MT33			
66	2N3472	2.0	150		10	1.0	150	15	150	20m#	6.0	9.0	100	500	7.0kΔ	390m		F F	MT33			
67	2N3473	2.0	150		10	1.0	200	15	200	20m#	6.0	9.0	100	500	7.0kΔ	390m		F F	MT33			
68	2N3474	2.0	150		10	1.0	50	15	50	20m#	6.0	9.0	350		4.0kΔ	390m		F F	MT33			
69	2N3475	2.0	150		10	1.0	100	15	100	20m#	6.0	9.0	350		4.0kΔ	390m		F F	MT33			
70	2N3476	2.0	150		10	1.0	150	15	150	20m#	6.0	9.0	350		4.0kΔ	390m		F F	MT33			
71	2N3477	2.0	150		10	1.0	200	15	200	20m#	6.0	9.0	350		4.0kΔ	390m		F F	MT33			
72	2N38461	2.0	4.0		20	10	300	10	200	10m#	3.0	5.0	40	200	10MΔ	80m	4.0uØ		T063	AØ		
73	JAN2N38461	2.0	4.0		20	10	300	10	200	10m#	3.0	5.0	40	60	10MΔ	80m	4.0uØ		T063	AØ		
74	2N38471	2.0	4.0		20	10	400	10	300	10m#	3.0	5.0	40	200	10MΔ	80m	4.0uØ		T063	AØ		
75	JAN2N38471	2.0	4.0		20	10	400	10	300	10m#	3.0	5.0	40	60	10MΔ	80m	4.0uØ		T063	AØ		
76	2N38481	2.0	4.0		20	10	300	10	200	1												

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/°C)	MAX FREE AIR @ 25°C (W)	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. hFE		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O D E
					Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX Vcb @25°C (A)	Ic (V)							
1	163-281	2.0	200	∅	∅	20	7.5	295	15	280	30m#	4.00	5.0	20	∅			
2	163-301	2.0	200	∅	∅	20	7.5	315	15	300	30m#	4.00	5.0	15	∅			
3	164-041	2.0	200	∅	∅	20	7.5	55	15	40	30m#	4.00	5.0	25	∅			
4	164-05	2.0	200	∅	∅	20	7.5	65	15	50	30m#	4.00	5.0	42	∅			
5	164-061	2.0	200	∅	∅	20	7.5	75	15	60	30m#	4.00	5.0	25	∅			
6	164-07	2.0	200	∅	∅	20	7.5	85	15	70	30m#	4.00	5.0	42	∅			
7	164-081	2.0	200	∅	∅	20	7.5	95	15	80	30m#	4.00	5.0	25	∅			
8	164-09	2.0	200	∅	∅	20	7.5	105	15	90	30m#	4.00	5.0	42	∅			
9	164-101	2.0	200	∅	∅	20	7.5	115	15	100	30m#	4.00	5.0	25	∅			
10	164-121	2.0	200	∅	∅	20	7.5	135	15	120	30m#	4.00	5.0	25	∅			
11	164-141	2.0	200	∅	∅	20	7.5	155	15	140	30m#	4.00	5.0	25	∅			
12	164-161	2.0	200	∅	∅	20	7.5	175	15	160	30m#	4.00	5.0	25	∅			
13	164-181	2.0	200	∅	∅	20	7.5	195	15	180	30m#	4.00	5.0	25	∅			
14	164-201	2.0	200	∅	∅	20	7.5	215	15	200	30m#	4.00	5.0	25	∅			
15	164-221	2.0	200	∅	∅	20	7.5	235	15	220	30m#	4.00	5.0	42	∅			
16	164-241	2.0	200	∅	∅	20	7.5	255	15	240	30m#	4.00	5.0	42	∅			
17	164-261	2.0	200	∅	∅	20	7.5	275	15	260	30m#	4.00	5.0	42	∅			
18	164-281	2.0	200	∅	∅	20	7.5	295	15	280	30m#	4.00	5.0	42	∅			
19	164-301	2.0	200	∅	∅	20	7.5	315	15	300	30m#	4.00	5.0	25	∅			
20#	BDY23	2.0	85	∅	∅	6.0	3.0	80	10	60	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
21#	BDY24	2.0	85	∅	∅	6.0	3.0	120	10	90	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
22#	BDY25	2.0	85	∅	∅	6.0	3.0	200	10	140	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
23#	BDY26	2.0	85	∅	∅	6.0	3.0	300	10	180	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
24#	BDY27	2.0	85	∅	∅	6.0	3.0	400	10	200	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
25#	BDY28	2.0	85	∅	∅	6.0	3.0	500	10	250	1.0m#	4.00	2.0	15	180	10M\$Δ	500n	ME
26#	BU102	2.0	50	∅	∅	7.0	3.0	400	5.0	150	10u#	5.0	1.0	30	110	10M\$Δ	300m	DPE
27#	BU104	2.0	85	∅	∅	7.0	3.0	400	10		10m#	3.5	5.0	10	50	10M\$Δ	350m	ME
28	KSP1001	2.0				100	15	80	8.0	60	10u	5.0	70	10	40	15M		PE
29	KSP1002	2.0				100	15	100	8.0	80	10u	5.0	70	10	40	15M		PE
30	KSP1003	2.0				100	15	120	8.0	100	10u	5.0	70	10	40	15M		PE
31	KSP1601	2.0				60	10	225	8.0	200	10u	10	40	10	40	15M		PE
32	KSP1602	2.0				60	10	250	8.0	225	10u	10	40	10	40	15M		PE
33	KSP1603	2.0				60	10	275	8.0	250	10u	10	40	10	40	15M		PE
34	KSP1604	2.0				60	10	300	8.0	275	10u	10	40	10	40	15M		PE
35	KSP1605	2.0				60	10	325	8.0	300	10u	10	40	10	40	15M		PE
36	PT500	2.0	300	∅	∅	70	20	175	10	150	2.0m	2.00	50	10	#			D
37	PT501	2.0	300	∅	∅	70	20	150	10	120	2.0m	2.00	50	10	#			D
38	PT5021	2.0	350	∅	∅	100	20	150	10	100	2.0m	2.00	50	10	#			D
39	PT600Δ	2.0	300	∅	∅	70	20	175	10	150	2.0m	2.00	60	10	#			D
40	PT601Δ	2.0	300	∅	∅	70	20	150	10	120	2.0m	2.00	60	10	#			D
41	PT6021	2.0	350	∅	∅	100	20	150	10	100	2.0m	2.00	60	10	#			D
42	PT700	2.0	300	∅	∅	70	20	175	10	150	2.0m	2.00	70	10	#			D
43	PT701	2.0	300	∅	∅	70	20	150	10	120	2.0m	2.00	70	10	#			D
44	PT7021	2.0	350	∅	∅	100	20	150	10	100	2.0m	2.00	70	10	#			D
45	PT75031	2.0	350	∅	∅	70	15	175	10	150	2.0m	2.00	30	10	#			D
46	PT75061	2.0	350	∅	∅	80	20	175	10	150	2.0m	2.00	40	10	#			DM
47	PT75081	2.0	350	∅	∅	90	20	175	10	150	2.0m	2.00	50	10	#			DM
48	PT85021	2.0	350	∅	∅	150	40	150	10	120	2.0m	2.00	100	10	#			DM
49	SDT1808	2.0	170	∅	∅	60	10	80	30	60	5.0m	2.00	50	15		340k\$	10m	A
50	SDT1809	2.0	170	∅	∅	60	10	60	30	45	5.0m	2.00	50	15		340k\$	10m	A
51	SDT1810	2.0	170	∅	∅	60	10	40	20	30	5.0m	2.00	50	15		340k\$	10m	A
52	SDT8920	2.0	350	∅	∅	90	20	80	8.0	60	0.1m	5.0	75	10		20M		
53	SDT8921	2.0	350	∅	∅	90	20	100	8.0	80	0.1m	5.0	75	10		20M		
54	SDT8922	2.0	350	∅	∅	90	20	120	8.0	100	0.1m	5.0	75	10		20M		
55	SDT8923	2.0	350	∅	∅	90	20	140	8.0	120	0.1m	5.0	75	10		20M		
56	SDT8951	2.0	350	∅	∅	60	15	200	8.0		10u	10	40	10	40	20M\$		PL
57	SDT8952	2.0	350	∅	∅	60	15	225	8.0		10u	10	40	10	40	20M\$		PL
58	SDT8953	2.0	350	∅	∅	60	15	250	8.0		10u	10	40	10	40	20M\$		PL
59	SDT8954	2.0	350	∅	∅	60	15	275	8.0		10u	10	40	10	40	20M\$		PL
60	SDT8955	2.0	350	∅	∅	60	15	300	8.0		10u	10	40	10	40	20M\$		PL
61	ST14010	2.0	200	∅	∅	80	10	150	12	100	10u	5.00	80	10		10M\$Δ	30m	PE
62	ST14011	2.0	200	∅	∅	80	10	100	12	60	0.1m	5.00	20	40	200	10M\$Δ		PE
63	ST14012	2.0	200	∅	∅	80	10	125	12	80	0.1m	5.00	20	40	200	10M\$Δ		PE
64	ST14013	2.0	200	∅	∅	80	10	150	12	100	0.1m	5.00	20	40	200	10M\$Δ		PE
65	ST14026	2.0	200	∅	∅	80	10	125	10	80	100u	10	30	30	120	10M	38m	PE
66	ST14027	2.0	200	∅	∅	80	10	145	10	100	100u	10	30	30	120	10M	38m	PE
67	ST14028	2.0	200	∅	∅	80	10	170	10	120	100u	10	30	30	120	10M	38m	PE
68	ST14060	2.0	200	∅	∅	80	10	100	12	60	10u	5.00	80	10		10M\$Δ	30m	PE
69	ST14080	2.0	200	∅	∅	80	10	125	12	80	10u	5.00	80	10		10M\$Δ	30m	PE
70	STC2103	2.0	300	∅	∅	65	15	80	10	80	6.00	45	10			50m		D
71	STC2104	2.0	300	∅	∅	65	15	100	10	100	6.00	45	10			50m		D
72	STC2105	2.0	300	∅	∅	65	15	150	10	150	6.00	45	10			50m		D
73	STC2106	2.0	300	∅	∅	60		80	10	80	6.00	40	10			50m		D
74	STC2107	2.0	300	∅	∅	60		100	10	100	6.00	40	10			50m		D
75	STC2108	2.0	300	∅	∅	60		150	10	150	6.00	40	10			50m		D
76	STC3722	2.0	200	∅	∅	20	7.5	55	10	40	4.00	5.0	15	#		220m		D
77	STC3723	2.0	200	∅	∅	20	7.5	65	10	50	4.00	5.0	15	#		220m		D
78	STC3724	2.0	200	∅	∅	20	7.5	75	10	60	4.00	5.0	15	#		220m		D
79	STC3725	2.0	200	∅	∅	20	7.5	85	10	70	4.00	5.0	15	#		220m		D
80	STC3726	2.0	200	∅	∅	20	7.5	95	10	80	4.00	5.0	15	#		220m		D
81	STC3727	2.0	200	∅	∅	20	7.5	105	10	90	4.00	5.0	15	#		220m		D
82	STC3728	2.0	200	∅	∅	20	7.5	115	10	100	4.00	5.0	15	#		220m		D
83	STC3729	2.0	200	∅	∅	20	7.5	135	10	120	4.00	5.0	15	#		220m		D
84	STC3730	2.0	200	∅	∅	20	7.5	155	10	1								

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	Tjmax	ABSOLUTE MAX. RATINGS @25°C					MAX. @25°C			BIAS		MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION		L E O A D E	
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ 25°C (A)	Vcb (V)	Ic (A)	MIN	MAX						fsw (Hz)	STRUCTURE		DWG. No.
1	2N1824t	2.1	250	0	0	20	10	100	15	100	30m#	4.0	20	10			75m	20u	0	MT14	C			
2	2N1825t	2.1	250	0	0	20	10	150	15	150	30m#	4.0	20	10			75m	20u	0	MT14	C			
3	2N1826t	2.1	250	0	0	20	10	200	15	200	30m#	4.0	20	10			75m	20u	0	MT14	C			
4	2N1827t	2.1	250	0	0	20	10	250	15	250	30m#	4.0	20	10			75m	20u	0	TO49	C			
5	2N1830t	2.1	250	0	0	25	10	50	15	50	30m#	4.0	25	10			60m	20u	0	MT14	C			
6	2N1831t	2.1	250	0	0	25	10	100	15	100	30m#	4.0	25	10			60m	20u	0	MT14	C			
7	2N1832t	2.1	250	0	0	25	10	150	15	150	30m#	4.0	25	10			60m	20u	0	MT14	C			
8	2N1833t	2.1	250	0	0	25	10	200	15	200	30m#	4.0	25	10			60m	20u	0	MT14	C			
9	2N2108t	2.1	250	0	0	10	10	50	15	50	30m#	4.0	10	10			150m	20u	0	MT17	F			
10	2N2110t	2.1	250	0	0	10	10	100	15	100	30m#	4.0	10	10			150m	20u	0	MT17	F			
11	2N2111t	2.1	250	0	0	10	10	150	15	150	30m#	4.0	10	10			150m	20u	0	MT17	F			
12	2N2112t	2.1	250	0	0	10	10	200	15	200	30m#	4.0	10	10			150m	20u	0	MT17	F			
13	2N2113t	2.1	250	0	0	10	10	250	15	250	30m#	4.0	10	10			150m	20u	0	MT17	F			
14	2N2114t	2.1	250	0	0	10	10	300	15	300	30m#	4.0	10	10			150m	20u	0	MT17	F			
15	2N2116t	2.1	250	0	0	15	10	50	15	50	30m#	4.0	15	10			100m	20u	0	MT17	F			
16	2N2117t	2.1	250	0	0	15	10	100	15	100	30m#	4.0	15	10			100m	20u	0	MT17	F			
17	2N2118t	2.1	250	0	0	15	10	150	15	150	30m#	4.0	15	10			100m	20u	0	MT17	F			
18	2N2119t	2.1	250	0	0	15	10	200	15	200	30m#	4.0	15	10			100m	20u	0	MT17	F			
19	2N2123t	2.1	250	0	0	20	10	50	15	50	30m#	4.0	20	10			75m	20u	0	MT17	F			
20	2N2124t	2.1	250	0	0	20	10	100	15	100	30m#	4.0	20	10			75m	20u	0	MT17	F			
21	2N2125t	2.1	250	0	0	20	10	150	15	150	30m#	4.0	20	10			75m	20u	0	MT17	F			
22	2N2126t	2.1	250	0	0	20	10	200	15	200	30m#	4.0	20	10			75m	20u	0	MT17	F			
23	2N2127t	2.1	250	0	0	20	10	250	15	250	30m#	4.0	20	10			75m	20u	0	TO83	F			
24	2N2130t	2.1	250	0	0	25	10	50	15	50	30m#	4.0	25	10			60m	20u	0	MT17	F			
25	2N2131t	2.1	250	0	0	25	10	100	15	100	30m#	4.0	25	10			60m	20u	0	MT17	F			
26	2N2132t	2.1	250	0	0	25	10	150	15	150	30m#	4.0	25	10			60m	20u	0	MT17	F			
27	2N2133t	2.1	250	0	0	25	10	200	15	200	30m#	4.0	25	10			60m	20u	0	MT17	F			
28	2N1820t	2.2	250	0	0	15	10	250	15	250	30m#	4.0	15	10			100m	20u	0	MT14	C			
29	2N1201t	2.2	250	0	0	15	10	250	15	250	30m#	4.0	15	10			100m	20u	0	MT17	F			
30	ST28141	2.3	85	0	0	10	4.0	70	10	40	500u	10	5.0	30	150	10M	130m		PE	TO3				
31	ST28142	2.3	85	0	0	10	4.0	90	10	60	500u	10	5.0	30	150	10M	130m		PE	TO3				
32	ST28143	2.3	85	0	0	10	4.0	110	10	80	500u	10	5.0	30	150	10M	130m		PE	TO3				
33#	2SC642A	2.5	50	0	0	1.0	1.5k	10	5.0	800	10u	150	150m	30	160	1.5M			DME	TO3	C			
34#	2SC643A	2.5	50	0	0	1.5	1.5k	10	5.0	800	10u	150	2.0	7.0	50	4.0M			DME	TO3	C			
35#	2SC999	2.5	50	0	0	1.5	1.5k	10	5.0	700	10u	150	200m	30	120	1.0M			DME	TO3	C			
36#	2SC999A	2.5	50	0	0	2.5	1.5k	10	5.0	650	10u	150	150m	15	60	4.0M			DME	TO3	C			
37#	2SC1004A	2.5	50	0	0	500m	1.5k	5.0	800	10u	150	150m	30	160	2.0M			DME	TO3	C				
38#	2SC1005	2.5	50	0	0	5.0	1.1k	5.0	600	10u	150	4.0	5.0	12	3.0M			DM	TO3	C				
39#	2SC1005A	2.5	50	0	0	5.0	1.4k	5.0	600	10u	150	5.0	5.0	12	3.0M			DM	TO3	C				
40#	2SD107	2.5	50	0	0	5.0	5.0	10	60	20u	5.0	1.0	1.0k	10k	30M			DPL	TO3	C				
41#	2SD108	2.5	50	0	0	5.0	5.0	10	60	20u	5.0	1.0	1.0k	10k	30M			DPL	TO3	C				
42	STC2500	2.8	500	0	0	150	100	100	100	100	3.0	100	10	10			20m		PL	MT49	H			
43	STC2501	2.8	500	0	0	150	150	150	150	150	3.0	100	10	10			20m		PL	MT49	H			
44	STC2502	2.8	500	0	0	150	170	170	170	170	3.0	100	10	10			20m		PL	MT49	H			
45	PT2920	3.3	4.0	0	0	5.0	1.0	100	8.0	100	100n	2.0	1.0	40	300	50M	250m	80n	PL	TO59	H			
46	PT2972	3.3	4.0	0	0	5.0	1.0	100	8.0	100	100n	2.0	1.0	40	120	50M	300m	80n	PL	TO59	H			
47	PT2986	3.3	4.0	0	0	5.0	2.0	100	5.0	100	100n	5.0	2.0	80	200	50M	500m		PL	TO59	H			
48#	2SC782A	5.0	25	0	0	1.5	300	5.0	300	30u	100	100m	40	350	10M			DME	TO66	H				
49	1401-0205	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	50	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
50	1401-0207	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	75	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
51	1401-0210	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	100	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
52	1401-0215	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	150	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
53	1401-0220	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	200	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
54	1401-0225	5.0	625	0	0	250	35	30	10	20	2.0m#	4.0	250	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
55	1401-0405	5.0	625	0	0	250	35	50	10	40	2.0m#	4.0	50	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
56	1401-0407	5.0	625	0	0	250	35	50	10	40	2.0m#	4.0	75	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
57	1401-0410	5.0	625	0	0	250	35	50	10	40	2.0m#	4.0	100	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
58#	1401-0415t	5.0	625	0	0	250	75	7.0	40	40	10m#	4.0	150	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
59#	1401-0420t	5.0	625	0	0	250	75	7.0	40	40	10m#	4.0	200	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
60#	1401-0425t	5.0	625	0	0	250	75	7.0	40	40	10m#	4.0	250	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
61	1401-0605	5.0	625	0	0	250	35	70	10	60	2.0m#	4.0	50	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
62	1401-0607	5.0	625	0	0	250	35	70	10	60	2.0m#	4.0	75	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
63	1401-0610	5.0	625	0	0	250	35	70	10	60	2.0m#	4.0	100	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
64#	1401-0615t	5.0	625	0	0	250	75	7.0	60	60	10m#	4.0	150	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
65#	1401-0620t	5.0	625	0	0	250	75	7.0	60	60	10m#	4.0	200	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
66#	1401-0625t	5.0	625	0	0	250	75	7.0	60	60	10m#	4.0	250	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
67	1401-0805	5.0	625	0	0	250	35	90	10	80	2.0m#	4.0	50	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
68	1401-0807	5.0	625	0	0	250	35	90	10	80	2.0m#	4.0	75	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
69	1401-0810	5.0	625	0	0	250	35	90	10	80	2.0m#	4.0	100	10	#	500kΔ	5.0u	Δ	DA	MT14a	C			
70#	1401-0815t	5.0	625	0	0	250	75	7.0	80	80	10m#	4.0	150	10	#	500kΔ	5.0u	Δ	D	MT14a	C			
71#	1401-0820t	5.0	625	0	0	250	75	7.0	80	80	10m#	4.0	200	10	#	500kΔ	5.0u	Δ	D	MT14				

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

LINE No.	TYPE No.	1 MIN. DERATE J to C (W/C)	MAX FREE AIR @ 25°C (W)	Pc	M T A E X M P	ABSOLUTE MAX. RATINGS @25°C					MAX. I _{cb0} @ MAX V _{cb} @25°C (A)	BIAS		hFE		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION STRUCTURE	DWG. No.	L C O D E
						I _c (A)	I _b (A)	V _{cb0} (V)	V _{ve0} (V)	V _{ce0} (V)		V _{cb} (V)	I _c (A)	MIN	MAX						
1	TRL2505	13	2.0		SS	3.0	1.0	250	4.0	250	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
2	TRL2505S	13	2.0		SS	3.0	1.0	275	4.0	250	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
3	TRL2755S	13	2.0		SS	3.0	1.0	300	4.0	275	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
4	TRL3015	13	2.0		SS	3.0	1.0	300	4.0	300	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
5	TRL3015S	13	2.0		SS	3.0	1.0	325	4.0	300	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
6	TRL3505	13	2.0		SS	3.0	1.0	350	4.0	350	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
7	TRL3515S	13	2.0		SS	3.0	1.0	375	4.0	350	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
8	TRL4015	13	2.0		SS	3.0	1.0	400	4.0	400	10u	100	500m	15	35	∅	20M Δ	400n	DM	MD14	
9	PT3986	15	1.5		SJ	5.0	1.0	100	5.0	60	100n \emptyset	1.0	1.0	40			50M	250m	PL	TO5	H
10	PT4992	15	1.5		SJ	5.0	1.0	100	8.0	80	100n \emptyset	2.0	1.0	40	120		20M	500m	PL	TO5	H
11	PT5909	20	1.0		SJ	10	2.0	100	6.0	80	1.0u \emptyset	5.0	1.0	100	300		50M	500m	PL	TO5	A
12#	2SC1038	40	3.7		S	150m \emptyset		40	3.0	20	50u \emptyset	100	70m	15	200		2.0G \emptyset		PE	MT75c	GJ
13#	2SC1039	40	7.5		S	250m \emptyset		40	3.0	20	100u \emptyset	100	100m	15	200		2.0G \emptyset		PE	MT75c	GJ
14#	2SC1041	40	3.7		S	150m \emptyset		40	3.0	20	50u \emptyset	100	70m	15	200		2.0G \emptyset		PE	MT75c	GJ
15#	2SC1042	40	7.5		S	250m \emptyset		40	3.0	20	100u \emptyset	100	100m	15	200		2.0G \emptyset		PE	MT75c	GJ
16	SDT4451	40M \emptyset	4.0		SJ	5.0		80	8.0	40	1.0u \emptyset	5.0	1.0	20	60	#	20M Δ		PL	TO5	A \emptyset
17	SDT4452	40M \emptyset	4.0		SJ	5.0		100	8.0	80	1.0u \emptyset	5.0	1.0	20	60	#	20M Δ		PL	TO5	A \emptyset
18	SDT4453	40M \emptyset	4.0		SJ	5.0		80	8.0	40	1.0u \emptyset	5.0	1.0	40	120	#	20M Δ		PL	TO5	A \emptyset
19	SDT4454	40M \emptyset	4.0		SJ	5.0		100	8.0	80	1.0u \emptyset	5.0	1.0	40	120	#	20M Δ		PL	TO5	A \emptyset

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab. (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION			L C O E A D E
								V _{cb} (V)	I _e (A)	hFE				STRUCTURE P-N-P N-P-N	MAX. TEMP (°C)	DWG. No.	
1	2N5271		1.0n	5.0n			600m						N	Si	200S	T039	A∅
2	2N5432		1.0n	40n∅	6.0n∅	30n	300m				5.0	30p∅	N∅	Si	150S	T052	DJ
3	2N5433		1.0n	40n∅	6.0n∅	30n	300m				7.0	30p∅	N∅	Si	150S	T052	DJ
4	2N5434		1.0n	40n∅	6.0n∅	30n	300m				10	30p∅	N∅	Si	150S	T052	DJ
5#	111T2		1.0n	5.0n		4.0n	800m		10 ∅	150m∅	120 ∇	3.0	N-PE	Si	175J	R100	A
6	NS1110		1.0n	5.0n		4.0n	500m						N	Si	175J	T018	A∅
7	NS1111		1.0n	5.0n		4.0n	500m						N	Si	175J	T018	A∅
8	2N4856		3.0n	6.0n∅	25n∅		360m				25 ∅	18p∅	N∅	Si	200S	T018	DB∅
9	2N4856A		3.0n	5.0n∅		20n∅	1.8 ∅				25 ∅	10p∅	N∅	Si	200S	T018	DB∅
10	2N4859		3.0n	6.0n∅	25n∅		360m				25 ∅	18p∅	N∅	Si	200S	T018	DB∅
11	2N4859A		3.0n	5.0n∅		20n∅	1.8 ∅				25 ∅	10p∅	N∅	Si	200S	T018	DB∅
12#	BSV38		3.0n	6.0n		25n∅	150m∅				25 ∅	18p∅	NPE∅	Si	150S	u51	G
13#	BSV38P		3.0n	6.0n		25n∅	300m∅				25 ∅	18p∅	NPE∅	Si	150S	u17c	E
14#	BSV78		3.0n	5.0n		50n∅	350m				25 ∅	18p∅	N∅	Si	200J	T018	DB∅
15	TIS73		3.0n	6.0n∅		25n∅	360m				5.0 ∅	18p∅	N-PE∅	Si	150S	X55	DB∅
16	2N4857		4.0n	6.0n∅	50n∅		360m				40 ∅	18p∅	N∅	Si	200S	T018	DB∅
17	2N4857A		4.0n	6.0n∅		40n∅	1.8 ∅				40 ∅	10p∅	N∅	Si	200S	T018	DB∅
18	2N4860		4.0n	6.0n∅	50n∅		360m				40 ∅	18p∅	N∅	Si	200S	T018	DB∅
19	2N4860A		4.0n	6.0n∅		40n∅	1.8 ∅				40 ∅	10p∅	N-PE∅	Si	200S	T018	DB∅
20	TIS74		4.0n	6.0n∅		50n∅	360m				40 ∅	30 ∅	N∅	Si	150S	X55	DB∅
21	2N4391		5.0n	15n∅	20n∅	15n	1.8 ∅				30 ∅	14p∅	N∅	Si	200S	T018	DB∅
22	2N4392		5.0n	15n∅	35n∅	20n	1.8 ∅				60 ∅	14p∅	N∅	Si	200S	T018	DB∅
23	2N4393		5.0n	15n∅	50n∅	30n	1.8 ∅				100 ∅	14p∅	N∅	Si	200S	T018	DB∅
24	2N4977		5.0n	5.0n		20n∅	1.8 ∅				15 ∅	35p∅	N	Si	200S	T018	∅
25	2N5555		5.0n	10n		310m					150 ∅	5p∅	N	Si	150S	T092	DD
26	2N5638		5.0n	5.0n		10m	310m				10p∅	10p∅	N∅	Si	150S	T092	DD
27	2N5653		5.0n	5.0n		10n	310m				10p∅	10p∅	N∅	Si	150S	T092	DD
28#	BSV79		5.0n	7.0n		50n∅	350m				40 ∅	14p	N∅	Si	200J	T018	DB∅
29	HSC4391		5.0n	15n∅	20n∅	15n	310m				30	14p	N-ES	Si	125S	T0106	DB
30	HSC4392		5.0n	15n∅	35n∅	20n	310m				60	14p	N-ES	Si	125S	T0106	DB
31	HSC4393		5.0n	15n∅	50n∅	30n	310m				100	14p	N-ES	Si	125S	T0106	DB
32	HSC5638		5.0n	5.0n		10n	310m				10p	10p	N-ES	Si	125S	T0106	DB
33	LDF691		5.0n	15n∅	20n∅	15n	360m				16p∅	16p∅	N∅	Si	150J	u34	DB
34	LDF692		5.0n	15n∅	35n∅	20n	360m				16p∅	16p∅	N∅	Si	150J	u34	DB
35	3N167		6.0n	8.0n∅	12n∅	9.0n	225m				20 ∅	35m∅	PMOS∅	Si	150S	T072	DM
36	3N168		6.0n	8.0n∅	12n∅	9.0n	225m				40 ∅	35p∅	PMOS∅	Si	150S	T072	DM
37	MFE2007		6.0n	10n		65n	1.8 ∅				30p∅	30p∅	N∅	Si	175J	T018	DB∅
38	MFE2008		6.0n	10n		40n	1.8 ∅				30p∅	30p∅	N∅	Si	175J	T018	DB∅
39	MFE2009		6.0n	10n		25n	1.8 ∅				30p∅	30p∅	N∅	Si	175J	T018	DB∅
40	MFE2010		6.0n	10n		75n	1.8 ∅				50p∅	50p∅	N∅	Si	175J	T018	DB∅
41	MFE2011		6.0n	10n		45n	1.8 ∅				50p∅	50p∅	N∅	Si	175J	T018	DB∅
42	MFE2012		6.0n	10n		25n	1.8 ∅				50p∅	50p∅	N∅	Si	175J	T018	DB∅
43	151-06		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
44	151-08		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
45	151-10		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
46	151-12		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
47	151-14		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
48	151-16		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
49	151-18		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
50	151-20		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
51	151-22		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
52	151-24		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-F	Si	150J	MT1	
53	151-26		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-FA	Si	150J	MT1	
54	151-28		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-FA	Si	150J	MT1	
55	151-30		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	11 ∆	870m		N-FA	Si	150J	MT1	
56	152-04		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
57	152-06		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
58	152-08		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
59	152-10		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
60	152-12		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
61	152-14		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
62	152-16		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
63	152-18		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
64	152-20		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
65	152-22		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
66	152-24		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	870m		N-F	Si	150J	MT1	
67	152-26		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	830m		N-FA	Si	150J	MT1	
68	152-28		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	830m		N-FA	Si	150J	MT1	
69	152-30		7.0n∅			14n∅	100	4.0 ∅	1.5m∅	18 ∆	830m		N-FA	Si	150J	MT1	
70	2N4858A		8.0n	8.0n∅		80n∅	1.8 ∅				60 ∅	10p∅	N∅	Si	200S	T018	DB
71	2N4861A		8.0n	8.0n∅		80n∅	1.8 ∅				10p∅	10p∅	N∅	Si	200S	T018	DB
72	2N5639		8.0n	10n		20n	310m				60 ∅	10p∅	N∅	Si	150S	T092	DD
73	2N5654		8.0n	10n		20n	310m				10p∅	10p∅	N∅	Si	150S	T092	DD
74	HSC5639		8.0n	10n		20n	310m				10p	10p	N-ES	Si	125S	T0106	DB
75	2N3970		10n	10n	30n∅		1.8				30 ∅		N	Si	200S	T018	DB∅
76#	JAN2N4091		10n			40n∅	360m				20 ∅	16p∅	N∅	Si	175A	T018	DB∅
77	2N4094		10n	15n		40n∅	1.8 ∅				20 ∅	16p∅	N	Si	200S	T018	DB∅
78	2N4858		10n	10n	100n∅		360m				60 ∅	18p∅	N∅	Si	200S	T018	DB∅
79	2N4861		10n	10n	100n∅		360m				60 ∅	18p∅	N∅	Si	200S	T018	DB∅
80	2N4978		10n	50n	40n∅		1.8 ∅				20 ∅	35p∅	N	Si	200S	T018	DB∅
81	2N5114		10n			15n	500m				75 ∅	25p∅	P∅	Si	200S	T018	DA∅
82	2N5640		10n	15n		30n	310m				10p∅	10p∅	N∅	Si	150S	T092	DD
83	3N169		10n			15n	800m∅				5.0p∅	5.0p∅	N	Si	200S	T072	DR∅
84	3N170		10n			15n	800m∅				5.0p∅	5.0p∅	N	Si	200S	T072	DR∅
85	3N171		10n		15n	800m∅					5.0p∅	5.0p∅	N	Si	200S	T072	DR∅
86#	BSV80		10n	10n		50n∅	350m				60 ∅	10p	N∅	Si	200J	T018	DB∅
87	HSC5640		10n	15n		30n	310m				10p	10p	N-ES	Si	125S	T0106	DB
88	MFE2006		10n	10n		40n∅	1.8 ∅										

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			L C E A O D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)	DWG. No.	
1	U241		20n	15n	20n	15n	400m					70p	Ns	Si	200S	T052	DB
2	U242		20n	15n	20n	15n	400m					70p	Ns	Si	200S	T052	DB
3	U243		20n	15n	20n	15n	400m					70p	Ns	Si	200S	T052	DB
4	U1898E		20n	15n		60n	300m				50	16p	Ns	Si	125J	R97b	DB
5	3N163		24n	12n		50n	375m	15	10m	2.0 Δ	250	2.5p	P-MOS	Si	200S	T072	DM
6	3N164		24n	12n		50n	375m	15	10m	1.0 Δ	300	2.5p	P-MOS	Si	200S	T072	DM
7	3N172		24n			50n	375m	15	10m	4.0		3.5p	P	Si	200S	T072	DM
8	3N173		24n			50n	375m	15	10m	4.0		3.5p	P	Si	200S	T072	DM
9	2N5188		25n	10n	35n	15n	800m	50	150m	25 Δ	3.3		N	Si	200S	T039	A
10	2N837		30n			40n	300m	50	10m	30 Δ	25	9.0p	Ge	100S	T018	A	
11	2N2173		30n	30n	100n	80n	240m	1.0	200m	30 Δ	2.0	6.0p	P	Si	100S	T039	A
12	2N4066		30n	20n		50n	1.7	15		1.5	500	7p	P	Si	175J	L18a	
13	2N4067		30n	20n		50n	1.7	15		2.5	250	7p	P	Si	175J	L18a	
14	2N4979		30n	10n	60n		1.8				40	35p	N	Si	200J	T018	DB
15	2N5116		30n			50n	500m				150	25p	P	Si	200S	T018	DA
16	2N5262		30n			60n	800m	1.0	100m	35 Δ	80		N	Si	200S	R81e	A
17	3N162		30n	30n	160n	180n	2.0				100	20p	P-MOS	Si	150S	T033	DM
18	3N166		30n	15n		50n	300m	15	10m	1.5 Δ	300	3.0p	P-MOS	Si	200S	L18c	
19	3N175		30n	25n	50n	150n	225m				200	5.0p	NMOS	Si	200S	T072	DR
20	3N181		30n	30n	50n	180n	300m				45	25p	NMOS	Si	200S	T072	DM
21	MEM400		30n	30n	160n	180n	600m				40	25p	P	Si	200S	T033	DM
22	MEM401		30n	30n	160n	180n	600m				60	25p	P	Si	200S	T033	DM
23	MEM402		30n	30n	160n	180n	600m				75	30p	P	Si	200S	T033	DM
24	MFE3020		30n	20n		50n	600m	15		500uΔ	500	7.0p	P*	Si	175J	L18a	
25	MFE3021		30n	20n		50n	600m	15		500uΔ	250	7.0p	P*	Si	175J	L18a	
26	2N994		35n		45n	200m	200m	.25	10m	140	18	6.0p	P	Si	150S	T018	A
27	3N176		35n	30n	55n	150n	225m				300	5.0p	NMOS	Si	200S	T072	DR
28	3N182		35n	35n	160n	180n	300m				60	25p	NMOS	Si	200S	T072	DM
29	CM697		35n	35n	35n	180n	400m				15	15	N-E	Si	200J	R135	DD
30	2N3972		40n	40n	100n		1.8				100	15	N	Si	200S	T018	DB
31	JAN2N4093		40n			80n	360m				80	16p	N	Si	175A	T018	DB
32	2N4093A		40n	20n		80n	1.8				80	16p	N	Si	200S	T018	DB
33	2N5189		40n			70n	1.0	1.0	1.0	15 Δ	1.0		N	Si	200S	R81	A
34	2SC1072		40n		50n	60n	800m	1.0	500m	35 Δ		12p	N-PE	Si	175J	R81e	A
35	2SC1072A		40n		50n	60n	800m	1.0	500m	35 Δ		3.0p	N-PE	Si	175J	R81e	A
36	3N177		40n	35n	60n	150n	225m				500	7.0p	NMOS	Si	200S	T072	DR
37	3N183		40n	40n	160n	180n	300m				75	30p	PMOS	Si	200S	T072	DM
38	BFV51		40n			50n	150m	10	500m	20 Δ	3.3	8.0p	NPE	Si	200J	u34b	P
39	BFV53		40n			50n	150m	10	500m	20 Δ	3.3	8.0p	NPE	Si	200J	u34b	P
40	MFE2004		40n	20n		80n	1.8				80	16p	N	Si	175J	T018	DB
41	U1899E		40n	20n		80n	300m				80	16p	Ns	Si	125J	R97b	DB
42	2SC913		42n		25n	38n	300m	1.0	30m	45 Δ		5.0p	N-PE	Si	175J	T018	A
43	2SC915		42n		25n	38n	300m	1.0	30m	45 Δ		5.0p	N-PE	Si	175J	T018	A
44	2SC1071		45n		27n	42n	300m	1.0	30m	40 Δ		5.0p	N-PE	Si	175J	T018	A
45	3N184		45n	35n	55n	150n	300m				400	9.0p	PMOS	Si	200S	T072	DM
46	3N174		50n			100n	360m	15			400	4.0p	P	Si	200S	T072	DM
47	3N185		50n	40n	60n	150n	300m				2.5	10p	PMOS	Si	200S	T072	DM
48	CMX740		50n	40n	60n	150n	300m				2.5	10p	Ns	Si	200J	T046	DD
49	3N186		55n	45n	65n	150n	300m				55	11p	PMOS	Si	200S	T072	DM
50	JAN2N560		60n			250n	500m	5.0	100m	200	20	8.0p	N	Si	200J	T05	A
51	2N1499		60n			25m*	250m	250m	10m	20 Δ	20		P-AD	Ge	85S	T09	A
52	2N4353		60n	60n	120n	180n	250m						N	Si	125S	T072	DM
53	2SC916		60n			200n	2.0	1.0	400m	40 Δ		38p	N-PE	Si	175J	T08	
54	2N3867		65n	35n	325n	75n	6.0	3.0	2.5	20 Δ	1.0	120p	P	Si	200S	T05	A
55	2N3868		65n	35n	325n	75n	6.0	3.0	2.5	20 Δ	1.0	120p	P	Si	200S	T05	A
56	2N4351		65n	45n	160n	300m					300	5p	Ns	Si	200S	T072	DR
57	2N4352		65n	45n	160n	300m					600	5p	P	Si	200S	T072	DR
58	3N155		65n	45n		100n	300m				600		P	Si	175J	T072	DR
59	3N155A		65n			100n	300m				300		P	Si	175J	T072	DG
60	3N156		65n	45n		100n	300m				600		P	Si	175J	T072	DR
61	3N156A		65n			100n	300m				300		P	Si	175J	T072	DG
62	MEM200		65n	45n	100n	100n	225m				200	5.0p	N	Si	200S	T022	DR
63	MEM201		65n	45n	100n	100n	225m				300	5.0p	N	Si	200S	T022	DR
64	MEM202		65n	45n	100n	100n	225m				500	7.0p	N	Si	200S	T022	DR
65	MEM562		65n			160n	650m	10	2.0m	1.0	300	3.0	N-MOS	Si	125J	T072	DR
66	JAN2N1646		70n			100n	150m	500m	10m	15 Δ	60	5.0p	Ge	100S	X25	A	
67	JAN2N695		75n		100n	100n	150m	300m	10m	25 Δ	20	5.0p	P	Ge	100J	T017	G
68	JAN2N705		75n		100n	100n	150m	300m	10m	10 Δ			P	Ge	100J	T018	Ø
69	2N710A		75n		50n	75n	300m	500m	10m	25 Δ	50	8.0p	P	Ge	100S	T018	A
70	2N782		75n		35n	75n	300m	.25	10m	20 Δ	20		Ge	100J	T018	A	
71	2N5019		75n	15n	100n	1.8	300m				150	45p	P	Si	200J	T018	DA
72	MEM100		75n	55n	150n	150n	300m				150	9.0p	P	Si	200S	T072	DM
73	MEM101		75n	55n	150n	150n	300m				175	10p	P	Si	200S	T072	DM
74	MEM102		75n	55n	150n	150n	300m				200	11p	P	Si	200S	T072	DM
75	P1087E		75n	15n		100n	300m					45p	P	Si	125J	R97b	DB
76	2SC914		80n		60n	80n	300m	1.0	30m	45 Δ		5.0p	N-PE	Si	175J	T018	A
77	2N4305		90n	50n	300n	100n	1.5	2.0	5.0m	10 #	20	100p	N	Si	200J	T05	A
78	2N4306		90n	50n	300n	100n	4.0	2.0	5.0m	10 #Δ	20	100p	N	Si	200J	MT65	
79	2N4307		90n	50n	300n	100n	1.5	2.0	5.0m	10 #Δ	20	100p	N	Si	200J	T05	A
80	2N4308		90n	50n	300n	100n	4.0	2.0	5.0m	10 #Δ	20	100p	N	Si	200C	MT65	
81	2N4309		90n	50n	300n	100n	1.5	2.0	5.0m	10 #Δ	33	100p	N	Si	200J	T05	A
82	2N4310		90n	50n	300n	100n	4.0	2.0	5.0m	10 #Δ	33	100p	N	Si	200C	MT65	
83	2N4311		90n	50n	300n	100n	1.5	2.0	5.0m	10 #Δ	33	100p	N	Si	200J	T05	A
84	2N4312		90n	50n	300n	100n	4.0	2.0	5.0m	10 #Δ	33	100p	N	Si	200C	MT65	
85	JAN2N1072		100n			300n	12	5.0	750m	20 Δ	1.5	55p	N	Si	150S	T038	A
86	2N1450		100n			85n	120m	1.0	10m	10 Δ			P-AD	Ge	85S	T09	
87	JAN2N1450M		100n			85n	120m	1.0	10m	10 Δ			P	Ge	100S	R81a	
88	2N3966		100n	20n		100n	320m				220	6.0p	N	Si	200S	T072	DH
89	3N147		100n	20n		150n	1.7				850		P	Si	175J	L18a	
90	3N148		100n	20n		150n	1.7				850		P	Si	175J	L18a	
91	3N149		100n	20n		150n	1.3				400		P	Si	175J	T072	DM
92																	

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	L E A D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MOUNTING			
1	2N356A		2100n		500n	1.2u	150m	25	1.0m	50	2.0		N	Ge	100S	TO5	A	
2	2N1954		2750n		2.7u	3.5u	200m	500m	200m	22	8.7		P	Ge	100S	TO5	A	
3	2N1955		2750n		2.7u	3.5u	200m	500m	200m	22	8.7		P	Ge	100S	TO5	A	
4	2N1956		2750n		2.7u	3.5u	200m	500m	200m	22	8.7		P	Ge	100S	TO5	A	
5	2N1957		2750n		2.7u	3.5u	200m	500m	200m	22	8.7		P	Ge	100S	TO5	A	
6	2N1172		3000n			3.0u	200	2.0	500m	30	60		P	Ge	95J	TO37	A	
7	153-04		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
8	153-06		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
9	153-08		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
10	153-10		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
11	153-12		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
12	153-14		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
13	153-16		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
14	153-18		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
15	153-20		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
16	153-22		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
17	153-24		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
18	153-26		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
19	153-28		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
20	153-30		3.0u			6.0u	200	4.0	1.5	15	866m		N	Si	175J	MT58		
21	154-04		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
22	154-06		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
23	154-08		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
24	154-10		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
25	154-12		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
26	154-14		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
27	154-16		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
28	154-18		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
29	154-20		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
30	154-22		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
31	154-24		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
32	154-26		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
33	154-28		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
34	154-30		3.0u			6.0u	200	4.0	1.5	25	833m		N	Si	175J	MT58		
35	JAN2N2528		4000n		3.0u	2.0u	85	2.0	3.0m	20	80m		N	Ge	110J	MD6f	C	
36	B170018		4000n		300n	500n	60	4.0	1.0m	30	400m		N-DM	Si	200J	TO3	C	
37	B170021		4000n		300n	500n	60	4.0	1.0m	30	400m		N-DM	Si	200J	TO3	C	
38	B170024		4000n		300n	500n	60	4.0	1.0m	30	400m		N-DM	Si	200J	TO3	C	
39	2N2739		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT1	B	
40	2N2740		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT1	B	
41	2N2741		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT1	B	
42	2N2742		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT1	B	
43	2N2743		6.0u			12u	200	4.0	10	10	10		N	Si	175C	MT1b	B	
44	2N2744		6.0u			12u	200	4.0	10	10	10		N	Si	175C	MT1b	B	
45	2N2745		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT1	B	
46	2N2746		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT1	B	
47	2N2747		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT1	B	
48	2N2748		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT1	B	
49	2N2757		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT33	A	
50	2N2758		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT33	A	
51	2N2759		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT33	A	
52	2N2760		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT33	A	
53	2N2761		6000n		12u		20m	12	2.5	25	15		N	Si	175C	MT33	A	
54	2N2762		6.0u			12u	200	4.0	10	10	10		N	Si	175C	MT33	A	
55	2N2763		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT33	A	
56	2N2764		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT33	A	
57	2N2765		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT33	A	
58	2N2766		6000n		12u		20m	12	3.7	20	10		N	Si	175C	MT33	A	
59	2N2767		6.0u			12u	200	4.0	15	10	10		N	Si	175C	MT33	A	
60	2N2768		6.0u			12u	200	4.0	15	10	10		N	Si	175C	MT33	A	
61	163-04		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
62	163-06		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
63	163-08		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
64	163-10		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
65	163-12		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
66	163-14		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
67	163-16		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
68	163-18		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
69	163-22		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
70	163-24		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
71	163-26		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
72	163-28		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
73	163-30		6.0u			12u	200	4.0	5.0	15	220m		N	Si	175J	MT33	A	
74	164-04		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
75	164-06		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
76	164-08		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
77	164-10		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
78	164-12		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
79	164-14		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
80	164-16		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
81	164-18		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
82	164-20		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
83	164-22		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
84	164-24		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
85	164-26		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
86	164-28		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
87	164-30		6.0u			12u	200	4.0	5.0	25	200m		N	Si	175J	MT33	A	
88	B170019		6000n		400n	1.0u	90	4.0	3.0m	20	270m		N-DM	Si	200J	TO3	C	
89	B170022		6000n		400n	1.0u	90	4.0	3.0m	20	270m		N-DM	Si	200J	TO3	C	
90	B170025		6000n		400n	1.0u	90	4.0	3.0m	20	270m		N-DM	Si	200J	TO3	C	
91	2N2751		7000n		13u		20m	12	5.0	20	10		N	Si	175C	MT1	B	
92	2N2752		7000n		13u		20m	12	5.0	20	10		N	Si	175C	MT1	B	
93	2N2753		700															

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME &
(3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			L C O D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)	DWG. No.	
1	B170023		8000n		500n	1.5u	120	4.0	5.0	12	300m		N-DM	Si	200J	T03	C00
2	B170026		8000n		500n	1.5u	120	4.0	5.0	12	300m		N-DM	Si	200J	T03	C00
3	JAN2N1557A		10u	2.0u	5.0u	30u	90	2.0	5.0	60 Δ	50m		P	Ge	100J	T03	C00
4	JAN2N1558A		10u	2.0u	5.0u	30u	90	2.0	5.0	60 Δ	50m		P	Ge	100J	T03	C00
5	JAN2N1559A		10u	2.0u	5.0u	30u	90	2.0	5.0	60 Δ	50m		P	Ge	100J	T03	C00
6	JAN2N1560A		10u	2.0u	5.0u	30u	90	2.0	5.0	60 Δ	50m		P	Ge	100J	T03	C00
7	MP600		10u		6.0u	13u	85	2.0	5.0	50 Δ	30m		PADE	Ge	110J	T03	C00
8	MP601		10u		6.0u	13u	85	2.0	5.0	50 Δ	30m		PADE	Ge	110J	T03	C00
9	MP602		10u		6.0u	13u	85	2.0	5.0	50 Δ	30m		PADE	Ge	110J	T03	C00
10	MP603		10u		6.0u	13u	85	2.0	5.0	50 Δ	30m		PADE	Ge	110J	T03	C00
11	2N5435		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
12	2N5436		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
13	2N5437		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
14	2N5438		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
15	2N5439		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
16	2N5440		12u		10u	8.0u	120	2.0	25	20 Δ			P	Ge	110J	T03	C00
17	2N637		15.0u			35u	25	4.0	3	30 Δ			P	Ge	100J	T03	C00
18	2N637A		15.0u			35u	25	4.0	3	30 Δ			P	Ge	100J	T03	C00
19	2N637B		15.0u			35u	25	4.0	3	30 Δ			P	Ge	100J	T03	C00
20	2N638		15.0u			35u	25	4.0	3	20 Δ			P	Ge	100J	T03	C00
21	2N638A		15.0u			35u	25	4.0	3	20 Δ			P	Ge	100J	T03	C00
22	2N638B		15.0u			35u	25	4.0	3	20 Δ			P	Ge	100J	T03	C00
23	2N639		15.0u			35u	25	4.0	3	15 Δ			P	Ge	100J	T03	C00
24	2N639A		15.0u			35u	25	4.0	3	15 Δ			P	Ge	100J	T03	C00
25	2N639B		15.0u			35u	25	4.0	3	15 Δ			P	Ge	100J	T03	C00
26	DTG2400M		18u		12u	18u	25	2.0	25	15 Δ	150m		P	Ge	110J	T03	C00
27	2N1809		20u			25u	250	4.0	10	10 Δ			N	Si	175J	MT14	C00
28	2N1810		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
29	2N1811		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
30	2N1812		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
31	2N1813		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
32	2N1814		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
33	2N1816		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT14	C00
34	2N1817		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT14	C00
35	2N1818		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT14	C00
36	2N1819		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT14	C00
37	2N1820		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT14	C00
38	2N1823		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT14	C00
39	2N1824		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT14	C00
40	2N1825		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT14	C00
41	2N1826		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT14	C00
42	2N1827		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	TO49	C00
43	2N1830		20u			25u	250	4.0	25	10 Δ	80m		N	Si	175J	MT14	C00
44	2N1831		20u			25u	250	4.0	25	10 Δ	80m		N	Si	175J	MT14	C00
45	2N1832		20u			25u	250	4.0	25	10 Δ	80m		N	Si	175J	MT14	C00
46	2N1833		20u			25u	250	4.0	25	10 Δ	80m		N	Si	175J	MT14	C00
47	2N2109		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
48	2N2110		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
49	2N2111		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
50	2N2112		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
51	2N2113		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
52	2N2114		20u			25u	250	4.0	10	10 Δ	150m		N	Si	175J	MT17	C00
53	2N2116		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT17	C00
54	2N2117		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT17	C00
55	2N2118		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT17	C00
56	2N2119		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT17	C00
57	2N2120		20u			25u	250	4.0	15	10 Δ	100m		N	Si	175J	MT17	C00
58	2N2123		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT17	C00
59	2N2124		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT17	C00
60	2N2125		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT17	C00
61	2N2126		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT17	C00
62	2N2127		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	MT17	C00
63	2N2130		20u			25u	250	4.0	20	10 Δ	75m		N	Si	175J	TO83	C00
64	2N2131		20u			25u	250	4.0	25	10 Δ	60m		N	Si	175J	MT17	C00
65	2N2132		20u			25u	250	4.0	25	10 Δ	60m		N	Si	175J	MT17	C00
66	2N2133		20u			25u	250	4.0	25	10 Δ	60m		N	Si	175J	MT17	C00
67	2N5692		20u		8.0u	15u	120	2.0	40	10 Δ			P	Ge	110J		C00
68	2N5693		20u		8.0u	15u	120	2.0	40	10 Δ			P	Ge	110J		C00
69	2N5694		20u		8.0u	15u	120	2.0	40	10 Δ			P	Ge	110J		C00
70	2N5695		20u		8.0u	15u	120	2.0	40	10 Δ			P	Ge	110J		C00
71	2N5696		20u		8.0u	15u	120	2.0	40	10 Δ			P	Ge	110J		C00
72	MP900		25u		5.0u	15u	250	2.0	70	20 Δ	3.0m		P-AN	Si	110J	X71	A00
73	MP901		25u		5.0u	15u	250	2.0	70	20 Δ	3.0m		P-AN	Si	110J	X71	A00
74	MP902		25u		5.0u	15u	250	2.0	70	20 Δ	3.0m		P-AN	Si	110J	X71	A00
75	B113003		30u		6.0u	20u	3.5	2.0	10	100 □	30m		P-DA	Ge	110	T03	C00
76	B113004		30u		6.0u	20u	3.5	2.0	10	100 □	30m		P-DA	Ge	110	T03	C00
77	B113005		30u		6.0u	20u	3.5	2.0	10	100 □	30m		P-DA	Ge	110	T03	C00
78	163-20		66.0u			12u	200	4.0	5.0	15 Δ	220m		N	Si	175J	MT33	A00
79	CS3905	200m sΔ	35n	35n	200n	60n	310m	1.0	100u	30 #Δ		4.5p	P-FA	Si	135J	TO106	A00
80	2N426	6.00 s	1050n		1.1m	60n	170m	250m	1.0m	40	3.2	14p	P-PE	Ge	80J	T05	A00
81	A5T3906	250 sΔ	35n	35n	225n	75n	360m	1.0	1.0m	80 Δ		4.5p	P-PE	Si	150S	X55	A00
82	CS4021	350 sΔ	18n	18n	25u	28n	200m	.50	100m	55 #		3.3p	N-E	Si	125J	R97a	A00
83	JAN2N5156	750 sΔ	20u		70u	40u	90	2.0	5.0	250 □	100m		P	Ge	100A	T03	C00
84	2N4048	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
85	2N4049	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
86	2N4050	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
87	2N4051	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
88	2N4052	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
89	2N4053	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
90	2N4276	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00
91	2N4277	.002mTΔ	20u		70u		170m	2.0	60	15 #Δ			P	Ge	110J	T036	C00</

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			L E O D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE P-PNP N-NPN	MAX. TEMP (°C)	DWG. No.	
1	CDT1311	.008M	3500n		8.5u	2.5u	45m	2.0	2.0m	80	30		P-A	Ge	100J	T03	CØ
2	CDT1312	.008M	3500n		6.5u	2.5u	45m	2.0	2.0m	80	30		P-A	Ge	100J	T03	CØ
3	CDT1313	.008M	3500n		6.5u	2.5u	45m	2.0	2.0m	80	30		P-A	Ge	100J	T03	CØ
4#	BDY10	10k	4000n	250nt	1.5u	3.0u	150	2.0	200m	20 Δ	350m		N-D	Si	175J	T03	CØ
5#	BDY11	10k	4000n	250nt	1.5u	3.0u	150	2.0	200m	20 Δ	350m		N-D	Si	175J	T03	CØ
6	JAN2N1549A	10kΔ	8.0u	2.0u	3.0u	6.0u	90	2.0	5.0	15 Δ	100m		P	Ge	100J	T03	CØ
7	JAN2N1550A	10kΔ	8.0u	2.0u	3.0u	6.0u	90	2.0	5.0	15 Δ	100m		P	Ge	100J	T03	CØ
8	JAN2N1551A	10kΔ	8.0u	2.0u	3.0u	6.0u	90	2.0	5.0	15 Δ	100m		P	Ge	100J	T03	CØ
9	JAN2N1552A	10kΔ	8.0u	2.0u	3.0u	6.0u	90	2.0	5.0	15 Δ	100m		P	Ge	100J	T03	CØ
10	2N1159	.01M	10.9u			10u	20	2.0	1	150	30		P	Ge	95J	T03	CØ
11	2N1160	.01M	10.9u			10u	20	2.0	2	100	20		P	Ge	95J	T03	CØ
12	2N1100	.01M	15.0u			15u	30	2.0	12	20	.06		P	Ge	95J	T036	CØ
13	3N46	12k	6000n			1.2u	75	2.0	10m	27			P-A	Ge	100J	TO15	GB
14	CST1773	.015M	2500n		300n	400n	28	2.0	500m	25 Δ	.50		P	Ge	100	MS7	
15	CST1773A	.015M	2500n		300n	400n	28	2.0	500m	25 Δ	.50		P	Ge	100	MS7	
16	CST1773B	.015M	2500n		300n	400n	28	2.0	500m	25 Δ	.50		P	Ge	100	MS7	
17	3N45	16.5k	3.0n			6.0u	75	2.0	10	33			P-A	Ge	100J	TO15	GB
18	2N3429	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
19	2N3430	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
20	2N3431	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
21	2N3432	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
22	2N3433	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
23	2N3434	20kΔ	4000n		4.0u	8.0u	150	2.0	5.0	10 Δ	200m		N	Si	175J	MT52	B
24	2N1015	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
25	2N1015A	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
26	2N1015B	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
27	2N1015C	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
28	2N1015D	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
29	2N1015E	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
30	2N1015F	.02M	6000n		20u		700m	4.0	2	10 Δ			N	Si	150J	MT1	B
31	2N1016	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
32	2N1016A	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
33	2N1016B	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
34	2N1016C	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
35	2N1016D	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
36	2N1016E	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
37	2N1016F	.02M	6000n		10u		700m	4.0	5	10 Δ			N	Si	150J	MT1	B
38#	DT1510	25k	1000n	300n	4.5u	1.0u	800m	6.0	300m	25	7.0		N	Si	150S	TO5	
39#	DT1511	25k	1000n	300n	4.5u	1.0u	800m	6.0	300m	25	7.0		N	Si	150S	TO5	
40#	DT1512	25k	1000n	300n	4.5u	1.0u	800m	6.0	300m	25	7.0		N	Si	150S	TO5	
41	2N2580	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.14		N	Si	150C	TO36	CØ
42	2N2581	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.10		N	Si	150C	TO36	CØ
43	2N2582	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.14		N	Si	150C	TO36	CØ
44	2N2583	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.10		N	Si	150C	TO36	CØ
45	2N2584	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.14		N	Si	150C	TO36	CØ
46	2N2585	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.10		N	Si	150C	TO36	CØ
47	2N3079	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.14		N	Si	150C	TO36	CØ
48	2N3080	.03MΔ	6000n		6.0u	5.0u	150	5.0	5.0m	10 Δ	.14		N	Si	150C	TO36	CØ
49	2N3902	.04kΔ	800n	900n	800n	100	100	5.0	1.0	30 Δ	1.0		N	Si	150J	T03	CØ
50	2N1358	.10M	15n		15n		800m	2.0	5.0m	25 Δ	.06		P	Ge	95J	TO36	CØ
51	2N5155	.150kΔ	18u		12u	18u	60	2.0	8.0	25 Δ	36m		P	Ge	110J	T03	CØ
52	2N5156	.15MΔ	20.0u		25u	40u	93	2.0	5	25 Δ	10		P	Ge	100J	T03	CØ
53	2N456	200ks	26u					1.5	500u	30	200m		P-A	Ge	95J	T03	CØ
54	2N457	200ks	26u					1.5	500u	30	200m		P-A	Ge	95J	T03	CØ
55	MP2000A	210ks	9.0u		17u	106	106	2.0	8.0	25 Δ	24m		PADE	Ge	110J	T03	CØ
56	MP2100A	210ks	9.0u		17u	106	106	2.0	8.0	25 Δ	24m		PADE	Ge	110J	T03	CØ
57	MP2200A	210ks	9.0u		17u	106	106	2.0	8.0	25 Δ	24m		PADE	Ge	110J	T03	CØ
58	MP2300A	210ks	9.0u		17u	106	106	2.0	8.0	25 Δ	24m		PADE	Ge	110J	T03	CØ
59	MP2400A	210ks	9.0u		17u	106	106	2.0	8.0	25 Δ	24m		PADE	Ge	110J	T03	CØ
60	2N1042	250ksΔ	480nt	200nt	290nt	2.1u	1.1	1.0	3.0	60	250m	100p	P-A	Ge	100S	MT28	
61	2N1043	250ksΔ	480nt	200nt	290nt	2.1u	1.1	1.0	3.0	60	250m	100p	P-A	Ge	100S	MT28	
62	2N1044	250ksΔ	480nt	200nt	290nt	2.1u	1.1	1.0	3.0	60	250m	100p	P-A	Ge	100S	MT28	
63	2N1045	250ksΔ	480nt	200nt	290nt	2.1u	1.1	1.0	3.0	60	250m	100p	P-A	Ge	100S	MT28	
64	DTG2000	250ks	9000n		10u			2.0	25	15 Δ	36m		P	Ge	110J	TO41	
65	DTG2100	250ks	9000n		10u			2.0	25	15 Δ	36m		P	Ge	110J	TO41	
66	DTG2200	250ks	9000n		10u			2.0	25	15 Δ	36m		P	Ge	110J	TO41	
67	DTG2300	250ks	9000n		10u			2.0	25	15 Δ	36m		P	Ge	110J	TO41	
68	DTG2400	250ks	9000n		10u			2.0	25	15 Δ	36m		P	Ge	110J	TO41	
69	2SB282	.25M	15u		15u	25u	30	1.0	6.0	21			P-A	Ge	90J	T03	
70	2SB283	.25M	15u		15u	25u	30	1.0	6.0	53			P-A	Ge	90J	T03	
71	2SB284	.25M	15u		15u	25u	30	1.0	6.0	30			P-A	Ge	90J	T03	
72	2SB285	.25M	15u		15u	25u	30	1.0	6.0	36			P-A	Ge	90J	T03	
73#	ASZ15	.25M	20u		15u	40u		1.0	1.0m	20 Δ			P-A	Ge	90J	T03	
74#	ASZ17	.25M	20u		15u	40u		1.0	1.0m	25 Δ			P-A	Ge	90J	T03	
75#	ASZ18	.25M	20u		15u	40u		1.0	1.0m	30 Δ			P-A	Ge	90J	T03	
76#	OC28	.25M	20u		15u	40u	30	1.0	6	15 Δ	.60		PA	Ge	90J	T03	
77#	OC29	.25M	20u		15u	40u	30	1.0	6	35 Δ	.60						

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	LEAD CODE
								Vcb (V)	Ie (A)	hFE				STRUCTURE P-N-P N-N-P-N	MATERIAL			
1	1401-1020	500kΔ	5.0u			10u	625	4.0	200	10	Δ#		N-D	Si	200J	MT14a	C C C	
2	1401-1025	500kΔ	5.0u			10u	625	4.0	250	10	Δ#		N-D	Si	200J	MT14a	C C C	
3	1401-1215	500kΔ	5.0u			10u	625	4.0	150	10	Δ#		N-D	Si	200J	MT14a	C C C	
4	1401-1220	500kΔ	5000n			10u	625m	4.0	200	10	#		N-D	Si	200J	MT14a	C C C	
5	1401-1225	500kΔ	5000n			10u	625m	4.0	250	10	#		N-D	Si	200J	MT14a	C C C	
6	1401-1415	500kΔ	5.0u			10u	625	4.0	150	10	#Δ		N-D	Si	200J	MT14a	C C C	
7	1401-1420	500kΔ	5.0u			10u	625	4.0	200	10	#Δ		N-D	Si	200J	MT14a	C C C	
8	1401-1425	500kΔ	5.0u			10u	625	4.0	250	10	#Δ		N-D	Si	200J	MT14a	C C C	
9	2N3667	500kΔ	6.0u			12u	117	3.0	8.0	15	#Δ		N	Si	200J	TO3	C C	
10	2N3863	.50MΔ	8.0u			16u	117	2.0	3	30	Δ	.33	N	Si	200C	TO3	C C	
11	2N3864	.50MΔ	8.0u			16u	117	2.0	3	30	Δ	.33	N	Si	200C	TO3	C C	
12	2N3865	.50MΔ	8.0u			16u	117	2.0	3	30	Δ	.33	N	Si	200C	TO3	C C	
13	JAN2N1651	800kΔ	10u	6.0u	5.0u	100	100	2.0	10	35	Δ	26m	P	Ge	110J	MD27		
14	JAN2N1652	800kΔ	10u	6.0u	5.0u	100	100	2.0	10	35	Δ	26m	P	Ge	110J	MD27		
15	JAN2N1653	800kΔ	10u	6.0u	5.0u	100	100	2.0	10	35	Δ	26m	P	Ge	110J	MD27		
16	ACY41	800k	12u	900n	10u	35u	260m	0.0	50m	105	#	1.0	P-A	Ge	90J	TO5	Δ	
17	2N2891A	.60MΔ	700u		3.0u	3.0u	170	1.5	20m	100	#	.03	P	Ge	110C	TO41	Δ	
18	2N1067	750kΔ	1.2u	200n	700n	900n	2.5	4.0	200m	35	#	10	N-D	Si	175A	TO8	Δ	
19	2N1092	750kΔ	1.2u	200n	700n	900n	1.0	4.0	200m	35	#	10	N-D	Si	175A	TO5	Δ	
20	2N1068	750kΔ	1.6u	200n	700n	1.8u	5.0	4.0	750m	38	#	2.6	N-D	Si	175A	TO8	Δ	
21	2SD120H	.80M			.70n	1.1n	1.0m	4.0	2	60	#		N	Si	175J	TO39		
22	2SD121H	.80M			.70n	1.1n	1.0m	4.0	2	60	#		N	Si	175J	TO39		
23	2N5559	.80MΔ	6u		8u	100	100	2.0	4	20	Δ	.19	N	Si	200J	TO3	C C	
24	ACY40	800k	15u	900n	7.0u	35u	260m	0.0	50m	45	#	1.0	P-A	Ge	90J	TO5	Δ	
25	DTG800	850k	4.4u		3.1u	6.4u	85	2.0	5.0	115	#	30m	P-DA	Ge	110J	TO3	C C	
26	DTG801	850k	4.4u		3.1u	6.4u	85	2.0	5.0	115	#	30m	P-DA	Ge	110J	TO3	C C	
27	DTG802	850k	4.4u		3.1u	6.4u	85	2.0	5.0	115	#	30m	P-DA	Ge	110J	TO3	C C	
28	DTG803	850k	4.4u		3.1u	6.4u	85	2.0	5.0	115	#	33	P-DA	Ge	110J	TO3	C C	
29	DTG603M	.85M	13.0u		6.0u	10u	85	2.0	5	250	#		P	Ge	110S	TO3	C C	
30	ACY17	1.00M	12p	900n	10u	35u	260m	0.0	50m	100	#	1.0	P-A	Ge	90J	TO5	Δ	
31	ACY22	1.00M	12p	900n	10u	35u	260m	0.0	50m	85	#	1.0	P-A	Ge	90J	TO5	Δ	
32	2SD124AH	1.0M	1.4n		2.2n	5.0n	4.0	4.0	1.5	40	#		N	Si	175J	TO39		
33	DT1003	1.00M	300n	.16n	250n	150n	600m	6.0	200m	12	Δ	3.0	N-D	Si	125A	TO5	Δ	
34	2SA32	1.00M	800n		1.5u	1.2u	100m	6.0	1.0m	65	#	4.0	P-A	Ge	70J	R55		
35	ZT1487	1.0M	1.2u		2.2u	2.2u	43	4.0	1.5	15	#	2.0	N-D	Si	220C	TO3	C C	
36	ZT1488	1.0M	1.2u		2.2u	2.2u	43	4.0	1.5	15	#	2.0	N-D	Si	220C	TO3	C C	
37	ZT1489	1.0M	1.2u		2.2u	2.2u	43	4.0	1.5	25	#	670m	N-D	Si	220C	TO3	C C	
38	ZT1490	1.0M	1.2u		2.2u	2.2u	43	4.0	1.5	25	#	670m	N-D	Si	220C	TO3	C C	
39	2SD125AH	1.00M	1400n	160n	2.2u	5u	23	4.0	1.5	50	#	.20	N-D	Si	175J	TO3	C C	
40	2SD126H	1.00M	1400n	160n	2.2u	5u	23	4.0	1.5	40	#	.20	N-D	Si	175J	TO3	C C	
41	2N2858	1.00MΔ	2000n		5u	600m	4.0	4.0	1.0	20	Δ	.30	N-D	Si	200J	TO5	C C	
42	2N2859	1.00MΔ	2000n		5u	600m	4.0	4.0	1.0	20	Δ	.30	N-D	Si	200J	TO5	C C	
43	2X2N3055	1.0M	2.0u	400n	2.0u	2.5u	117	2.0	400m	2.5	#	100m	N-D	Si	200J	TO3	C C	
44	2N3774	1.00MΔ	3000n		3u	5	5	2.0	20m	20	#		P	Si	200J	TO5	Δ	
45	2N3775	1.00MΔ	3000n		3u	5	5	2.0	20m	20	#		P	Si	200J	TO5	Δ	
46	2N3776	1.00MΔ	3000n		3u	5	5	2.0	20m	20	#		P	Si	200J	TO5	Δ	
47	2N3777	1.00MΔ	3000n		3u	5	5	2.0	20m	20	#		P	Si	200J	TO5	Δ	
48	2N3778	1.00MΔ	3000n		3u	5	5	2.0	20m	10	#		P	Si	200J	TO5	Δ	
49	2N3779	1.00MΔ	3000n		3u	5	5	2.0	20m	10	#		P	Si	200J	TO5	Δ	
50	2N3780	1.00MΔ	3000n		3u	5	5	2.0	20m	10	#		P	Si	200J	TO5	Δ	
51	2N3781	1.00MΔ	3000n		3u	5	5	2.0	20m	10	#		P	Si	200J	TO5	Δ	
52	2N3782	1.00MΔ	3000n		3u	5	5	2.0	20m	10	#		P	Si	200J	TO5	Δ	
53	2N5926	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	50	10	#	100m	N	Si	200J	TO63		
54	2N5927	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	70	10	#	100m	N	Si	200J	TO114		
55	2N5928	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	100	10	#	100m	N	Si	200J	TO114		
56	2SB65	1.00M	3000n		3u	4u	150m	6.0	1.0m	65	#	3.0	P-A	Ge	85J	TO1		
57	PT502	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	50	10	#	100m	N	Si	200J	TO114		
58	PT802	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	60	10	#	100m	N	Si	200J	TO114		
59	PT702	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	70	10	#	100m	N	Si	200J	TO114		
60	PT7503	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	30	10	#	100m	N	Si	200J	TO63		
61	PT7506	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	40	10	#	100m	N	Si	200J	TO63		
62	PT7508	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	50	10	#	100m	N	Si	200J	TO63		
63	PT8502	1.0M	3.0u	2.0n	2.0u	2.0u	350	2.0	100	10	#	100m	N	Si	200J	TO114		
64	2N3676	1.00MΔ	5000n	5.0u	5.0u	5.0u	8.8	1.0	1.0m	12	Δ	800m	N	Si	200C	TO5	Δ	
65	2N3676	1.00MΔ	5000n	5.0u	5.0u	5.0u	8.8	1.0	1.0m	12	Δ	800m	N	Si	200C	TO5	Δ	
66	ACY39	1.00M	12u	900n	10u	35u	260m	0.0	50m	100	#	1.0	P-A	Ge	90J	TO5	Δ	
67	ACY18	1.00M	15u	900n	8.0u	35u	260m	0.0	50m	65	#	1.0	P-A	Ge	90J	TO5	Δ	
68	ACY19	1.30M	12u	900n	10u	35u	260m	0.0	50m	175	#	1.0	P-A	Ge	90J	TO5	Δ	
69	2SD184	1.50M	1000n		500n	3.0u	25	4.0	750u	50	#	2.0	N-ME	Si	175J	TO8		
70	2SD185	1.50M	1000n		500n	3.0u	25	4.0	750u	50	#	2.0	N-ME	Si	175J	TO8		
71	ZT1479	1.5M	1.2u		1.6u	2.8	2.8	4.0	200m	20	#	7.0	N-D	Si	200C	R81n	A	
72	ZT1480	1.5M	1.2u		1.6u	2.8	2.8	4.0	200m	20	#	7.0	N-D	Si	200C	R81n	A	
73	ZT1481	1.5M	1.2u		1.6u	2.8	2.8	4.0	200m	35	#	7.0	N-D	Si	200C	R81n	A	
74	ZT1482	1.5M	1.2u		1.6u	2.8	2.8	4.0	200m	35	#	7.0	N-D	Si	200C	R81n	A	
75	MJ3771	2.0MΔ	350n		700n	300n	150	4.0	15	15	#		N	Si	200J	TO3	C C	
76	MJ3772	2.0MΔ	350n		700n	300n	150	4.0	15	15	#		N	Si	200J	TO3	C C	
77	2N5301	2.00MΔ	1000n		2.0u	1.0u	200	10	1	40	Δ		N	Si	200J	TO3	C C	
78	2N5302	2.00MΔ	1000n		2.0u	1.0u	200	10	1	40	Δ		N	Si	200J	TO3	C C	
79	2N5303	2.00MΔ	1000n		2.0u	1.0u	200	10	1	40	Δ		N	Si	200J	TO3	C C	
80	2N5745	2.0MΔ	1.0u		2.0u	1.0u	200	2.0	20	5.0	#		N	Si	200J	MD6f	C C	
81	DT1520	2.00M	1000n	300n	4.5u	1.0u	800m	6.0	300m	120	#	7.0	N	Si	150S	TO5		
82	DT1521	2.00M	1000n	300n	4.5u	1.0u	800m	6.0	300m	120	#	7.0	N	Si	150S	TO5		
83	DT1522	2.00M	1000n	300n	4.5u	1.0u	800m	6.0	300m	120	#	7.0	N	Si	150S	TO5		
84	2SD15	2.00MΔ	1300n	160n	2.5u	2.6u	80	4.0	1.5	30	#	1.0	N-D	Si	150J	TO3		
85	2SD16	2.00MΔ	1300n	160n	2.5u	2.6u	80	4.0	1.5	30	#	1.0	N-D	Si	150J	TO3		
86	2SD17	2.00MΔ	1300n	160n	2.5													

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	1 fab (Hz)	2 MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			L C O D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE P-NPN N-PNP	MATERIAL Ge Si	MAX. TEMP (°C)	
1#	2SA208	3.00M	440n		350n	350n	120m	.30	100m	100		25p	P	Ge	85	T05	
2#	2SC89	3.00M	450n		200n	180n	120m	.20	200m	100		25p	N	Ge	85	T05	
3#	2SC179	3.00M	450n		200n	180n	120m	.20	200m	100		25p	N	Ge	85	T01	
4	TIP31	3.00MΔ	450n			650n	40	4.0	3	8.0	#Δ		ND	Si	150J	X75b	B0
5	TIP31A	3.00MΔ	450n			650n	40	4.0	3	8.0	#Δ		ND	Si	150J	X75b	B0
6	TIP33	3.00MΔ	450n			350n	40	4.0	3	12	#Δ		ND	Si	150J	X86	B0
7	TIP33A	3.00MΔ	450n			350n	80	4.0	3	12	#Δ		ND	Si	150J	X86	B0
8	TIP36	3.00MΔ	450n			550n	90	4.0	15m	10	#Δ		PD	Si	150J	X86	B0
9	TIP36A	3.00MΔ	550n			550n	90	4.0	15m	10	#Δ		PD	Si	150J	X86	B0
10	TIP35	3.00MΔ	600n			800n	90	4.0	15m	10	#Δ		ND	Si	150J	X86	B0
11	TIP35A	3.00MΔ	600n			800n	90	4.0	15m	10	#Δ		ND	Si	150J	X86	B0
12	2N1302	3.00MΔ	700n			800n	150m	1.0	10m	50		20	N-A	Ge	100S	T05	A5
13	2N1993	3.00MΔ	700n	120nt	500nt	800nt	150m	1.0	10m	50	Δ	20	N	Ge	100J	T05	A0
14	DTS423M	3.00MΔ	800n	120nt	1.7uφ	100	100	5.0	2.5m	10	Δ	.80	N-D	Si	150J	T03	C0
15	JAN2N426	3.00MΔ	1050n			1.1uφ	150m	250m	1.0m	60	Δ	400m	P	Ge	100S	T05	A
16#	2SD80	3.00M	1200nt	120nt	2.0ut	2.5ut	50	4.0	1	60	Δ	.50	N-D	Si	150J	T03	C0
17#	2SD81	3.00M	1200nt	120nt	2.0ut	2.5ut	50	4.0	1	60	Δ	.50	N-D	Si	150J	T03	C0
18#	2SD82	3.00M	1200nt	120nt	2.0ut	2.5ut	50	4.0	1	60	Δ	.50	N-D	Si	150J	T03	C0
19#	2SD83	3.00M	1200nt	120nt	2.0ut	2.5ut	50	4.0	1	60	Δ	.50	N-D	Si	150J	T03	C0
20#	2SD84	3.00M	1200nt	120nt	2.0ut	2.5ut	50	4.0	1	60	Δ	.50	N-D	Si	150J	T03	C0
21#	NKT126	3.00MΔ	200n		2.0u	750n	75m	1.0	25m	50	Δ		P	Ge	75J	T05	A
22	2N356	3.00M	2100n		700n	2.0u	100m	.25	100m	30		14p	N	Ge	85S	T05	A5
23	2N679	3.00M	300n			3.0m	150m	.50	300m	30	↑		N-A	Ge	85J	R5	
24	JAN2N3772	3.0MΔ	8.0uφ			10uφ	150	4.0	10	10	#Δ		N	Si	200J	T03	C0
25	JAN2N3771	3.0MΔ	1.0uφ			12uφ	150	4.0	15	10	#Δ		N	Si	200J	T03	C0
26	2N1353	3.50M	600nt	230nt	400nt	350nt	200m	1.0	10m	70		4.0	P-A	Ge	85J	T05	A
27#	2SC34	3.50MΔ	1000n		1.0u	400n	140m	0.0	200m	30			N-A	Ge	75	R9	
28#	2SD90	3.50M	2000n	70n	1.4u	1.8u	20	4.0	1	40		.50	N-D	Si	150J	T09	
29#	2SD91	3.50M	2000n	70n	1.4u	1.8u	20	4.0	1	40		.50	N-D	Si	150J	T09	
30#	2SD92	3.50M	2000n	70n	1.4u	1.8u	20	4.0	1	40		.50	N-D	Si	150J	T09	
31#	2SD93	3.50M	2000n	70n	1.4u	1.8u	20	4.0	1	40		.50	N-D	Si	150J	T09	
32#	2SD94	3.50M	2000n	70n	1.4u	1.8u	20	4.0	1	40		.50	N-D	Si	150J	T09	
33	2N438	3.75M	700n			100m	100m	1.0	50m	25	↑		N-A	Ge	85J	T05	A
34#	2SA212H	4.00M			320n	130n	120m	.30	100m	60		20p	P	Ge	85J	T05	
35	2N1518	4.00M↑	50n			20n	50m	4.0	15m	15	Δ	.03	P-A	Ge	100J	T036	C0
36	2N1520	4.00M↑	50n			25n	50m	4.0	15m	17	Δ	.02	P-A	Ge	100J	T036	C0
37	2N1522	4.00M↑	50n			30n	50m	4.0	15m	37		.01	P-A	Ge	100J	T036	C0
38	2N2930	4.0MΔ	73n	350n		73n	250m	.60	100m	50	Δ	2.5	P	Ge	100S	T05	A
39	2N1519	4.00M↑	80n			20n	50m	4.0	15m	15	Δ	.03	P-A	Ge	100J	T036	C0
40	2N1521	4.00M↑	80n			25n	50m	4.0	15m	17	Δ	.02	P-A	Ge	100J	T036	C0
41	2N1523	4.00M↑	80n			30n	50m	4.0	15m	37		.01	P-A	Ge	100J	T036	C0
42	2N4877	4.00MΔ	100n		1.5u	500n	10	2.0	1.0m	30	#		N	Si	200J	T039	A0
43	MM404	4.0MΔ	120nt	70nt	200nt	100nt	300m	150m	12m	80		12	P	Ge	100J	T018	A0
44	MM404A	4.0MΔ	120nt	70nt	200nt	100nt	300m	150m	12m	80		12	P	Ge	100J	T018	A0
45	MPS404	4.00MΔ	190nt	75nt	155nt	230nt	310m	150m	12m	400	Δ	12	P-AN	Si	135J	T092	A
46	MPS404A	4.00MΔ	190nt	75nt	155nt	230nt	310m	150m	12m	400	Δ	12	P-AN	Si	135J	T092	A
47	DTS410	4.00M	300nt			650nt	80	5.0	2.5	10	Δ	800m	N-ME	Si	150J	T03	C0
48	DTS424	4.00M	300nt			650nt	200nt	100	2.5	10	Δ	800m	N-D	Si	150J	T03	C0
49	DTS425	4.00M	300nt			650nt	200nt	100	2.5	10	Δ	800m	N-D	Si	150J	T03	C0
50#	ASY27	4.00MΔ	350n	75n	1.5u	620n	150m	5.0	20m	50	Δ		P	Ge	85J	T05	
51#	2N4398	4.0MΔ	400n		1.5u	600n	200	2.0	1.0	40	Δ		P	Ge	200J	MD6f	C0
52#	2N4399	4.0MΔ	400n		1.5u	600n	200	2.0	1.0	40	Δ		P	Ge	200J	MD6f	C0
53#	2SA212	4.00M	400n			400n	120m	.30	100m	120	Δ	20p	P	Ge	85	T05	
54	DTS430	4.00M	400n			450n	350n	5.0	3.5	10	Δ	.36	N-D	Si	150J	T03	C0
55	DTS431	4.00M	400n			450n	350n	5.0	3.5	10	Δ	.28	N-D	Si	150J	T03	C0
56	2N3713	4.00MΔ	450nt			400nt	150	2.0	1	25	Δ		N	Si	200J	T03	C0
57	2N3714	4.00MΔ	450nt			400nt	150	2.0	1	25	Δ		N	Si	200J	T03	C0
58	2N3715	4.00MΔ	450nt			400nt	150	2.0	1	25	Δ		N	Si	200J	T03	C0
59	2N3716	4.00MΔ	450nt			400nt	150	2.0	1	25	Δ		N	Si	200J	T03	C0
60#	ASY26	4.00MΔ	490n	90n	1.3u	730n	150m	0.0	20m	30	Δ	16p	P	Ge	85J	T05	
61#	ASY28	4.00MΔ	490n	90n	1.3u	730n	125m	0.0	20m	30	Δ	16p	N-A	Ge	75J	T05	
62	ASY73	4.00MΔ	500n	75n	350n	350n	500m	0.0	.95m	25	Δ		N-A	Ge	85J	T05	
63	DTS103	4.0MΔ	550nt		1.0ut	350nt	125	1.5	5.0	20	Δ	180m	N-DM	Si	150J	T03	C0
64	DTS104	4.0MΔ	550nt		1.0ut	350nt	125	1.5	5.0	20	Δ	150m	N-DM	Si	150J	T03	C0
65	DTS105	4.0MΔ	550nt		1.0ut	350nt	125	1.5	5.0	20	Δ	180m	N-DM	Si	150J	T03	C0
66	DTS106	4.0MΔ	550nt		1.0ut	350nt	125	1.5	5.0	20	Δ	180m	N-DM	Si	150J	T03	C0
67	DTS107	4.0MΔ	550nt		1.0ut	350nt	125	1.5	5.0	20	Δ	180m	N-DM	Si	150J	T03	C0
68#	2N5867	4.0MΔ	700n		1.0u	800n	87	4.0	3.0	5.0	Δ	500m	P	Si	200J	T03	C0
69#	2N5868	4.0MΔ	700n		1.0u	800n	87	4.0	3.0	5.0	Δ	500m	P	Si	200J	T03	C0
70#	2N5869	4.0MΔ	700n		1.0u	800n	87	4.0	3.0	5.0	Δ	500m	N	Si	200J	T03	C0
71#	2N5870	4.0MΔ	700n		1.0u	800n	87	4.0	3.0	5.0	Δ	500m	N	Si	200J	T03	C0
72#	2N5871	4.0MΔ	700n		1.0u	800n	100	4.0	3.0	5.0	Δ	250m	P	Si	200J	T03	C0
73#	2N5872	4.0MΔ	700n		1.0u	800n	100	4.0	3.0	5.0	Δ	250m	P	Si	200J	T03	C0
74#	2N5873	4.0MΔ	700n		1.0u	800n	100	4.0	3.0	5.0	Δ	250m	N	Si	200J	T03	C0
75#	2N5874	4.0MΔ	700n		1.0u	800n	100	4.0	3.0	5.0	Δ	250m	N	Si	200J	T03	C0
76#	2N5875	4.0MΔ	700n		1.0u	800n	150	4.0	3.0	5.0	Δ	200m	P	Si	200J	T03	C0
77#	2N5876	4.0MΔ	700n		1.0u	800n	150	4.0	3.0	5.0	Δ	200m	P	Si	200J	T03	C0
78#	2N5877	4.0MΔ	700n		1.0u	800n	150	4.0	3.0	5.0	Δ	200m	P	Si	200J	T03	C0
79#	2N5878	4.0MΔ	700n		1.0u	800n	150	4.0	3.0	5.0	Δ	200m	N	Si	200J	T03	C0
80#	2N5879	4.0MΔ	700n		1.0u	800n	160	4.0	12	5.0	Δ	142m	P	Si	200J	T03	C0
81#	2N5880	4.0MΔ	700n		1.0u	800n	160	4.0	12	5.0	Δ	600p	P	Si	200J	T03	C0
82#	2N5881	4.0MΔ	700n		1.0u	800n	160	4.0	12	5.0	Δ	142m	N	Si	200J	T03	C0
83#	2N5882	4.0MΔ	700n		1.0u	800n	160	4.0	12	5.0	Δ	400p	N	Si	200J	T03	C0
84#	2N5883	4.0MΔ	700n		1.0u	800n	200	4.0	20	5.0	Δ	66m	N	Si	200J	T03	C0
85#	2N5884	4.0MΔ	700n		1.0u	800n	200	4.0	20	5.0	Δ	800p	P	Si	200J	T03	C0
86#	2N5885	4.0MΔ	700n		1												

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bx Cob (s)	DESCRIPTION		L C O D E	
								Vcb (V)	le (A)	hFE				STRUCTURE P-NPN N-PNP	MAX. TEMP (°C)		
1	2N1304	5.00MΔ	450n	100n	500n	600n	150m	1.0 ∅	10m	70	20	20p∅	N-A	Ge	100S	T05	A5
2#	NKT734	5.00M	450n		500n	600n	150m	1.0 ∅	2 ∅	15 Δ	20	20p∅	N	Ge	85J	T05	A
3#	JAN2N123	5.0MΔ	500n	200n	1.0u	400n	150m	3.5 ∅	10m∅	30 #Δ	20	25p∅	P-A	Ge	85J	R116	A
4	2N396A	5.00M	650n		200n	800n	200m	3.5 ∅	200m∅	15 Δ	4.0	20p∅	P	Ge	100S	T05	A5
5	JAN2N427	5.00MΔ	850n∅		800n	400n	150m	250m∅	1.0mΔ	90 ∇	600m	20p∅	P	Ge	100S	T05	A
6	2N578	5.00M	900n∅		600n∅		120m		400m	15	.75	20p∅	P-A	Ge	100S	T05	A
7	GT123	5.00MΔ	900n				150m	1.0 ∅	10m	90 ∇		15p	P-A	Ge	100S	T05	A
8	2N1681	5.00MΔ	950n∅		950n∅		180m	2.5 ∅	10m	75		20p∅	P-A	Ge	100J	T05	A
9	2N315	5.00M	1000n	300n	400n	80n	150m	20 ∅	100m	20	10	14p	P-A	Ge	100J	T05	A
10	2N315A	5.00M	1200n∅		600n	1.0u	150m	20 ∅	100m	35		14p	P-A	Ge	100S	T05	A
11	2N5838	5.0MΔ	1.5u		3.0u	1.5u	57 ∅\$	3.0 ∅	3.0 ∅	8.0 Δ#			N	Si	200J	T03	C∅
12	2N5839	5.0MΔ	1.5u		3.7u	1.5u	57 ∅\$	2.0 ∅	2.0 ∅	10 Δ#			N	Si	200J	T03	C∅
13	2N5840	5.0MΔ	1.7u		3.0u	1.5u	57 ∅\$	3.0 ∅	2.0 ∅	10 Δ#			N	Si	200J	T03	C∅
14	2N459	5.00M∇	25u		40u	50 ∅	50 ∅	2.0 ∅	2.0m	20 Δ			P-A	Ge	100J	T03	C∅
15#	SFT226	5.50M\$	150n∅				150m	500m∅	10m∅	25 Δ	.50	18	P-A	Ge	85J	T05	A
16#	2SA414	5.50M\$	270n	50n	850n	450n	150m	50 ∅	100m∅	30			P-A	Ge	85J	T05	A
17#	2SC128	5.50M\$	270n	50n	850n	450n	125m	50 ∅	100m∅	30			N-A	Ge	75J	T05	A
18	ASY74	6.00M\$Δ	300n	55n	400n	200n	500m	0.0	0.5m	40 Δ			N-A	Ge	85J	T05	A
19#	ASY29	6.00M\$Δ	350n	75n	1.5u	620n	125m	0.0	20m	50 Δ			N	Ge	75J	T05	A
20	2N413	6.00M\$	400n∅		550n∅	550n∅	75 ∅	5.0 ∅	1.0 ∅	15 Δ	1.6	16p∅	N-ME	Ge	150J	T03	C∅
21	2N357	6.00M\$	1300n∅		700n	1.2u	100m	25 ∅	200m∅	30		14p	N	Si	85S	T05	A5
22	ASY32	6.00M\$Δ	2200n∅		1.4u	125m	0.0	2.0	150 ∇	10	20	16p\$	P-A	Ge	75J	R9	A
23	2N377	6.00M	2500n		700n	1.0u	150m	50 ∅	20m	40		15p	N-A	Ge	100J	T05	A
24	2N377A	6.00M	2500n∅		700n	1.0u	150m	1.0 ∅	30m∅	60 ∇		20p∅	N	Ge	100J	T05	A5
25	JAN2N2034	6.00M\$∇	3.0u∅			6.0u∅	7.5 ∅	4.0 ∅	2.0m∅	10 Δ#		200p∅	N	Si	200A	T05	A∅
26	JAN2N2858	6.00M\$∇	3.0u∅			6.0u∅	7.5 ∅	4.0 ∅	2.0m∅	10 Δ#		200p∅	N	Si	200A	T05	A∅
27	JAN2N2859	6.00M\$∇	3.0u∅			6.0u∅	7.5 ∅	4.0 ∅	2.0m∅	10 Δ#		200p∅	N	Si	200A	T05	A∅
28	JAN2N2911	6.00M\$∇	3.0u∅			6.0u∅	7.5 ∅	4.0 ∅	2.0m∅	10 Δ#		200p∅	N	Si	200A	T05	A∅
29	2N1090	7.00M	250n	50n	200n	150n	120m	20 ∅	20m	50	10	17p	N-A	Ge	200A	T05	A∅
30	2N1000	7.00MΔ	700n		700n	300n	150m	50 ∅	100m	35		14p	N-A	Ge	85A	T09	A
31	2N1344	7.00MΔ	1000n	60n	500n	800n	150m	1.0 ∅	20m	90		12p	P-A	Ge	100S	T05	A
32#	NKT125	7.00MΔ	1000n		600n	100m∅	1.0 ∅	25m∅	1.0 ∅	50 Δ	8.0	22p∅	P	Ge	85J	T05	A
33#	JAN2N1119	7.20M\$Δ	270n∅			370n∅	150m	500m∅	15m∅	15 Δ	30	9.0p∅	P∇	Si	140S	T05	A
34#	SFT227	7.50M\$	130n∅			130n∅	150m	500m∅	10m∅	35 Δ	15		P-A	Ge	85J	T05	A
35	JAN2N5241	7.50M\$∇	800n∅			1.7u∅	125 ∅	5.0 ∅	1.0 ∅	25 #Δ			N	Si	200C	T03	C∅
36	2N662	8.00M	121n∇	37n∇	106n∇	140n∇	210m	35 ∅	50m	70	1.2	300p∇	P-A	Ge	100J	T05	A
37#	2SA415	8.00M\$	220n	45n	880n	420n	150m	.50 ∅	100m∅	45			A	Ge	85J	T05	A
38#	2SC129	8.00M\$	220n	45n	880n	420n	125m	.50 ∅	100m∅	45			N-A	Ge	75J	T05	A
39	2N600	8.00M\$	240n		900n	330n	750m∅	1.0 ∅	100m∅	125 ∇			P-A	Ge	100J	MT60	A
40	2N396	8.00M	400n	190n	600n	310n	150m	.35 ∅	200m∅	15 Δ	4.0	12p	P	Ge	100S	T05	A5
41	2N579	8.00M	400n∅		500n∅		120m		400m	30	.75		P-A	Ge	71A	T05	A
42	2N1355	8.00M	400n∇	190n∇	600n∇	310n∇	200m	1.0 ∅	10m	80	4.0	12p	P-A	Ge	85J	T05	A
43	2N1356	8.00M	400n∇	190n∇	600n∇	310n∇	200m	1.0 ∅	10m	80	4.0	12p	P-A	Ge	85J	T05	A
44#	2SA139	8.00M	400n∇	180n∇	800n∇	600n∇	80m	1.0 ∅	50m∅	70 ∇		10p	P-A	Ge	85J	T01	A
45	2N123	8.00M	400n		900n	350n	150m	1.0 ∅	10m	75	20	12p	P-A	Ge	85S	R32	A
46	2N388	8.00M	600n				150m	.50 ∅	30m	150 ∇		15p	N-A	Ge	100J	T05	A5
47	2N1624	8.00M	600n				150m	.50 ∅	30m	120		24p	N-A	Ge	100J	T05	A5
48	2N388A	8.00M	1000n∅		700n	700n	150m	.50 ∅	30m∅	180 ∇		20p∅	N	Ge	100J	T05	A5
49	2N576A	8.00M	1000n			200m	.40 ∅	400m	30 ∇			15p	N	Ge	100J	T05	A5
50	2N576	8.00M	2000n		1.0u	1.0u	200m	.40 ∅	400m	30		15p	N-A	Ge	100J	T05	A5
51	2N581	8.00M	2400n∇			150m	.30 ∅	20m	30	30		12p	P-A	Ge	85A	T05	A
52	2N583	8.00M	2400n∇			120m	.30 ∅	20m	30	30		12p	P-A	Ge	85A	T01	A
53	2N1694	9.00M\$	900n	300n	600n	400n	75m	1.0 ∅	2.0m	25	6.5	2.5p	N	Ge	85J	T05	A
54	2N358	9.00M\$	900n∅		1.0u	1.2u	100m	.25 ∅	300m∅	30		14p	N	Ge	85S	T05	A5
55#	2SC36	9.00M\$Δ	1000n		1.0u	400n	140m	0.0	200m	100			N-A	Ge	75	R9	A
56#	2SA210H	10.0M	400n		250n	120m	.30 ∅	200m	100	20			P	Ge	85J	T05	A
57#	2SC91H	10.0M	100n		120m	120m	.30 ∅	200m	100	20			N	Ge	85J	T05	A
58	2N659	10.0M	120n∇	17n∇	67n∇	128n∇	210m	350m∅	50m∅	70	1.3	12p	P-FA	Ge	100J	T05	A
59	2N599	10.0M\$Δ	175n		1.0u	185n	250m	1.0 ∅	200m∅	75 ∇		20p∅	P	Ge	100J	T05	A∅
60	JAN2N599	10.0M	175n		1.0u	185n	250m	1.0 ∅	200m∅	300 ∇	2.0	20p∅	P	Ge	100S	T05	A∅
61	2N601	10.0M\$Δ	175n		1.0u	185n	750m∅	1.0 ∅	200m∅	120	2.0	15p	P-A	Ge	100J	MT60	A
62#	2SA210	10.0M	200n		400n	150n	120m	.30 ∅	200m	150 ∇		25p	P	Ge	85	T05	A
63	ASY75	10.0M\$Δ	200n	50n	450n	150n	500m	0.0	0.5m	65 Δ			N-A	Ge	85J	T05	A
64#	NKT137	10.0M	200n		800n	350n	150m	.35 ∅	200m∅	20 Δ	20	20p∅	P	Ge	85J	T05	A
65	2N1306	10.0MΔ	220n	80n	500n	450n	150m	1.0 ∅	10m	100	20	20p∅	N-A	Ge	100S	T05	A5
66	2N2945	10.0M	230n		150n	230n	400m	6.0 ∅	200mΔ	200	20	9.0p	P-DE	Si	200J	T046	A
67	2N598	10.0M	240n		900n	330n	250m	1.0 ∅	100m	70 ∇	2.0	20p∅	P-A	Ge	100J	T05	A∅
68	2N440	10.0M	300n		100m	1.0 ∅	50m	70 ∇			9.0p		N-A	Ge	85J	T05	A
69	2N821	10.0MΔ	300n∇		600n∇	200n∇	75m	1.0 ∅	50m	70 ∇	5.0	9.0p	N-FA	Ge	85J	u8	A
70	2N5050	10M\$Δ	300n		3.5u	1.2u	40 ∅	5.0 ∅	1.0 ∅	25 Δ#		250p∅	N	Si	175J	T066	C∅
71	2N5051	10M\$Δ	300n		3.5u	1.2u	40 ∅	5.0 ∅	1.0 ∅	25 Δ#		250p∅	N	Si	175J	T066	C∅
72	2N5052	10M\$Δ	300n		3.5u	1.2u	40										

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	3] TYPE No.	1] fab (Hz)	2] MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	L E A D E
								V _{cb} (V)	I _e (A)	hFE				STRUCTURE	MATERIAL			
1	2N2912	10.0MΔ	2000n		10u	2.00u	75 ∅	2.0 ∅	1 ∅	150 Δ	.02			N	Ge	110	T074	A ∅
2	2N4865	10.0MΔ	2000n		1.5u	500n	350 ∅	2.0 ∅	90 ∅	5.0 #Δ				N	Si	200J	MT69	A ∅
3	2N4866	10.0MΔ	2000n		1.5u	500n	350 ∅	5.0 ∅	90 ∅	5.0 #Δ				N	Si	200J	MT69	A ∅
4	2N5250	10.0MΔ	2000n		1.5u	500n	350 ∅	5.0 ∅	90 ∅	5.0 #Δ				N	Si	200J	MT69	A ∅
5	2N5251	10.0MΔ	2000n		1.5u	500n	350 ∅	5.0 ∅	90 ∅	5.0 #Δ				N	Si	200J	MT69	A ∅
6	2N3584	10.0MΔ	3000n		4.0u	3.0u	35 ∅	2.0 ∅	1 ∅	140 ∇	.75			N	Si	200J	T066	A ∅
7	2N3585	10.0MΔ	3000n		4.0u	3.0u	35 ∅	2.0 ∅	1 ∅	140 ∇	.75			N	Si	200J	T066	A ∅
8	2N2832	10.0MΔ	4000n		6.0u	2.5u	85 ∅	2.0 ∅	1.0m ∅	50 Δ	25m			P	Ge	110C	T03	C ∅
9	2N2833	10.0MΔ	4000n		6.0u	2.5u	85 ∅	2.0 ∅	1.0m ∅	50 Δ	25m			P	Ge	110C	T03	C ∅
10	2N2834	10.0MΔ	4000n		6.0u	2.5u	85 ∅	2.0 ∅	1.0m ∅	50 Δ	25m			P	Ge	110C	T03	C ∅
11	JAN2N2834	10.0MΔ	4000n		6.0u	2.5u	85 ∅	2.0 ∅	1.0m ∅	50 Δ	25m			P	Ge	110J	MD6e	C ∅
12	2N3846	10.0MΔ	4000n		7.0u	7.0u	4.0	3.0	10	10 Δ	80m	750m		N	Si	175C	T063	∅ ∅
13	2N3847	10.0MΔ	4000n		7.0u	7.0u	4.0	3.0	10	10 Δ	80m	750m		N	Si	175C	T063	∅ ∅
14	2N3848	10.0MΔ	4000n		7.0u	7.0u	4.0	3.0	10	10 Δ	80m	750m		N	Si	175C	T063	∅ ∅
15	2N3849	10.0MΔ	4000n		7.0u	7.0u	4.0	3.0	10	10 Δ	80m	750m		N	Si	175C	T063	∅ ∅
16	2N427	11.0M	850n			110u	170m	250 ∅	1.0m ∅	55	2.1	14p	60n	P-FA	Ge	85J	T05	A
17	SFT228	12.0M	110n			110u	150m	.50	1.0m ∅	50	12			P-A	Ge	85J	T05	A
18	2N397	12.0M	300n	170n	700n	280n	200m	1.0	10m	95	4.0	12p	180n	P-A	Ge	100S	T05	A
19	2N1357	12.0M	300n	170n	700n	280n	200m	1.0	10m	85	4.0	12p	180n	P-A	Ge	85J	T05	A
20	2N316A	12.0M	400n	100n	700n	250n	150m	.20	200m	35 †		14p		P-A	Ge	100S	T05	A
21	2N316	12.0M	800n	200n	800n	1.0u	150m	.20	200m	30		14p		P-A	Ge	100S	T05	A
22	2N1091	13.0M	200n	50n	170n	130n	120m	.20	20m	70	10	17p		N-A	Ge	85A	T09	A
23	2N404	13.0M	1400n			150m	80m	.20	24m	40	6.3	12p		P-A	Ge	85A	T05	A
24	2SA17H	14.0M			400n	250n	80m	6.0	1.0m	140		10p		P	Ge	85J	T01	A
25	2SA18H	14.0M			400n	250n	80m	6.0	1.0m	140		10p		P	Ge	85J	T01	A
26	2SA217H	14.0M			320n	130n	120m	.30	100m ∅	60		20p		P	Ge	85J	T05	A
27	2N1808	14.0M	120n			150m	150m	.25	20m ∅	125		13p		N-A	Ge	85J	T05	A
28	2N859	14.0M	200n		100n	150n	150m	.50	5.0m ∅	35 †	5.0p			P-A	Si		T018	A
29	2N860	14.0M	200n		100n	150n	150m	.50	5.0m ∅	20 †	5.0p			P-A	Si		T018	A
30	2N862	14.0M	200n		100n	200n	150m	.50	5.0m ∅	20 †	5.0p			P-A	Si		T018	A
31	2N858	14.0M	250n	25n	100n	200n	150m	.50	5.0m ∅	20 †	5.0p			P	Si	85	T05	A
32	2SA217	14.0M	300n		400n	150n	120m	.30	100m	120 ∇		20p		N-A	Ge	100J	T05	A
33	2N1605	14.0M	1400n			150m	150m	.25	20m ∅	125		13p		P	Ge	85J	T05	A
34	AU103	15.0M			3.0u	1.7u	10m ∅	1.0	10 ∅	15	.70			PDA	Ge	90J	T03	A
35	2N660	15.0M	98n	27n	69n	133n	210m	350m ∅	50m ∅	90	750m	12p	70n	P-FA	Ge	100J	T05	A
36	SFT298	15.0M	100n			1.4u	150m	.45	350m ∅	35 Δ		25p		N-A	Ge	85J	T05	A
37	2N4007	15.0MΔ	120n	60n	320n	120n	400m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	200	T046	A ∅
38	2N4008	15.0MΔ	120n	60n	320n	120n	400m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	200	T046	A ∅
39	BCY92	15.0M	140n	40n	200n	140n	350m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	150J	T018	A ∅
40	BCY92B	15.0M	140n	40n	200n	140n	400m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	150J	T05	A ∅
41	BCY95	15.0M	140n	40n	200n	140n	350m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	150J	T018	A ∅
42	BCY95B	15.0M	140n	40n	200n	140n	400m	6.0	1.0m ∅	60	10	4.0p		P-PE	Si	150J	T05	A ∅
43	TCH98	15.0M	140n	40n	200n	140n	350m	6.0	1.0m ∅	115	10	4.0p		P-PE	Si	150J	T018	A ∅
44	TCH98B	15.0M	140n	40n	200n	140n	400m	6.0	1.0m ∅	115	10	4.0p		P-PE	Si	150J	T05	A ∅
45	TCH99	15.0M	140n	40n	200n	140n	350m	6.0	1.0m ∅	115	10	4.0p		P-PE	Si	150J	T018	A ∅
46	TCH99B	15.0M	140n	40n	200n	140n	400m	6.0	1.0m ∅	115	10	4.0p		P-PE	Si	150J	T05	A ∅
47	2N2944	15.0M	175n		150n	175n	400m	6.0	200m ∅	200	20	9.0p		P-DE	Si	200J	T046	A
48	2N580	15.0M	200n		400n	120m	120m	.30	400m	45	.75			P-A	Ge	71A	T05	A
49	2N4150	15.0MΔ	200n		2.0u	200n	5.0 ∅	5.0	5.0 ∅	40 #Δ	8.3	10p		N	Si	200J	T05	A ∅
50	2SA64	15.0M	200n		350n	150n	80m	6.0	1.0m	65 †		20p		P-A	Ge	85J	T01	A ∅
51	2N1308	15.0MΔ	220n	80n	500n	400n	150m	1.0	10m	150	20	20p		N-A	Ge	100S	T05	A
52	2N2424	15.0M	300n		300n	200n	375m	1.0	25m ∅	25 Δ	20	14p		P-A	Si	160S	T05	A
53	JAN2N3584	15.0MΔ	300n		300n	700n	2.5m	10	100m ∅	40 Δ		120p		N	Si	200J	T066	A
54	2N3585	15.0MΔ	300n		300n	700n	2.5m	10	100m ∅	40 Δ		120p		N	Si	200J	T066	A
55	2SA138	15.0M	300n		500n	400n	80m	1.0	10m ∅	70 †	4.0	10p	150n	P-A G	Ge	85J	T01	A ∅
56	2N4240	15.0MΔ	500n		6.0u	3.0u	35 ∅	2.0	75m ∅	6.0 Δ	1.3			N	Si	200J	T066	C ∅
57	2N5804	15MΔ	500n		3.5ut	2.0ut	62 ∅	4.0	5.0 ∅	10 Δ	400m			N	Si	200J	T03	C ∅
58	2N5805	15MΔ	500n		3.5ut	2.0ut	62 ∅	4.0	5.0 ∅	10 Δ	400m			N	Si	200J	T03	C ∅
59	NKT124	15.0MΔ	500n		2.0u	300n	100m	1.0	25m ∅	50 Δ	8.0	22p		P	Ge	75J	T05	A
60	2N2541	15.0M	1.5u			215m	500m ∅	5.0	1.0	20 #Δ	750m			P-FA	Ge	100J	T05	A
61	2N1759	15.0M	3500n			28m ∅	2.0	.50m	105	.27				P-A	Ge	95J	MS7	
62	2N1760	15.0M	3500n			28m ∅	2.0	.50m	105	.27				P-A	Ge	95J	MS7	
63	2N1755	15.0M	4000n			28m ∅	2.0	.50m	52	.23				P-A	Ge	95J	MS7	
64	2N1756	15.0M	4000n			28m ∅	2.0	.50m	52	.23				P-A	Ge	95J	MS7	
65	2N1757	15.0M	4000n			28m ∅	2.0	.50m	52	.23				P-A	Ge	95J	MS7	
66	2N1758	15.0M	4000n			28m ∅	2.0	.50m	52	.23				P-A	Ge	95J	MS7	
67	2N1761	15.0M	5000n			28m ∅	2.0	.50m	105	.27				P-A	Ge	95J	MS7	
68	2N1762	15.0M	5000n			28m ∅	2.0	.50m	105	.27				P-A	Ge	95J	MS7	
69	2N864A	16.0MΔ	150n		150n	300m	6.0	1.0m	350 ∇	20	9.0p			P	Si	200S	T018	
70	SFT288	16.0M	190n	35n	60n	200n	150m	350m ∅	400m ∅	40 Δ	750m	12p	70n	P-A Δ	Ge	85J	T05	A
71	2N428	17.0M	850n			1.1u	170m	250m ∅	1.0m Δ	80	1.6	14p		P-FA	Ge	85J	T05	A
72	2N582	18.0M	1200n			150m	150m	.20	24m	60	8.4	12p		P-A	Ge	85A	T05	A
73	2N584	18.0M	1200n			120m	150m	.20	24m	60 †	8.4	12p		P-A	Ge	85A	T01	A
74	2N1119	20.0M		175n		150m	500m ∅	10	15m	25	30	6.0p		P-PA	Si	140S	T05	A
75	TN63	20.0MΔ	30n	10n	450n	120n	800m	10	150m ∅	25 Δ				N-PE	Si	200J	T05	A
76	TN64	20.0MΔ	30n	10n	450n	120n	500m	10	150m ∅	25 Δ				N-PE	Si	200J	T018	A
77	2N661	20.0M	68n	27n	56n	139n	210m	350m ∅	50m ∅	120	750m	12p	75n	P-FA	Ge	100J	T05	A
78	2N2657	20.0MΔ	80n		60n	80n	4 ∅	6.0	5 ∅	15 #				N	Si	200J	T05	A ∅
79	2N2658	20.0MΔ	80n		60n	80n	4 ∅	6.0	5 ∅	15 #				N	Si	200J	T05	A ∅
80	NS9001	20.0MΔ	100n			250n	1.2	5.0	1.0	30 Δ	600m	70p		N-PL	Si	200J	T039</	

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	L E O D E
								Vcb (V)	Ic (A)	hFE				P-PNP	N-PNP			
1#	2SC521A	20.0M	200n	50n	3.0u	800n	50	5.0	5.0	15	400m	150p	N-DM	Si	150J	T03	CØ	
2#	2SC827	20.0M	200n	50n	3.0u	200n	700	4.0	5.0	370 *	500m	10p	N-D	Si	175J	T05	A	
3	2N5664	20.0M	250n			1.5u	30 #	3.0	3.0	15 Δ #	125p		N	Si	200J	T066	AØ	
4	2N5665	20.0M	250n			1.5u	30 #	3.0	3.0	15 Δ #	125p		N	Si	200J	T066	AØ	
5	2N5666	20.0M	250n			1.5u	15 #	3.0	3.0	15 Δ #	125p		N	Si	200J	T05	AØ	
6	2N5667	20.0M	250n			1.5u	15 #	3.0	3.0	15 Δ #	125p		N	Si	200J	T05	AØ	
7	2N317	20.0M	300n	50n	200n	250n	150m	.20	400m	30 †	14p	P-A	Ge	85S	T05	A		
8	2N317A	20.0M	300n	50n	200n	250n	150m	.25	400m	40 †	14p	P-A	Ge	100S	T05	A		
9	2N2648	20.0M	300n	50n	900n	500n	300m	.50	1	200 #	22p	P-A	Ge	100	T05	AØ		
10	JAN2N2880	20.0M	300n	80n	1.7u	300n	30m	5.0	5.0	15 Δ #	150p		N	Si	200A	ZA30	AØ	
11	JAN2N3749	20.0M	300n	80n	1.7u	300n	30m	5.0	5.0	15 Δ #	150p		N	Si	200A	MT53	GN	
12	JAN2N3375	20.0M	350n		200n	200n	125m	5.0	100m	5.0 Δ #	150		N	Si	200A	150S	T05	
13	2N4070	20.0M	500n		1.2u	450n	65 #	5.0	10	10 Δ #	.15	200p	N	Si	200J	T03	CØ	
14	2N4071	20.0M	500n		1.2u	450n	65 #	5.0	10	10 Δ #	.15	200p	N	Si	200J	T03	CØ	
15	2N5539	20.0M	500n		1.5u	500n	100 #	5.0	10	25 Δ #			N	Si	200J	T063	AØ	
16	2N5541	20.0M	500n	1.5u		500n	50 #	5.0	5.0	30 Δ #			N	Si	200J	T05	AØ	
17	2N5542	20.0M	500n	1.5u		500n	50 #	5.0	5.0	30 Δ #			N	Si	200J	T061	AØ	
18	2N5677	20.0M	500n		1.5u	500n	50 #	5.0	5.0	30 Δ #			P	Si	200J	T061	AØ	
19	2N5678	20.0M	500n		1.5u	500n	100 #	5.0	10	25 Δ #			P	Si	200J	T063	AØ	
20	1756-0440	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
21	1756-0640	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
22	1756-0840	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
23	1756-1040	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
24	1756-1240	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
25	1756-1440	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
26	1756-1640	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
27	1756-1840	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063		
28	1776-0440	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
29	1776-0640	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
30	1776-0840	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
31	1776-1040	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
32	1776-1240	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
33	1776-1440	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
34	1776-1640	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
35	1776-1840	20.0M	500n		600n	350n	240	4.0	40	15	1.6n		N-EM	Si	200J	T063	A	
36#	BD128	20.0M	500n	100n		200n	15 #	2.0	50m	50	160		N-EM	Si	175J	MD17b	CØ	
37	ST10007	20.0M	500n			1.0u	100 #	10	1.0	40 Δ #	675p		P-PL	Si	200J	T063		
38	ST10008	20.0M	500n			1.0u	100 #	10	1.0	40 Δ #	675p		P-PL	Si	200J	T063		
39	ST10009	20.0M	500n			1.0u	100 #	10	1.0	40 Δ #	675p		P-PL	Si	200J	T063		
40	ST40002	20.0M	500n			1.0u	200 #	10	1.0	40 Δ #	1.3n		P-PL	Si	200J	T063		
41	ST40003	20.0M	500n			1.0u	200 #	10	1.0	40 Δ #	1.3n		P-PL	Si	200J	T063		
42	ST40004	20.0M	500n			1.0u	200 #	10	1.0	40 Δ #	1.3n		P-PL	Si	200J	T063		
43	ST54004	20.0M	500n			1.0u	125 #	10	1.0	40 Δ #	875p		P-PL	Si	200J	T063		
44	ST54005	20.0M	500n			1.0u	125 #	10	1.0	40 Δ #	875p		P-PL	Si	200J	T063		
45	ST54008	20.0M	500n			1.0u	125 #	10	1.0	40 Δ #	875p		P-PL	Si	200J	T063		
46	ST72036	20.0M	500n			1.0u	30 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T063		
47	ST72037	20.0M	500n			1.0u	30 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T063		
48	ST72038	20.0M	500n			1.0u	30 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T063		
49	ST72039	20.0M	500n			1.0u	30 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T063		
50	ST72040	20.0M	500n			1.0u	10 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T05		
51	ST72041	20.0M	500n			1.0u	10 #	10	500m	40 Δ #	300p		P-PL	Si	200J	T05		
52	ST75004	20.0M	500n			1.0u	7.5 #	10	500m	40 Δ #	100p		P-PL	Si	200J	T05		
53	ST75005	20.0M	500n			1.0u	7.5 #	10	500m	40 Δ #	100p		P-PL	Si	200J	T05		
54	ST75006	20.0M	500n			1.0u	7.5 #	10	500m	40 Δ #	100p		P-PL	Si	200J	T05		
55	ST76018	20.0M	500n			1.0u	40 #	10	500m	40 Δ #	400p		P-PL	Si	200J	T059		
56	ST76019	20.0M	500n			1.0u	40 #	10	500m	40 Δ #	400p		P-PL	Si	200J	T059		
57	ST76020	20.0M	500n			1.0u	40 #	10	500m	40 Δ #	400p		P-PL	Si	200J	T059		
58	1756-0460	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
59	1756-0660	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
60	1756-0860	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
61	1756-1060	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
62	1756-1260	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
63	1756-1460	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
64	1756-1660	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
65	1756-1860	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063		
66	1776-0460	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
67	1776-0660	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
68	1776-0860	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
69	1776-1060	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
70	1776-1260	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
71	1776-1460	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
72	1776-1660	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
73	1776-1860	20.0M	600n		700n	450n	240	3.0	60	15	1.6n		N-EM	Si	200J	T063	A	
74#	2SC728	20.0M	100n		8.0u	450n	240	4.0	10m	90	9.0p							

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		L E O A D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)	
1	1843-3010	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	10 φ	15 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
2	1843-3020	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	20 φ	10 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
3	1843-3205	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	5.0 φ	20 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
4	1843-3210	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	10 φ	15 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
5	1843-3220	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	20 φ	10 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
6	1843-3505	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	5.0 φ	20 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
7	1843-3510	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	10 φ	15 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
8	1843-3520	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	20 φ	10 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
9	1843-3705	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	5.0 φ	20 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
10	1843-3710	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	10 φ	15 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
11	1843-3720	25M5Δ	500nφ	1.5ut	1.0ut	1.0ut	85 φ	5.0 φ	20 φ	10 #Δ	600pφ	N-EM	Si	200J	T03	Cφ
12#	BLY47	25.0M5	1.0uφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	30 Δ#	200pφ	N-DM	Si	175J	T03	Cφ
13#	BLY47A	25.0M5	1.0uφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	30 Δ#	200pφ	N-DM	Si	175J	T066	Cφ
14#	BLY48	25.0M5	1.0uφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	60 Δ#	200pφ	N-DM	Si	175J	T03	Cφ
15#	BLY48A	25.0M5	1000nφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	60 Δ#	200pφ	N-DM	Si	175J	T066	Cφ
16#	BLY49	25.0M5	1000nφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	30 Δ#	200pφ	N-DM	Si	175J	T03	Cφ
17#	BLY49A	25.0M5	1000nφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	30 Δ#	200pφ	N-DM	Si	175J	T066	Cφ
18#	BLY50	25.0M5	1000nφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	60 Δ#	200pφ	N-DM	Si	175J	T03	Cφ
19#	BLY50A	25.0M5	1000nφ	3.0uφ	4.0 φ	4.0 φ	40 φ	10 φ	1.0 φ	60 Δ#	200pφ	N-DM	Si	175J	T066	Cφ
20#	BUY23	25M5	1.0uφ	3.0u	1.0u	100 φ	5.0 φ	2.5 φ	50		90p	N-DM	Si	175J	T03	Cφ
21#	BUY23A	25M5	1.0uφ	3.0u	1.0u	100 φ	5.0 φ	2.5 φ	50		90p	N-DM	Si	175J	T03	Cφ
22	2N3597	30.0M5Δ	700nφ	700nφ	2.7uφ	1.0m\$	2.0 φ	0.5mφ	75 Δ	07	700p	N	Si	200	T063	Aφ
23	2N3598	30.0M5Δ	700nφ	700nφ	2.7uφ	1.0m\$	2.0 φ	0.5mφ	75 Δ	07	700p	N	Si	200	T063	Aφ
24	2N3599	30.0M5Δ	700nφ	700nφ	2.7uφ	1.0m\$	2.0 φ	0.5mφ	75 Δ	07	700p	N	Si	200	T063	Aφ
25▼	2N5937	30.0M5Δ	25nφ	600n	400n	100 φ	4.0 φ	30 φ	20 Δ#			N	Si	200J	MD6F	Cφ
26	2N1254	30.0M5Δ	25nφ	40nφ	40nφ	450m	1.0 φ	10mφ	50 Δ	30	10pφ	P	Si	200S	T05	φ
27	2N1256	30.0M5Δ	25nφ	40nφ	40nφ	450m	1.0 φ	10mφ	50 Δ	30	10pφ	P	Si	200S	T05	φ
28	MM4547	30.0M5Δ	50nt	30nt	400nt	60nt	25 φ	10 φ	500mφ	20 #Δ	3.0	P-AN	Si	200J	T037	Aφ
29	MM4647	30.0M5Δ	50nt	30nt	400nt	60nt	5.0 φ	10 φ	500mφ	20 #Δ	3.0	P-AN	Si	200J	T039	Aφ
30	2N2008	30.0M	75nφ	400nt	75nφ	800m	50	5.0mφ	65 t	100	7.0p	N-PL	Si	200J	T05	Aφ
31#	2S503	30.0M5Δ	80nφ	5.0uφ	300m	5.0 φ	10uφ	180 Δ				N-PL	Si	175J	T018	Aφ
32	2N5336	30.0M5Δ	100n	2.0u	200n	6 φ	2.0 φ	500mφ	20 t#			N	Si	200J	T039	Aφ
33	2N5337	30.0M5Δ	100n	2.0u	200n	6.0 φ	2.0 φ	500mφ	40 t#			N	Si	200J	T039	Aφ
34	2N5338	30.0M5Δ	100n	2.0u	200n	6 φ	2.0 φ	500mφ	20 t#Δ			N	Si	200J	T039	Aφ
35	2N5339	30.0M5Δ	100n	2.0u	200n	6 φ	2.0 φ	500mφ	40 t#Δ			N	Si	200J	T039	Aφ
36	2N5346	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	5	20 Δ		250pφ	N	Si	200J	T059	A
37	2N5347	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	5	40 Δ		250pφ	N	Si	200J	T059	A
38	2N5348	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	5	20 Δ		250pφ	N	Si	200J	T059	A
39	2N5349	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	5	40 Δ		250pφ	N	Si	200J	T059	A
40	2N5427	30.0M5Δ	100n	2.0u	200n	40 φ	2.0 φ	5.0	20 Δ#		250pφ	N	Si	200J	T066	Cφ
41	2N5428	30.0M5Δ	100n	2.0u	200n	40 φ	2.0 φ	5.0	40 Δ#		250pφ	N	Si	200J	T066	Cφ
42	2N5429	30.0M5Δ	100n	2.0u	200n	40 φ	2.0 φ	5.0	20 Δ#		250pφ	N	Si	200J	T066	Cφ
43	2N5430	30.0M5Δ	100n	2.0u	200n	40 φ	2.0 φ	5.0	40 Δ#		250pφ	N	Si	200J	T066	Cφ
44	2N5477	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	500mφ	30 Δ#		250p	N	Si	200J	T059	Cφ
45	2N5478	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	500mφ	60 Δ#		250p	N	Si	200J	T059	Cφ
46	2N5479	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	500mφ	30 Δ#		250p	N	Si	200J	T059	Cφ
47	2N5480	30.0M5Δ	100n	2.0u	200n	60 φ	2.0 φ	500mφ	60 Δ#		250p	N	Si	200J	T059	Cφ
48	2N5552	30.0M5Δ	100nφ	700nφ	15 φ	5.0 φ	10mφ	30 Δ#			150p	N	Si	200J	R113	Aφ
49	2852-1	30.0M5	100n	50n	400n	150n	1.0	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	T05	Aφ
50	2852-2	30.0M5	100n	50n	400n	150n	2.0	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	T059	Aφ
51	2852-3	30.0M5	100n	50n	400n	150n	1.5	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	MT32	Aφ
52	2856-1	30.0M5	100n	50n	400n	150n	1.0	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	T05	Aφ
53	2856-2	30.0M5	100n	50n	400n	150n	2.0	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	T059	Aφ
54	2856-3	30.0M5	100n	50n	400n	150n	1.5	1.0 φ	500uφ	15 Δ	400m	N-PL	Si	200A	MT35	Aφ
55	MJ500	30.0M5Δ	100n	1.0u	150n	60 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T059	Aφ
56	MJ501	30.0M5Δ	100n	1.0u	150n	60 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T059	Aφ
57	MJ6700	30.0M5Δ	100n	1.0u	150n	60 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T059	Aφ
58	MJ6701	30.0M5Δ	100n	1.0u	150n	60 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T059	Aφ
59	MJ8100	30.0M5Δ	100n	1.0u	150n	10 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T039	A
60	MJ8101	30.0M5Δ	100n	1.0u	150n	10 φ	2.0 φ	5.0 φ	15 Δ#		300pφ	P	Si	200J	T039	A
61	2N2877	30.0M5Δ	120n	60n	80n	30 φ	2.0 φ	10mφ	15 Δ		150pφ	N	Si	200J	T0111	Aφ
62	2N2879	30.0M5Δ	120n	60n	80n	30 φ	2.0 φ	10mφ	15 Δ		150pφ	N	Si	200J	T0111	Aφ
63	2N3744	30.0M5Δ	120n	60n	80n	30 φ	5.0 φ	5 φ	10 Δ		150pφ	N	Si	200J	MT53	G
64	2N3745	30.0M5Δ	120n	60n	80n	30 φ	5.0 φ	5 φ	10 Δ		150pφ	N	Si	200J	MT53	G
65	2N3746	30.0M5Δ	120n	60n	80n	30 φ	5.0 φ	5 φ	10 Δ		150pφ	N	Si	200J	MT53	G
66	2N2849	30.0M5Δ	125n	50n	300n	175n	850m	1.0 φ	500uφ	50 Δ	400m	N-PE	Si	200S	R61	φ
67	2N2850	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	25 Δ	250m	N-PE	Si	200S	R61	φ
68	2N2850-1	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	25 Δ	250m	N-PE	Si	200S	T05	Aφ
69	2N2851	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	25 Δ	400m	N-PE	Si	200S	R61	φ
70	2N2851-1	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	25 Δ	400m	N-PE	Si	200S	T05	Aφ
71	2N2852	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	15 Δ	400m	N-PE	Si	200S	R61	φ
72	2N2852-1	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	500uφ	15 Δ	400m	N-PE	Si	200S	T05	Aφ
73	2N2853	30.0M5Δ	125n	50n	400n	200n	850m	3.0 φ	5.0	20 Δ#	300m	N-PE	Si	200S	R61	φ
74	2N2853-1	30.0M5Δ	125n	50n	400n	200n	850m	3.0 φ	5.0	20 Δ#	300m	N-PE	Si	200S	T05	Aφ
75	2N2854	30.0M5Δ	125n	50n	300n	175n	850m	1.0 φ	50mφ	50 Δ	400m	N-PE	Si	200S	R61	φ
76	2N2855	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	50mφ	25 Δ	400m	N-PE	Si	200S	R61	φ
77	2N2855-1	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	50mφ	25 Δ	400m	N-PE	Si	200S	T05	Aφ
78	2N2856	30.0M5Δ	125n	50n	400n	175n	850m	1.0 φ	50mφ	15 Δ	400m	N-PE	Si	200S	R61	φ
79	2N2856-1	30.0M5Δ	125n	50n	300n	175n	850m	1.0 φ	50mφ	15 Δ	400m	N-PE	Si	200S	T05	Aφ
80	2849-1	30.0M5Δ	125n	50n	300n	175n	1.0	1.0 φ	500uφ	50 Δ	400m	N-PE	Si	200S	T05	Aφ
81	2849-2	30.0M5Δ	125n	50n	300n	175n	2.0	1.0 φ	500uφ	50 Δ	400m	N-PE	Si	200S	T059	Aφ
82	2849-3	30.0M5Δ	125n	50n	300n	175n	1.5	1.0 φ	50							

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			L E A D E
								Vcb (V)	Ie (A)	hFE				STRUCTURE P-PNP N-NPN	TEMP. MAX. (°C)	DWG. No.	
1	1723-1810	30MSΔ	300n		500n	300n	150	4.0	10	20		800pZ	N-EM	Si	200J	T03	
2	1743-0610	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
3	1743-0810	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
4	1743-1010	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
5	1743-1210	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
6	1743-1410	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
7	1743-1610	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
8	1743-1810	30MSΔ	300n		500n	300n	85	2.0	10	20		800pZ	N-EM	Si	200J	T03	CØ
9	1748-0610	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
10	1748-0810	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
11	1748-1010	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
12	1748-1210	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
13	1748-1410	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
14	1748-1610	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
15	1748-1810	30MSΔ	300n		500n	300n	100	2.0	10	20		800pZ	N-EM	Si	200J	T063	A
16	SDT3205	30.0MSΔ	300n		1.5u	300n	3.0	5.0	5.0	90		500pZ	N-PE	Si	200J	T061	A
17	SDT3206	30.0MSΔ	300n		1.5u	300n	3.0	5.0	5.0	90		500pZ	N-PE	Si	200J	T061	A
18	SDT3207	30.0MSΔ	300n		1.5u	300n	3.0	5.0	5.0	90		500pZ	N-PE	Si	200J	T061	A
19	SDT3208	30.0MSΔ	300n		1.5u	300n	3.0	5.0	5.0	90		500pZ	N-PE	Si	200J	T061	A
20	SDT3209	30.0MSΔ	300n		1.5u	300n	3.0	5.0	5.0	90		500pZ	N-PE	Si	200J	T061	A
21	JAN2N338	30.0MA	350n		350n	350n	125m	5.0	100u	10			N	Si	150S	T05	A
22	2N5317	30.0MSΔ	400n		1.2u	400n	50	5.0	10	10		500p	N	Si	200J	T061	A
23	2N5319	30.0MSΔ	400n		1.2u	400n	50	5.0	10	10		500p	N	Si	200J	T061	A
24	1743-0620	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
25	1743-0820	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
26	1743-1020	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
27	1743-1220	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
28	1743-1420	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
29	1743-1620	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
30	1743-1820	30MSΔ	450n		550n	350n	85	2.5	20	20		800pZ	N-EM	Si	200J	T03	CØ
31	1748-0620	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
32	1748-0820	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
33	1748-1020	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
34	1748-1220	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
35	1748-1420	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
36	1748-1620	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
37	1748-1820	30MSΔ	450n		550n	350n	100	2.5	20	20		800pZ	N-EM	Si	200J	T063	A
38	2N5312	30.0MSΔ	500n		750n	500n	50	5.0	20	5.0		500pZ	P	Si	200J	T061	A
39	2N5313	30.0MSΔ	500n		1.0u	500n	50	5.0	20	5.0		500pZ	P	Si	200J	T061	A
40	2N5314	30.0MSΔ	500n		750n	500n	50	5.0	20	5.0		500pZ	P	Si	200J	T061	A
41	2N5315	30.0MSΔ	500n		1.0u	500n	50	5.0	20	5.0		500pZ	P	Si	200J	T061	A
42	2N5929	30MSZ	500n		500n	300m	100	4.0	30	8.0			N	Si	200J	MD6f	CØ
43	2N5930	30MSZ	500n		500n	300n	100	4.0	30	8.0			N	Si	200J	MD6f	CØ
44	2N5931	30MSΔ	500n		500n	300n	100	4.0	30	8.0			N	Si	200J	MD6f	CØ
45	1743-0630	30MSΔ	500n		600n	400n	85	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
46	1743-0830	30MSΔ	500n		600n	400n	85	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
47	1743-1030	30MSΔ	500n		600n	400n	85	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
48	1743-1230	30MSΔ	500n		600n	400n	85	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
49	1743-1430	30MSΔ	500n		600n	400n	85	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
50	1743-1630	30MSΔ	500n		600n	400n	150	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
51	1743-1830	30MSΔ	500n		600n	400n	150	3.0	30	20		800pZ	N-EM	Si	200J	T03	CØ
52	1748-0630	30MSΔ	500n		600n	400n	100	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
53	1748-0830	30MSΔ	500n		600n	400n	100	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
54	1748-1030	30MSΔ	500n		600n	400n	100	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
55	1748-1230	30MSΔ	500n		600n	400n	100	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
56	1748-1430	30MSΔ	500n		600n	400n	100	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
57	1748-1630	30MSΔ	500n		600n	400n	175	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
58	1748-1830	30MSΔ	500n		600n	400n	175	3.0	30	20		800pZ	N-EM	Si	200J	T063	A
59	SDT3101	30.0MSΔ	500n		750n	500n	3.0	5.0	10u	90		500pZ	P-PE	Si	200J	T061	A
60	SDT3102	30.0MSΔ	500n		750n	500n	3.0	5.0	10u	90		500pZ	P-PE	Si	200J	T061	A
61	SDT3103	30.0MSΔ	500n		750n	500n	3.0	5.0	10u	90		500pZ	P-PE	Si	200J	T061	A
62	SDT3104	30.0MSΔ	500n		750n	500n	3.0	5.0	10u	90		500pZ	P-PE	Si	200J	T061	A
63	SDT3201	30.0MSΔ	500n		1.0u	500n	3.0	5.0	10u	90		500pZ	N-PE	Si	200J	T061	A
64	SDT3202	30.0MSΔ	500n		1.0u	500n	3.0	5.0	10u	90		500pZ	N-PE	Si	200J	T061	A
65	SDT3203	30.0MSΔ	500n		1.0u	500n	3	5.0	0.1m	90		500pZ	N-PE S	Si	200J	T061	A
66	SDT3204	30.0MSΔ	500n		1.0u	500n	3	5.0	0.1m	90		500pZ	N-PE S	Si	200J	T061	A
67	ST74049	30MSΔ	500n				1.0u	7.5	10	500m		60pZ	N-PL	Si	200J	T05	
68	ST74050	30MSΔ	500n				1.0u	7.5	10	500m		60pZ	N-PL	Si	200J	T05	
69	ST74051	30MSΔ	500n				1.0u	7.5	10	500m		60pZ	N-PL	Si	200J	T05	
70	2N5932	30MSΔ	600n		550n	350n	100	4.0	30	12			N	Si	200J	MD6f	CØ
71	2N5933	30MSZ	600n		550n	350n	100	4.0	30	12			N	Si	200J	MD6f	CØ
72	2N5934	30MSZ	600n		550n	350n	100	4.0	30	12			N	Si	200J	MD6f	CØ
73	2N5733	30MSΔ	700n		3.0u	1.0u	150	5.0	30	5.0		60m	N	Si	200J	T063	A
74	2N5734	30MSΔ	700n		3.0u	1.0u	150	5.0	30	5.0		60m	N	Si	200J	T03	A
75	2N5935	30MSZ	700n		600n	400n	100	4.0	30	12			N	Si	200J	MD6f	CØ
76	2N5936	30MSZ	700n		600n	400n	100	4.0	30	12			N	Si	200J	MD6f	CØ
77	2N4002	30.0MSΔ	1000n				3u	4.0	1	30		.04	N	Si	200J	MD6f	CØ
78	2N4003	30.0MSΔ	1000n				4.0	4.0	1	30		.04	N	Si	200J	T063	A
79	2N4004	30.0MSΔ	1000n				1.2	4.0	2	15		.05	N	Si	200J	T063	A
80	2N4005	30.0MSΔ	1000n				1.2	4.0	2	15		.05	N	Si	200J	T063	A
81	2N1301	35MSΔ	70n		90n	70n	150m	500m	40m	40			P-DM	Ge	85A	R81m	A
82	2N1384	35OM	80n		90n	250n	240m	50	200m	50			P-D	Ge	85A	T011	A
83	JAN2N3846	35MSZ	4.0u				7.0u	3.0	5.0	40		750pZ	N	Si	175A	T063	A
84	JAN2N3847	35MSZ	4.0u				7.0u	3.0	5.0	40		750pZ	N	Si	175A	T063	A
85	2N3388	36.0MSΔ	1000n		200n	400n	1.2u										

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME &
(3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		L C O D E	
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)		
1v	D45C6	40Ms	50n∅		500nt	50nt	1.3	1.0	2.0	20 Δ	500m	125p∅	Pt	Si	125J	X102	D
2v	D45C7	40Ms	50n∅		500nt	50nt	1.3	1.0	1.0	10 Δ	500m	125p∅	Pt	Si	125J	X102	D
3v	D45C8	40Ms	50n∅		500nt	50nt	1.3	1.0	1.0	10 Δ	500m	125p∅	Pt	Si	125J	X102	D
4v	D45C9	40Ms	50n∅		500nt	50nt	1.3	1.0	2.0	20 Δ	500m	125p∅	Pt	Si	125J	X102	D
5	MM4545	40MsΔ	50nt	30nt	400nt	60nt	25 ∅	10	500m	20 #Δ	2.0	80p∅	P-AN	Si	200J	TO37	A∅
6	MM4546	40MsΔ	50nt	30nt	400nt	60nt	25 ∅	10	500m	20 #Δ	2.4	60p∅	P-AN	Si	200J	TO37	A∅
7	MM4645	40MsΔ	50nt	30nt	400nt	60nt	5.0 ∅	10	500m	20 #Δ	2.0	80p∅	P-AN	Si	200J	TO39	A∅
8	MM4646	40MsΔ	50nt	30nt	400nt	60nt	5.0 ∅	10	500m	20 #Δ	2.4	60p∅	P-AN	Si	200J	TO39	A∅
9	2N3747	40MsΔ	80n		60n	80n	30 ∅	5.0	5	15 Δ	150p∅	N	Si	200J	MT53	G	
10	2N3748	40MsΔ	80n		60n	80n	30 ∅	5.0	5	15 Δ	150p∅	N	Si	200J	MT53	G	
11	2N3749	40MsΔ	80n		60n	80n	30 ∅	5.0	5	15 Δ	150p∅	N	Si	200J	MT53	G	
12	2850-1	40Ms	100n	50n	400n	150n	1.0	1.0	500m	25 Δ	250m	125p∅	N-PL	Si	200S	TO5	A∅
13	2850-2	40Ms	100n	50n	400n	150n	2.0	1.0	500m	25 Δ	250m	125p∅	N-PL	Si	200S	TO59	A∅
14	2850-3	40Ms	100n	50n	400n	150n	1.5	1.0	500m	25 Δ	250m	125p∅	N-PL	Si	200S	MT32	A∅
15	2853-1	40Ms	100n	50n	400n	200n	1.0	3.0	5.0	20 Δ#	300m	125p∅	N-PL	Si	200A	TO5	A∅
16	2853-2	40Ms	100n	50n	400n	200n	2.0	3.0	5.0	20 Δ#	300m	125p∅	N-PL	Si	200A	TO59	A∅
17	2853-3	40Ms	100n	50n	400n	200n	1.5	3.0	5.0	20 Δ#	300m	125p∅	N-PL	Si	200A	MT32	A∅
18	2855-1	40Ms	100n	50n	400n	150n	1.0	1.0	50m	25 Δ	400m	125p∅	N-PL	Si	200A	TO5	A∅
19	2855-2	40Ms	100n	50n	400n	150n	2.0	1.0	50m	25 Δ	400m	125p∅	N-PL	Si	200A	TO59	A∅
20	2855-3	40Ms	100n	50n	400n	150n	1.5	1.0	50m	25 Δ	400m	125p∅	N-PL	Si	200A	MT32	A∅
21	2N5487	40MsΔ	125n∅		450n∅	15 ∅	1.5	5.0	5.0	25 Δ#	400m	75p∅	N	Si	200J	R113	A∅
22	2N5487-1	40Ms	125n∅		450n∅	1.2	1.5	5.0	5.0	25	2.0	75p	N-PE	Si	200	TO5	
23	2N5487-3	40Ms	125n∅		450n∅	1.5	1.5	5.0	5.0	15	2.0	75p	N-PE	Si	200	MT32	
24	2N5488	40MsΔ	125n∅		550n∅	15 ∅	1.5	5.0	5.0	15 Δ#	75p∅	N	Si	200J	R113	A∅	
25	2N5488-1	40Ms	125n∅		550n∅	1.2	1.5	5.0	5.0	15	2.0	75p	N-PE	Si	200	TO5	
26	2N5488-3	40Ms	125n∅		550n∅	1.5	1.5	5.0	5.0	15	2.0	75p	N-PE	Si	200	MT32	
27	USA5519/36	40MsΔ	150n∅		600n∅	2.3	4.0	150m	25 Δ#	28	45p∅	P	Si	200J			
28	2N794	40Ms	180n	140n	110n	150m	300m	10m	50		8.0p	P-ME	Ge	85A	TO18	A	
29	2N696A	40MsΔ	230n∅		300n∅	800m	10 ∅	150m	20 Δ	.10	35p	N	Si	200J	TO5	A∅	
30#	C426	40MsΔ	250n∅		650n∅	5.0 ∅	1.0	150m	70 #		25p∅	N-DPE	Si	200J	TO5	A∅	
31	2N3418	40MsΔ	300n∅		1.2u∅	15 ***	2.0	1	60 #	.25	150p∅	N	Si	200C	TO5	A∅	
32	2N3419	40MsΔ	300n∅		1.2u∅	15 ***	2.0	1	120 #	.25	150p∅	N	Si	200C	TO5	A∅	
33	2N3420	40MsΔ	300n∅		1.2u∅	15 ***	2.0	1	60 #	.25	150p∅	N	Si	200C	TO5	A∅	
34	2N3421	40MsΔ	300n∅		1.2u∅	15 ***	2.0	1	120 #	.25	150p∅	N	Si	200C	TO5	A∅	
35	2N3551	40MsΔ	300n∅		2.5u∅	40	2.0	10	90 #	.10	85p∅	N	Si	200S	X15		
36	2N3552	40MsΔ	300n∅		2.5u∅	40	2.0	10	90 #	.10	85p∅	N	Si	200S	X15		
37	2N4000	40Ms	300n∅		2u∅	1.0	2.0	50m	10	.50	60p∅	N	Si	200J	TO5	A∅	
38	2N4001	40Ms	300n∅		2u∅	1.0	2.0	50m	20	.50	60p∅	N	Si	200J	TO5	A∅	
39#	1714-0402	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
40#	1714-0602	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
41#	1714-0802	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
42#	1714-1002	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
43#	1714-1202	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
44#	1714-1402	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
45#	1714-1602	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
46#	1714-1802	40MsΔ	300n∅		600n	300n	44	2.0	2.0	20	250p∅	N-EM	Si	200J	TO66		
47#	1716-0402	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
48#	1716-0602	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
49#	1716-0802	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
50#	1716-1002	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
51#	1716-1202	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
52#	1716-1402	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
53#	1716-1602	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
54#	1716-1802	40MsΔ	300n∅		600n	300n	87	2.0	2.0	20	250p∅	N-EM	Si	200J	TO61	A	
55#	1718-0402	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
56#	1718-0602	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
57#	1718-0802	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
58#	1718-1002	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
59#	1718-1202	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
60#	1718-1402	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
61#	1718-1602	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
62#	1718-1802	40MsΔ	300n∅		600n	300n	58	2.0	2.0	20	250p∅	N-EM	Si	200J	TO111	G	
63	2N3879	40MsΔ	400n	500n∅	800n	400n	35 ∅	4 ∅	12 Δ	.30	250p∅	N	Si	200J	TO66	C∅	
64#	1714-0405	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
65#	1714-0605	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
66#	1714-0805	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
67#	1714-1005	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
68#	1714-1205	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
69#	1714-1405	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
70#	1714-1605	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
71#	1714-1805	40MsΔ	400n∅		600n	300n	44	2.0	5.0	20	250p∅	N-EM	Si	200J	TO66		
72#	1716-0405	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
73#	1716-0605	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
74#	1716-0805	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
75#	1716-1005	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
76#	1716-1205	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
77#	1716-1405	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
78#	1716-1605	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
79#	1716-1805	40MsΔ	400n∅		600n	300n	87	2.0	5.0	20	250p∅	N-EM	Si	200J	TO61	A	
80#	1718-0405	40MsΔ	400n∅		600n	300n	58	2.0	5.0	20	250p∅	N-EM	Si	200J	TO111	G	
81#	1718-0605	40MsΔ	400n∅		600n	300n	58	2.0	5.0	20	250p∅	N-EM	Si	200J	TO111	G	
82#	1718-0805	40MsΔ	400n∅		600n	300n	58	2.0	5.0	20	250p∅	N-EM	Si	200J	TO111	G	
83#	1718																

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c AIR FREE @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION		L C O D E		
								V _{cb} (V)	I _e (A)	h _{FE}				STRUCTURE P-NPN N-PNP	MAX. TEMP (°C)			
1	SDT3407	40.0M\$Δ	500n		1.0u	300n	2.0	5.0	2.0	80	200p		N-PE	Si	200J	T0111		
2	SDT3408	40.0M\$Δ	500n		1.0u	300n	2.0	5.0	2.0	80	200p		N-PE	Si	200J	T0111		
3	SDT3409	40.0M\$Δ	500n		1.0u	300n	2.0	5.0	2.0	80	200p		N-PE	Si	200J	T0111		
4	2N5218	40.0M\$Δ	600n	600nφ	4.5u	1.0u	50	5.0	5.0	75	30p		N	Si	200C	T061	Aφ	
5	2N5560	40.0M\$Δ	1uφ			2uφ	150	5.0	15	30	600p\$		N	Si	200J	T063	Aφ	
6	PT1937	40.0M\$Δ	1000nφ			3.0uφ	100	2.0	7.0	80	140m		N-DPL	Si	150J	MT38	φ	
7	PT1941	40.0M\$Δ	1000nφ			3.0uφ	90	2.0	7.0	80	140m		N-DPL	Si	150J	MT39	φ	
8	2N3996	40M\$Δ	300uφ			1.5uφ	30	5.0	5.0	15	150pφ		N	Si	200J	MT53	M	
9	2N3997	40M\$Δ	300uφ			2.0uφ	30	5.0	5.0	20	150pφ		N	Si	200J	MT53	M	
10	2N3998	40M\$Δ	300uφ			1.5uφ	30	5.0	5.0	15	150pφ		N	Si	200J	MT42	Aφ	
11	2N3999	40M\$Δ	300uφ			2.0uφ	30	5.0	5.0	20	150pφ		N	Si	200J	MT42	Aφ	
12	2N2693	42.0M\$Δ	700n	400n	900n	1.0u	1.0	1.0	10m	80	5.0pφ		N	Si	200S	T018	Aφ	
13	2N2694	42.0M\$Δ	750n	450n	1.8u	1.3u	1.0	1.0	10m	30	5.0pφ		N-DPE	Si	200S	T018	Aφ	
14	2N4075	46.0M\$	300nφ			1.5uφ	30	5.0	2.0	75	500m		N	Si	200J	T059	Aφ	
15	2N4076	46.0M\$	300nφ			1.5uφ	30	5.0	2.0	75	500m		N	Si	200J	T059	Aφ	
16	2N393	50.0M\$		120n\$			25m*	50mφ	50m	50			N-MA	Ge	100S	T024	Aφ	
17#	2SC708AH	50M\$			1.4n	.08n	750m	4.0	50m	30		8.8	750pφ	N	Si	175J	T039	Aφ
18#	2SC708H	50M\$			1.4n	.08n	750m	4.0	50m	30			750pφ	N	Si	175J	T039	Aφ
19#	2SC857H	50M\$Δ				150n	50n	200m	6.0	10	10p		N	Si	175J	T01		
20	D12X043	50.0M\$Δ				10nφ	10nφ	300m	5.0	150m	40		N-AD	Si	200J	T05	A	
21	2N1387	50.0M\$	15nφ†			60nφ	60nφ	300m	5.0	10m	30		N	Si	175J	T05	A	
22	2N1255	50.0M\$Δ	25nφ			60nφ	60nφ	450m	1.0	10m	80		P	Si	200S	T05	A	
23	2N1257	50.0M\$Δ	25nφ			60nφ	60nφ	450m	1.0	10m	80		P	Si	200S	T05	A	
24	2N1258	50.0M\$Δ	25nφ			60nφ	60nφ	450m	1.0	10m	150		P	Si	200S	T05	A	
25#	2SA503	50.0M\$Δ	25nφ†			500n†	80n†	8.0mφ	2.0	150m	300	5.3	P-PE	Si	175J	T039	Aφ	
26#	2SA504	50.0M\$Δ	25nφ†			500n†	80n†	8.0mφ	2.0	150m	300	5.3	P-PE	Si	175J	T039	Aφ	
27#	2N2236	50.0M\$Δ	30nφ			600mφ		900mφ	1.0	100mφ	60	2.5	N	Si	150S	T05	Aφ	
28#	BFY52	50.0M\$Δ	30n	25n		180n	35n	800m	6.0	10m	55		N-PE	Si	200J	T05	φ	
29#	BFY52	50.0M\$Δ	30n	25n		220n	40n	800m	6.0	10m	80		N-PE	Si	200J	T05	φ	
30	2N1131A	50.0M\$Δ	45nφ			35nφ		2.0	10	150mφ	20		N	Si	175J	T039	A	
31	2N566	50.0M	60nφ			50mφ		500m	5.0	10m	20	50	N-D	Si	150S	T029	Aφ	
32	2N2192	50.0M\$Δ	70n			150n	50n	2.8	10	10m	15	2.3	N	Si	200J	T05	Aφ	
33	2N2192A	50.0M\$Δ	70n			150n	50n	2.8	10	10m	15	1.7	N	Si	200J	T05	Aφ	
34	2N2192B	50.0M\$Δ	70n			150n	50n	2.8	10	10m	15	1.2	N	Si	200J	T05	Aφ	
35	2N2193	50.0M\$Δ	70n			150n	50n	2.8	10	10m	15	2.3	N	Si	200J	T05	Aφ	
36	2N2193A	50.0M\$Δ	70n			150n	50n	2.5	10	10m	15	1.7	N	Si	200S	T05	Aφ	
37	2N2193B	50.0M\$Δ	70n			150n	50n	2.8	10	10m	15	1.2	N	Si	200J	T05	Aφ	
38	2N2194	50.0M\$Δ	70n			150n	50n	2.8	10	150m	60	2.3	N	Si	200J	T05	Aφ	
39	2N2194A	50.0M\$Δ	70n			150n	50n	2.8	10	500mφ	12	1.7	N	Si	200S	T05	Aφ	
40	2N2194B	50.0M\$Δ	70n			150n	50n	2.8	10	150mφ	20	1.2	N	Si	200J	T05	Aφ	
41	2N2350	50.0M\$	70n			150n	50n	400m	10	150m	300	2.3	N-PE	Si	200J	T046	Aφ	
42	2N2350A	50.0M\$	70n			150n	50n	400m	10	150m	300	1.6	N-PE	Si	200J	T046	Aφ	
43	2N2351	50.0M\$	70n			150n	50n	400m	10	150m	120	2.3	N-PE	Si	200J	T046	Aφ	
44	2N2351A	50.0M\$	70n			150n	50n	400m	10	150m	120	1.6	N-PE	Si	200J	T046	Aφ	
45	2N2352	50.0M\$	70n			150n	50n	400m	10	150m	60	2.3	N-PE	Si	200J	T046	Aφ	
46	2N2352A	50.0M\$	70n			150n	50n	400m	10	150m	60	1.6	N-PE	Si	200J	T046	Aφ	
47	2N2364	50.0M\$	70n	50n		500n	100n	400m	10	150m	120	2.3	N-PE	Si	200J	T046	Aφ	
48	2N2364A	50.0M\$Δ	70n	50n		500n	100n	400m	10	150m	120	1.6	N-PE	Si	200J	T046	Aφ	
49#	BSY46	50.0M\$Δ	70n			150n	50n	800m	10	150m	80		N-PE	Si	200J	T05	φ	
50	2N2878	50M\$Δ	80n			60n	80n	30	2.0	150m	30		N	Si	200J	T0111	Aφ	
51	2N2880	50M\$Δ	80n			60n	80n	30	2.0	10mφ	30		N	Si	200J	T0111	Aφ	
52	2N3750	50.0M\$Δ	80n			60n	80n	30	5.0	5	20		N	Si	200J	MT53	G	
53	2N3751	50.0M\$Δ	80n			60n	80n	30	5.0	5	20		N	Si	200J	MT53	G	
54	2N3752	50.0M\$Δ	80n			60n	80n	30	5.0	5	20		N	Si	200J	MT53	G	
55	2N5320	50.0M\$Δ	80nφ			800nφ		10	2.0	1	20	1.0	N	Si	200J	T05	Aφ	
56	2N5321	50.0M\$Δ	80nφ			800nφ		10	4.0	500mφ	250	1.6	N	Si	200J	T05	Aφ	
57	2N3039	50.0M\$Δ	100n	50n	500n	150n	1.0	1.0	100m	15	20	40pφ	N	Si	200S	T050	A	
58	2N3040	50.0M\$Δ	100n	50n	500n	150n	1.0	1.0	100m	30	20	40pφ	N	Si	200S	T050	A	
59	2N3341	50.0M\$Δ	100nφ			400mφ	1.0	1.0	100m	40	25k	6.0pφ	P	Si	175A	T046	Aφ	
60	2N5322	50.0M\$Δ	100nφ			1uφ	10	1.0	2.0	1	10	1.4	P	Si	200J	T05	Aφ	
61	2N5323	50.0M\$Δ	100nφ			1uφ	10	1.0	4.0	500mφ	250	2.4	P	Si	200J	T05	Aφ	
62	2N5357	50.0M\$Δ	100n	50n	600n	100n	1.0	1.0	50m	45	.03		P	Si	200J	T037	Aφ	
63	2854-1	50.0M\$	100n	50n	300n	150n	1.0	1.0	50m	50	.40		N-PL	Si	200A	T05	Aφ	
64	2854-2	50.0M\$	100n	50n	300n	150n	1.0	1.0	50m	50	.40		N-PL	Si	200A	T059	Aφ	
65	2854-3	50.0M\$	100n	50n	300n	150n	1.0	1.0	50m	50	.40		N-PL	Si	200A	MT32	Aφ	
66	D42C1	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	10	500m	N†	Si	150J	X51	A	
67	D42C2	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	20	500m	N†	Si	150J	X51	A	
68	D42C3	50M\$	100nφ			500n†	75n†	1.7	1.0	2.0	20	500m	N†	Si	150J	X51	A	
69	D42C4	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	10	500m	N†	Si	150J	X51	A	
70	D42C5	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	20	500m	N†	Si	150J	X51	A	
71	D42C6	50M\$	100nφ			500n†	75n†	2.1	1.0	2.0	20	500m	N†	Si	150J	X51	A	
72	D42C7	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	10	500m	N†	Si	150J	X51	A	
73	D42C8	50M\$	100nφ			500n†	75n†	1.7	1.0	1.0	10	500m	N†	Si	150J	X51	A	
74	D44C1	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	10	500m	N†	Si	125J	X102	D	
75	D44C2	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	10	500m	N†	Si	100p\$φ	X102	D	
76	D44C3	50M\$	100nφ			500n†	75n†	1.3	1.0	2.0	20	500m	N†	Si	100p\$φ	X102	D	
77	D44C4	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	10	500m	N†	Si	100p\$φ	X102	D	
78	D44C5	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	20	500m	N†	Si	100p\$φ	X102	D	
79	D44C6	50M\$	100nφ			500n†	75n†	1.3	1.0	2.0	20	500m	N†	Si	100p\$φ	X102	D	
80	D44C7	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	10	500m	N†	Si	100p\$φ	X102	D	
81	D44C8	50M\$	100nφ			500n†	75n†	1.3	1.0	1.0	20	500m	N†	Si	100p\$φ	X102	D	
82	D44C9	50M\$	100nφ			500n†	75n†	1.3	1.0	2.0	20	500m	N†	Si	100p\$φ	X102	D	
83#	2SA408	50.0M	105n†			80	1.50m	80	1.0	15mφ	100		N-MD	Ge	3.0p	R48	Aφ	
84	T1486	50M\$	140nφ†			2.6uφ†	1.0	5.0	200mφ	20	Δ#		N-DPL	Si	200C	MT13	Aφ	
85	T1487	50M\$	140nφ†</															

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	L O A D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE P-NPN N-PNP	MATERIAL Si Ge			
1	2N5672	50M5Δ	500n∅		1.5u	500n	140	2.0	15	100	50m	900p	N	Si	200J	T03	C∅	
2#	BC160	50M5Δ	500n∅			650n∅	3.2	1.0	100m	63	1.0	30p	P-D	Si	175J	T039	A∅	
3#	BC161	50M5Δ	500n∅			650n∅	3.2	1.0	100m	63	1.0	30p	P-D	Si	175J	T039	A∅	
4#	BSV15	50M5Δ	500n∅		500n	150n	3.2	1.0	100m	63 *	2.0	20p	P-PE	Si	175J	T039	A∅	
5#	BSV16	50M5Δ	500n∅		500n	150n	3.2	1.0	100m	63 *	2.0	20p	P-PE	Si	175J	T039	A∅	
6	PT6984	50M5Δ	500n∅			100	1.0	5.0	10	15	100m	600p	N-PL	Si	200J	T061	A	
7	PT6988	50M5Δ	500n∅			1.0	100	5.0	10	15	100m	600p	N-PL	Si	200J	T063	A∅	
8	JAN2N604	50M5Δ	750n∅			450n∅	120m	1.0	500u	30 Δ#	12	5.0p	P	Ge	100S	R81p	A	
9	2N5264	50M5Δ	1.0u		2.5u	1.5u	87	5.0	1.0	30 Δ#		80p	N	Si	200J	T03	C∅	
10#	BUY18	50.0M5Δ	1000n∅			2.5u	25	5.0	1.0	30 Δ#		55p	N-DPE	Si	150J	T03	C∅	
11	PT1949	50.0M5Δ	1500n∅			3.0u	50	2.0	5.0	25 Δ			N-PL	Si	150J	X15	A	
12#	BSX47	50M5Δ	200		700n	150n	5.0	1.0	100m	63 Δ*			N	Si	200J	T039	A	
13	2N865	52.0M5Δ	75n		100n	75n	150m	5.0	5.0	75 f		5.0p	P-A	Si	170J	T05	A	
14	2N1386	60.0M	13n∅		10nt	10nt	300m	5.0	10m	45	120	4.0p	N-AD	Si	170J	T05	A	
15	2N1427	60.0M*	30n	120n			25m*	3.0	500u	120 f	10	3.5p	P-MD	Ge	85J	T024	A	
16	2N2389	60.0M5Δ	30n			450m	10	1.0	150m	40 Δ	10	25p	N-PL	Si	200J	u25	A∅	
17	2N3506	60.0M5Δ	30n	15n	55n	35n	5.0	1.0	500m	50 Δ	1.0	40p	N	Si	200S	T05	A∅	
18	2N3507	60.0M5Δ	30n	15n	55n	35n	5.0	1.0	500m	35 Δ	1.0	40p	N	Si	200S	T05	A∅	
19#	BFY50	60.0M5Δ	30n	25n	140n	35n	800m	6.0	10m	40			N-PE	Si	200J	T05	∅	
20#	2SC849	60.0M5Δ	40nt		500nt	60nt	500m	4.0	10m	160			N	Si	175J	T018	A	
21	2N1132A	60.0M5Δ	45n∅		35n∅	2.0	10	1.0	150m	30 Δ	10	30p	P	Si	175J	T039	A	
22	2N1132B	60.0M5Δ	45n∅		35n∅	2.0	10	1.0	150m	30 Δ	10	30p	P	Si	175J	T039	A	
23#	BSV84	60M5	50n	150n	400n	150n	800m	1.0	150m	70		25p	N	Si	200	T039	A	
24	2N795	60.0M5	70n	80n	120n	70n	150m	300m	10m	50		8.0p	P-ME	Ge	85A	T018	A	
25	2N4036	60.0M5Δ	70n	110n∅	600n	100n	5.0	1.0	500m	20 Δ	4.3		P	Si	200J	T05	A∅	
26	2N3021	60.0M5Δ	100n		325n	75n	25	2.0	1.0	20 Δ	50		P	Si	175C	T03	C∅	
27	2N3022	60.0M5Δ	100n		325n	75n	25	2.0	1.0	20 Δ	50		P	Si	175C	T03	C∅	
28	2N3023	60.0M5Δ	100n		325n	75n	25	2.0	1.0	20 Δ	50		P	Si	175C	T03	C∅	
29	2N3024	60.0M5Δ	100n		325n	75n	25	2.0	1.0	50 Δ	33		P	Si	175C	T03	C∅	
30	2N3025	60.0M5Δ	100n		325n	75n	25	2.0	1.0	50 Δ	33		P	Si	175C	T03	C∅	
31	2N3026	60.0M5Δ	100n		325n	75n	25	2.0	1.0	50 Δ	33		P	Si	175C	T03	C∅	
32	2N3719	60.0M5Δ	100n		400n∅	6	1.5	1	25	# Δ			P	Si	200J	T05	A∅	
33	2N3720	60.0M5Δ	100n		400n∅	6	1.5	1	25	# Δ			P	Si	200J	T05	A∅	
34	2N5344	60.0M5Δ	100n		600n	100n	40	5	1.0	7 # Δ	3.0		P	Si	200J	T066	C∅	
35	2N5345	60.0M5Δ	100n		600n	100n	40	5	1.0	7 # Δ	3.0		P	Si	200J	T066	C∅	
36	2851-1	60.0M5	100n	50n	400n	150n	1.0	1.0	500u	25 Δ	400m	125p	N-PL	Si	200A	T05	A∅	
37	2851-2	60.0M5	100n	50n	400n	150n	2.0	1.0	500u	25 Δ	400m	125p	N-PL	Si	200A	T059	A∅	
38	2851-3	60.0M5	100n	50n	400n	150n	1.5	1.0	500u	25 Δ	400m	125p	N-PL	Si	200A	MT32	A∅	
39#	2SA412	60.0M5	180n	100n	60n	90n	150m	50	30m	30		12p	P	Ge	85	T01	A	
40	JAN2N697	60.0M5Δ	200n∅		600n∅	1.0u	2.0	1.0	500m	20 Δ#	10	25p	N	Si	200S	T05	A∅	
41	2N3108	60.0M5Δ	200n∅		600n∅	5.0	5.0	1.0	150m	40 Δ#		20p	N	Si	200S	T05	A∅	
42	2N3110	60.0M5Δ	200n∅		600n∅	5.0	5.0	1.0	150m	40 Δ#		25p	N	Si	200S	T05	A∅	
43	2N5412	60.0M5Δ	200n	25n	300n	300n	100	5.0	2	20 Δ	10		N	Si	175J	T061	A∅	
44	B148000	60.0M5Δ	200n	25n	300n	300n	100	5.0	0.2m	160 #	10		N	Si	175J	T061	A∅	
45	B148001	60.0M5Δ	200n	25n	300n	300n	100	5.0	0.2m	160 #	10		N	Si	175J	T061	A∅	
46	B148002	60.0M5Δ	200n	25n	300n	300n	100	5.0	0.2m	160 #	10		N	Si	175J	T061	A∅	
47	B148003	60.0M5Δ	200n	25n	300n	300n	100	5.0	0.2m	160 #	10		N	Si	175J	T061	A∅	
48	B148004	60.0M5Δ	200n	25n	300n	300n	100	5.0	0.2m	160 #	10		N	Si	175J	T061	A∅	
49#	BD121	60M5	200n	30n	350n	150n	45	10	1.0	30	650m		N-D	Si	175J	T03	C∅	
50#	BD123	60M5	200n	30n	350n	150n	45	10	1.0	30	650m		N-D	Si	175J	T03	C∅	
51#	BSX33	60.0M5	200n∅		600n∅	1.8	10	10m	40 Δ#			25p	N-DPE	Si	200J	T018	A	
52	2N5202	60.0M5Δ	400n		1.2u	400n	35m	1.2	4	10 Δ	30		N	Si	200J	T066	C∅	
53	2N5038	60.0M5Δ	500n	500n∅	1.5u	500n	140	5.0	12	20 Δ	125m		N	Si	200J	T03	C∅	
54	2N5039	60.0M5Δ	500n	500n∅	1.5u	500n	140	5.0	10	20 Δ	125m		N	Si	200J	T03	C∅	
55#	JAN2N388	60M5	1.0u		700n	700n	150m	750m	200m	30 Δ		20p	N	Ge	100S	T05	A∅	
56	2N1252	64.0MΔ	80n		150n∅	600m	10	150m	35 #	10		45p	N-D	Si	175J	T05	A∅	
57	2N696	64.0MΔ	200nt		600m	600m	10	150m	20 # Δ	10		35p	N-D	Si	175S	T05	A∅	
58	2N717	64.0MΔ	200nt		400m	10	150m	20 # Δ	10			35p	N-D	Si	175S	T018	A∅	
59	2N2692	66.0M5	700n	400n	500n	1.0u	300m	1.0	100u	90 Δ	20	5.0p	N-PE	Si	175J	T018	A∅	
60	JAN2N1711	70.0M5Δ			30n*	800m	10	100u	35 Δ	10		25p	N∅	Si	200J	T05	A∅	
61	JAN2N1890	70.0M5Δ			30n*	800m	10	100u	35 Δ	24		15p	N∅	Si	200J	T05	∅	
62	2N1411	70.0M5	30n	160n		25m*	1.0	50m	75		3.0p		P-MA	Ge	85J	T024	F	
63#	2SC850	70.0M5	80n		800n	150n	500m	4.0	10m	160			N	Si	175J	T018	A	
64	2N5340	70.0M5Δ	100n∅			400m	1.0	0.1m	40 Δ	40	20k	6.0p	N	Si	175A	T046	A∅	
65	2N3107	70.0M5Δ	200n∅		1u	5.0	10	10m	35 Δ			20p	N	Si	200J	T05	A∅	
66	2N3109	70.0M5Δ	200n∅		1u	5.0	10	10m	35 Δ			25p	N	Si	200J	T05	A∅	
67#	BSX62	70M5	300n∅		1.5u	7.7 *	1.0	1.0	250 *				N-PE	Si	200J	T039	A	
68	JAN2N2812	70.0M5	350n∅		1.0u	200n	50	5.0	1.0	50 # Δ		350p	N	Si	200C	T061	A∅	
69	JAN2N2814	70.0M5	350n∅		1.0u	200n	50	5.0	1.0	50 # Δ		350p	N	Si	200C	T061	A∅	
70	2N5584	70.0M5Δ	350n∅		1.2m	1.0k	3.0	2.0	15	Δ	75m		N	Si	200J	T063	A∅	
71#	BFX34	70.0M5Δ	600n∅		1.2u	5.0m	2.0	1.0	100 #			100p	N-DPE	Si	200J	T05	A∅	
72	JAN2N4865	70.0M5Δ	2.0u		1.5u	500n	300 #	5.0	20	30 # Δ			N	Si	200J	MT49a	A∅	
73	JAN2N5250	70.0M5	2.0u		1.5u	500n	300 #	5.0	2									

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	STRUCTURE		MAX. TEMP (°C)	DWG. No.	L C O A D E
								V _{cb} (V)	I _e (A)	h _{FE}				P-NP	N-PNP			
1	2N1840	90.0MΔ	500n∅		1.2u∅		2 ∅	1.4 ∅	150m∅	10 Δ	9.3	27p∅	N	Si	175J	T05	A	
2	TP3638	100MΔ			170n∅		360m	1.0 ∅	50m∅	30 Δ		20p∅	P	Si		X93	A	
3	TP4257	100MΔ			15n∅		200m	300m∅	10m∅	30 Δ		3.0p∅	P-PL	Si		X93	A	
4	TP4258	100MΔ	18n		20n∅		200m	300m∅	10m∅	30 Δ		3.0p∅	P-PL	Si		X93	A	
5	JAN2N1500	100MΔ			12n	10n	60m	500m∅	50m∅	14 Δ	4.0	3.0p∅	P	Ge	100J	T09	A	
6	2N2237	100MΔ	25n∅		600n∅		600m	1.0 ∅	100m∅	125 #Δ	2.5	35p∅	N	Si	150S	T05	A∅	
7	2N2938	100M	30n∅		15n	30n∅	300m	350m∅	10m∅	25 Δ	8.0	3.5p	N-PE	Si	200S	T052	A	
8#	BSX95	100MΔ	30nt	20nt	250n	20nt	1.7 \$	10 ∅	150m∅	40 Δ	8.0	25p∅	NPE	Si	200J	T05	A	
9#	BSX96	100MΔ	30nt	20nt	250n	20nt	1.7 \$	10 ∅	150m∅	100 Δ	8.0	25p∅	N-PE∅	Si	200J	T05	A	
10	TN59	100MΔ	30nt	10nt	450nt	100nt	3.0 ∅	10 ∅	500m∅	30 Δ			N-PE∅	Si	200J	T05	A	
11	TN60	100MΔ	30nt	10nt	450nt	100nt	1.8 ∅	10 ∅	500m∅	30 Δ			N-PE∅	Si	200J	T018	A	
12	TN61	100MΔ	30nt	10nt	450nt	100nt	3.0 ∅	10 ∅	500m∅	30 Δ			N-PE∅	Si	200J	T05	A	
13	TN62	100MΔ	30nt	10nt	450nt	100nt	1.8 ∅	10 ∅	500m∅	30 Δ			N-PE∅	Si	200J	T018	A	
14#	V205	100MΔ	35n	29n	300n	15n	1.0 ∅	1.0 ∅	50m∅	40 #		8.0p	P-DPE	Si	175A	T018	A∅	
15	2N3883	100MΔ	40n	15n	70n	40n	300m	1.0 ∅	200m∅	30 Δ	2.5	8.0p∅	P	Si	100S	T05	A∅	
16#	BSV83	100MΔ	40n	100n	250n	100n	800m	500m∅	150m∅	70		25p	P	Si	200	T039	A	
17	2N4890	100MΔ	50n	50n	200n	70n	5.0 ∅	2.5 ∅	150m∅	25 Δ	9.3	15p∅	P	Si	200S	T05	A∅	
18	TQ59	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	100 Δ	20	10p∅	P-PE	Si	200J	T05	A	
19	TQ59A	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	100 Δ	20	10p∅	P-PE	Si	200J	T05	A	
20	TQ60	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	100 Δ	20	10p∅	P-PE	Si	200J	T018	A	
21	TQ60A	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	100 Δ	20	10p∅	P-PE	Si	200J	T018	A	
22	TQ61	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	50 Δ	20	10p∅	P-PE	Si	200J	T05	A	
23	TQ61A	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	50 Δ	20	10p∅	P-PE	Si	200J	T05	A	
24	TQ62	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	50 Δ	20	10p∅	P-PE	Si	200J	T018	A	
25	TQ62A	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	50 Δ	20	10p∅	P-PE	Si	200J	T018	A	
26	TQ63	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	25 Δ	20	10p∅	P-PE	Si	200J	T05	A	
27	TQ63A	100MΔ	50n	10n	450n	120n	3.0 ∅	10 ∅	150m∅	25 Δ	20	10p∅	P-PE	Si	200J	T05	A	
28	TQ64	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	25 Δ	20	10p∅	P-PE	Si	200J	T018	A	
29	TQ64A	100MΔ	50n	10n	450n	120n	1.8 ∅	10 ∅	150m∅	25 Δ	20	10p∅	P-PE	Si	200J	T018	A	
30	2N979	100MΔ	60n				60m	500m∅	40m	50	12	15p	P-MD	Ge	100S	T018	A	
31	2N995A	100MΔ	60n∅			90n∅	360m	1.0 ∅	20m∅	140 #Δ	5.0	6.0p∅	P	Si	200J	T018	A∅	
32	JAN2N1499A	100MΔ	60n				60m	500m∅	40m∅	20 Δ	2.0	3.0p∅	P	Ge	100S	T09	A	
33	2N1958A	100MΔ	60n∅		25n	45n∅	600m	10 ∅	1	15 #Δ		14p∅	N	Si	200J	T05	A∅	
34	2N1959A	100MΔ	60n∅		25n	45n∅	600m	10 ∅	1	25 #Δ		14p∅	N	Si	200J	T05	A∅	
35#	2SA628	100M	60n∅		100n	290 ∅	150m	6.0 ∅	1.0m∅	55 #Δ	30	3.5p	P-PE1	Si	125J	T092	D	
36#	2SA628A	100M	60n∅		100n	290 ∅	150m	6.0 ∅	1.0m∅	55 #Δ	30	3.5p	P-PE1	Si	125J	T092	D	
37#	2SC713	100M	60n		120n	30n	200m	6.0 ∅	1.0m∅	90 #	35	2.5p	N-PE1	Si	125J	T092	D	
38#	BFX87	100MΔ	60n∅		150n∅	600m	10 ∅	1.0m∅	40 Δ	40		20p∅	P-PE	Si	200J	T05	A∅	
39#	BFX88	100MΔ	60n∅		150n∅	600m	10 ∅	1.0m∅	40 Δ	40		20p∅	P-PE	Si	200J	T05	A∅	
40	2N1958	100MΔ	65n∅		25n	45n∅	2.0 ∅	10 ∅	150m∅	40	3.0	18p∅	N	Si	175J	T05	A∅	
41	2N1959	100MΔ	65n∅		25n	45n∅	120m∅	10 ∅	150m∅	80	3.0	18p∅	N	Si	175J	T05	A∅	
42	2N3638	100MΔ	70n	20n	140n	70n	700m∅	1.0 ∅	50m∅	30 #Δ		20p∅	P	Si	125J	R110a	A	
43	2N5142	100MΔ	70n	50n	150n	75n	700m∅	1.0 ∅	50m∅	30 #Δ		10p∅	P	Si	125J	T0105	A	
44	2N5143	100MΔ	70n	50n	150n	75n	500m∅	1.0 ∅	50m∅	30 #Δ		10p∅	P	Si	125J	T0106	A	
45	MPS3638	100MΔ	70n			70n	310m	1.0 ∅	50m∅	30 Δ		20p∅	P-EA	Si	135	T092	A	
46	2N2695	100MΔ	75n∅		170n∅	360m	1.0 ∅	1.0 ∅	50m∅	30 #Δ	3.0	20p∅	N-PE	Si	200J	T046	A∅	
47	2N2696	100MΔ	75n∅		170n∅	360m	1.0 ∅	1.0 ∅	50m∅	30 #Δ	3.0	20p∅	P-PE	Si	200J	T018	A∅	
48	2N2927	100MΔ	75n∅		170n∅	3.0 ∅	10 ∅	1.0 ∅	50m∅	30 #Δ	5.0	20p∅	P	Si	200J	T05	A∅	
49	2N2927/46	100MΔ	75n∅		170n∅	400m	1.0 ∅	1.0 ∅	50m∅	30 #Δ	3.0	20p∅	P-PE	Si	200J	T046	A	
50	RT1116	100M	80n		130n	55n	800m	1.0 ∅	150m∅	30 Δ	4.6	15p∅	N-PE	Si	200J	T05	A∅	
51#	2N5865	100MΔ	90n		350n	150n	7.0 ∅	1.0 ∅	1.0m∅	40 Δ	2.5	20p∅	P	Si	200S	T039	A∅	
52#	2N5964	100MΔ	95nt	75m∅	750nt	90nt	2.0 ∅	5.0 ∅	1.0m∅	75	150	2.5p∅	N-DPL	Si	135J	T0105	A	
53#	2N5965	100MΔ	95nt	75m∅	750nt	90nt	2.0 ∅	5.0 ∅	1.0m∅	75	150	2.5p∅	N-DPL	Si	135J	T0105	A	
54	2N4354	100MΔ	100n∅		400n∅		800m∅	10 ∅	10m∅	50 #Δ	1.0	30p∅	P	Si	125J	R124b	A	
55	2N4355	100MΔ	100n∅		400n∅		800m∅	10 ∅	10m∅	100 #Δ	1.0	30p∅	P	Si	125J	R124b	A	
56	2N4356	100MΔ	100n∅		400n∅		800m∅	10 ∅	10m∅	50 #Δ	1.0	30p∅	P	Si	125J	R124b	A	
57#	BFX38	100MΔ	100n∅		350n	50n	4.0m∅	5.0 ∅	100m∅	30 #Δ		20p∅	N-DPE	Si	200J	T05	A	
58#	BFX39	100MΔ	100n∅		350n	50n	4.0m∅	5.0 ∅	100m∅	15 #Δ		20p∅	N-DPE	Si	200J	T05	A	
59#	BFX40	100MΔ	100n∅		350n	50n	4.0m∅	5.0 ∅	1.0 ∅	25 #Δ		20p∅	N-DPE	Si	200J	T05	A	
60#	BFX41	100MΔ	100n∅		350n	50n	4.0m∅	5.0 ∅	1.0 ∅	10 #Δ		20p∅	N-DPE	Si	200J	T05	A	
61	2N2380	100MΔ	125n		130n	65n	1.0 ∅	2.5 ∅	150m∅	15 #Δ	8.7	14p∅	N	Si	175J	T05	A∅	
62	2N2380A	100MΔ	125n		130n	65n	1.0 ∅	2.5 ∅	150m∅	15 #Δ	10	14p∅	N	Si	175J	T05	A∅	
63	2N3227	100MΔ	200m∅			900n∅	5.0 ∅	5.0 ∅	50	50 Δ	5.0		N	Si	200J	T05	A	
64	2N5328	100MΔ	200m∅			900m∅	30 ∅	5.0 ∅	50	50 Δ	12		N	Si	200J	T059	A	
65#	CP409	100M	250m∅			500m∅	5.0 ∅	5.0 ∅	500m∅	150 #		5.0p	N-DPE	Si	200J	T05	A∅	
66#	PT8905A	100MΔ	500n∅		1.0u∅	175 ∅	1.0 ∅	5.0 ∅	10 ∅	15 Δ	100m	700p∅	N-PL	Si	200J	T063	A∅	
67	PT8905B	100MΔ	500n∅		1.0u∅	175 ∅	1.0 ∅	5.0 ∅	10 ∅	15 Δ	100m	700p∅	N-PL	Si	200J	T061	A	
68	PT8905C	100MΔ	500n∅		1.0u∅	175 ∅	1.0 ∅	5.0 ∅	10 ∅	15 Δ	100m	700p∅	N-PL	Si	200J	T03	C∅	
69#	BSV64	100M	600m∅		1.2u∅	2.0 ∅	2.0 ∅	2.0 ∅	2.0 ∅	40 Δ	200m	80p∅	N-PE	Si	200J	T039	A∅	
70	MM2261	100MΔ	1.0u		1.0u	5.0 ∅	1.0 ∅	10 ∅	300m∅	25 Δ	3.3	12p∅	NAN	Si	200J	T05	A∅	
71	MM2262	100MΔ	1.0u		1.0u	5.0 ∅	1.0 ∅	10 ∅	500m∅	25 Δ	2.0	12p∅	NAN	Si	200J	T05	A∅	
72	MM2263	100MΔ	1.0u		1.0u	5.0 ∅	1.0 ∅	10 ∅	750m∅	25 Δ	1.3	12p∅	NAN	Si	200J	T05	A∅	
73	2N4950	100MΔ	9500n	10n∅	10u	10u	300	3.0 ∅	50 ∅	10 #Δ			N	Si	200S	MT69	A∅	
74#	BDY60	100M	150nt	10ut	200ut	80ut	15 ∅	10 ∅	500m∅	45	140m	35p∅	N-PE	Si	175J	T03	C∅	
75#	BDY61	100M	150nt	10ut	200ut	80ut	15 ∅	10 ∅	500m∅	45	180m	35p∅	N-PE	Si	175J	T03	C∅	
76#	BDY62	100M	150nt	10ut	200ut	80ut	15 ∅	10 ∅	500m∅	45	180m	35p∅	N-PE	Si	175J	T03	C∅	
77#	ZT20	110M	110n∅			175n∅	350m	6.0 ∅	10m∅	30		5.0p	N	Si	150J	T05	A∅	
78#	ZT21	110M	110n∅			175n∅	350m	6.0 ∅	10m∅	30		5.0p	N	Si	150J	T05	A∅	
79#	ZT22	110M	110n∅			175n												

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	STRUCTURE		MAX. TEMP (°C)	Dwg. No.	L C O D E
								Vcb (V)	Ic (A)	hFE				P-N-P	N-P-N			
1#	ZT87	120MΔ	80n∅			300n∅	300m	6.0	10m∅	250	40	8.0p	N-PE	Si	200J	T018	∅	
2#	ZT88	120MΔ	80n∅			300n∅	300m	6.0	10m∅	170	40	8.0p	N-PL	Si	200J	T018	∅	
3#	ZT89	120MΔ	80n∅			300n∅	300m	6.0	10m∅	250	20	8.0p	N-PL	Si	200J	T018	∅	
4#	ZT110	120MΔ	80n∅			300n∅	300m	6.0	10m∅	162	40	8.0p	N-PL	Si	150J	T046	∅	
5#	ZT111	120MΔ	80n∅			300n∅	300m	6.0	10m∅	162	40	8.0p	N-PL	Si	150J	T046	∅	
6#	ZT112	120MΔ	80n∅			300n∅	300m	6.0	10m∅	250	40	8.0p	N-PL	Si	150J	T046	∅	
7#	ZT113	120MΔ	80n∅			300n∅	300m	6.0	10m∅	55	20	8.0p	N-PL	Si	200J	T046	∅	
8#	ZT114	120MΔ	80n∅			300n∅	300m	6.0	10m∅	170	20	8.0p	N-PL	Si	200J	T046	∅	
9#	ZT116	120MΔ	80n∅			300n∅	300m	6.0	10m∅	85	20	8.0p	N-PL	Si	200J	T046	∅	
10#	ZT117	120MΔ	80n∅			300n∅	300m	6.0	10m∅	250	40	8.0p	N-PL	Si	150J	T046	∅	
11#	ZT118	120MΔ	80n∅			300n∅	300m	6.0	10m∅	170	20	8.0p	N-PL	Si	200J	T046	∅	
12#	ZT119	120MΔ	80n∅			300n∅	300m	6.0	10m∅	250	20	8.0p	N-PL	Si	200J	T046	∅	
13#	2SC309	120MΔ	250n		200n	200n	800m	10	150m	65	10	10p	N-PL	Si	200J	T05	A∅	
14#	2SC310	120MΔ	250n		200n	200n	800m	10	150m	65	10	10p	N-PL	Si	200J	T05	A∅	
15#	JAN2N3996	120MΔ	300n∅			1.5∅	2.0m	2.0	50m	30	Δ	150p	N	Si	200S	MT53	M	
16#	JAN2N3997	120MΔ	300n∅			2.0∅	2.0m	2.0	50m	60	Δ	150p	N	Si	200S	MT53	M	
17#	JAN2N3998	120MΔ	300n∅			1.5∅	2.0m	2.0	50m	30	Δ	150p	N	Si	200S	MT42a	A	
18#	JAN2N3999	120MΔ	300n∅			2.0∅	2.0	2.0	50m	60	Δ	150p	N	Si	200S	MT42a	A	
19#	BSY51	125MΔ	8.0n	2.0n		12n	800m	10	150m	40	#Δ	1.7	N	Si	200J	T05	∅	
20#	BSY52	125MΔ	8.0n	2.0n		12n	800m	10	150m	135	#Δ	1.7	N	Si	200J	T05	∅	
21#	2N3072	130MΔ	40n∅		100n∅		3.0	1.0	50m	30	#Δ	5.0	N	Si	200J	T05	A∅	
22#	2N3073	130MΔ	40n∅		100n∅		1.2	1.0	50m	30	#Δ	5.0	P	Si	200J	T018	A∅	
23#	2N3120	130MΔ	40n∅		100n∅			1.0	50m	30	#Δ	5.0	P	Si	200J	T05	A∅	
24#	2N3121	130MΔ	40n∅		100n∅			1.0	50m	30	#Δ	5.0	P	Si	200J	T018	A∅	
25#	BUY11	140MΔ	9.0n	9.0n	310n	15n	2.5m	2.0	100m	65		23p	N-PE	Si	150J	T03	∅	
26#	BFV82B	140MΔ	9n	10n	20n	20n	300m	.50	10m	10	Δ	5.0p	PPE	Si	200J	u26a	B	
27#	BFV82C	140MΔ	20n	10n	90n	20n	300m	.50	10m	20	Δ	5.0p	PPE	Si	200J	u26a	B	
28#	BFV30	140MΔ	35n∅			150n∅	150m	.50	10m	30	Δ	7.0p	PPE	Si	200J	u34b	B	
29#	NKT603F	140M	100n		230n	35n	80m	6.0	1.0m	40	Δ	35	P	Si	75J	T07	P	
30#	2N1837	140MΔ	200n∅		500n∅		2.0	2.0	150m	10	Δ	5.3	N	Si	175J	T05	A∅	
31#	2N1837A	140MΔ			500n∅		2.3	.80	150m	10	Δ	5.3	N	Si	175J	T05	A∅	
32#	2SA537AH	150MΔ			290n	42n	750m	4.0	50m	30	Δ		N	Si	200J	T039	∅	
33#	2SA537H	150MΔ			230n	42n	750m	4.0	50m	30	Δ		N	Si	200J	T039	∅	
34#	TP3638A	150MΔ			170n∅		360m	1.0	50m	100	Δ	10p	P	Si	100S	X93	A	
35#	2S101	150MΔ	5.0n	8.0n	5.0n	5.0n	800m	10	10m	60	#Δ	3.0p	N	Si	175A	T018	∅	
36#	BSY53	150MΔ	8.0n	2.0n	12n	800m	10	150m	80	#Δ	1.7	12p	N	Si	200J	T05	∅	
37#	BSY54	150MΔ	8.0n	2.0n	12n	800m	10	150m	100	#Δ	2.4	12p	N	Si	200J	T05	∅	
38#	KS6125	150M	15n	35n	110n	40n	10	5.0	10	15	Δ	200p	N-PE	Si	200J	T09	A	
39#	2N2048A	150MΔ	20n	15n	120n	25n	150m	300m	10m	50	Δ	3.0p	P	Si	100S	T09	∅	
40#	2N3262	150MΔ	20n	40n∅		750n∅	1.0	4.0	500μ	40		600m	N-PLD	Si	200J	T039	A∅	
41#	2N4402	150MΔ	20n	15n	25n	30n	310m	1.0	10m	30	Δ	9p	P	Si	135J	T092	A	
42#	2SC912	150MΔ	20n	5.0n	100n	40n	150m	6.0	10m	90	#	35	N-PE	Si	150J	R126	A	
43#	KS6120	150M	20n	40n	100n	40n	50	5.0	10	15	Δ	90p	N-PE	Si	200J	T03	∅	
44#	KS6121	150M	20n	50n	120n	50n	10	5.0	10	15	Δ	90p	N-PE	Si	200J	T03	∅	
45#	KS6123	150M	20n	30n	100n	50n	50	5.0	5.0	15	Δ	200p	N-PE	Si	200J	T03	∅	
46#	KS6124	150M	25n	40n	110n	60n	50	5.0	5.0	15	Δ	200p	N-PE	Si	200J	T03	∅	
47#	KS6126	150M	25n	50n	130n	50n	50	5.0	10	15	Δ	200p	N-PE	Si	200J	T03	∅	
48#	2N1499B	150MΔ	30n		120n		75m	.30	10m	40	Δ	3.0p	P	Si	100S	T09	A	
49#	2N3468	150MΔ	30n	10n	80n	30n	1.0	1.0	150m	25	#Δ	25p	P	Si	200S	T05	A∅	
50#	2N4225	150MΔ	30n	5.0n	50n	25n	25	5.0	2	25	Δ	25p	N	Si	175	R114	∅	
51#	2N4226	150MΔ	30n	5.0n	50n	25n	25	5.0	2	20	Δ	25p	N	Si	175	R114	∅	
52#	2N5146	150MΔ	30n	10n	80n	30n	400m	2.0	1	20	Δ	20p	N	Si	200S	L56	∅	
53#	2SC366G	150MΔ	30n	15n	100n	35n	300m	1.0	100m	150	Δ*	5.0	N-PE	Si	125S	R87a	B	
54#	KS6117	150M	30n	25n	100n	40n	100	5.0	5.0	15	Δ	90p	N-PE	Si	200J	T03	∅	
55#	KS6122	150M	30n	60n	140n	60n	60n	5.0	10	15	Δ	90p	N-PE	Si	200J	T03	∅	
56#	MD3467	150MΔ	30n	10n	80n	30n	2.0	1.0	500m	20	#	20p	P-AN	Si	200J	L17k	∅	
57#	MD3467F	150MΔ	30n	10n	80n	30n	2.5	1.0	500m	20	#	20p	P-AN	Si	200J	L17d	∅	
58#	MD3762	150MΔ	30n	10n	80n	30n	2.0	2.0	1.0	20	#	20p	P-AN	Si	200J	L17k	∅	
59#	MD3762F	150MΔ	30n	10n	80n	30n	2.5	2.0	1.0	20	#	20p	P-AN	Si	200J	L17d	∅	
60#	MQ3467	150MΔ	30n	10n	80n	30n	5.0	1.0	500m	20	#	20p	P-AN	Si	200J	L56	∅	
61#	MQ3762	150MΔ	30n	10n	80n	30n	5.0	2.0	1.0	20	#	20p	P-AN	Si	200J	L56	∅	
62#	2N3444	150MΔ	35n	15n	40n	30n	100m	1.0	500m	60	Δ	12p	N	Si	200S	T05	A∅	
63#	2N3554	150MΔ	35n	15n	65n	40n	800m	1.0	750m	100	Δ	25p	N	Si	200S	T05	A∅	
64#	2N3763	150MΔ	35n	8.0n	80n	35n	1.0	1.0	150m	40	Δ	10	N	Si	200S	T05	A∅	
65#	2N3765	150MΔ	35n	8.0n	80n	35n	500m	1.5	1	20	Δ	15p	P	Si	200S	T046	A∅	
66#	KS6118	150M	35n	30n	120n	50n	50	5.0	5.0	15	Δ	90p	N-PE	Si	200J	T03	∅	
67#	2N3245	150MΔ	40n	15n	120n	45n	5.0	1.0	500m	30	#Δ	25p	P	Si	200J	T05	A∅	
68#	BFV31	150MΔ	40n∅			250n∅	1.0	1.0	10	120		4.0	P-PE	Si	150A	T018	A∅	
69#	BFV32	150MΔ	40n∅			250n∅	1.0	1.0	10	120		4.0	N-PE	Si	150A	T018	A∅	
70#	EN2905	150MΔ	40n∅	10n∅	80n	30n	100m	10	150m	300	#Δ	8.0p	P	Si	125J	T0105	∅	
71#	EN2907	150MΔ	40n∅	10n∅	80n	30n	200m	10	150m	300	#Δ	8.0p	P	Si	125J	T0106	A	
72#	EN3502	150MΔ	40n∅		100n∅		300m	10	150m	100	#Δ	8.0p	P	Si	125J	T0106	A	
73#	EN3504	150MΔ	40n∅		100n∅		200m	10	150m	100	#Δ	8.0p	P	Si	125J	T0105	∅	
74#	KS6119	150M	40n	35n	140n	60n	5.0	5.0	10	15	Δ	90p	N-PE	Si	200J	T03	∅	
75#	2N5372	150MΔ	50n∅		150n∅		360m	10	10m	30	#Δ	10p	P	Si	150J	X93	A	
76#	2N5373	150MΔ	50n∅		150n∅		360m	10	10m	75	#Δ	10p	P	Si	150J	X93	A	
77#	2N5374	150MΔ	50n∅		175n∅		360m	10	10m	150	#Δ	10p	P	Si	150J	X93	A	
78#	2N5375	150MΔ	50n∅		175n∅		360m	10	10m	30	#Δ	10p	P	Si	150J	X93	A	
79#	BSW42	150MΔ	50n	20n	200n	50n	300m	4.5	2.0m	75	Δ	6.0	N-E	Si	125J	R110	A	
80#	BSW42A	150MΔ	50n	20n	200n	50n	300m	4.5	2.0m	75	Δ	6.0	N-E	Si	125J	R110	A	
81#	BSW43	150MΔ	50n	20n	200n	50n	300m	4.5	2.0m	180	Δ	6.0	N-E	Si	125J	R110	A	
82#	BSW43A	150MΔ	50n	20n	200n	50n	300m	4.5	2.0m	180	Δ	6.0	N-E	Si	125J	R110	A	
83#	BSX51	150MΔ	50n	20n	200n	50n	300m											

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	STRUCTURE P-PNP N-PNP	MATERIAL	MAX. TEMP (°C)	DWG. No.	L E A D E
								Vcb (V)	Ie (A)	hFE								
1	MPS3638A	150MSΔ	70n	20n	140n	70n	310m	1.0	50m	100 Δ	22	10p	P-EA	Si	135	T092	A	
2	2N2400	150MSΔ	75n	140n*	130n	150m	.50	10m	30 Δ	4.5	4.0p	P	Si	100S	T018	A		
3	2N2086	150MSΔ	85n		130n	55n	2.0	1.5	150m	20 Δ	12p	N	Si	175J	T05	A		
4	2N2087	150MSΔ	85n		100n	55n	2.0	1.0	150m	20 Δ	3.3	12p	N	Si	175J	T05	A	
5	2N711A	150MS	100n		150n	150n	.50	10m	25 Δ	11	6.0p	P-ME G	Si	100S	T018	A		
6	2N711B	150MS	100n		140n	110n	.50	10m	30 Δ	9.0	6.0p	P-ME G	Si	100S	T018	A		
7	2N2315	150M	100n		130n	55n	400m	10m	150m	70 #	10	20p	N-PL	Si	175J	T046	A	
8	2N2479	150MSΔ	100n				600m	1.5m	150m	120 #	14p	N-PE	Si	175A	T05	A		
9	2N2310	150M	120n				400m	10	200m	60	2.5	14p	N-PL	Si	200J	T046	A	
10	2N2311	150M	120n				400m	10	200m	60	2.5	14p	N-PL	Si	200J	T046	A	
11	2N2312	150M	120n				400m	10	200m	20	14p	N-PL	Si	200J	T046	A		
12	2N2313	150M	120n				400m	10	200m	20	14p	N-PL	Si	200J	T046	A		
13#	ZT180	150MS	120n			250n	300m	6.0	10m	38 Δ	20	15p	P-PL	Si	150J	T018	A	
14#	ZT181	150MS	120n			250n	300m	6.0	10m	38 Δ	20	15p	P-PL	Si	150J	T018	A	
15#	ZT182	150MS	120n			250n	300m	6.0	10m	75 Δ	20	15p	P-PL	Si	150J	T018	A	
16#	ZT183	150MS	120n			250n	300m	6.0	10m	38 Δ	8.0	15p	P-PL	Si	150J	T018	A	
17#	ZT184	150MS	120n			250n	300m	6.0	10m	75 Δ	8.0	15p	P-PL	Si	150J	T018	A	
18#	ZT187	150MS	120n			250n	300m	6.0	10m	75 Δ	20	15p	P-PL	Si	150J	T018	A	
19#	ZT189	150MS	120n			250n	300m	6.0	10m	75 Δ	4.0	15p	P-PL	Si	150J	T018	A	
20#	ZT280	150MSΔ	120n			250n	300m	6.0	10m	38 Δ #	20	15p	P-PL	Si	150J	R81k	A	
21#	ZT281	150MSΔ	120n			250n	300m	6.0	10m	38 Δ #	20	15p	P-PL	Si	150J	R81k	A	
22#	ZT282	150MSΔ	120n			250n	300m	6.0	10m	75 Δ #	20	15p	P-PL	Si	150J	R81k	A	
23#	ZT283	150MSΔ	120n			250n	300m	6.0	10m	38 Δ #	4.0	15p	P-PL	Si	150J	R81k	A	
24#	ZT284	150MSΔ	120n			250n	300m	6.0	10m	75 Δ #	4.0	15p	P-PL	Si	150J	R81k	A	
25#	ZT287	150MSΔ	120n			250n	300m	6.0	10m	75 Δ #	20	15p	P-PL	Si	150J	R81k	A	
26#	2SC306	150MS	150n		300n	150n	800m	10	150m	85 #	4.7	10p	N-PL	Si	200J	T05	A	
27	2N3495	150MSΔ	300n		1.0u	600m	10	50m	40 #	35	6.0p	P	Si	200S	T05	A		
28	2N3497	150MSΔ	300n		1.0u	400m	10	50m	40 #	35	6.0p	P	Si	200S	T05	A		
29	2N3634	150MSΔ	400n			600n	5.0	10	10m	50 Δ	40	10p	P	Si	200S	T05	A	
30	2N3636	150MSΔ	400n			600n	5.0	10	10m	50 Δ	40	10p	P	Si	200S	T05	A	
31	2N996	160MΔ	20n	14n	80n	22n	360m	1.0	20m	35 Δ #	5.0	7.5p	P-PE	Si	200J	T018	A	
32	2N1499A	160MS	60n	120n*			60m	500m	40m	50	25	1.5p	P-MD	Si	100S	T09	A	
33	2N2317	160M	80n				350m	10m	150m	80	10	18p	N-PL	Si	175J	T046	A	
34	JAN2N3418	160MS	300n			1.2u	1.0	5.0	5.0	10 Δ #	150p	N	Si	200A	T05	A		
35	JAN2N3419	160MS	300n			1.2u	1.0	5.0	5.0	10 Δ #	150p	N	Si	200A	T05	A		
36	JAN2N3420	160MS	300n			1.2u	1.0	5.0	5.0	15 Δ #	150p	N	Si	200A	T05	A		
37	JAN2N3421	160MS	300n			1.2u	1.0	5.0	5.0	15 Δ #	150p	N	Si	200A	T05	A		
38	PT2635	170MS	25n	25n	300n	60n	2.5	28	350m	15 #	30p	N	Si	200J	T05	A		
39	PT2670	170MS	25n	25n	300n	60n	1.0m	20	350m	20 #	25p	N	Si	200J	T05	A		
40	2N5022	170MSΔ	30n	15n	65n	30n	4.0	1.0	100m	15 Δ	.80	25p	P	Si	200S	T039	A	
41	2N5243	170MSΔ	30n	15n	65n	30n	1.0	1.0	.50m	100 #	1.2	20p	P	Si	125S	T0105	A	
42	2N1500	175MS	13n				500m	60m	500m	10m	70	1.5p	P-MD	Si	100S	T09	A	
43	2N3467	175MSΔ	30n	10n	60n	30n	1.0	1.0	150m	40 #	2.3	25p	P	Si	200S	T05	A	
44#	BFV52	175MSΔ	30n	15n	50n	30n	150m	1.0	500m	25 Δ	12p	NPE	Si	200J	u34b	A		
45#	BFV96	175MSΔ	30n	15n	60n	30n	400m	1.0	500m	150 #	15p	N-PE	Si	175	L56f	P		
46#	BFV96N	175MSΔ	30n	15n	60n	30n	400m	1.0	500m	150 #	15p	N-PE	Si	175	L56g	A		
47	2N3244	175MSΔ	35n	15n	140n	45n	5.0	1.0	500m	50 #	25p	P	Si	200J	T05	A		
48	2N3253	175MSΔ	35n	15n	40n	30n	5.0	1.0	375m	75 #	12p	N	Si	200J	T05	A		
49#	BFV55	175MSΔ	35n	15n	50n	30n	150m	1.0	500m	25 Δ	2.3	12p	NPE	Si	200J	u34b	P	
50	40450	175MS	50n	25n	500n	75n	1.0	12	10m	175 #	1.2	20p	N-PE	Si	175J	R119	A	
51	40451	175MS	50n	25n	500n	75n	1.0	12	10m	200 #	1.0	20p	N-PE	Si	175J	R119	A	
52#	BFV50	175MSΔ	65n			70n	150m	1.0	500m	15 Δ	3.3	12p	NPE	Si	200J	u34b	P	
53#	BFX45	175MSΔ	200n	30n	150n	40n	125m	0.0	10m	100 Δ	20	8.0p	N-PE	Si	125J	MM13	F	
54#	BSX68	175MSΔ	200n	30n	150n	40n	125m	0.0	10m	300 Δ	25	8p	NPE	Si	125J	MM13	F	
55#	BSX69	175MSΔ	200n	30n	150n	40n	125m	0.0	10m	180 Δ	20	8.0p	N-PE	Si	125J	MM13	F	
56#	2SC284H	180MS	200n				350m	6.0	10m	65	10p	N	Si	175J	T01	A		
57	2N3762	180MSΔ	35n	8.0n	80n	35n	1.0	1.0	150m	40 Δ	10	15p	P	Si	200S	T05	A	
58	2N3764	180MSΔ	35n	8.0n	80n	35n	500m	1.5	1.0	30 Δ	10	15p	N	Si	200S	T046	A	
59#	2SC46	180MS	40n		800n	600n	600m	6.0	1.0m	50	6.0	15p	N-NE	Si	150J	T05	A	
60#	2SC47	180MS	40n		800n	600n	720m	6.0	1.0m	50	6.0	15p	N-NE	Si	175J	T05	A	
61#	2SC48	180MS	40n		800n	600n	600m	6.0	1.0m	50	6.0	15p	N-NE	Si	150J	T05	A	
62#	2SC61	180MS	40n		800n	600n	1.2	6.0	1.0m	50	15p	N-NE	Si	175J	R56	A		
63#	2SC190	180MS	50n		700n	300n	600m	10	150m	30 #	250m	9.0p	N-PL	Si	175J	T05	A	
64	2N1253	180M	80n		150n		600m	10	150m	45 #	10	45p	N-D	Si	175J	T05	A	
65#	2SC802	180MS	100n		1.0u	80n	1.0	4.0	150m	30	5.0p	N	Si	175J	R145	D		
66#	2SA608	180MS	110n		70n	80n	100m	1.0	10m	100	12p	P-PE	Si	125J	T05	A		
67#	CS4012	190M	75n			170n	300m	1.0	50m	67 #	6.0p	P-E	Si	125J	T0105	A		
68#	CS4013	190M	75n			170n	300m	1.0	50m	130 #	6.0p	P-E	Si	125J	T0105	A		
69	2N706/46	200MSΔ			60n		400m	1.0	10m	20 Δ	60	6.0p	N-E	Si	175J	T046	A	
70	TIS44	200MSΔ	60n			250m	1.0	10m	20 Δ	60	6.0p	P-E	Si	150J	T092	A		
71#	ZTX310	200MSΔ	60n			300m	1.0	10m	20 Δ	60	6.0p	N-PL	Si	125S	X59	F		
72#	ZTX311	200MSΔ	60n			300m	350m	10m	200 Δ	60	6.0p	N-PL	Si	125S	X59	F		
73#	BLY33	200MSΔ	10n	27n	130n	16n	100m	2.0	10m	55	4.0p	N-PE	Si	100J	T039	A		
74	UD3005	200MSΔ	10n	40n	250n	90n	250m	10	100u	35	27	8.0p	N-PE	Si	200S	L56a	A	
75	UD3006	200MSΔ	10n	40n	250n	90n	250m	10	100u	35	27	8.0p	P-PE	Si	200S	L56b	A	
76	UD3007	200MSΔ	10n	40n	250n	90n	250m	10	100u	35	27	8p	PE	Si		L59	A	
77#	BFY26	200MSΔ	13n	9.0n	400n	300n	360m	9.0	10m	26 Δ	150	5.5p	N-PL	Si	200J	T018	A	
78	2N3426	200MSΔ	15n	5.0n	20n	15n	3.0	.50	300m	120 #	25	25p	N	Si	200J	R94	A	
79	KS6107	200M	15n	15n	100n	30n	360m	5.0	1.0	15 Δ	20p	N-PE	Si	200J	T037	P		
80	LDS210	200MSΔ	15n			50n	360m	1.0	150m	30 Δ #	10p	NPL	Si	150J	u34	A		
81	MMT2222	200MSΔ	16n			160n	225m	1.0	10m	75 Δ	3.5p	N-ANT	Si	135J	u43	D		
82	2N783	200MSΔ	18n		10n	30n	1.0	1.0	10m	80 Δ	25	3.5p	N	Si	175J	T018	A	
83	MMT3905	200MSΔ	18n	25n	140n	15n	225m	1.0	1.0m	40 Δ	25	4.5p	N	Si	135J	u23c	A	
84	2N717A	200MS	20n				1.8						N-PL	Si		T018	A	
85	2N784	200MSΔ	20n		15n	40n	1.0	1.0	10m	25 #	19	3.5p	N	Si	175J	T018	A	
86	2N2411	200MS	20n	10n	90n	20n	300m											

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		MAX. TEMP (°C)	DWG. No.	L C O A D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE	TEMP			
1	2N3928	200MSΔ	30n	5.0n	50n	25n	5.0	5.0	1.0	40	25p	N	Si	175J	R114	A		
2	2N3929	200MSΔ	30n	5.0n	50n	25n	5.0	5.0	1.0	40	25p	N	Si	175J	T059	A		
3	2N5023	200MSΔ	30n	15n	65n	30n	1.0	1.0	100m	30	25p	N	Si	200S	T039	A		
4	LDA443	200MSΔ	30n			225m	360m	10	150m	40	8.0p	N-PE	Si	150J	u34	P		
5	LDA405	200MSΔ	30n			225m	360m	10	150m	100	8.0p	N-PE	Si	150J	u34	P		
6	LDS208	200MSΔ	30n			225n	360m	10	10m	70	8.0p	N	Si	150J	T0122	P		
7	MM3724	200MSΔ	30n			50m	1.0	2.0	500m	25	9.0p	N-EA	Si	200J	T05	A		
8	MM3725	200MSΔ	30n			50m	1.0	2.0	500m	25	9.0p	N-EA	Si	200J	T05	A		
9	MM3726	200MSΔ	30n			50m	1.0	2.0	500m	25	10p	P-EA	Si	200J	T05	A		
10	TIS113	200MSΔ	30n	10n	50n	25n	1.2	1.0	300m	40	12p	N-PET	Si	150S	X55	A		
11	TIS114	200MSΔ	30n	10n	50n	25n	1.2	1.0	300m	35	12p	N-PET	Si	150S	X55	A		
12	TIS115	200MSΔ	30n	10n	50n	30n	1.2	1.0	300m	40	10p	N-PET	Si	150S	X55	A		
13	TIS116	200MSΔ	30n	10n	50n	30n	1.2	1.0	300m	35	10p	N-PET	Si	150S	X55	A		
14	2N3502	200MSΔ	35n	25n	70n	50n	700m	10	10m	80	8.0p	P	Si	200J	T05	A		
15	2N3503	200MSΔ	35n	25n	70n	50n	700m	10	10m	80	8.0p	P	Si	200J	T05	A		
16	2N3504	200MSΔ	35n	25n	70n	50n	400m	10	10m	80	8.0p	P	Si	200J	T018	A		
17	2N3505	200MSΔ	35n	25n	70n	50n	400m	10	10m	80	8.0p	P	Si	200J	T018	A		
18	2N3644	200MSΔ	35n	25n	70n	50n	700m	10	100m	40	8.0p	P	Si	125J	R110a	A		
19	2N3645	200MSΔ	35n	25n	70n	50n	700m	10	100m	40	8.0p	P	Si	125J	R110	A		
20	2N3905	200MSΔ	35n	35n	200n	60n	310m	1.0	1.0m	30	4.5p	P	Si	135J	T092	A		
21	2N4969	200MSΔ	35n	20n	300n	80n	500m	10	150m	40	8.0p	N	Si	125S	T0106	A		
22	2N5735	200MSΔ	35n	25n	300n	25n	360m	10	150m	40	8.0p	N	Si	150S	T0122	P		
23	2N5736	200MSΔ	35n	25n	300n	25n	360m	10	150m	100	8.0p	N	Si	150S	T0122	P		
24	2N5795	200MSΔ	35n	12n	100n	40n	600m	10	100m	75	8.0p	P	Si	200S	L2d	A		
25	2N5796	200MSΔ	35n	12n	100n	40n	600m	10	100m	75	8.0p	P	Si	200S	L2d	A		
26	AS13644	200MSΔ	35n	25n	70n	50n	360m	10	10m	100	8.0p	P-PE	Si	150S	X55	A		
27	AS13645	200MSΔ	35n	25n	70n	50n	360m	10	10m	100	8.0p	P-PE	Si	150S	X55	A		
28	AS13905	200MSΔ	35n	35n	200n	60n	360m	1.0	1.0m	40	4.5p	P-PE	Si	150S	X55	A		
29	EN3905	200MSΔ	35n	35n	200n	60n	700m	1.0	1.0m	50	4.5p	P-DPE	Si	135J	T0106	A		
30	GI3644	200MSΔ	35n	25n	70n	50n	300m	10	1.0m	80	8.0p	P	Si	125	T018	A		
31	LDA452	200MSΔ	35n			150m	360m	10	300m	20	8.0p	P-PE	Si	150J	u34	P		
32	LDA453	200MSΔ	35n			150m	360m	10	300m	30	8.0p	P-PE	Si	150J	u34	P		
33	2N1708	200MSΔ	40n			75n	300m	1.0	10m	20	6.0p	N-PE	Si	175	T046	A		
34	2N2205	200MSΔ	40n			75n	300m	1.0	10m	20	6.0p	N-PE	Si	175	T046	A		
35	2N2206	200MSΔ	40n			75n	300m	1.0	10m	90	6.0p	N-PE	Si	175	T046	A		
36	2N2904	200MSΔ	40n	10n	80n	30n	600m	10	10m	20	8.0p	P	Si	200S	T05	A		
37	2N2904A	200MSΔ	40n	10n	80n	30n	600m	10	10m	40	8.0p	P	Si	200S	T05	A		
38	2N2905	200MSΔ	40n	10n	80n	30n	600m	10	10m	35	8.0p	P	Si	200S	T05	A		
39	2N2905A	200MSΔ	40n	10n	80n	30n	600m	10	10m	75	8.0p	P	Si	200S	T05	A		
40	2N2906	200MSΔ	40n	10n	80n	30n	400m	10	10m	20	8.0p	P	Si	200S	T018	A		
41	2N2906A	200MSΔ	40n	10n	80n	30n	400m	10	10m	40	8.0p	P	Si	200S	T018	A		
42	2N2907	200MSΔ	40n	10n	80n	30n	400m	10	10m	35	8.0p	P	Si	200S	T018	A		
43	2N2907A	200MSΔ	40n	10n	80n	30n	400m	10	10m	75	8.0p	P	Si	200S	T018	A		
44	2N2955	200MSΔ	40n	15n	40n	40n	150m	1.0	50m	60	4.0p	P	Si	100S	T018	A		
45	2N3485	200MSΔ	40n	10n	80n	30n	2.0	10	100m	20	3.2	P-EA	Si	200S	T046	A		
46	2N3485A	200MSΔ	40n	10n	80n	30n	2.0	10	100m	40	3.2	P-EA	Si	200S	T046	A		
47	2N3486	200MSΔ	40n	10n	80n	30n	2.0	10	100m	35	3.2	P-EA	Si	200S	T046	A		
48	2N3486A	200MSΔ	40n	10n	80n	30n	2.0	10	100m	75	3.2	P-EA	Si	200S	T046	A		
49	2N3671	200MSΔ	40n	10n	80n	30n	600m	10	10m	75	9.0p	P	Si	200S	T05	A		
50	2N3672	200MSΔ	40n	10n	80n	30n	400m	10	10m	75	9.0p	P	Si	200S	T018	A		
51	2N3673	200MSΔ	40n	10n	80n	30n	350m	10	10m	75	9.0p	P	Si	200S	T046	A		
52	2N3838	200MSΔ	40n	10n	250n	90n	350m	10	1.0m	50	8.0p	P	Si	200S	L19c	A		
53	2N4142	200MSΔ	40n	10n	80n	30n	300m	10	150m	120	8.0p	P	Si	125J	R110	A		
54	2N4143	200MSΔ	40n	10n	80n	30n	300m	10	150m	300	8.0p	P	Si	125J	R110	A		
55	2N4228	200MSΔ	40n	10n	80n	30n	300m	10	150m	150	8.0p	P	Si	125J	R110	A		
56	2N4854	200MSΔ	40n	20n	280n	70n	600m	10	1.0m	50	8p	∅	Si	200S	L19a	A		
57	2N4855	200MSΔ	40n	20n	280n	70n	600m	10	1.0m	25	8p	∅	Si	200S	L19a	A		
58	2N4970	200MSΔ	40n	25n	350n	90n	500m	10	150m	100	8.0p	N	Si	125S	T0106	A		
59	25C395A	200MSΔ	40n			30n	250m	1.0	10m	200	6.0p	N-PE	Si	175J	T018	A		
60	A3T2906	200MSΔ	40n	10n	85n	35n	225m	10	150m	120	12p	P-PET	Si	150S	u4	A		
61	A3T2906A	200MSΔ	40n	10n	85n	35n	225m	10	150m	120	12p	P-PET	Si	150S	u44	A		
62	A3T2907	200MSΔ	40n	10n	85n	35n	225m	10	150m	300	12p	P-PET	Si	150S	u44	A		
63	A3T2907A	200MSΔ	40n	10n	85n	35n	225m	10	150m	300	12p	P-PET	Si	150S	u44	A		
64	AS12907	200MSΔ	40n	10n	80n	30n	360m	10	1.0m	50	8.0p	P-PE	Si	150S	X55	A		
65	BFV49	200MSΔ	40n			35n	150m	1.0	10m	30	8.0p	NPE	Si	200J	u34b	P		
66	BFV86	200MSΔ	40n	10n	80n	30n	360m	10	10m	75	8.0p	PPE	Si	200S	u26a	B		
67	BFV86A	200MSΔ	40n	10n	80n	30n	360m	10	10m	100	8.0p	PPE	Si	200S	u26a	B		
68	BFV86B	200MSΔ	40n	10n	80n	30n	360m	10	10m	35	8.0p	PPE	Si	200S	u26a	B		
69	BFV86C	200MSΔ	40n	10n	80n	30n	360m	10	10m	40	8.0p	PPE	Si	200S	u26a	B		
70	BFW88	200MSΔ	40n	15n	250n	50n	300m	5.0	10m	125	2.6	P-PLT	Si	125J	MM10	A		
71	BFW90	200MSΔ	40n	15n	250n	50n	300m	5.0	10m	125	2.6	P-PLT	Si	125J	MM10	A		
72	BFW91	200MSΔ	40n	15n	250n	50n	300m	5.0	150m	125	2.6	P-PLT	Si	125J	MM10	A		
73	BSW12	200MSΔ	40n			70n	50m	1.0	10m	150	4.0	N-PE	Si	125J	u47	D		
74	BSW23	200MSΔ	40n	10n	80n	30n	700m	10	150m	40	2.7	PPE	Si	200J	T050	A		
75	BSW24	200MSΔ	40n	10n	80n	30n	400m	10	150m	40	2.7	PPE	Si	200J	T018	A		
76	BSW26	200MSΔ	40n			85n	1.8	2.0	100m	25	3.5	N-PE	Si	200J	T018	A		
77	BSW27	200MSΔ	40n			85n	3.0	2.0	100m	25	3.5	N-PL	Si	200J	T018	A		
78	BSW29	200MSΔ	40n			85n	5.0	2.0	100m	25	3.5	N-PL	Si	200J	T05	A		
79	BSX36	200MSΔ	40n			100m	1.2	1.0	10m	75	6.0p	P-DPE	Si	200J	T018	A		
80	BSX89	200MSΔ	40n			75n	300m	10	10m	20	60	NPE	Si	175J	T018	A		
81	BSY81	200MSΔ	40n			75n	200m	1.0	10m	10	60	N-DI	Si	125J	T092	B		
82	MD6001	200MSΔ	40n	20n	280n	70n	500m	10	150m	40	4.3	P-N	Si	200J	L66	A		
83	MD6001F	200MSΔ	40n	20n	280n	70n	250m	10	150m	40	4.3	P-N	Si	200J	T089	A		
84	MD6002	200MSΔ	40n	20n	280n	70n	500m	10	150m	100	4.3	P-N	Si	200J	L66	A		
85	MD6002F	200MSΔ	40n	20n	280n	70n	250m	10	150m	100	4.3	P-N	Si	200J	T089	A		
86	ME0401	200MSΔ	40n	10n	80n	30n	600m	1.0	150m	40	10p	P-PE	Si	150	R110	A		
87	ME0402	200MSΔ	40n	10n	80n	30n	600m	1.0	150m	100	10p	P-PE	Si	150				

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		L C O D E	
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)		DWG. No.
1#	PL4034	200MΔ	45n		80n	100n	380m	10	10	10	8.0p		PPE	Si	175S	u51	
2	2N3830	200MΔ	50n	10n	40n	30n	1.0	1.0	1.0	500m	12p		N	Si	200S	T05	A
3	2N3831	200MΔ	50n	10n	40n	30n	1.0	1.0	1.0	500m	12p		N	Si	200S	T05	A
4#	2SC944	200MΔ	50n			800n	250m	10	2.0	10	3.0p		N-PE	Si	125J	T092	B
5	40458	200MΔ	50n	25n	500n	75n	500m	10	10	150	20p		N-DPE	Si	175J	R123	
6	40459	200MΔ	50n	25n	500n	75n	1.0	10	10	150	20p		N-DPE	Si	175J	R119	
7#	BFY64	200MΔ	50n			120n	3.0	1.0	1.0	200	10p		P-DPE	Si	200J	T05	A
8#	BSW28	200MΔ	50n			85n	3.0	2.0	1.0	100m	25	3.5	N-PL	Si	200J	T05	A
9#	BSX53	200MΔ	50n	75n	100n	50n	150m	1.0	1.0	50m	5.0p		N-PE	Si	175	T018	
10#	BSX54	200MΔ	50n	75n	100n	50n	150m	1.0	1.0	50m	5.0p		N-PE	Si	175	T018	
11#	BSX79	200MΔ	50n	75n	100n	50n	380m	1.0	1.0	50m	5.0p		N-PE	Si	175	T018	
12	2N3973	200MΔ	60n			110n	380m	1.0	1.0	10m	35	2.0	N	Si	150S	R67	B
13	2N3974	200MΔ	60n			110n	380m	1.0	1.0	10m	35	2.0	N	Si	150S	R67	B
14	2N3975	200MΔ	60n			200n	380m	1.0	1.0	10m	35	2.0	N	Si	150S	R67	B
15	2N3976	200MΔ	60n			250n	380m	1.0	1.0	10m	35	2.0	N	Si	150S	R67	B
16	2N4971	200MΔ	60n	20n	150n	50n	500m	10	150m	40	8.0p		P	Si	125S	T0106	A
17#	BC212K	200MΔ	60n			30n	300m	5.0	2.0	50	10p		P-PE	Si	125A	X64a	A
18#	BC212KA	200MΔ	60n			30n	300m	5.0	2.0	50	10p		P-PE	Si	125A	X64a	A
19#	BC212KB	200MΔ	60n			30n	300m	5.0	2.0	300	10p		P-PE	Si	125A	X64a	A
20#	BC212L	200MΔ	60n			30n	300m	5.0	2.0	50	10p		P-PE	Si	125A	X20	A
21#	BC212LA	200MΔ	60n			30n	300m	5.0	2.0	300	10p		P-PE	Si	125A	X20	B
22#	BC212LB	200MΔ	60n			30n	300m	5.0	2.0	400	10p		P-PE	Si	125A	X20	B
23#	BC213K	200MΔ	60n			30n	300m	5.0	2.0	70	10p		P-PE	Si	125A	X64a	A
24#	BC213KA	200MΔ	60n			30n	300m	5.0	2.0	300	10p		P-PE	Si	125A	X64a	A
25#	BC213KB	200MΔ	60n			30n	300m	5.0	2.0	400	10p		P-PE	Si	125A	X64a	A
26#	BC213KC	200MΔ	60n			30n	300m	5.0	2.0	600	10p		P-PE	Si	125A	X64a	A
27#	BC213L	200MΔ	60n			30n	300m	5.0	2.0	70	10p		P-PE	Si	125A	X20	A
28#	BC213LA	200MΔ	60n			30n	300m	5.0	2.0	300	10p		P-PE	Si	125A	X20	B
29#	BC213LB	200MΔ	60n			30n	300m	5.0	2.0	400	10p		P-PE	Si	125A	X20	B
30#	BC213LC	200MΔ	60n			30n	300m	5.0	2.0	600	10p		P-PE	Si	125A	X20	B
31#	BC214K	200MΔ	60n			30n	300m	5.0	2.0	125	10p		P-PE	Si	125A	X64a	A
32#	BC214KB	200MΔ	60n			30n	300m	5.0	2.0	400	10p		P-PE	Si	125A	X64a	A
33#	BC214KC	200MΔ	60n			30n	300m	5.0	2.0	600	10p		P-PE	Si	125A	X64a	A
34#	BC214L	200MΔ	60n			30n	300m	5.0	2.0	125	10p		P-PE	Si	125A	X20	B
35#	BC214LB	200MΔ	60n			30n	300m	5.0	2.0	400	10p		P-PE	Si	125A	X20	B
36#	BC214LC	200MΔ	60n			30n	300m	5.0	2.0	600	10p		P-PE	Si	125A	X20	B
37	EN706	200MΔ	60n			200m	1.0	10	20	10m	20	90	N	Si	125J	T0106	A
38	2N2410	200MΔ	65n			2.5	5.0	10	150m	30	11p		N	Si	200J	T05	A
39	2N4972	200MΔ	65n	25n	175n	60n	500m	10	150m	100	8.0p		P	Si	125S	T0106	A
40#	BFV88	200MΔ	65n			30n	380m	10	150m	75	11p		NPE	Si	200J	u26a	B
41	2N4452	200MΔ	70n	25n	140n	70n	3	10	10m	120	8p		P	Si	200J	T046	A
42#	2SC715	200MΔ	70n			60n	125m	6.0	1.0	80	3.0p		N-PE	Si	125J	R145	D
43#	2SC716	200MΔ	70n			60n	125m	6.0	1.0	80	3.0p		N-PE	Si	125J	R145	D
44	S18000	200MΔ	70n			150n	3.0	1.0	100m	40	8.0p	3.2	N-PE	Si	200S	T05	
45	2N2401	200MΔ	75n	120n		110n	150m	5.0	5.0	40	4.0p	20	P	Ge	100S	T018	A
46	2N3133	200MΔ	75n		150n	600m	10	150m	120	10	10p		P	Si	200S	T05	A
47	2N3134	200MΔ	75n		150n	600m	10	150m	300	10	10p		P	Si	200S	T05	A
48	2N3135	200MΔ	75n		150n	400m	10	150m	120	10	10p		P	Si	200S	T018	A
49	2N3136	200MΔ	75n		150n	400m	10	150m	300	10	10p		P	Si	200S	T018	A
50	2N2478	200MΔ	80n		130n	55n	600m	1.5	150m	30	12p		N-PE	Si	175A	T05	A
51	2SA530H	200MΔ	90n		150n	200m	1.0	10	35	10m	35	12	N-PE	Si	175J	T018	A
52#	2SC307	200MΔ	150n		300n	150n	800m	10	150m	85	10p	4.7	N-PL	Si	200J	T05	A
53#	BSW88	200MΔ	150n			800n	230m*	1.0	10m	750	6.0p	20	N-PE	Si	125J	X73	C
54#	BSW89	200MΔ	150n			800n	230m*	1.0	10m	750	6.0p	20	N-PE	Si	125J	X73	C
55#	BSX81	200MΔ	150n			800n	230m*	1.0	10m	750	6.0p	20	NPE	Si	125J	MM11	A
56#	BSX86	200MΔ	200n	50n	100n	400n	260m*	0.0	100m	25	5p		NPE	Si	175J	T018	A
57#	BSX87	200MΔ	200n	50n	100n	400n	260m*	0.0	100m	35	5p		NPE	Si	175J	T018	A
58	2N3494	200MΔ	300n		1.0u	600n	400m	10	50m	40	7.0p	30	P	Si	200S	T05	A
59	2N3496	200MΔ	300n		1.0u	400m	400m	10	50m	40	7.0p	30	P	Si	200S	T018	A
60	2N3635	200MΔ	400n			600n	5.0	10	10m	100	4.0	40	P	Si	200S	T05	A
61	2N3637	200MΔ	400n			600n	5.0	10	10m	100	4.0	40	P	Si	200S	T05	A
62#	BSY40	210M	20n	10n	90n	20n	1.2	500m	10m	60	20	20	P-PE	Si	175J	T018	A
63	2N1204A	220MΔ	35n			200m	5.0	200m	25	25	8.0p		P	Ge	100	T039	A
64#	BSY41	230M	20n	10n	90n	20n	1.2	500m	10m	200	20	20	P-PE	Si	175J	T018	A
65	2N1410A	230M	40n	15n	250n	50n	800m	10	150m	60	12p		N-PL	Si	175J	T05	A
66#	BFW87	230M	40n	15n	250n	50n	300m	5.0	10m	155	2.6	2.6	P-PLT	Si	125J	MM10	A
67#	BFW89	230M	40n	15n	250n	50n	300m	5.0	10m	155	2.6	2.6	P-PLT	Si	125J	MM10	A
68	JAN2N3506	240MΔ	30n	15n	55n	35n	5.0	5.0	3.0	200	40p		N	Si	200A	T05	A
69	JAN2N3507	240MΔ	30n	15n	55n	35n	5.0	5.0	3.0	150	40p		N	Si	200A	T05	A
70#	2SC317H	240MΔ	45n	130n	350n	65n	350m	6.0	10m	80	10p		N-PM S	Si	175J	T01	A
71	JAN2N3867	240MΔ	65n	35n	325n	75n	10	5.0	3.0	20	500m	120p	P	Si	200S	T05	A
72	JAN2N3868	240MΔ	65n	35n	325n	75n	10	5.0	3.0	20	500m	120p	P	Si	200S	T05	A
73#	BFY18	245M	13n	9.0n	600n	300n	300m	9.0	10m	35	5.5p		N-PL	Si	175J	T018	A
74#	2SC907H	250M				200m	1.0	10m	60	6.0	2.0p		N	Si	175J	T01	
75#	BSX76	250M			50n	300m	400m	1.0	10m	64			N	Si	175J	T018	A
76	M																

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION		L C O D E		
								V _{cb} (V)	I _e (A)	hFE				STRUCTURE	MAX. TEMP (°C)			
1#	BFV85B	250MΔ	25nΔ			175nΔ	380mΔ	10	10	10	35 Δ	8.0pΔ	NPE	Si	175J	u26a	B	
2#	BFV93N	250MΔ	25nΔ			200nΔ	400mΔ	10	10	10	300 *Δ	10pΔ	N-PE	Si	175	L56j		
3#	BFV94	250MΔ	25nΔ			200nΔ	400mΔ	10	10	10	300 *Δ	10pΔ	N-PE	Si	175	L56f		
4#	BFV94N	250MΔ	25nΔ			200nΔ	400mΔ	10	10	10	300 *Δ	10pΔ	N-PE	Si	175	L56g		
5#	BFV95	250MΔ	25nΔ			200nΔ	400mΔ	10	10	10	300 *Δ	10pΔ	N-PE	Si	175	L56d		
6#	BFV95N	250MΔ	25nΔ			200nΔ	400mΔ	10	10	10	300 *Δ	10pΔ	N-PE	Si	175	L56e		
7#	BSX72	250MΔ	25nΔ			150nΔ	575mΔ	1.0	1.0	1.0	20 Δ	8.0p	N-PE	Si	175	T05		
8#	BSX75	250MΔ	25nΔ			150nΔ	500mΔ	1.0	1.0	1.0	20 Δ	8.0p	N-PE	Si	175	T018		
9	KS6113	250M	25n	30n	100n	50n	500m	5.0	2.0	15 Δ	35p	N-PE	Si	200J	T060			
10#	ME6101	250MΔ	25n	10n	225n	60n	600mΔ	10	10	150mΔ	70 Δ#	8.0pΔ	N-PE	Si	150	R110	A	
11#	ME6102	250MΔ	25n	10n	225n	60n	600mΔ	10	10	150mΔ	100 Δ#	8.0pΔ	N-PE	Si	150	R110	A	
12#	PL4051	250MΔ	25n			150n	220m	10	10	10mΔ	17 Δ	8.0pΔ	NPE	Si	175S	u51		
13#	PL4052	250MΔ	25n	10n	225n	60n	220m	10	10	10mΔ	35 Δ	8.0pΔ	N-PE	Si	175S	u51		
14#	PL4053	250MΔ	25n			175n	220m	10	10	10mΔ	35 Δ	8.0pΔ	NPE	Si	175S	u51		
15#	PL4055	250MΔ	25n			200n	220m	10	10	10mΔ	75 Δ	8.0pΔ	NPE	Si	175S	u51		
16#	ZT2476	250MΔ	25n		25n	45n	600m	400	150m	20 Δ	1.3	10p	N-PE	Si	200J	T05		
17#	ZT2477	250MΔ	25n		25n	45n	600m	400	150m	40 Δ	1.3	10p	N-PE	Si	200J	T05		
18	2N2956	250MΔ	30n	15n	55n	35n	150m	1.0	50mΔ	76		4.0pΔ	P	Ge	100J	T018	A	
19	2N3545	250MΔ	30n	30n	40n	50n	360m	1.0	10mΔ	120 Δ	.20	8.0pΔ	N	Si	200J	T018	A	
20	2N5028	250MΔ	30n	15n	45n	35n	320m	1.0	150mΔ	300 #Δ		8pΔ	N	Si	120	T098	B	
21	2N5793	250MΔ	30n	15n	250n	60n	600m	1.0	100mΔ	20 Δ		8.0pΔ	N	Si	200S	L2d		
22	2N5794	250MΔ	30n	15n	250n	60n	600m	1.0	100mΔ	35 Δ		8.0pΔ	N	Si	200S	L2d		
23#	BFW68	250MΔ	30nΔ			240nΔ	1.2 Δ	1.0	1.0	120 #		4.0pΔ	N-DPE	Si	200J	T018	A	
24	KS6114	250M	30n	35n	120n	60n	60n	5.0	2.0	15 Δ	35p	N-PE	Si	200J	T060			
25	KS6115	250M	30n	30n	100n	50n	300m	5.0	5.0	15 Δ	35p	N-PE	Si	200J	T060			
26	JAN2N2218A	250MΔ	35n			18n*	300n	3.0	10	150mΔ	40 #Δ	2.0	8.0pΔ	N	Si	200S	T05	A
27	JAN2N2219A	250MΔ	35n			18n*	300n	3.0	10	150mΔ	100 #Δ	2.0	8.0pΔ	N	Si	200S	T05	A
28	JAN2N2221A	250MΔ	35n			18n*	300n	1.8	10	150mΔ	120 #Δ	2.0	8.0pΔ	N	Si	200S	T018	A
29	JAN2N2222A	250MΔ	35n			18n*	300n	1.8	10	150mΔ	300 #Δ	2.0	8.0pΔ	N	Si	200S	T018	A
30	2N3250	250MΔ	35n	35n	175n	50n	360m	1.0	10mΔ	150 #Δ		6.0pΔ	N	Si	200J	T018	A	
31	2N3250A	250MΔ	35n	35n	175n	50n	360m	1.0	10mΔ	150 #Δ		6.0pΔ	P-EA	Si	200J	T018	A	
32	2N3251A	250MΔ	35n	35n	200n	50n	360m	1.0	10mΔ	300 #Δ		6.0pΔ	P-EA	Si	200J	T018	A	
33	2N3903	250MΔ	35n	35n	175n	50n	310m	1.0	10mΔ	20 #Δ		4.0pΔ	N	Si	135J	T092	A	
34	2N3906	250MΔ	35n	35n	225n	75n	310m	1.0	10mΔ	60 #Δ		4.5pΔ	N	Si	135J	T092	A	
35	2N4046	250MΔ	35n	10n	50n	3.5	3.5	1.0	300mΔ	30 #Δ		12pΔ	N	Si	200J	T05	A	
36	2N4047	250MΔ	35n	10n	70n	30n	3.5	1.0	300mΔ	30 #Δ		10pΔ	N	Si	200J	T05	A	
37#	2SA499	250M	35nΔ		250nΔ	35nΔ	250m	1.0	10mΔ	200 Δ		5.0p	P-PE	Si	175J	T018	A	
38#	2SA500	250M	35nΔ		250nΔ	35nΔ	250m	1.0	10mΔ	200 Δ		5.0p	P-PE	Si	175J	T018	A	
39#	AST3903	250MΔ	35n	35n	175n	50n	360m	1.0	1.0mΔ	35 Δ		4.0pΔ	N-PE	Si	150S	X55	A	
40	CS3903	250M	35n	35n	175n	50n	310m	1.0	10m	50		4.0p	N	Si	135J	R97a	A	
41	CS3906	250MΔ	35n	35n	225n	75n	1.0	1.0	10mΔ	300 Δ		4.5pΔ	P-DPL	Si	150J	R97a	A	
42	EN3903	250MΔ	35n	35n	175n	50n	700mΔ	1.0	10mΔ	50 #Δ		4.0pΔ	N-DPE	Si	135J	T0106	A	
43	EN3906	250MΔ	35n	35n	225n	75n	700mΔ	1.0	10mΔ	100 #Δ		4.5pΔ	P-DPE	Si	135J	T0106	A	
44	KS6116	250M	35n	35n	120n	60n	285nΔ	5.0	5.0	15 Δ	35p	N-PE	Si	200J	T060			
45	MM1756	250MΔ	35n			285n	40 Δ	10	150mΔ	40 Δ		8.0pΔ	N	Si	200J	T046		
46	S17900	250MΔ	35n			65n	3.0	1.0	100mΔ	90 #Δ	1.0	10pΔ	N-PE	Si	200S	T05	A	
47	2N5413	250MΔ	37n	5.0n	50n	35n	5.0	1.0	50mΔ	30 #Δ		16pΔ	N	Si	200S	T039	A	
48	2N5414	250MΔ	37n	5.0n	60n	35n	5.0	1.0	50mΔ	30 #Δ		16pΔ	N	Si	200S	T039	A	
49	JAN2N2218	250MΔ	40n			18n*	250n	3.0	10	150mΔ	40 #Δ	2.6	8.0pΔ	N	Si	200S	T05	A
50	JAN2N2219	250MΔ	40n			18n*	250n	3.0	10	150mΔ	100 #Δ	2.6	8.0pΔ	N	Si	200S	T05	A
51	JAN2N2221	250MΔ	40n			18n*	250n	1.8	10	150mΔ	120 #Δ	2.6	8.0pΔ	N	Si	200S	T018	A
52	JAN2N2222	250MΔ	40n			18n*	250n	1.8	10	150mΔ	300 #Δ	2.6	8.0pΔ	N	Si	200S	T018	A
53	2N2537	250MΔ	40n			20n	40n	3.0	10	10mΔ	30 Δ		8.0pΔ	N	Si	200J	T05	A
54	2N2538	250MΔ	40n			20n	40n	3.0	10	10mΔ	50 Δ		8.0pΔ	N	Si	200J	T05	A
55	2N2539	250MΔ	40n			20n	40n	1.8	10	10mΔ	30 Δ		8.0pΔ	N	Si	200J	T018	A
56	2N2540	250MΔ	40n			20n	40n	1.8	10	10mΔ	50 Δ		8.0pΔ	N	Si	200J	T018	A
57	2N2845	250MΔ	40n			40n	380m	1.0	150mΔ	120 t#Δ		8.0pΔ	N	Si	200J	T018	A	
58	2N2846	250MΔ	40n			40n	800m	1.0	150mΔ	120 t#Δ		8.0pΔ	N	Si	200J	T05	A	
59	2N3015	250MΔ	40n			60n	3.0	1.0	150mΔ	120 #Δ		8.0pΔ	N	Si	200J	T05	A	
60	2N3735	250MΔ	40n	8.0n	30n	30n	1.0	1.0	500mΔ	35 Δ	20	9.0pΔ	N	Si	200S	T05	A	
61	2N3737	250MΔ	40n	8.0n	30n	30n	500m	1.0	150mΔ	40 Δ	20	9.0pΔ	N	Si	200S	T046	A	
62	2N4140	250MΔ	40n	10n	250n	60n	300m	1.0	150mΔ	120 Δ	3.2	8.0pΔ	N	Si	125J	R110	A	
63	2N4141	250MΔ	40n	10n	250n	60n	300m	1.0	150mΔ	300 Δ	3.2	8.0pΔ	N	Si	125J	R110	A	
64	2N4227	250MΔ	40n	10n	250n	60n	300m	1.0	150mΔ	150 Δ	3.2	8.0pΔ	N	Si	125J	R110	A	
65	2N4951	250MΔ	40n			350n	360m	1.0	10mΔ	40 #Δ		8pΔ	N	Si	150S	T098	B	
66	2N4952	250MΔ	40n			350n	360m	1.0	10mΔ	75 Δ		8pΔ	N	Si	150S	T098	B	
67	2N4953	250MΔ	40n			400n	360m	1.0	10mΔ	150 Δ		8pΔ	N	Si	150S	T098	B	
68	2N4954	250MΔ	40n			400n	360m	1.0	10mΔ	40 Δ		8pΔ	N	Si	150S	T098	B	
69	2N5368	250MΔ	40n			350n	360m	1.0	10mΔ	40 #Δ		8pΔ	N	Si	150J	X93	A	
70	2N5369	250MΔ	40n			350n	360m	1.0	10mΔ	75 #Δ		8pΔ	N	Si	150J	X93	A	
71	2N5370	250MΔ	40n			400n	360m	1.0	10mΔ	150 #Δ		8pΔ	N	Si	150J	X93	A	
72	2N5371	250MΔ	40n			400n	360m	1.0	10mΔ	40 #Δ		8pΔ	N	Si	150J	X93	A	
73#	25C88	250M	40n		300n	130n	600m	10	10mΔ	50		3.0p	N-ME	Si	175J	T05	D	
74#	25C619	250M	40n		150n	250n	250m	6.0	10mΔ	110 #	10	7.0p	N-PET	Si	125J	T092	D	
75#	25C714	250M	40n		150n	250n	250m	6.0	10mΔ	60 #	10	7.0p	N-PET	Si	125J	T092	D	
76#	BFV54	250MΔ	40n			60n	150m	.70	300mΔ	10 Δ		8.0pΔ	NPE	Si	200J	u34b	P	
77#	BFV88A	250MΔ	40n		20n	40n	380m	1.0	1.0mΔ	20 Δ		8.0pΔ	NPE	Si	200J	u26a	B	
78#	BFV88B	250MΔ	40n		20n	40n	380m	1.0	1.0mΔ	35 Δ		8.0pΔ	NPE	Si	200J	u26a	B	
79#	BFV88C	250MΔ	40n			60n	360m	.70	300mΔ	10 #Δ		8.0pΔ	NPE	Si	200J	u26a	B	
80#	BSX30	250MΔ	40n			60n	3.0	700mΔ	300mΔ	50 #		8.0pΔ	N-DPE	Si	200J	T05		
81#	CS5368	250MΔ	40n			350n	380m	1.0	10mΔ	40 #Δ		8.0pΔ	N	Si	150J	T0106	A	
82#	CS5369	250MΔ	40n			350n	380m	1.0	10mΔ	75 #Δ		8.0pΔ	N	Si	150J	T0106	A	
83#	CS5370	250MΔ	40n	</														

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION			C O D E
								Vcb (V)	Ic (A)	hFE				STRUCTURE P-PNP N-NPN	M A T	TEMP (°C)	
1	G13638	250MΔ	70n	20n	140n	70n	300m	1.0	50m	30	20p	20	P-E	Si	125	R97d	A
2	G13638A	250MΔ	70n	20n	140n	70n	300m	1.0	50m	100	10p	20	P-E	Si	125	R97d	A
3	2N2402	250MΔ	75n	100n	100n	100n	150m	5.0	50m	50	4.0p	20	P	Si	100S	TO18	A
4	2N2958	250MΔ	75n	20n	300n	200n	3.0	10	150m	120	8.0p	20	N	Si	200S	TO5	A
5	2N2959	250MΔ	75n	20n	300n	200n	3.0	10	150m	300	8.0p	20	N	Si	200S	TO5	A
6	2N2960	250MΔ	75n	20n	300n	200n	3.0	10	1.0m	50	8.0p	20	N	Si	200S	TO5	A
7	2N2961	250MΔ	75n	20n	300n	200n	3.0	10	500m	30	8.0p	20	N	Si	200S	TO5	A
8	2N3115	250MΔ	75n	20n	300n	200n	400m	10	150m	40	8.0p	20	N	Si	175J	TO18	A
9	2N3118	250MΔ	75n	20n	300n	200n	400m	10	150m	100	8.0p	20	N	Si	175J	TO18	A
10	2N1340	250M*	100n	15n	150n	100n	800m	10	50m	5.0	4.0p	14	N-ME	Si	175J	TO5	A
11#	2SA552	250MΔ	100n	15n	150n	100n	800m	10	50m	5.0	4.0p	16	P-E	Si	175J	TO39	A
12	2N4960	250MΔ	125n	50n	800n	250n	3.5	10	1.0m	30	15p	20	N	Si	200J	TO39	A
13	2N4961	250MΔ	125n	50n	800n	250n	1.5	10	1.0m	30	15p	20	N	Si	200J	TO39	A
14	2N4962	250MΔ	125n	50n	800n	250n	3.5	10	1.0m	30	15p	20	N	Si	200J	TO18	A
15	2N4963	250MΔ	125n	50n	800n	250n	1.5	10	1.0m	30	15p	20	N	Si	200J	TO18	A
16	2N3946	250MΔ	30n	35n	30n	75n	380m	1.0	1.0m	250	4.0p	20	N	Si	200J	TO18	A
17	JAN2N744	280MΔ	16n	18n	20n	45n	300m	250m	1.0m	20	5.0p	30	N	Si	175J	TO18	A
18#	BSW13	280MΔ	20n	20n	20n	40n	160m	350m	10m	300	5.0p	30	NPE	Si	125J	u32	A
19	2N2635	280M	30n	20n	185n	65n	150m	1.0	50m	45	5.0p	20	P-E	Ge	100S	TO18	A
20	EN744	282MΔ	16n	18n	20n	24n	500m	350m	10m	40	5.0p	20	N-DPE	Si	125J	TO106	A
21#	BSX78	285MΔ	15n	15n	50n	25n	300m	500m	1.0m	90	5.0p	25	PL	Si	175J	TO18	A
22#	2S95A	300MΔ	140u	25n	25n	300m	380m	350m	10m	200	6.0p	40	N-A	Si	200S	TO18	A
23	TIS45	300MΔ	140u	25n	25n	300m	380m	1.0	10m	120	6.0p	40	P-E	Si	150J	TO92	A
24#	V763	300MΔ	140u	25n	25n	300m	400m	1.0	50m	100	6.0p	40	P-PL	Si	200	TO18	A
25#	2G104	300M	4.0n	13n	150n	150m	150m	5.0	10m	40	6.0p	20	P-ME	Ge	100J	TO18	A
26#	BLY37	300MΔ	5.0n	20n	30n	100m	100m	2.0	10m	54	3.5p	20	N-PE	Si	100J	MT59	S
27	2N3261	300MΔ	6.0n	10n	6.0n	300m	300m	1.0	200m	20	3.5p	20	N	Si	200S	TO52	A
28#	BLY36	300MΔ	7.0n	20n	30n	14n	100m	2.0	10m	34	3.5p	20	N-PE	Si	100J	TO60	A
29	2N4421	300MΔ	12n	10n	18n	12n	360m	400m	30m	25	5.0p	20	N	Si	150S	X55	A
30#	2SB339H	300M	2.0n	8.0n	14n	12	4.0m	12	4.0m	45	9.1J	20	P	Ge	91J	TO3	A
31#	2SB341H	300M	12n	2.0n	8.0n	14n	12	4.0m	12	4.0m	45	9.1J	P	Ge	91J	TO3	A
32#	2SC340C	300M	12n	2.0n	8.0n	14n	12	4.0m	12	4.0m	45	9.1J	P	Ge	91J	TO3	A
33#	2SC400	300MΔ	12n	10n	200n	30n	250m	1.0	10m	350	6.0p	50	N-PE	Si	175J	TO18	A
34#	BSX90	300MΔ	12n	10n	40n	300m	350m	10m	20	40	5.0p	10	NPE	Si	175J	TO18	A
35#	BSX91	300MΔ	12n	10n	45n	300m	350m	10m	20	40	5.0p	10	NPE	Si	175J	TO18	A
36	MMT3904	300MΔ	13n	24n	125n	11n	225m	1.0	1.0m	70	4.0p	20	N	Si	135J	u23c	F
37	2N2381	300MΔ	15n	7.0n	30n	15n	300m	5.0	200m	40	6.0p	20	P	Ge	100	TO39	A
38	2N2382	300MΔ	15n	7.0n	30n	15n	300m	5.0	200m	40	6.0p	20	P	Ge	100	TO39	A
39	2N3249	300MΔ	15n	5.0n	60n	20n	1.2	10	10m	100	8.0p	20	P	Si	200J	TO18	A
40	2N4264	300MΔ	15n	8.0n	20n	15n	310m	1.0	30m	40	4.0p	22	N	Si	135S	TO92	A
41	2N4265	300MΔ	15n	8.0n	20n	15n	310m	1.0	30m	90	4.0p	22	N	Si	135S	TO92	A
42	2N784A	300MΔ	20n	15n	25n	380m	1.0	10m	88	19	3.5p	20	N-E	Si	200J	TO18	A
43	2N835/46	300MΔ	20n	30n	30n	200m	1.0	10m	20	TA	4.0p	30	N-E	Si	175J	TO46	A
44#	2SC468H	300MΔ	20n	30n	30n	200m	1.0	10m	200	TA	6.0p	20	N-PE	Si	175J	R92b	A
45#	2SC488H	300MΔ	20n	30n	30n	200m	1.0	10m	200	TA	6.0p	20	N-PE	Si	175J	R92b	A
46#	BFV43	300MΔ	20n	30n	30n	150m	1.0	100m	25	25	5.0p	8.3	NPE	Si	200J	u34b	P
47#	BFV44	300MΔ	20n	30n	30n	150m	1.0	100m	25	25	5.0p	8.3	NPE	Si	200J	u34b	P
48	KS6103	300M	20n	18n	100n	15n	225m	5.0	500m	15	25p	20	N-PE	Si	200J	TO39	A
49	2N2219A	300MΔ	25n	10n	225n	60n	3.0	10	1.0m	50	8.0p	15n	N	Si	175J	TO5	A
50	2N2222A	300MΔ	25n	10n	225n	60n	1.8	10	1.0m	50	8.0p	15n	N	Si	175J	TO18	A
51	2N2222B	300MΔ	25n	10n	225n	60n	1.8	10	10m	75	8.0p	15n	N	Si	200S	TO18	A
52	2N2957	300MΔ	25n	15n	60n	35n	150m	1.0	50m	130	4.0p	20	P	Ge	100J	TO18	A
53	2N582	300MΔ	25n	10n	225n	60n	2.0	10	10m	75	8.0p	20	N	Si	200S	TO46	A
54	A3T2222A	300MΔ	25n	10n	225n	60n	225m	10	150m	300	8.0p	20	N-PE	Si	150S	u44	A
55#	BFV55C	300MΔ	25n	10n	225n	60n	380m	10	10m	50	8.0p	20	NPE	Si	175J	u26a	B
56#	KS6104	300M	25n	20n	120n	20n	225m	5.0	500m	15	25p	20	N-PE	Si	200J	TO39	A
57#	PL405A	300MΔ	25n	10n	225n	60n	220m	10	10m	75	8.0p	20	N-PE	Si	175S	u51	A
58	2N3449	300MΔ	30n	25n	55n	65n	150m	25	10m	20	4.0p	100	P	Ge	100S	TO18	A
59	JAN2N3449	300MΔ	30n	18n	60n	65n	150m	250m	10m	20	5.0p	20	P	Ge	100S	TO18	A
60	2N3774	300MΔ	30n	10n	50n	25n	3.5	1.0	500m	35	12p	20	N	Si	200J	TO5	A
61	2N3774A	300MΔ	30n	10n	50n	25n	5.0	1.0	10m	30	12p	20	N	Si	200S	TO5	A
62	2N3775	300MΔ	30n	10n	50n	30n	3.5	1.0	500m	35	10p	20	N	Si	200J	TO5	A
63	2N3775A	300MΔ	30n	10n	50n	30n	5.0	1.0	10m	30	10p	20	N	Si	200S	TO5	A
64	2N4013	300MΔ	30n	10n	50n	25n	1.2	1.0	10m	30	10p	20	N	Si	200J	TO18	A
65	2N4014	300MΔ	30n	10n	50n	25n	1.2	1.0	10m	30	10p	20	N	Si	200J	TO18	A
66#	ME9021	300MΔ	30n	10n	50n	25m	2.0	300m	10	25	6.0p	20	N-PE	Si	150J	TO106	A
67	MPS3639	300MΔ	30n	10n	20n	12n	500m	300m	10m	30	3.5p	16	P-E	Si	125J	X20b	A
68	2N985	300MΔ	35n	35n	200n	80n	150m	500m	100m	60	6.0p	30m	P-EM	Ge	100J	TO18	A
69	2N3251	300MΔ	35n	35n	200n	50n	380m	1.0	10m	300	6.0p	20	P	Si	200J	TO18	A
70	2N3805	300MΔ	35n	20n	45n	200m	1.0	10m	30	40	6.0p	20	N	Si	150S	R67	B
71	2N3805A	300MΔ	35n	20n	45n	320m	1.0	10m	120	40	25p	6.0n	N	Si	120J	TO98	B
72	2N3904	300MΔ	35n	35n	200n	50n	310m	1.0	10								

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION		L C E O D E	
								Vcb (V)	Ic (A)	hFE				STRUCTURE P-NPN N-NPN	MAX. TEMP (°C)		DWG. No.
1	2N965	300MΔ	50n			85n	150m	1.0	100m	40 Δ	18	4.0p	P	Ge	100S	TO18	A
2	2N966	300MΔ	50n			100n	150m	1.0	100m	40 Δ	18	4.0p	P	Ge	100S	TO18	A
3	2N3722	300MΔ	50n	12n	85n	45n	800m	1.0	100m	40 #Δ		10p	N	Si	200J	TO5	A
4	2N5228	300MΔ	50n	25n	90n	50n	310m	3.0	10m	30 Δ	.40	5p	P	Si	135S	TO92	A
5 #	ME9022	300MΔ	50n			70n	250m	2.0	300m	5.0 #Δ	40	6.0p	N-PE†	Ge	150J	TO106	A
6	2N705	300M	60n	75n	100n	100n	300m	5.0	10m	70 #	44	6.0p	P-ME	Si	100J	TO18	A
7	2N710	300M	60n	75n	100n	100n	300m	5.0	10m	40	50	10p	P-ME	Ge	100J	TO18	A
8 #	BSX32	300MΔ	60n			60n	3.5 ∅	1.0	100m	90 #		10p	N-DPE	Si	200J	TO5	∅
9	2N3723	300MΔ	70n	15n	110n	50n	800m	1.0	100m	40 #Δ		9.0p	N	Si	200J	TO5	A
10	2N5141	300MΔ	70n	45n	100n	70n	500m	2.0	10m	25 #Δ		7p	P	Si	125J	TO106	A
11	2N968	300MΔ	75n			125n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
12	2N969	300MΔ	75n			125n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
13	2N972	300MΔ	75n			150n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
14	2N973	300MΔ	75n			150n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
15	2N974	300MΔ	75n			275n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
16	2N975	300MΔ	75n			275n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
17	JAN2N2481	300MΔ	75n		20n	45n	360m	1.0	10m	120	25	5.0p	N	Si	200J	TO18	A
18	2N711	300M	100n		200n	150n	300m	5.0	10m	30	50	5.0p	P-ME	Ge	100J	TO18	A
19	2N970	300MΔ	100n			275n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
20	2N971	300MΔ	100n			275n	150m	7.0	25m	20 Δ	25	8.0p	P	Ge	100J	TO18	A
21	2N1012	300MΔ	150n			200n	150m	2.5	100m	40 Δ	2.0	20p	N	Ge	100S	TO5	A
22 #	BSW19	300MΔ	150n			800n	215m*	1.0	10m	120	30	6.0p	N-PE	Si	175J	TO18	A
23 #	BSW33	300M	200n	30nt	150nt	40nt	125m#	0.0	10m	180	30p	3.0p	N-PE†	Si	125J	MM13	F
24 #	BSW34	300M	200n	30nt	150nt	40nt	125m#	0.0	10m	300	30p	3.0p	N-PE†	Si	125J	MM13	F
25 #	BSW35	300M	200n	30nt	150nt	40nt	125m#	0.0	10m	200	30p	3.0p	N-PE†	Si	125J	MM13	F
26	2N3947	300MΔ	300n	35n	375n	75n	360m	1.0	1.0m	700	20	4.0p	N	Si	200J	TO18	A
27 #	2G103	300M	400n			150m	150m	5.0	10m	40			P-ME	Ge	100J	TO18	A
28	2N706	320MΔ				60n	300m	1.0	10m	20 Δ	60	6.0p	N-D	Si	175J	TO18	A
29	CS706	320MΔ				60n	650m	1.0	10m	20 Δ	60	6.0p	N-D	Si	175J	R97a	A
30 #	2SC150H	320M	.08n	.05n	.15n	.08n	750m	6.0	10m	20 Δ		7.0p	N	Si	175J	TO39	A
31 #	2SC151H	320M	.08n	.05n	.15n	.08n	750m	6.0	10m	20 Δ		7.0p	N	Si	175J	TO39	A
32 #	2SC152H	320M	.08n	.05n	.15n	.08n	750m	6.0	10m	20 Δ		7.0p	N	Si	175J	TO39	A
33	2N779	320MΔ	18n			18n	60m	5.0	10m	200	4.4	2.5p	P	Ge	100S	TO18	A
34	2N1204	320M				200m	1.5 ∅	1.5	400m	15 #Δ	2.5	7.0p	P-AD	Ge	100S	TO39	A
35	2N1494	320M				400m	1.5 ∅	1.5	400m	15 #Δ	2.5	7.0p	P-AD	Ge	100S	TO31	A
36	2N706C	320MΔ	40n		25n	75n	360m	1.0	10m	20 Δ		5.0p	N-D	Si	300S	TO18	A
37	2N2501	350M			15n		360m	1.0	10m	150		2.8p	N-PE	Si	200J	TO18	A
38 #	C722	350M		35nt		240u†	360m	1.0	10m	120		3.0p	N-PE	Si	200	TO18	A
39 #	2SC98	350M				25n	300m	3.5	10m	45			N-PE	Si	175J	TO18	A
40 #	2SC99	350M	7.0n			25n	300m	3.5	10m	80			N-PE	Si	175J	TO18	A
41 #	2SC131	350M	8.0nt		20nt	20nt	350m	1.0	10m	60	7.0	4.0p	N-PE	Si	175J	TO18	A
42 #	2SC132	350M	8.0nt		20nt	20nt	350m	1.0	10m	60	7.0	4.0p	N-PE	Si	175J	TO18	A
43 #	2SC133	350M	8.0nt		20nt	20nt	350m	1.0	10m	60	8.0	4.0p	N-PE	Si	175J	TO18	A
44 #	2SC137	350M	8.0nt		20nt	30nt	350m	1.0	10m	50	7.0	4.0p	N-PE	Si	175J	TO18	A
45 #	BSY38	350M	9.0u†		20nt	25nt	300m	3.5	10m	60	6.0	5.0p	N-PE	Si	175J	TO18	∅
46 #	BSY39	350M	9.0u†		25nt	25nt	300m	3.5	10m	120	6.0	5.0p	N-PE	Si	175J	TO18	∅
47	2N4420	350MΔ	10nt	8.0n	15n	10n	360m	1.0	100m	25 Δ#		5.0p	N	Si	150S	X55	A
48 #	2SC134	350M	10nt		100nt	25nt	350m	1.0	10m	60	3.0	4.0p	N-PE	Si	175J	TO18	A
49 #	2SC135	350M	10nt		100nt	25nt	350m	1.0	10m	60	5.0	4.0p	N-PE	Si	175J	TO18	A
50 #	2SC136	350M	10nt		100nt	25nt	350m	1.0	10m	60	5.0	4.0p	N-PE	Si	175J	TO18	A
51	2N3510	350MΔ	12n	10n	16n	12n	360m	1.0	150m	150	2.6	4.0p	N	Si	200	TO52	A
52	2N3647	350MΔ	12n	10n	16n	12n	400m	1.0	150m	25 Δ		4.0p	N	Si	200	TO46	A
53	CS2369	350MΔ	12n	12n	13n	18n	250m	2.0	100m	20 #Δ	25	4.0p	N-DPL	Si	150J	R97a	A
54	GET2369	350MΔ	12n	12n	18n	18n	360m	1.0	10m	120	25	4.5p	N-PE	Si	125J	TO18	A
55	2N3009	350MΔ	15n	18n	25n	1.2 ∅	2.0	5.0	100m	25 #Δ		5.0p	N	Si	200J	TO52	A
56	2N3013	350MΔ	15n	18n	25n	1.2 ∅	2.0	4.0	30m	120 #Δ		5.0p	N	Si	200J	TO18	A
57	JAN2N3013	350MΔ	15n	18n	25n	360m	400m	4.0	30m	120 #Δ		5.0p	N	Si	200J	TO52	A
58	2N3646	350MΔ	15n	10n	20n	15n	500m	1.0	300m	15 Δ#		5.0p	N	Si	125J	R110	A
59	2N3829	350MΔ	15n	10n	50n	15n	360m	4.0	30m	30 #Δ		6.0p	P	Si	200S	TO52	A
60	2N4422	350MΔ	15n	10n	20n	15n	360m	1.0	300m	15 Δ#		5.0p	N	Si	150S	X55	A
61 #	BFV83B	350MΔ	15n		18n	25n	300m	1.0	300m	25 #Δ		5.0p	NPE	Si	200J	u26a	B
62 #	BSX26	350MΔ	15n	18n		25n	1.2 ∅	1.0	300m	15 #Δ		5.0p	N-DPE	Si	200J	TO18	∅
63 #	BSX39	350MΔ	15n	18n		25n	1.2 ∅	1.0	100m	55 #		5.0p	N-DPE	Si	200J	TO18	∅
64	EN3009	350MΔ	15n		25n	200m	4.0	30m	120 #Δ		6.0	5.0p	N	Si	125J	TO106	A
65	EN3013	350MΔ	15n		25n	200m	4.0	30m	120 #Δ		6.0	5.0p	N	Si	125J	TO106	A
66	GET3013	350MΔ	15n		18n	25n	360m	4.0	30m	120		4.5p	N-PE	Si	125J	TO18	A
67	KS6101	350M	15n	8.0n	25n	8.0n	5.0	250m	15 Δ			2.0p	N-PE	Si	200J	TO39	A
68	MPS3646	350MΔ	15n	10n	20n	15n	500m	4.0	30m	120		5.0p	N-EA	Si	125J	TO92	A
69	TIS55	350MΔ	15n	10n	20n	15n	360m	5.0	100m	25 #Δ		5.0p	N-PE	Si	125J	TO92	A
70	2N3014	350MΔ	16n	18n	25n	1.2 ∅	4.0	30m	120 #Δ			5.0p	N	Si	200J	TO52	A
71 #	BFV83C	350MΔ	16n		18n	25n	300m	4.0	30m	30 #Δ		5.0p	NPE	Si	200J	u26a	B
72 #	BFV92	350MΔ	16n		18n	35n	400m	1.0	30m	150 #Δ		5.0p	N-PE	Si	175	L56f	A
73 #	BFV92N	350MΔ	16n		25n	35n	400m	1.0	30m	150 #Δ		5.0p	N-PE	Si	175	L56g	A
74	EN3014	350MΔ	16n		25n	200m	4.0	30m	120 #Δ		6.0	5.0p	N	Si	125J	TO106	A
75	GET3014	350MΔ	16n		18n	25n	360m	4.0	30m	120	18	4.5p	N-PE	Si	125J	TO18	A
76	MMT3014	350MΔ	16n	18n	25n	225m	400m	3.0	200 #Δ		7.3	5.0p	N-AN	Si	135J	u43	D
77	MPS834	350MΔ	16n		25n	30n	310m	1.0	10m	25 #Δ		4.0p	N-AN	Si	135J	TO92	A
78	TIS52	350MΔ	16n		20n	25n	360m	4.0	30m	120 #Δ		5.0p	P-E	Si	150J	TO92	A
79	GET3646	350MΔ	18n		18n	28n	360m	4.0	30m	120	80	4.5p	N-PE	Si	125J	TO18	A
80	SE3646	350MΔ	18n	18n		28n	500m	4.0	30m	30 #Δ		5.0p	N-DPE	Si	125J	TO106	A
81	2N984	350M	20n		20n	60m	500m	10m	70		10	1.9p	P-MD	Ge	100S	TO18	A
82	2N2170	350M	20n		18n	60m	500m	10m	70		10	1.9p	P-MD	Ge	100S	TO9	A
83 #	BSX87A	350MΔ	20n		30n	30n	360m	1.0	10m	34 Δ#	2.5	2.5p	NPE	Si	200J	TO18	A
84	KS6102	350M	20n	10n	30n	10n	5.0	250m	15 Δ								

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	DESCRIPTION		L C O D E		
								Vcb (V)	Ic (A)	hFE				STRUCTURE	MAX. TEMP (°C)			
1	2N744	400M5	10n	16n∅	45n∅	13n	300m	3.5∅	10m∅	80	10	5.0p	N-E	Si	300S	T018	A∅	
2	2N5187	400M5Δ	10n	8.0n	13n	8.0n	1.0∅	4.0∅	30m∅	25 Δ	25	3.5p∅	N	Si	200J	T052	A∅	
3	2N743	400M5	11n	16n∅	40n∅	13n	300m	3.5∅	10m	40	10	5.0p	N-E	Si	300S	T018	A∅	
4	2N4294	400M5Δ	12n	9.0n	15n	15n	200m	1.0∅	10m∅	30 Δ	25	5.0p∅	N	Si	150J	u29		
5#	BFV42	400M5Δ	12n∅		20n∅	150m	2.0∅	100m∅	15 Δ	30	4.0p∅	NPE	Si	200J	u34b	P	B	
6#	BFV87	400M5Δ	12n∅		10n	18n∅	300m	2.0∅	100m∅	10 # Δ	25	4.0p∅	NPE	Si	200J	u26a	P	B
7#	BSW58	400M5Δ	12n∅		10n	20n∅	125m#	2.0∅	100m∅	20 Δ	30	4p∅	NPE	Si	125J	MM13	F	A
8#	ME9001	400M5Δ	12n∅		10n	18n∅	250m	2.0∅	100m∅	20 Δ	25	4.0p∅	N-PE†	Si	150J	T0106	A	
9#	MT9001	400M5Δ	12n∅		10n	18n∅	100m	1.0∅	10m∅	40 Δ	25	4.0p∅	N-PE	Si	150J	T0106	A	
10#	PL4021	400M5Δ	12n∅		10n	15n∅	150m	1.0∅	10m∅	60 ∇	25	4.0p∅	NPE	Si	175J	u51		
11#	TIS47	400M5Δ	12n∅		13n	18n∅	360m	1.0∅	10m∅	20 # Δ	25	4.0p∅	N-PE	Si	150J	T092		
12#	ZT2368	400M5Δ	12n∅	12n∅	15n∅	15n∅	360m	1.0∅	10m∅	20 Δ	25	4.0p∅	N-PL	Si	200J	T018		
13	2N4419	400M5Δ	14n	10n	14n	16n	500m∅	1.0∅	10m∅	30 # Δ	25	4p∅	N†	Ge	100J	X55	A	
14	2N418	400M	15n					4.0m	40 Δ	40	50		P	Ge	100J	T03	C∅	
15	2N420	400M	15n					1.5	60m	40 Δ	50		P	Ge	100J	T03	C∅	
16	2N420A	400M	15n					50	25m	40 Δ	50		P	Ge	100J	T03	C∅	
17	2N3011	400M5Δ	15n∅	13n#	20n∅	30n	1.2∅	3.5∅	10m∅	120 # ∇		4.0p∅	N	Si	200J	T018	A∅	
18	2N4389	400M5Δ	15n	10n	20n∅	30n	500m∅	1.0∅	10m∅	30 # Δ		6.0p∅	P	Si	125J	R124		
19	A3T3011	400M5Δ	15n∅		14n	20n∅	225m	350m∅	10m∅	120 # ∇		4.0p∅	N-PE†	Si	150J	u44	A	
20#	BSX28	400M5Δ	15n		20n∅	20n∅	1.2∅	4.0∅	30m∅	70 #	3.0	4.0p∅	N-DPE	Si	200J	T018	A∅	
21	EN3011	400M5Δ	15n∅	13n#	20n∅	20n∅	500m∅	350m∅	10m∅	120 # ∇		4.0p∅	N-DPE	Si	125J	T0106	A	
22	KS6105	400M	15n	8.0n	140n	40n	250m	2.0∅	100m∅	15 Δ	25	2.0p	N-PE	Si	200J	T039		
23#	ME9002	400M5Δ	15n∅		20n∅	20n∅	250m	2.0∅	100m∅	15 Δ	25	4.0p∅	N-PE†	Si	150J	T0106	A	
24#	ME9003	400M5Δ	15n∅		20n∅	20n∅	250m	2.0∅	100m∅	10	100 # Δ	9.0p∅	N-PE†	Si	150J	R124		
25#	MT9002	400M5Δ	15n∅		20n∅	20n∅	100m	1.0∅	10m∅	30 Δ			N-PE	Si	150J	T092		
26#	TIS51	400M5Δ	15n∅		18n	23n∅	360m	400m∅	30m∅	25 # Δ		4.0p∅	N-PE	Si	150J	T092		
27#	ZTX312	400M5Δ	15n∅		13n	20n∅	300m	1.0∅	30m∅	35 Δ	24	4.0p∅	N-PL	Si	125J	X59	F	
28	2N3576	400M5Δ	18n	12n	30n	20n	360m	5.0∅	10m∅	120 ∇		4.5p∅	P	Si	200J	T072	G∅	
29#	BFV81B	400M5Δ	18n	12n	30n	20n	300m	5.0∅	10m∅	20 Δ		4.5p	PPE	Si	200J	u26a	B	
30	2N2097	400M5	20n		50n	40n	250m	1.0∅	200m	70	4.0	15p	P-D	Ge	100S	T031	A	
31	2N2100	400M5	20n		50n	40n	250m	1.0∅	200m	70	4.0	15p	P-D	Ge	100S	T09	A	
32	2N4453	400M5Δ	20n	35n	65n	20n	300m	5.0∅	30m∅	40 # Δ		6p∅	P	Si	200J	T046	A	
33	2N5140	400M5Δ	20n	15n	20n	15n	500m∅	1.0∅	10m∅	20 # Δ		5p∅	P	Si	125J	T0106	A	
34#	Z5C67	400M5	20n∅		20n	40n∅	360m	1.0∅	10m∅	80			N-PE	Si	175J	T018		
35#	Z5C68	400M5	20n∅		20n	40n∅	360m	1.0∅	10m∅	100 †		3.5p	N-PE	Si	175J	T018		
36#	Z5C269	400M5	20n∅		20n	40n∅	150m	1.0∅	10m∅	200 ∇	25	6.0p∅	N-PE	Si	150J	u23a		
37#	Z5C356	400M5	20n∅		20n	40n∅	300m	1.0∅	10m∅	60		4.5p	NPE	Si	175J	T046	A∅	
38#	BFV29	400M5Δ	20n	15n	30n	20n	150m	1.0∅	100m∅	10 # Δ		4.5p	PPE	Si	200J	u34b	P	
39	KS6106	400M	20n	10n	150n	50n	150m	5.0	1.0	15 Δ		2.0p	N-PE	Si	200J	T039		
40	KS6109	400M	20n	20n	100n	40n	250m	5.0	1.0	15 Δ		2.0p	N-PE	Si	200J	T060		
41	KS6111	400M	20n	25n	90n	30n	250m	5.0	1.0	15 Δ		2.0p	N-PE	Si	200J	T060		
42#	MMT72	400M5Δ	20n∅		20n∅	20n∅	225m	2.0∅	10m∅	30 † Δ	30	6.0p∅	N-AN	Si	135J	u43	C	
43#	P346A	400M5Δ	20n∅		20n∅	30n∅	300m	2.0∅	10m∅	25 Δ		4.0p∅	N-PE	Si	175J	T018	A∅	
44	2N5186	400M5Δ	25n∅		25n∅	25n∅	500m∅	1.0∅	10m∅	25 Δ	30	3.0p∅	N	Si	200S	T052	A∅	
45#	BSW11	400M5Δ	25n∅		50n∅	50m*	50m*	1.0∅	10m∅	50 Δ	35	3.0p∅	N-PE	Si	125J	u47	D	
46	2N4451	400M5Δ	30n	35n	65n	30n	300m	5.0∅	30m∅	40 # Δ		6p∅	P	Si	200J	T046	A	
47#	2SA417	400M5	30n∅		30n	40n∅	150m	300m∅	10m∅	70		4.0p	PEM	Ge	100J	T046	A∅	
48#	BSV55	400M	30n∅		30n	50n∅	300m	500m∅	30m∅	150 ∇	5.0	6.0p	P	Si	150J	u34		
49#	BSV55P	400M	30n∅		30n	50n∅	150m	500m∅	30m∅	150 ∇	5.0	6.0p	P	Si	150J	u17c	E	
50#	BSY34	400M5	30n∅		30n	50n∅	2.6	1.0∅	100m∅	42 †	20	4.5p	N-DPE	Si	200J	T039	A∅	
51	MMT73	400M5Δ	30n∅		30n∅	225m	1.0∅	5.0m	20 Δ	20	20	5.0p∅	P-AN	Si	135J	u43	C	
52	2N2096	400M5	35n		70n	60n	250m	1.5∅	400m	40	1.8	15p	P-D	Ge	100S	T031	A	
53#	BSY58	400M5	35n∅		60n∅	2.6	1.0∅	100m∅	42 †	30	4.5p	4.5p	N-DPE	Si	200J	T039	A∅	
54	2N706B	400M5	40n∅		75n∅	300m	300m	1.0∅	10m	40	40	4.5p	N-ME	Si	175J	T018	A∅	
55	2N4034	400M5Δ	40n	15n	140n	40n	1.0∅	1.0∅	1.0m∅	60 Δ	130	3.5p∅	P	Si	200J	T018	A∅	
56	2N4121	400M5	40n	15n	140n	40n	200m	1.0∅	10m∅	70 Δ #	130	4.5p∅	P	Si	125J	R110	A	
57	2N4122	400M5	40n	15n	140n	40n	200m	1.0∅	10m∅	150 # Δ	130	4.5p∅	P	Si	125J	R110	A	
58	2N4916	400M5Δ	40n	15n	140n	40n	200m	1.0∅	10m∅	70 # Δ		4.5p∅	P	Si	125J	R124	A	
59#	BSY19	400MΔ	40n	15n	140n	75n∅	360m	1.0∅	10m∅	30 Δ	40	6.0p∅	N-PL	Si	200J	T018		
60#	BFX48	400M5Δ	50n∅		160n∅	1.0∅	1.0∅	1.0∅	10m∅	160 #		3.5p∅	P-DPE	Si	200J	T018		
61#	BSX49	400M5	50n∅		95n∅	1.0∅	1.0∅	1.0∅	10m∅	37 # Δ		4.5p∅	N-DPE	Si	200J	T018	A∅	
62	2N2894	400M5Δ	60n∅		90n∅	360m	5.0∅	30m∅	150 # ∇	30		6.0p∅	P	Si	200J	T018	A∅	
63	2N3012	400M5Δ	60n∅		75n∅	1.2∅	5.0∅	30m∅	120 # ∇	30		6.0p∅	P	Si	200J	T018	A∅	
64	2N3209	400M5Δ	60n∅		90n∅	360m	500m∅	30m∅	30 # Δ	30	6.0	5.0p∅	P-PE	Si	200J	T018	A∅	
65	A3T2894	400M5Δ	60n∅		90n∅	225m	500m∅	30m∅	150 # ∇	30		6.0p∅	P-PE†	Si	150J	u44	A	
66#	BFV81	400M5Δ	60n∅		90n∅	300m	5.0∅	30m∅	40 # Δ	30		6.0p∅	P	Si	200J	u26a	B	
67#	BFV81A	400M5Δ	60n∅		75n∅	300m	5.0∅	30m∅	30 # Δ	30		6.0p∅	PPE	Si	200J	u26a	B	
68#	BFV91	400M5Δ	60n∅		100n∅	400m	500m∅	30m∅	120 * ∇	30		6.0p∅	P-PE	Si	175J	L56d		
69#	BFV91N	400M5Δ	60n∅		100n∅	400m	500m∅	30m∅	120 * ∇	30		6.0p∅	P-PE	Si	175J	L56e		
70#	BSV21	400M5Δ	60n∅															

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	TYPE No.	fab	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	STRUCTURE		MAX. TEMP (°C)	Dwg. No.	L O A D E
								Vcb (V)	Ic (A)	hFE				P-PNP	N-PNP			
1	2N983	450M	18n			18n	80m	500m	10m	85	9.0	1.9p	P-MD	Ge	100S	T08	A	
2	2N168	450M	18n			18n	80m	500m	10m	100	9.0	1.9p	P-MD	Ge	100S	T09	A	
3	2N2169	450M	18n			18n	80m	500m	10m	85	9.0	1.9p	P-MD	Ge	100S	T09	A	
4	2N835	450M	20n	35n		35n	300m	1.0	10m	10	8.0	2.8p	N-EM	Si	175J	T018	A	
5	2N4035	450M	40n	15n	140n	40n	1.0	1.0	1.0m	150	130	3.5p	P	Si	200J	T018	A	
6	2N4917	450M	40n	15n	140n	40n	200m	1.0	10m	150		4.5p	P	Si	125J	R124	A	
7	2SC595	450M	100n			100n	300m	1.0	10m	60		4.0p	N-PE	Si	150J	T018	A	
8	2N984A	480M	50n			85n	150m	1.0	100m	70		2.2p	P-EM	Ge	100J	T018	A	
9	BSX59	475M	35n			60n	800m	1.0	150m	70	2.0	10p	N-PE	Si	200J	T05	A	
10	BSX60	475M	40n			70n	800m	1.0	150m	100	2.0	10p	N-PE	Si	200J	T05	A	
11	BSX61	475M	50n			100n	800m	1.0	150m	110	3.3	10p	N-PE	Si	200J	T05	A	
12	V721	480M		80n		110u	300m	1.0	10m	50		3.0p	P-PE	Si	200	T018	A	
13	2N708	480M	40n		75n	40n	360m	1.0	10m	30	40		N-PL	Si	200S	T018	A	
14	2N914	480M	40n	20n		40n	360m	1.0	10m	30	3.5	4.5p	N	Si	200J	R64	A	
15	2N4137	500M	6.0n	9.0n	12n	8.0n	360m	1.0	10m	120		4.0p	N-DPE	Si	200S	T018	A	
16	2N743A	500M	12n		10n	30n	360m	350m	10m	60	35	3.0p	N-PE	Si	200J	T018	A	
17	2N744A	500M	12n		13n	30n	360m	350m	10m	120	35	3.0p	N-PE	Si	200J	T018	A	
18	2N2369A	500M	12n	13n		18n	1.2	1.0	10m	120	20	4.0p	N-PE	Si	120S	T018	A	
19	JAN2N2369A	500M	12n		13n	18n	1.2	1.0	10m	120	20	4.0p	N	Si	200J	T018	A	
20	2N4295	500M	12n	9.0n	15n	15n	200m	1.0	10m	40	25	4.0p	N	Si	150	u29	A	
21	2N4418	500M	12n	10n	12n	14n	500m	1.0	10m	120	25	4.0p	Nt	Si	150S	X55	A	
22	JAN2N4449	500M	12n		13n	18n	1.5	1.0	10m	120	20	4.0p	N	Si	200J	T046	A	
23	2SC601	500M	12n			18n	300m	1.0	10m	40		2.4p	N-PE	Si	175J	T018	A	
24	2SC764	500M	12n		13n	18n	360m	1.0	10m	40		4.0p	N-PE	Si	200J	T018	A	
25	BFV28	500M	12n	6.0n		12n	150m	40	30m	15		3.0p	NPE	Si	200J	u34b	P	
26	BFV87A	500M	12n	13n		18n	300m	2.0	100m	20	25	4.0p	NPE	Si	200J	u26a	B	
27	BFV87B	500M	12n	13n		18n	300m	4.0	30m	30	0.2	4.0p	NPE	Si	200J	u26a	B	
28	BSV35	500M	12n		13n	18n	350m	1.0	10m	120	24	4.0p	P	Si	175J	u53	F	
29	BSV52	500M	12n		13n	18n	110m	1.0	1.0m	25	40	4.0p	N-PEt	Si	125J	u56	A	
30	BSV52R	500M	12n		13n	18n	110m	1.0	10m	40	30	4.0p	N-PE	Si	125J	u56	A	
31	BSW59	500M	12n		12n	25n	125m	2.0	100m	30	30	4.0p	N-PE	Si	125J	MM13	F	
32	EN2369A	500M	12n	13n		18n	500m	1.0	10m	120		4.0p	N-DPE	Si	125J	T0106	A	
33	MD1T2369	500M	12n		13n	18n	360m	1.0	10m	40	25	4.0p	N	Si	150A	T0122	A	
34	MMT2369	500M	12n		13n	18n	225m	1.0	10m	40		4.0p	N-AN	Si	135J	u43	D	
35	MPS2369	500M	12n		13n	18n	310m	2.0	100m	20		4.0p	N-AN	Si	135J	T092	A	
36	PL4022	500M	12n		13n	18n	150m	1.0	10m	120	25	4.0p	N-PE	Si	175S	u51	A	
37	PL4023	500M	12n		13n	18n	150m	1.0	10m	120	20	4.0p	N-PE	Si	175S	u51	A	
38	TIS48	500M	12n		18n	23n	360m	1.0	10m	40	25	4.0p	N-PE	Si	150J	T092	B	
39	TIS49	500M	12n		18n	23n	360m	1.0	10m	120	5.0	4.0p	N-PE	Si	150J	T092	B	
40	ZT2369	500M	12n	12n	18n	18n	360m	1.0	10m	40		4.0p	N-PL	Si	200	T018	A	
41	ZT2369A	500M	12n	12n	18n	18n	300m	1.0	10m	40		4.0p	N-PL	Si	200	T018	A	
42	ZTX313	500M	12n		13n	18n	300m	1.0	10m	120	24	4.0p	N-PL	Si	125S	X59	F	
43	ZTX314	500M	12n		13n	18n	300m	1.0	10m	120	20	4.0p	N-PL	Si	125S	X59	F	
44	2N4257	500M	15n		10n	10n	500m	1.0	1.0m	15	15	3.0p	P	Si	125J	R110	A	
45	2N4257A	500M	15n	10n	12n	10n	500m	500m	1.0m	15	15	3.0p	P	Si	125J	R124	A	
46	BFV27	500M	15n		8.0n	20n	150m	.50	10m	20	133	3.0p	NPE	Si	200J	u34b	P	
47	ME0492	500M	15n	10n	20n	15n	250m	1.0	30m	50	40	4.0p	P-PE	Si	150	R110	A	
48	2N834	500M	16n	25n		30n	300m	1.0	10m	40	8.0	2.8p	N-EM	Si	175J	T018	A	
49	2N834A	500M	16n		10n	24n	360m	1.0	10m	25	25	4.0p	N	Si	200J	T018	A	
50	2N3227	500M	18n	5.0n	13n	15n	1.2	1.0	10m	300		4.0p	N	Si	200J	T018	A	
51	2N3508	500M	18n	5.0n	13n	15n	400m	1.0	10m	120	14	4.0p	N	Si	200S	T046	A	
52	2N3509	500M	18n	5.0n	13n	15n	400m	1.0	10m	300	25	4.0p	N	Si	200S	T046	A	
53	2N5272	500M	18n	5.0n	13n	15n	360m	1.0	100m	30	8.0	4.0p	N	Si	200S	T018	A	
54	2N2710	500M	20n			35n	360m	1.0	10m	40		4.0p	N	Si	200	T018	A	
55	2N3639	500M	20n	10n	20n	12n	500m	.30	10m	30	40	3.5p	P	Si	125J	R110	A	
56	2N3640	500M	20n	10n	20n	12n	500m	.30	10m	30	40	3.5p	P	Si	125J	R110	A	
57	2SA413	500M	20n	30n	40n	40n	100m	1.0	30m	70			P-AD	Ge	75J	T018	A	
58	TIS53	500M	20n	10n	20n	12n	360m	300m	10m	30	16	3.5p	P-PE	Si	150J	T092	A	
59	TIS54	500M	20n	10n	20n	12n	360m	300m	10m	30	20	3.5p	P-PE	Si	150J	T092	A	
60	JAN2N3467	500M	30n	10n	60n	30n	5.0	5.0	1.0m	40	1.2	2.5p	P	Si	200S	T05	A	
61	JAN2N3468	500M	30n	10n	60n	30n	5.0	5.0	1.0m	25	1.2	2.5p	P	Si	200S	T05	A	
62	MPS3640	500M	30n	10n	20n	12n	310m	1.0	50m	20	20	3.5p	PAN	Si	135J	X20d	A	
63	ZT2938	500M	30n	15n	15n	30n	300m	1.0	200m	60	8.0	4.0p	N-PE	Si	175J	T018	A	
64	JAN2N3253	500M	35n	15n	40n	30n	5.0	5.0	1.0m	20	1.2	1.2p	N-E	Si	200S	T05	A	
65	JAN2N3444	500M	35n	15n	40n	30n	5.0	5.0	1.0m	15	1.2	1.2p	N-E	Si	200S	T05	A	
66	JAN2N5581	500M	35n			300n	2.0	1.0	10m	40		8.0p	N	Si	200J	T046	A	
67	JAN2N5582	500M	35n			300n	2.0	1.0	10m	100		8.0p	N	Si	200J	T046	A	
68	2N3304	500M	60n			60n	300m	.30	10m	63	10	3.5p	P	Si	200J	T018	A	
69	2N4449	500M	60n	9.0n	12n	8.0n	300m	.35	10m	40		4.0p	N	Si	200S	T046	A	
70	FT1702	500M	60n		12n	75n	500m	300m	10m	30	20	3.5p	P-PE	Si	200J	T018	A	
71	ME0493	500M	60n			90n	250m	1.0	30m	30	40	6.0p	P-PE	Si	150	R110	A	
72	2SC423	500M	70n		120n	60n	500m	5.0	20m	80		5.0p	N-PE	Si	175J	T039	A	
73	2SC425	500M	70n		120n	60n	500m	5.0	20m	80		5.0p	N-PE	Si	175J	T039	A	
74	2SC933	500M	70n		120n	60n	200m	5.0	20m	80		5.0p	N-PE	Si	125J	T0104	A	
75	2SC934	500M	70n		120n	60n	200m	5.0	20m	80		5.0p	N-PE	Si	125J	T0104	A	
76	2N4028	500M	100n		350n	50n	2.0	5.0	500m	70	1.0	20p	P	Si	200J	T018	A	
77	2N4029	500M	100n		350n	50n	2.0	5.0	500m	70	1.0	20p	P	Si	200J	T018	A	
78	2N4032	500M	100n		350n	50n	4.0	5.0	500m	70	1.0	20p	P	Si	200J	T05	A	
79	2N4033	500M	100n		350n	50n	4.0	5.0	500m	70	1.0	20p	P	Si	200J	T05	A	
80	2N4896	500M	140n	60n	600n	350n	4.0	2.0	2.0m	40	.20	80p	N	Si	200J	T039	A	
81	2N4897	500M	140n	60n	600n	350n	4.0	2.0	2.0m	40	.20	80p	N	Si	200J	T039	A	
82	2SA450H	530M	13nt	12nt	14nt	24nt	300m	1.0	50m	30		4.0p	P-EM	Ge	100J	T018	A	
83	2SA451H	530M	13nt	12nt	14nt	24nt	300m	1.0	50m	60		4.0p	P-EM	Ge	100J	T018	A	
84	2SA452H	530M	13nt	12nt	14nt	24nt	300m	1.0	50m	120		4.0p	P-EM	Ge	100J			

12. SWITCHING TRANSISTORS

IN ORDER OF (1) fab, (2) MAX RISE TIME & (3) TYPE No.

LINE No.	3 TYPE No.	1 fab (Hz)	2 MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. P _c IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r _{bb} X Cob (s)	DESCRIPTION			L C O A D E
								Vcb (V)	I _e (A)	hFE				STRUCTURE	TEMP (°C)	DWG. No.	
1	2N2368	640MΔ	12n∅	10n\$		15n∅	360m	1.0∅	10m∅	40	6.7	4.0p∅	N-PE	Si	200J	T018	A∅
2	2N869A	640MΔ	50n∅			80n∅	360m	500m∅	30m∅	40 #Δ		6.0p∅	P-PE	Si	200J	T018	A∅
3#	BSX93	650M\$	12n∅			18n∅	360m	1.0∅	10m∅	40 #Δ		4.0p∅	NPE	Si	200J	T018	A∅
4	2N4207	650M\$Δ	15n	10n	15n	10n	300m	.30∅	10m∅	120 ∇	130	3.0p	P	Si	200J	T018	A∅
5	2N4873	700M\$Δ	10n	10n	15n	15n	1.2 ∅	1.0 ∅	10m∅	110 #Δ		4.0p∅	N	Si	200J	T018	A∅
6	2N3546	700M\$Δ	10n	10n	20n	15n	360m	1.0 ∅	10m∅	120 #∇	5.0	6.0p∅	P	Si	200J	T018	A∅
7	2N4208	700M\$Δ	15n	10n	20n	10n	300m	.30 ∅	10m∅	120 ∇	130	3.0p	P	Si	200J	T018	A∅
8	2N4258	700M\$Δ	15n	10n	20n	10n	500m∅	.50 ∅	1.0m∅	15 Δ	15	3p\$∅	P	Si	200J	R110	A
9▼	2N4258A	700M\$Δ	15n	10n	15n	10n	500m∅	500m∅	1.0m∅	15 Δ	15	3.0p\$∅	P	Si	125J	R124	A
10	2N4313	700M\$Δ	15n	10n	20n	15n	200m	500m∅	30m∅	25 Δ#		4.5p\$	P	Si	125J	R124	A
11▼	2N5910	700M\$Δ	15n∅			20n∅	500m∅	.30 ∅	10m∅	30 #Δ		2.0p\$	P-PE	Si	135J	T0106	A
12	MMT3546	700M\$Δ	15n	10n	20n	15n	225m	1.0 ∅	100m∅	15 #Δ		6.0p∅	PAN	Si	135J	u43	A
13#	JAN2N706	700M\$∇	40n∅		35n	75n∅	300m	1.0 ∅	1.0m∅	20 Δ	50	6.0p∅	N	Si	200S	T018	A∅
14#	25C639	750M\$	12n∅		13n	18n∅	360m	1.0 ∅	10m∅	80		1.5p	N-PE	Si	200J	T018	A∅
15	2N706A	750M	40n∅			75n∅	300m	1.0 ∅	10m	80 †	60	3.5p	N-ME	Si	175J	T018	A∅
16	2N753	750M	40n∅			75n∅	300m	1.0 ∅	10m	80	60	3.5p	N-ME	Si	175J	T018	A∅
17	2N2475	800M\$	7.3n∅			9.0n∅	300m	400m∅	20m	50	20	2.4p	N-PE	Si	200J	R64	A∅
18	2N2369	800MΔ	12n∅	13n\$		18n∅	360m	1.0 ∅	10m∅	80		4.0p∅	N-PE	Si	200J	T018	A∅
19	2N709	800M\$	15n∅			15n∅	300m	500m∅	10m∅	55	100	3.0p∅	N-PL	Si	200J	T018	A∅
20	2N709A	800M\$	15n∅		10n	15n∅	300m	500m∅	10m∅	60	100	3.0p∅	N-PE	Si	200J	T018	A∅
21	2N5057	800M\$Δ	15n	15n	30n	15n	1.2 ∅	.50 ∅	30m∅	100 #∇	13	4.5p\$	P	Si	200J	T018	A∅
22	2N3832	800M\$Δ	20n	15n	10n	20n	200m	.50 ∅	2.0m∅	25 Δ	40		N	Si	200S	T072	G
23#	BSW25	800M\$Δ	20n∅			25n∅	200m	500m∅	30m∅	40 #Δ		4.5p∅	P-DPE	Si	200J	T018	A
24	EN2894A	800M\$Δ	20n∅		25n∅		200m	.50 ∅	30m∅	120 #∇		4.5p∅	P	Si	125J	T0106	A
25	2N2894A	800M\$Δ	60n∅		20n	20n∅	360m	500m∅	30m∅	120 #∇	4.5	4.5p	P	Si	200J	T018	A
26	JAN2N3498	800M\$∇	115n∅			1.1u∅	5.0 ∅	10	100u∅	20 #Δ		10p∅	N	Si	200J	T05	A∅
27	JAN2N3499	800M\$∇	115n∅			1.1u∅	5.0 ∅	10	100u∅	35 #Δ		10p∅	N	Si	200J	T05	A∅
28	JAN2N3500	800M\$∇	115n∅			1.1u∅	5.0 ∅	10	100u∅	20 #Δ		8.0p∅	N	Si	200J	T05	A∅
29	JAN2N3501	800M\$∇	115n∅			1.1u∅	5.0 ∅	10	100u∅	35 #Δ		8.0p∅	N	Si	200J	T05	A∅
30	2N4895	800M\$Δ	140n	60n	600n	350n	4.0 ∅	2.0	2.0m∅	100 Δ	20	80p∅	N	Si	200J	T039	A∅
31#	JAN2N3634	800M\$∇	400n∅			600n∅	5.0 ∅	10	100u∅	25 #Δ		10p∅	P∅	Si	200J	T05	A∅
32#	JAN2N3636	800M\$∇	400n∅			600n∅	5.0 ∅	10	100u∅	25 #Δ		10p∅	P∅	Si	200J	T05	A∅
33#	2N3919	800M\$Δ	500n∅		1u		15m\$∅	2.0	2	40 #Δ		10p∅	N	Si	150J	T03	C∅
34	2N3920	800M\$Δ	500n∅				15m\$∅	2.0	2	100 #Δ			N	Si	150J	T03	C∅
35	2N5490	800M\$Δ	5000n∅			15u∅	50	4.0	4.0	20 #Δ			N	Si	150J	X75	D∅
36	2N5491	800M\$Δ	5000n∅			15u∅	50	4.0	2.0	20 #Δ			N	Si	150J	X75a	T∅
37	2N5492	800M\$Δ	5000n∅			15u∅	50	4.0	2.5	20 #Δ			N	Si	150J	X75	D∅
38	2N5493	800M\$Δ	5000n∅			15u∅	50	4.0	2.5	20 #Δ			N	Si	150J	X75a	T∅
39	2N5494	800M\$Δ	5000n∅			15u∅	50	4.0	3.0	20 #Δ			N	Si	150J	X75	D∅
40	2N5495	800M\$Δ	5000n∅			15u∅	50	4.0	3.0	20 #Δ			N	Si	150J	X75a	T∅
41	2N5496	800M\$Δ	5000n∅			15u∅	50	4.0	3.5	20 #Δ			N	Si	150J	X75	D∅
42	2N5497	800M\$Δ	5000n∅			15u∅	50	4.0	3.5	20 #Δ			N	Si	150J	X75a	T∅
43	2N4209	850M\$Δ	15n	10n	20n	10n	300m	.30 ∅	10m∅	120 ∇	150	3.0p	P	Si	200J	T018	A∅
44#	JAN2N3635	850M\$∇	400n∅			600n∅	5.0 ∅	10	100u∅	25 #Δ		10p∅	P∅	Si	200J	T05	A∅
45#	JAN2N3637	850M\$∇	400n∅			600n∅	5.0 ∅	10	100u∅	55 #Δ		10p∅	P∅	Si	200J	T05	A∅
46	2N4872	900M\$Δ	15n	10n	20n	10n	700m	.30 ∅	10m∅	50 #Δ	130	3.0p∅	P	Si	200J	T018	A∅
47	2N769	900M\$	30n\$			35n	35m	500m∅	20m	55	24	1.5p	P-MD	Ge	100J	T018	A
48	JAN2N3250A	900M\$∇	35n	35n	175n	50n	1.2 ∅	1.0 ∅	10m∅	50 #Δ	25	6.0p∅	P∅	Si	200S	T018	A∅
49	JAN2N3251A	900M\$∇	35n	35n	200n	50n	1.2 ∅	1.0 ∅	10m∅	100 #Δ	25	6.0p∅	P∅	Si	200S	T018	A∅
50	MM1510	1.0G\$Δ	700p†	900p†		900p†	500m	1.0 ∅	1.0m∅	40 Δ	200	1.5p∅	N∅	Si	200J	T072	A∅
51	2N2784	1000M\$	9.0n∅			9.0n∅	300m	500m∅	10m∅	40 Δ	87	3.0p∅	N-PE	Si	200J	T018	A∅
52	2N2784/46	1000M\$	9.0n∅		5.0n	9.0n∅	400m	500m∅	10m∅	40 Δ		3.0p∅	N-PE	Si	200J	T046	A
53	2N709A46	1.0G\$	15n∅			15n∅	400m	500m∅	10m∅	60	100	3.0p∅	NPE	Si	200J	T046	A
54	MPSL07	1.0G\$	20n∅	15n\$		40n∅	310m	1.0 ∅	50m∅	35	15	1.9p	P-AN	Si	135J	T092	A
55	2N797	1000M\$	40n∅			80n∅	150m	500m∅	50m	85	14	4.0p\$∅	N-ME	Ge	100	T018	A∅
56	JAN2N869A	1000M\$∇	50n∅			80n∅	360m	5.0 ∅	10 ∅	120 #∇	15	6.0p∅	P∅	Si	200J	T018	A∅
57	JAN2N4453	1000M\$∇	50n∅			80n∅	300m	5.0 ∅	10 ∅	120 #∇	15	6.0p∅	P∅	Si	200J	T046	A∅
58	JAN2N559	1000M\$∇	95n	50n∅	95n	100n	300m∅	500m∅	10m∅	120 ∇		6.0p∅	P	Ge	150S	T018	A∅
59	MPSL08	1.2G	20n∅	20n\$		40n∅	310m	1.0 ∅	50m∅	35	15	1.9p	P-AN	Si	135J	T092	A
60	2N709/46	1280M	15n∅			15n∅	400m	500m∅	10m∅	55	100	3.0p∅	N-PL	Si	200J	T046	A
61	MM1511	1.3G\$Δ	700p†	900p†		900p†	500m	1.0 ∅	1.0m∅	40 Δ	200	1.5p∅	N∅	Si	200J	T072	G
62	2N3959	1300M\$Δ	2.0n∅			1.6n∅	400m	1.0 ∅	10m∅	40 Δ	200	2.5p	N-A	Si	200J	T018	A
63	2N4251	1300M\$Δ	4.0n	16n		8.0n	1.3 ∅	5.0	1.0m∅	62 Δ		2.0p∅	N	Si	200J	T046	A
64	2N3633	1300M\$Δ	9.0n∅		5.0n	9.0n∅	300m	500m∅	10m∅	150 ∇	70	2.5p∅	N-PE	Si	200J	T018	A∅
65	2N3960	1600M\$Δ	2.0n∅			1.6n∅	400m	1.0 ∅	10m∅	40 Δ	200	2.5p	N-A	Si	200J	T018	A
66	MMT3960A	2.2G\$	750p†			850p†	225m	1.0 ∅	10m∅	200 ∇		1.3p	AN	Si	135J	u43	D
67#	25C989	3000M\$	700p†∅			500p†	150m	1.0 ∅	30m∅	30 #Δ		1.5p∅	N-PE	Si	150J	X79	C∇

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	MATERIAL	DWG. No.	L E O A D E	DESCRIPTION
1	2N5236*	N	N	TO39	A0	Max.Rad.Level-300T NVT,hFE-10 min,VCE(sat)-70 max;all pulsed.
2	2N5271†	1	N	TO39	A0	Pt.-60W;BVCE-280Vmax;ICER-20nAmax;ICER(H)-5mA min.
3#	AS223	1	P-AD	Ge	TO7	IC-100mA max;ICBO-2.0uA;Pc-83mW;VBEBO-2.0V;tr-1.0ns
4	NS1110†	1	N	Si	TO18	ICBO-1.0uA max;Ih-300mA;VH-9.0V;IA-2.0mA;Ip-2.0A;BVCE-110V min.
5	NS1111†	1	N	Si	TO18	ICBO-1.0uA max;Ih-300mA;VH-9.0V;IA-2.0mA;Ip-1.5A;BVCE-60V min.
6#	RT1110	1	N-PL	Si	TO18	AVCE-190V max;ICBO-1.0uA max;tr-1.0ns max;tf-2.5ns max.
7#	RT1111	1	N-PL	Si	TO18	AVCE-120V max;ICBO-1.0uA max;tr-1.0ns max;tf-2.5ns max.
8#	RT1116	1	N-PL	Si	TO18	AVCE-280V max;ICBO-1.0uA max;tr-1.0ns max;tf-2.5ns max.
9	2N592	2	P	Ge	TO5	Pt-125mW;VCBO-20V;ICBO-5.0uA max;hfe-40 typ;Cob-35pf;NF-16db.
10	2N593	2	P	Ge	TO9	Pt-125mW;VCBO-40V;ICBO-5.0uA max;hfe-80 typ;Cob-35pf;NF-16db.
11	2N594	2	N	Ge	TO5	Pc-15W max;BVCE-20V;IC-30A max;f-1.5Mc min.
12	2N595	2	N	Ge	TO5	Pc-15W max;BVCE-20V;IC-30A max;fab-3.0Mc min.
13	2N596	2	N	Ge	TO5	Pc-15W max;BVCE-20V;IC-30A max;fab-5.0Mc min.
14	2N1169	2	N	Ge	TO5	Pc-12W max; BVCE-25V; IC-40A max;tr-350ns;tf-200ns;fab-7.0Mc.
15	2N1170	2	N	Ge	TO5	Pc-12W max; BVCE-40V; IC-40A max;tr-350ns;tf-200ns;fab-7.0Mc.
16	2N1640	2	P-Δ	Si	TO5	Pc-25Wmax;BVCE-30V;IC-50mAmax;fab-40Mc typ.
17	2N1641	2	P-Δ	Si	TO5	Pc-25W max;BVCE-30V;IC-50mA max;fab-80Mc Typ.
18	2N1642	2	P-Δ	Si	TO5	Pc-25W max;BVCE-30V;IC-50mA max;fab-1.2Mc Typ.
19	2N1891*	2	N	Ge	TO5	Pc-150mW;VBEBO-25V max;VCBO-25V max;fab-5.0Mc min.
20	2N1994	2	N-A	Ge	TO5	Pc-15W max;BVCE-30V;IC-30A max;ton-1500ns;toff-1800ns;fab-3Mc
21	2N1995	2	N-A	Ge	TO5	Pc-15W max;BVCE-25V;IC-30A max;ton-1300ns;toff-1800ns;fab-5Mc
22	2N1996	2	N-A	Ge	TO5	Pc-15W max;BVCE-20V;IC-30A max;ton-1100ns;toff-1800ns;fab-8Mc
23	2N2474	2	P-Δ	Si	TO5	Pc-25W max;BVCE-30V;VBEBO-30V;BVCEO-15V;hFE-15;VO-6mV max.
24	2N2968	2	P-PA	Si	TO5	Pd-150mW max;hFE-15 at 100uA;BVCEO-30V; IC-50mA max.
25	2N2969	2	P-PA	Si	TO18	Pd-150mW max;hFE-15 at 100uA;BVCEO-30V; IC-50mA max.
26	2N2970	2	P-PA	Si	TO5	Pd-150mW max;hFE-10 at 100uA;BVCEO-20V; IC-50mA max.
27	2N2971	2	P-PA	Si	TO18	Pd-150mW max;hFE-10 at 100uA;BVCEO-20V; IC-50mA max.
28#	AC130	2	N-A	Ge	TO1	Pc-14W max; BVCE-20V; IC-1A max; fab-2.0Mc.
29	C106*	2	P	Si	TO5	VO-2.0mV max;hFE-30 min at VCE-50V;RCE(SAT)-4.0 ohms max.
30	C201	2	P-Δ	Si	TO5	Pc-25W max;BVCE-40V;IC-50mA max;fab-40Mc.
31	C302	2	P-Δ	Si	TO5	Pc-25W max;BVCE-12V;IC-50mA max;fab-80Mc.
32	C402	2	P-Δ	Si	TO5	Pc-25W max;BVCE-15V;IC-50mA max;fab-80Mc.
33	C502	2	P-Δ	Si	TO5	Pc-25W; BVCE-30V; IC-50mA; BVCEO-10V.
34	C651	3	N-Δ	Si	TO5	Pc-25W max; ICBO-10uA
35	C652	3	N-Δ	Si	TO5	Pc-25W max; ICBO-10uA
36	2N2707	5	P	Ge	TO1	A Matched pair of 2N2430 and 2N2706; hFE1/2-1.1 max.
37	2N3838†	5	Δ	Si	L19c	Pt.-35W;BVCE-60V;hFE-35 min;tr-200Mc min;tr-40ns;tr-90ns.
38	JAN2N3838†	5	P-N0	Si	L19c	Pd 350m both;BVCE 60V;VBEBO 5.0V;BVCEO 40V;ICBO 10n at VCB 50V.
39	2N4079	5	P	Ge	TO1	C0 2N4077/2N4078;hFE1/hFE2-1.25 at VCB-0V; IE-500mA.
40	2N4107	5	P	Ge	TO1	A 2N4105/2N4106;hFE1/hFE2-1.25 at VCB-0V;IE-500mA.
41	2N4136	5	P	Ge	TO1	A Pair of 2N2430 and 2N2431;hFE1/hFE2-1.4 at VCB-0.0V and IE-300mA.
42	2N4854†	5	P	Si	L19b	Pc-300W each;VC1-2-120V max;BVCE-60V max;IC-600mA;BVCEO-40V max.
43	JAN2N4854†	5	P-N0	Si	L19a	Pd 600m both;BVCE 60V;VBEBO 5.0V;BVCEO 40V;ICBO 10n at VCB 50V.
44	2N4855†	5	P	Si	L19b	Pc-30W each;VC1-2-120V max;BVCE-60V max;IC-600mA;BVCEO-40V max.
45	40396	5	N-P	Ge	TO1	A Pt.-30W(each);VCBO-18V max;VBEBO-2.5V max.
46	AC127/AC128	5	P	Ge	TO1	A Matched pair of AC127 and AC128
47	AC127/AC132	5	P	Ge	TO1	A Matched pair of AC127 and AC132
48#	AC127/AC152	5	P	Ge	TO1	A BVCE-32V; IC-500mA; hFE 1/2-1.25
49#	AC187/01/AC188/01	5	A	Ge	X9c	A hFE1/2-89 min; BVCE-25V; IC peak-2A.
50#	AC187/AC188	5	A	Ge	TO1	A hFE1/2-89 min; BVCE-25V; IC peak-2A.
51#	AD161/AD162	5	P	Si	MD6b	BVCE-32V;IC-2.0A;ft-1.0Mc;Pd-3.0W;hFE-40min;hFE1/2-1.25max.
52#	BFX79	5	DPE	Si	L19	BVCE-80V;BVCEO-60V;Pt-600mW;ft-100Mc;hFE-100 at IC-500mA.
53#	BFX80	5	DPL	Si	L19	BVCE-60V;BVCEO-60V;Pt-500mW;ft-40Mc min;hFE-200 at IC-0.1mA.
54#	BFX81	5	DPE	Si	L19	BVCE-60V;BVCEO-20V;Pt-500mW;ft-350Mc min;hFE-30 min at IC-10mA.
55	FP4339/2N4339	5	P-N	Si	ZA25	Vp match-30%;IDSS match-5%;BVSS-40V max;Pc-30W max.
56	FP4340/2N4340	5	P-N	Si	ZA25	Vp match-30%;IDSS match-5%;BVSS-50V max;Pc-30W max.
57	MD985	5	E	Si	L19	VCBO-60V;VCEO-30V;Pc-500mW;ft-200Mc min;hFE-35 min at IC-10mA.
58	MD985F	5	E	Si	X22	VCBO-60V;VCEO-30V;Pc-250mW;ft-200Mc min;hFE-35 min at IC-10mA.
59	MD986	5	E	Si	L19	VCBO-40V;VCEO-15V;Pc-500mW;ft-200Mc min;hFE-25 min at IC-10mA.
60	MD986F	5	E	Si	X22	VCBO-40V;VCEO-15V;Pc-250mW;ft-200Mc min;hFE-25 min at IC-10mA.
61	MD6001†	5	P-N-EA	Si	L66	Pt-600mW(both sides);VCEO-30V;hFE-40 min;120 max at 150mA and 10V.
62	MD6001F†	5	P-N-EA	Si	TO89	Pd(both sides)-350mW;VCEO-30V;hFE-40-120 at 150mA,10V.
63	MD6002†	5	P-N-EA	Si	L66	Pt-600mW(both sides);VCEO-30V;hFE-100 min,120 max at 150mA and 10V.
64	MD6002F†	5	P-N-EA	Si	TO89	Pd(both sides)-350mW;VCEO-30V;hFE-100-300 at 150mA,10V.
65	MD6003	5	P-AN	Si	L2d	Pd 600mW(both sides);BVCE 50V;BVCEO 30V;VBEBO 5.0V;ICBO 100nA;hFE 40 min.
66	MD6003F	5	P-AN	Si	L2f	Pd 350mW(both sides);BVCE 50V;BVCEO 30V;VBEBO 5.0V;ICBO 100nA;hFE 40 min.
67	MD6100	5	P-N-EA	Si	L66	Pt-600mW(both sides);VCEO-45V;hFE-100 at 100uA;5.0V.
68	TD600	5	PLT	Si	L19b	Pt-400mW;hFE1/2-90min;tr 20MHz min;IC-500mA max.
69	TD601	5	PLT	Si	L19b	Pt-400mW;tr-20MHz min;hFE at 10uA-100min;IC-500mA max.
70	TD602	5	PLT	Si	L19b	Pt-400mW;tr-20MHz min;hFE at 1.0mA-50min;IC-500mA max.
71	TD700	5	P-N-PL0†	Si	L19d	Pt 400mW;hFE1/2-90 min;BVCE 40V;BVCEO 30V;hFE 120 min at IC 1.0mA;ft 20M min.
72	TD701	5	P-N-PL†	Si	L19d	Pt 400mW;BVCE 40V;BVCEO 30V;VBEBO 5.0V;hFE 100 min at IC 10uA;ft 20MHz min.
73	TD702	5	P-N-PL†	Si	L19d	Pt 400mW;BVCE 40V;BVCEO 30V;VBEBO 5.0V;hFE 120 min at IC 150mA;ft 20MHz min.
74	TIS60M	5	N-PL	Si	TO92	Consist of TIS61 and TIS61;Available only with matching TIS61M.
75	TIS61M	5	P-PL	Si	TO92	Consist of TIS61 and TIS60;Available only with matching TIS60M.
76	TIS92M	5	N	Si	X55	A Same as TIS92, available only with matching TIS93M
77	TIS93M	5	P	Si	X55	A Same as TIS93, available only with matching TIS92M
78	UD3007†	5	PE	Si	L59	BVCE-60V;BVCEO-40V;VBEBO-5.0V;hFE-100-300 at IC-150mA;ft-200Mc.
79#	2AC132	6	P-A	Ge	TO1	Matched Pair AC132; hFE1/hFE2-1.25 max.
80#	2AC187	6	P-A	Ge	TO1	Pt.-8W;VCBO-25V max;IC-2A pulsed;hFE-100 min;tr-5MHz.
81#	2AC188	6	P-A	Ge	TO1	Matched pair of AC188;hFE1/2-1.25 max at IC-500mA.
82#	2ACY17	6	P-A0	Ge	TO5	hFE 1/2-1.2 max;VBE(1-2)-250mV max.
83#	2ACY18	6	P-A0	Ge	TO5	hFE 1/2-1.2 max;VBE(1-2)-250mV max.
84#	2ACY19	6	P-A0	Ge	TO5	hFE 1/2-1.2 max;VBE(1-2)-250mV max.
85#	2AD139	6	P-A	Ge	MD11	Matched Pair AD139; hFE1/hFE2-1.25 max.
86#	2AD140	6	P-E	Ge	TO3	Matched Pair of AD140; hFE1/hFE2-1.25 to 1.0
87#	2AD149	6	P-A	Ge	TO3	BVCE-50V; hfe-30 min. at 0.0V and 1.0 IC; ICBO-35mA
88#	2AD161	6	P	Ge	TO9	Pt-4W;VCBO-32V;IC-3A pulsed;hFE-80 min;tr-3MHz.
89#	2AD162	6	P	Ge	MD17c	C0 Matched Pair of AD162;hFE1/2-1.1 at VCE-1.0V;IC-50mA.
90#	2AT329	6	N-PL	Si	MM12a	Matched Pair of AT329; hFE/hFE2-75 max.
91#	2AT331	6	P-PL	Si	TO39	Matched Pair of AT331; hFE/hFE2-75 max.
92#	BBC119	6	N-PE	Si	TO39	Matched Pair of BC119;hFE 1/2-80min-1.25max at IC of 300mA.
93#	BBC138	6	N-DPE	Si	TO39	Matched Pair of BC138;hFE 1/2-1.0min-1.25max at IC of 1.0A.
94#	BBC139	6	P-DPE	Si	TO5	Matched Pair of BC139;hFE1/2-1.25 max;Pt-70W each.
95#	BBC142	6	N-PE	Si	TO39	Matched Pair of BC142;hFE 1/2-80min-1.0max at IC of 50mA.
96#	BBC143	6	P-PE	Si	TO39	Matched Pair of BC143;hFE 1/2-80min-1.25max at IC of 500mA.
97#	BBC144	6	N-DPE	Si	TO5	Matched Pair of BC144;hFE1/2-1.25 max;Pt-70W each.
98#	BBC221	6	P-DPE	Si	TO105	Matched Pair of BC221;hFE 1/2-1.0min-1.25max at IC of 200mA.
99#	BBC222	6	N-DPE	Si	TO105	Matched Pair of BC222;hFE 1/2-1.0min-1.25max at IC of 200mA.
100#	BBC286	6	N-DPE	Si	TO5	Matched Pair of BC286;hFE 1/2-80min-1.25max at IC of 500mA.
101#	BBC288	6	N-DPE	Si	TO39	Matched Pair of BC288;hFE 1/2-80min-1.25max at IC of 2.0A.
102#	2BD124	6	N-PE	Si	MD17c	C0 Matched pair of BD124;Ib(1-2) 2.0mA max;BVCEBO 70V.
103#	2BDY20	6	N-D	Si	TO3	C0 Matched pair of BDY20;hFE1/2 1.6 at IC 400mA,VCE 4.0V.
104#	2BDY38	6	N-D	Si	TO3	C0 Matched pair of BDY38;hFE1/2 1.5 at IC 200mA,VCE 4.0V.
105#	2C444*	6	N-DPL	Si	L2b	Pt.-50W;hFE1/2-.70 min;VBE(1-2)-20mV max;tr-200Mc min.
106#	2N2X	6	N-PL	Si	TO5	VCBO-60V; ICBO-0.1uA; Matched pair for hFE1/hFE2-9 min, 1.1 max
107	2N282	6	P	Ge	R8	Matched Pair of 2N281
108	2N2060*	6	N-0	Si	L2t	Pt.-8W;hFE1/2-90 min;VBE(1-2)-5mV max;ΔVBE(1-2)ΔT-10uV/deg.C.
109	JAN2N2060*	6	N	Si	L2b	Pt-600mW both;VBE(1-2)-0.05V;hFE1/2-90 min;ΔVBE(1-2)-80mV.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	LEAD CODE	DESCRIPTION
1	2N2060A*	6N	N	Si	L2t		Pt-600mW both;VBE(1-2)-3.0mV max;hFE1/2-90 min.
2	2N2060B*	6N	N	Si	L2t		Pt-600mW;BVCO-100V;hFE1/2-85 min;VBE(1-2)-1.5mV;hFE-120 max.
3	2N2223*	6N	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-15mV max; Δ VBE(1-2)/ Δ T-25uV/deg.C.
4	2N2223A*	6N	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-25uV/deg.C.
5	2N2281	6N	P-E	Si	TO18	A	Matched pair of 2N2280; Δ VBE-100uV max.
6	2N2414	6N	N	Si	L2t		Pc-50W max;IT-50Mc min;BVCO-75V;Ic-5A max;hFE-50 min/Ic-10ma
7#	2N2431MP	6N	P-A	Ge	TO1		Matched Pair 2N2431;3.0W out Class B;hFE1/hFE2-1.25 max.
8	2N2453*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE1-2-5.0mV max; Δ VBE(1-2)/ Δ T-10uV/Deg.C
9	2N2453A*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-5.0mV max.
10	2N2480*	6N	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-10mV max; Δ VBE(1-2)/ Δ T-15uV/deg.C.
11	2N2480A*	6N	N	Si	L2t		Pt-600mW;hFE1/2-80 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-15uV/deg.C.
12	2N2639*	6N	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-5mV; Δ rBE1-2/ Δ T-10uV/deg.C.
13	JAN2N2639*	6N	N	Si	L2b		Pt-600mW both;hFE1/2-90 min;VBE(1-2)-5.0mV max; Δ VBE(1-2)/ Δ T-10uA/°C.
14	2N2640*	6N	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-10mV; Δ rBE1-2/ Δ T-20uV/deg.C.
15	2N2642*	6N	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-5mV; Δ rBE1-2/ Δ T-10uV/deg.C.
16	JAN2N2642*	6N	N	Si	L2b		Pt-600mW both;hFE1/2-90 min;VBE(1-2)-5.0mV max; Δ VBE(1-2)/ Δ T-10uA/°C.
17	2N2643*	6N	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-10mV; Δ rBE1-2/ Δ T-20uV/deg.C.
18	2N2652*	6N	N	Si	L2t		Pt-6W;hFE1/2-85 min;VBE(1-2)-3mV; Δ VBE1-2/ Δ T-10uV/deg.C.
19	2N2652A*	6N	N	Si	L2t		Pd-600mW both;hFE1/2-90 min;VBE(1-2)-3mV; Δ VBE1-2/ Δ T-10uV/deg.C.
20	2N2706MP	6P	N	Ge	TO1		Matched Pair of 2N2706 for hFE1/2.
21	2N2720*	6N	N	Si	L2t		Pt-600mW;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE1-2/ Δ T-1mV.
22	2N2721*	6N	N	Si	L2t		Pt-600mW;hFE1/2-80 min;VBE(1-2)-10mV max; Δ VBE1-2/ Δ T-2mV.
23	2N2722*	6N	N	Si	L2t		Pt-600mW;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE1-2/ Δ T-1mV.
24	2N2802*	6P	P	Si	L17k		Pt-50W;hFE1/2-90 min;VBE(1-2)-5.0mV max; Δ VBE(1-2)/ Δ T-10uV/Deg.C.
25	2N2803*	6P	P	Si	L17k		Pt-50W;hFE1/2-80 min;VBE(1-2)-10mV max; Δ VBE(1-2)/ Δ T-20uV/Deg.C.
26	2N2805*	6P	P	Si	L17k		Pt-50W;hFE1/2-90 min;VBE(1-2)-5.0mV max; Δ VBE(1-2)/ Δ T-10uV/Deg.C.
27	2N2806*	6P	P	Si	L17k		Pt-50W;hFE1/2-80 min;VBE(1-2)-10mV max; Δ VBE(1-2)/ Δ T-20uV/Deg.C.
28	2N2903*	6N	N	Si	L2t		Pt-30W;hFE1/2-80 min;VBE1-2-1.0mV max; Δ VBE(1-2)/ Δ T-20uV/Deg.C
29	2N2903A*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-5.0mV max.
30	2N2910*	6N	N	Si	L2b		Pt-600mW both;hFE1/2-80 min;VBE(1-2)-10mV; Δ VBE(1-2)/ Δ T-20uV/deg.C
31	2N2915*	6N	N	Si	L2t		Pt-50W;hFE1/2-90 min;VBE(1-2)-5.0mV max;VCE(sat)-35 ohms.
32	2N2915A*	6N	N	Si	L2t		hFE1/2-85 min;VBE(1-2)-2.0mV max;Pt-5W; Δ VBE(1-2)/ Δ T-5uV/deg.C.
33	2N2916*	6N	N	Si	L2t		Pt-50W;hFE1/2-90 min;VBE1-2-5.0mV; Δ VBE(1-2)-80mV.
34	2N2916A*	6N	N	Si	L2t		hFE1/2-85 min;VBE(1-2)-2.0mV max;Pt-5W; Δ VBE(1-2)/ Δ T-5uV/deg.C.
35	2N2917*	6N	N	Si	L2t		Pt-50W;hFE1/2-80 min;VBE1-2-10mV; Δ VBE(1-2)-1.6mV.
36	2N2918*	6N	N	Si	L2t		Pt-50W;hFE1/2-80 min;VBE1-2-10mV; Δ VBE(1-2)-1.6mV.
37	2N2919*	6N	N	Si	L2t		Pt-50W;hFE1/2-90 min;VBE1-2-5.0mV; Δ VBE(1-2)-80mV.
38	JAN2N2919*	6N	N	Si	L2v		Pt-50W both;hFE1/2-1.1max; Δ VBE1-2-800uVmax;IEBO-2.0nA max.
39	2N2919A*	6N	N	Si	L2t		hFE1/2-85 min;VBE(1-2)-2.0mV max;Pt-5W; Δ VBE(1-2)/ Δ T-5uV/deg.C.
40	2N2920*	6N	N	Si	L2t		Pt-50W;hFE1/2-90 min;VBE1-2-5.0mV; Δ VBE(1-2)-80mV.
41	JAN2N2920*	6N	N	Si	L2v		Pt-50W both;hFE1/2-1.1max; Δ VBE1-2-800uVmax;IEBO-2.0nA max.
42	2N2920A*	6N	N	Si	L2t		hFE1/2-85 min;VBE(1-2)-2.0mV max;Pt-5W; Δ VBE(1-2)/ Δ T-5uV/deg.C.
43	2N2936	6N	N	Si	L2b		VCBO-60V max.each;VCEO-55V max.each;VEBO-5.0V max.each;Pc-6W
44	2N2937	6N	N	Si	L2b		VCBO-60V max.each;VCEO-55V max.each;VEBO-5.0V max.each;Pc-6W
45	2N2974*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-80mV.
46	2N2975*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-10mV max; Δ VBE(1-2)/ Δ T-80mV.
47	2N2976*	6N	N	Si	L2t		Pt-30W;hFE1/2-80 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-1.6mV.
48	2N2977*	6N	N	Si	L2t		Pt-30W;hFE1/2-80min;VBE(1-2)-10mV max; Δ VBE(1-2)/ Δ T-1.6mV.
49	2N2978*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-80mV.
50	2N2979*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-80mV.
51	2N2980*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-3mV max; Δ VBE(1-2)/ Δ T-10uV/deg.C.
52	2N2981*	6N	N	Si	L2t		Pt-30W;hFE1/2-80 min;VBE(1-2)-0.15V max; Δ VBE(1-2)/ Δ T-25uV/deg.C.
53	2N2982*	6N	N	Si	L2t		Pt-30W;hFE1/2-90 min;VBE(1-2)-0.05V max; Δ VBE(1-2)/ Δ T-15uV/deg.C.
54	2N3043	6N	P-E	Si	L2f		Miniature dual 2N930;hFE 100-300 at 10uA;10% match;NF-5.0db max.
55	2N3044	6N	P-PL	Si	L2f		Miniature dual 2N930;hFE 100-300 at 10uA;20% match;NF-5.0db max.
56	2N3045	6N	P-PL	Si	L2f		Miniature dual 2N930;hFE 100-300 at 10uA;NF-5.0db max.
57	2N3046	6N	P-PL	Si	L2f		Miniature dual 2N929;hFE 50-200 at 10uA;10% match;NF-5.0db max.
58	2N3047	6N	P-PL	Si	L2f		Miniature dual 2N929;hFE 50-200 at 10uA;20% match;NF-5.0db max.
59	2N3048	6N	P-PL	Si	L2f		Miniature dual 2N929;hFE 50-200 at 10uA;NF-5.0db max.
60	2N3049	6N	P-PL	Si	L2f		Miniature dual 2N2412; 10% hFE match; NF-6.0db max.
61	2N3050	6P	P-E	Si	L2f		Miniature dual 2N2412; 20% hFE match; NF-6.0db max.
62	2N3051	6P	P-E	Si	L2f		Miniature dual 2N2412;td-15nsec;tr-20nsec;ts-120nsec;tf-30nsec.
63	2N3052	6N	P-E	Si	L2f		Miniature dual 2N706-2N914 type;ton-62nsec max;toff-55nsec max.
64	2N3333*	6P	P	Si	L21c		Pt-40mW;ID(on)1/2-95 min;VGS1/2-95 min;VGS(1-2)-15mV.
65	2N3334*	6P	P	Si	L21c		Pt-40mW;ID(on)1/2-95 min;VGS1/2-95 min;VGS(1-2)-20mV.
66	2N3335*	6P	P	Si	L21c		Pt-40mW;ID(on)1/2-90 min;VGS1/2-90 min;VGS(1-2)-40mV.
67	2N3336*	6P	P	Si	L21c		Pt-40mW;ID(on)1/2-80 min;VGS1/2-80 min;VGS(1-2)-80mV.
68	2N3347*	6P	P	Si	L17k		Pt-6W;hFE1/2-90 min;R(sat)-50ohms.
69	2N3348*	6P	P	Si	L17k		Pt-6W;hFE1/2-80 min;R(sat)-50ohms.
70	2N3349*	6P	P	Si	L17k		Pt-6W;hFE1/2-60 min;R(sat)-50ohms.
71	2N3350*	6P	P	Si	L17k		Pt-6W;hFE1/2-90 min;R(sat)-50ohms.
72	2N3351*	6P	P	Si	L17k		Pt-6W;hFE1/2-80 min;R(sat)-50ohms.
73	2N3352*	6P	P	Si	L17k		Pt-6W;hFE1/2-60 min;R(sat)-50ohms.
74	2N3409*	6N	N	Si	L2y		Pt-600mW both;hFE1/2-80 min;VBE(1-2)-10mV;VC1C2-100V.
75	2N3410*	6N	N	Si	L2y		Pt-600mW both;hFE1/2-90 min;VBE(1-2)-10mV;VC1C2-100V.
76	2N3411*	6N	N	Si	L2y		Pt-600mW both;hFE1/2-90 min;VBE(1-2)-5.0mV;VC1C2-100V.
77	2N3423*	6N	N	Si	L2t		Pt-45W;hFE1/2-80 min;VBE(1-2)-10mV; Δ VBE(1-2)/ Δ T-4uV/deg.C.
78	2N3424*	6N	N	Si	L2t		Pt-45W;hFE1/2-90 min;VBE(1-2)-5mV; Δ VBE(1-2)/ Δ T-2uV/deg.C.
79	2N3513	6N	N	Si	L22		Pt-75W both sides;VCBO-80V max;VCEO-40V max;VEBO-5.0V max.
80	2N3515	6N	N	Si	X27		Pt-1.4W both sides;VCBO-80V max;VCEO-40V max;VEBO-5.0V max.
81	2N3516	6N	N	Si	L22		Pt-75W both sides;VCBO-100V max;VCEO-60V max;VEBO-7.0V max.
82	2N3518	6N	N	Si	X27		Pt-1.4W both sides;VCBO-100V max;VCEO-60V max;VEBO-7.0V max.
83	2N3520	6N	N	Si	X27		Pt-1.4W both sides;VCBO-60V max;VCEO-30V max;VEBO-7.0V max.
84	2N3521	6N	N	Si	L23		Pt-1.5W both sides;VCBO-70V max;VCEO-55V max;VEBO-7.0V max.
85	2N3522	6N	N	Si	L22		Pt-75W both sides;VCBO-70V max;VCEO-55V max;VEBO-7.0V max.
86	2N3524	6N	N	Si	X27		Pt-1.4W both sides;VCBO-70V max;VCEO-55V max;VEBO-7.0V max.
87	2N3587*	6N	N	Si	L2t		Pt-600mW;VBE 1-2-20mV max; Δ VBE(1-2)/ Δ T-1.2mV max;VC1C2-50V.
88	2N3680*	6N	N	Si	L2t		Pt-600mW;hFE1/2-85 min;VBE(1-2)-3mV max; Δ VBE1-2/ Δ T-400uV.
89	2N3728*	6N	N	Si	L2t		Pt-55W;hFE1/2-80 min;VBE(1-2)-5mV max; Δ VBE(1-2)/ Δ T-20uV/deg.C.
90	2N3729*	6N	N	Si	L2t		Pt-55W;hFE1/2-90 min;VBE(1-2)-3mV max; Δ VBE(1-2)/ Δ T-10uV/deg.C.
91	2N3802*	6P	P	Si	L17e		Pt-360mW;hFE1/2-80 min;VBE1-2-8.0mV max.
92	2N3803*	6P	P	Si	L17e		Pt-360mW;hFE1/2-80 min;VBE1-2-8.0mV max.
93	2N3804*	6P	P	Si	L17e		Pt-360mW;hFE1/2-90 min;VBE1-2-8.0mV max.
94	2N3804A*	6P	P	Si	L17e		Pt-36W;hFE1/2-95 min;VBE1/2-5mV max; Δ VBE(1-2)/ Δ T-50mV/deg.C.
95	2N3805*	6P	P	Si	L17e		Pt-360mW;hFE1/2-90 min;VBE1-2-8.0mV max.
96	2N3805A*	6P	P	Si	L17e		Pt-36W;hFE1/2-95 min;VBE1/2-5mV max; Δ VBE(1-2)/ Δ T-50mV/deg.C.
97	2N3808*	6P	P	Si	L17k		Pt-600mW;hFE1/2-80 min;VBE1-2-8.0mV max.
98	2N3809*	6P	P	Si	L17k		Pt-600mW;hFE1/2-80 min;VBE1-2-8.0mV max.
99	2N3810*	6P	P	Si	L17k		Pt-600mW;hFE1/2-90 min;VBE1-2-5.0mV max.
100	JAN2N3810	6P	P	Si	L17h		Pt(both sides)-60W;hFE1/2-90to 1.0;VBE(1-2)-.005max;BVCO-60V
101	2N3810A*	6P	P	Si	L17h		Pt-6W;hFE1/2-95 min;VBE1/2-5mV max; Δ VBE(1-2)/ Δ T-50mV/deg.C.
102	2N3811*	6P	P	Si	L17k		Pt-600mW;hFE1/2-90 min;VBE1-2-5.0mV max.
103	JAN2N3811	6P	P	Si	L17h		Pt(both sides)-60W;hFE1/2-90to 1.0;VBE(1-2)-.005max;BVCO-60V
104	2N3811A*	6P	P	Si	L17h		Pt-6W;hFE1/2-95 min;VBE1/2-5mV max; Δ VBE(1-2)/ Δ T-50mV/deg.C.
105	2N3814*	6P	P	Si	L17s		Pt-35W;VBE(1-2)-8.0mV max;hFE1/2-1.0 max. at IC-1mA;VCE-5V.
106	2N3815*	6P	P	Si	L17s		Pt-35W;VBE(1-2)-8.0mV max;hFE1/2-1.0 max. at IC-1mA;VCE-5V.
107	2N3816*	6P	P	Si	L17s		Pt-35W;VBE(1-2)-5.0mV max;hFE1/2-1.0 max. at IC-1mA;VCE-5V.
108	2N3816A*	6P	P	Si	L17s		Pt-35W;hFE1/2-95 min;VBE1/2-5mV max; Δ VBE(1-2)/ Δ T-50mV/deg.C.
109	2N3817*	6P	P	Si	L17s		Pt-35W;VBE(1-2)-5.0mV max;hFE1/2-1.0 max. at IC-1mA;VCE-5V.
110	2N3817A*	6P	P				

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	LEADS	DESCRIPTION
1	2N3907*	6	N	Si	L2t		Pt. 6W;hFE1/2-90 min;VBE(1-2)-2.5mV max;ΔVBE(1-2)/ΔT-5uV/deg.C
2	2N3908*	6	N	Si	L2t		Pt. 6W;hFE1/2-90 min;VBE(1-2)-2.5mV max;ΔVBE(1-2)/ΔT-5uV/deg.C
3	2N3921*	6	N	Si	L2t		Pt-300mW;gm 1/2-95min;VGS(1-2)-5.0mV max;ΔVGS(1-2)/ΔT-10uV/°C
4	2N3922*	6	N	Si	L2t		Pt-300mW;gm 1/2-95min;VGS(1-2)-5.0mV max;ΔVGS(1-2)/ΔT-25uV/°C
5	2N3934*	6	N	Si	L2t		Pt-300mW;gm 1/2-95min;VGS(1-2)-5.0mV max;ΔVGS(1-2)/ΔT-10uV/°C
6	2N3935*	6	N	Si	L2t		Pt-300mW;gm 1/2-95min;VGS(1-2)-5.0mV max;ΔVGS(1-2)/ΔT-25uV/°C
7	2N3954	6	N	Si	L61a		Pt. 50W;IDSS 1/2-95 min;VGS(1-2)-5mV max;Yfs 1/2-97 min.
8	2N3954A*	6	N*	Si	L61a		Pt. 50W;IDSS 1/2-95min;VGS(1-2)-5mV;ΔVGS(1-2)/ΔT-5mV.
9	2N3955	6	N	Si	L61a		Pt. 50W;IDSS 1/2-95 min;VGS(1-2)-10mV max;Yfs 1/2-95 min.
10	2N3955A*	6	N	Si	L61a		Pt. 50W;IDSS 1/2-95 min;VGS(1-2)-5mV;ΔVGS(1-2)/ΔT-1.5mV.
11	2N3956	6	N	Si	L61a		Pt. 50W;IDSS 1/2-95 min;VGS(1-2)-15mV max;Yfs 1/2-95 min.
12	2N3957	6	N	Si	L61a		Pt. 50W;IDSS 1/2-90 min;VGS(1-2)-20mV max;Yfs 1/2-90 min.
13	2N3958	6	N	Si	L61a		Pt. 50W;IDSS 1/2-85 min;VGS(1-2)-25mV max;Yfs 1/2-85 min.
14	2N4009	6	P	Ge	TO46	A0	Matched Pair 2N4008;Voff.02mV;ARS(ON)-5.0 ohms;ΔVCB-100mV max.
15	2N4010	6	P	Ge	TO46	A0	Matched Pair 2N4007;Voff.02mV;ARS(ON)-5.0 ohms;ΔVCB-100mV max.
16	2N4011	6	P	Ge	TO46	A0	Matched Pair 2N4008;Voff.02mV;ARS(ON)-5.0 ohms;ΔVCB-100mV max.
17	2N4015*	6	P	Ge	L17k		BVCBO 60V;IC 300mA max;Pt. 50W;VBE(1-2)-5.0mV;hFE1/2-90 min.
18	2N4016*	6	P	Ge	L17k		BVCBO 60V;IC 300mA max;Pt. 50W;VBE(1-2)-2.5mV;hFE1/2-90 min.
19	2N4020*	6	P	Ge	L17k		BVCBO 45V;IC 200mA max;Pt. 60W;VBE(1-2)-5.0mV;hFE1/2-80 min.
20	2N4021*	6	P	Ge	L17k		BVCBO 60V;IC 200mA max;Pt. 60W;VBE(1-2)-5.0mV;hFE1/2-80 min.
21	2N4022*	6	P	Ge	L17k		BVCBO 80V;IC 200mA max;Pt. 60W;VBE(1-2)-5.0mV;hFE1/2-80 min.
22	2N4023*	6	P	Ge	L17k		BVCBO 45V;IC 200mA max;Pt. 60W;VBE(1-2)-3.0mV;hFE1/2-90 min.
23	2N4024*	6	P	Ge	L17k		BVCBO 60V;IC 200mA max;Pt. 60W;VBE(1-2)-3.0mV;hFE1/2-90 min.
24	2N4025*	6	P	Ge	L17k		BVCBO 80V;IC 200mA max;Pt. 60W;VBE(1-2)-3.0mV;hFE1/2-90 min.
25	2N4044	6	N	Si	L2m		BVCBO 60V;IC 10mA;Pt. 75W;VBE(1-2)-3.0mV;hFE1/2-90 min.
26	2N4045	6	N	Si	L2m		BVCBO 45V;IC 50mA;Pt. 75W;VBE(1-2)-5.0mV;hFE1/2-80 min.
27	2N4082	6	N	Si	L2t		VGS(off)at ID-50mA-3.0V;Yfs-300umhos min;Yfs 1/2-95 min;BVDS-50V
28	2N4083	6	N	Si	L2t		VGS(off)at ID-1.0mA-3.0V;Yfs-1500umhos min;Yfs 1/2-95 min;BVDS-50V
29	2N4084	6	N	Si	L2t		VGS(off)at ID-1.0mA-3.0V;Yfs-1500umhos min;Yfs 1/2-95 min;BVDS-50V
30	2N4085	6	N	Si	L2t		VGS(off)at ID-1.0mA-3.0V;Yfs-1500umhos min;Yfs 1/2-95 min;BVDS-50V
31	2N4100*	6	N	Si	L2m		VBE1-VBE2 - 5.0mV max;IB1-IB2-10mA max;Δ(IB1-IB2)-70nA/deg.C max.
32	2N4241MP	6	P	Ge	TO1		Matched Pair of 2N4241 for hFE1/2.
33	2N4878*	6	N	Si	L2p		Pt. 5W;hFE1/2-85 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-3uV/deg.C
34	2N4879*	6	N	Si	L2p		Pt. 5W;hFE1/2-85 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-5uV/deg.C
35	2N4880*	6	N	Si	L2p		Pt. 5W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-10uV/deg.C
36	2N4937*	6	N	Si	L17k		Pt. 6W;VBE(1-2)-3.0mV max;ΔVBE(1-2)/ΔT-1.0mV/deg.C;hFE1/2-95 min.
37	2N4938*	6	N	Si	L17k		Pt. 30W;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-2mV/deg.C;hFE1/2-70 min.
38	2N4940*	6	N	Si	L17d		Pt. 35W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-2.0mV max.
39	2N4941*	6	N	Si	L17d		Pt. 35W;hFE1/2-90 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-1.0mV max.
40	2N5045*	6	N	Si	L2t		Pt-400mW;VGS(1-2)-5.0mV;Yfs 1/2-95 min;IGSS1-2-10nA max.
41	2N5046*	6	N	Si	L2t		Pt-400mW;VGS(1-2)-10mV;Yfs 1/2-90 min;IGSS1-2-10nA max.
42	2N5047*	6	N	Si	L2t		Pt-400mW;VGS(1-2)-15mV;Yfs 1/2-80 min;IGSS1-2-10nA max.
43	2N5117*	6	P	Ge	L17c		Pt. 75W;VBE(1-2)-3mV;ΔVBE(1-2)-3uV/deg.C;hFE1/2-90 min.
44	2N5118*	6	P	Ge	L17c		Pt. 75W;VBE(1-2)-5mV;ΔVBE(1-2)-5uV/deg.C;hFE1/2-85 min.
45	2N5119*	6	P	Ge	L17c		Pt. 75W;VBE(1-2)-5mV;ΔVBE(1-2)-10uV/deg.C;hFE1/2-80 min.
46	2N5120*	6	P	Ge	L17c		Pt-500mW;VBE(1-2)-3mV;ΔVBE(1-2)-3uV/°C;hFE1/2-90min.
47	2N5121*	6	P	Ge	L17c		Pt-500mW;VBE(1-2)-5mV;ΔVBE(1-2)-5uV/°C;hFE1/2-85min.
48	2N5122*	6	P	Ge	L17c		Pt-500mW;VBE(1-2)-5mV;ΔVBE(1-2)-10uV/°C;hFE1/2-80min.
49	2N5123*	6	P	Ge	L17w		Pt-750mW;VBE(1-2)-3mV;ΔVBE(1-2)-3uV/°C;hFE1/2-90min.
50	2N5124*	6	P	Ge	L17w		Pt-750mW;VBE(1-2)-5mV;ΔVBE(1-2)-5uV/°C;hFE1/2-85min.
51	2N5125*	6	P	Ge	L17w		Pt-750mW;VBE(1-2)-5mV;ΔVBE(1-2)-10uV/°C;hFE1/2-80min.
52	2N5166*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min.
53	2N5197*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min.
54	2N5198*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 10mV max;Yfs 1/2-95 min.
55	2N5199*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 15mV max;Yfs 1/2-95 min.
56	2N5255*	6	P	Ge	L17t		Pt-43W;hFE1/2-80 min;VBE(1-2)-5.0mV max;ΔVBE(1-2)/ΔT-20uV/deg.C
57	2N5256*	6	P	Ge	L17t		Pt-43W;hFE1/2-90 min;VBE(1-2)-3.0mV max;ΔVBE(1-2)/ΔT-10uV/deg.C
58	2N5452*	6	N	Si	L58		Pt-50W;VGS(1-2)-5mV;ΔVGS(1-2)-5uV/deg.C;Yfs 1/2-97 min.
59	2N5453*	6	N	Si	L58		Pt-50W;VGS(1-2)-10mV;ΔVGS(1-2)-10uV/deg.C;Yfs 1/2-97 min.
60	2N5454*	6	N	Si	L58		Pt-50W;VGS(1-2)-15mV;ΔVGS(1-2)-25uV/deg.C;Yfs 1/2-95 min.
61	2N5505*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.5umhos;VGS(1-2)-5mV;VGS(1-2)/TA-8mV.
62	2N5506*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.5umhos;VGS(1-2)-15mV;VGS(1-2)/TA-8mV.
63	2N5507*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.5umhos;VGS(1-2)-5mV;VGS(1-2)/TA-1.9mV.
64	2N5508*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.5umhos;VGS(1-2)-15mV;VGS(1-2)/TA-1.9mV.
65	2N5509*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.5umhos;VGS(1-2)-25mV;VGS(1-2)/TA-3.8mV.
66	2N5510*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.0umhos;VGS(1-2)-5mV;VGS(1-2)/TA-8mV.
67	2N5511*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.0umhos;VGS(1-2)-15mV;VGS(1-2)/TA-8mV.
68	2N5512*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.0umhos;VGS(1-2)-5mV;VGS(1-2)/TA-1.9mV.
69	2N5513*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.0umhos;VGS(1-2)-15mV;VGS(1-2)/TA-1.9mV.
70	2N5514*	6	P	Ge	L2t		Pt-3W;IG(1-2)-50pA;Yos(1-2)-1.0umhos;VGS(1-2)-25mV;VGS(1-2)/TA-3.8mV.
71	2N5515*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min;CMRR 100dB min.
72	2N5516*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min;CMRR 100dB min.
73	2N5517*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 10mV max;Yfs 1/2-95 min;CMRR 90dB min.
74	2N5518*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 15mV max;Yfs 1/2-95 min;Yos(1-2) 100nmho.max.
75	2N5519*	6	N	Si	L61		Pt 375mW;IDSS 1/2-90 min;VGS(1-2) 15mV max;Yfs 1/2-90 min;Yos(1-2) 100nmho.max.
76	2N5520*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min;CMRR 100dB min.
77	2N5521*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 5.0mV max;Yfs 1/2-97 min;CMRR 100dB min.
78	2N5522*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 10mV max;Yfs 1/2-95 max;CMRR 90dB min.
79	2N5523*	6	N	Si	L61		Pt 375mW;IDSS 1/2-95 min;VGS(1-2) 15mV max;Yfs 1/2-95 max;Yos(1-2) 100nmho.max.
80	2N5524*	6	N	Si	L61		Pt 375mW;IDSS 1/2-90 min;VGS(1-2) 15mV max;Yfs 1/2-90 max;Yos(1-2) 100nmho.max.
81	2N5545*	6	N	Si	L61a		Pt-40W;IDSS 1/2-95 min;ΔVGS(1-2)/ΔT-8mV;Yos(1-2)-1.0umho.
82	JAN2N5545*	6	N	Si	L2t		Pt 400m both Yfs 1/2-970 min;VGS(1-2) 5.0mV max;ΔVGS(1-2)/ΔT 1.0mV max.
83	2N5546*	6	N*	Si	L61a		Pt-40W;IDSS 1/2-90 min;ΔVGS(1-2)/ΔT-1.6mV;Yos(1-2)-2.0umho.
84	JAN2N5546*	6	N	Si	L2t		Pt 400m both Yfs 1/2-950 min;VGS(1-2) 10mV max;ΔVGS(1-2)/ΔT 2.0mV max.
85	2N5547*	6	N*	Si	L61a		Pt-40W;IDSS 1/2-90 min;ΔVGS(1-2)/ΔT-3.2mV;Yos(1-2)-3.0umho.
86	JAN2N5547*	6	N	Si	L2t		Pt 400m both Yfs 1/2-900 min;VGS(1-2) 15mV max;ΔVGS(1-2)/ΔT 4.0mV max.
87	2N5561*	6	N	Si	L61a		Pt-500mW;IDSS 1/2-95min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-500uV max;Yfs 1/2-97min.
88	2N5562*	6	N	Si	L61a		Pt-500mW;IDSS 1/2-95min;VGS(1-2)-10mV max;ΔVGS(1-2)/ΔT-800uV max;Yfs 1/2-97min.
89	2N5563*	6	N	Si	L61a		Pt-50mW;IDSS 1/2-95min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-2.0mV max;Yfs 1/2-95min.
90	2N5564*	6	N	Si	L61a		Pt-650mW;IDSS 1/2-95min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-800uV max;Yfs 1/2-95min.
91	2N5565*	6	N	Si	L61a		Pt-650mW;IDSS 1/2-95min;VGS(1-2)-10mV max;ΔVGS(1-2)/ΔT-2.0mV max;Yfs 1/2-90min.
92	2N5566*	6	N	Si	L61a		Pt-650mW;IDSS 1/2-95min;VGS(1-2)-20mV max;ΔVGS(1-2)/ΔT-4.0mV max;Yfs 1/2-90min.
93	2N5843*	6	P	Ge	L2g		Pt 600mW;hFE1/2-95 min;VBE(1-2)-2.0mV max;ΔVBE(1-2)/ΔT 8.0uV/°C max.
94	2N5844*	6	P	Ge	L2g		Pt 600mW;hFE1/2-95 min;VBE(1-2)-2.0mV max;ΔVBE(1-2)/ΔT 8.0uV/°C max.
95	2N5902*	6	N	Si	L54b		Pt 500mW;IG(1-2) 2.0nA max;IDSS 1/2-95 min;VGS(1-2) 5.0mV max.
96	2N5903*	6	N	Si	L54b		Pt 500mW;IG(1-2) 2.0nA max;IDSS 1/2-95 min;VGS(1-2) 5.0mV;Yfs 1/2-97 min.
97	2N5904*	6	N	Si	L54b		Pt 500mW;IG(1-2) 2.0nA max;IDSS 1/2-95 min;VGS(1-2) 10mV;Yfs 1/2-95 min.
98	2N5905*	6	N	Si	L54b		Pt 500mW;IG(1-2) 2.0nA max;IDSS 1/2-95 min;VGS(1-2) 15mV;Yfs 1/2-95 min.
99	2N5906*	6	N	Si	L54b		Pt 500mW;IG(1-2) 200pA max at 125°C;IDSS 1/2-95 min;VGS(1-2) 5.0mV;Yfs 1/2-97 min.
100	2N5907*	6	N	Si	L54b		Pt 500mW;IG(1-2) at 125°C 200pA max;VGS(1-2) 5.0mV;Yfs 1/2-97 min.
101	2N5908*	6	N	Si	L54b		Pt 500mW;IG(1-2) at 125°C 200pA max;IDSS 1/2-95 min;VGS(1-2) 10mV;Yfs 1/2-95 min.
102	2N5909*	6	N	Si	L54b		Pt 500mW;IG(1-2) at 125°C 200pA max;IDSS 1/2-95 min;VGS(1-2) 15mV;Yfs 1/2-95 min.
103	2N5911*	6	N	Si	TO78		Pt 500mW;IG(1-2) 20nA max;IDSS(1-2)-95 min;VGS(1-2) 10mV max.
104	2N5912*	6	N	Si	TO78		Pt 500mW;IG(1-2) 20nA max;IDSS(1-2)-95 min;VGS(1-2) 15mV max.
105	2OC6	6	P-A	Ge	TO3		Matched Pair of OC20; hFE1/hFE2-1.2 to 1.0
106	2OC28	6	P-A	Ge	TO3		Matched Pair of OC28;hFE 1/2-1.2
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13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	CODE	DESCRIPTION
1#	20C83	6	P-A	Ge	R8		Matched Pair of OC83
2#	20C84	6	P-A	Ge	R8		Matched pair of OC84;hFE1/2-83 min.
3#	2X2N3055†	6	N-D	Si	TO3	∅	Pt 117W;hFE1/2 1.6 at VCE 4.0V;IC 400mA;ft 1.0MHz.
4	3N151*	6	P-MOS	Si	L53		Pt-325mW;ID1/2-90min;VGS(1-2)-250mV;VFS1/2-80min;VOS1/2-10umhos
5	3N165*	6	P-A	Si	L18c		Pt-525mW;VFS1/2-90min;VGS(th)(1-2)-100mV;max;tr-30nS;ton-15nS;toff-50nS
6	3N188*	6	PMOSΔ	Si	L58b		Pt 525mW;VFS1/2 85 min;VGS(th)1-2 100mV;tr 30nS;tr 30nS;toff 50nS;td 15nS.
7	3N190*	6	PMOSΔ	Si	L58b		Pt 525mW;VFS1/2 85 min;VGS(th)1-2 100mV;tr 30nS;tr 30nS;td 15nS;toff 50nS.
8	12A104	6	N-PL	Si	L2		Pt-250mW;Vce;ICBO-2.0nA max;hFE-25min;VBE1/2-5.0mV max;f-60Mc min.
9	12A108	6	N-PL	Si	TO18		PT-75W both sides;VCBO-50V min;hFE match-40%;VBE match-15mV.
10	12X084B	6	N	Si	X14		VCEO-15V max;hFE-30 min at 10mA;ICBO-200mA max at 20V;Cob-6pf max
11	12X165	6	N-PL	Si	L2		PA-300mW;VCE0-55V; hFE-100 min; hFE1/hFE2-80 to 1.0.
12	A600	6	N-PL	Si	L2b		VBE(1-2)-10mV;BVCEO-50V;IC-50mA;ft-50Mc;ICBO-10nA max;hFE1/2-90
13	A601	6	N-PL	Si	L2b		VBE(1-2)-10mV;IC-50mA max;BVCEO-50V;ICBO-10mA max;hFE-175 min.
14	A602	6	N-PL	Si	L2b		BVE0-35V;IC-30mA;ft-30Mc;hFE1/2-80;VBE(1-2)-20mV max;hFE-50 min.
15	A603	6	N-PL	Si	L2b		BVE0-35V;IC-30mA;ft-30Mc;hFE1/2-80;VBE(1-2)-5.0mV max;hFE-100 min.
16	A604	6	N-PL	Si	L2b		BVE0-35V;IC-30mA;ft-30Mc;hFE1/2-80;VBE(1-2)-10mV max;hFE-100 min.
17	A605	6	N-PL	Si	L2b		BVE0-35V;IC-30mA;ft-30Mc;hFE1/2-90;VBE(1-2)-5.0mV max;hFE-100 min.
18	A606	6	N-PL	Si	L2b		BVE0-35V;IC-30mA;ft-30Mc;hFE1/2-90;VBE(1-2)-10mV max;hFE-100 min.
19	A640LS*	6	N-PL∅	Si	ZA26		Pt-300mW Both Sides; hFE 1/2-1.0 max; VBE(1-2)-3.0mV max.
20	A641LS*	6	N-PL∅	Si	ZA26		Pt-300mW Both Sides; hFE 1/2-1.0 max; VBE(1-2)-3.0mV max.
21	A642LS*	6	N-PL∅	Si	ZA26		Pt-300mW Both Sides; hFE 1/2-1.0 max; VBE(1-2)-3.0mV max.
22	A643LS*	6	N-PL	Si	ZA26		Pt-300mW Both Sides; hFE 1/2-1.0 max; VBE(1-2)-15mV max.
23	A644LS*	6	N-PL	Si	ZA26		Pt-300mW Both Sides; hFE 1/2-1.0 max; VBE(1-2)-15mV max.
24	A645LS*	6	N-PL	Si	ZA26		Pt-300mW Both Sides;hFE1/2-1.0 max;VBE(1-2)-15mV max.
25	A6491*	6	N-PL∅	Si	X56a	A	Pt-30W;hFE(1-2)-90min;VBE 1-VBE2)-1.0mV max;BVCEO-30V.
26	A6495*	6	N-PL∅	Si	X56	A	Pt-30W;hFE(1-2)-90min;VBE 1-VBE2)-1.0mV max;BVCEO-30V.
27	A1480	6	N-PE	Si	TO18		Pt-300mW max;VCEO-5.0V;VEBO-5.0V;Voffset-250uV max;ΔVoff-50uV.
28#	ADY27*	6	P-A	Ge	MD17f	∅	hFE1/hFE2 1.25 max;Pt 27.5W;ICEV 150uA;ft 450kHz.
29#	BC140-6*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
30#	BC140-10*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
31#	BC140-16*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
32#	BC141-6*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
33#	BC141-10*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
34#	BC141-16*	6	N-PEA	Si	TO39	A∅	Pt-3.7W at 45°C case;Vsat-1.4V max;hFE 1/2-1.25max.
35#	BC327/BC328	6	P-PE	Si	X64b	A	hFE1/hFE2 1.41 max;Pt 360mW;BVCE5 50V;ft 100MHz.
36#	BC328/BC338	6	P-PL	Si	X64b	A	hFE1/hFE2 1.41 max;Pt 360mW;BVCE5 30V;ft 100MHz.
37#	BC337/BC327	6	N-PE	Si	X64b	A	hFE1/hFE2 1.41 max;Pt 360mW;BVCE5 50V;ft 100MHz.
38#	BC338/BC328	6	N-PE	Si	X64b	A	hFE1/hFE2 1.41 max;Pt 360mW;BVCE5 30V;ft 100MHz.
39#	BCW25*	6	NPL	Si	L2		Pt-600mW;hFE1/2-1.0max;VBE(1-2)-20mV max;VBE(1-2)ΔTA-30uV/°C max.
40#	BCY55	6	N-PF	Si	X44		Pc-300mW;VCB-45V;IC-30mA;ΔVBE-1uV/deg.C;ΔIB-50nA/deg.C
41#	BCY87	6	N-PL∅	Si	L17u		VBE(1-2)-3.0mV max;IB(1-2)-25nA max;ΔV/ΔT-1.0uV/deg.C.
42#	BCY88	6	N-PL∅	Si	L17u		VBE(1-2)-6.0mV max;IB(1-2)-80nA max;ΔV/ΔT-2.0uV/deg.C.
43#	BCY89	6	N-PL∅	Si	L17u		VBE(1-2)-10mV max;IB(1-2)-300nA max;ΔV/ΔT-4.0uV/deg.C.
44#	BFW39	6	N	Si	L2		Pt-40W;Vce;IC-30mA;hFE1/2-90 min;VBE(1-2)-5mV;hFE-60 min.
45#	BFW39A	6	N	Si	L2		hFE1/2-85 min;VBE(1-2)-2.0mV max;Pt-50W.
46#	BFW40	6	N	Si	L2		Pt-40W;Vce;IC-30mA;hFE1/2-99 min;VBE(1-2)-5mV;hFE-150 min.
47#	BFW40A	6	N	Si	L2		Pt-50W device;hFE1/2-1.1 max;ΔVBE-10uV/C deg max.
48#	BFW51	6	N	Si	L2i		ft-60MHz min;LVCEO-45V;hFE-60 to 240;VBE(1-2)3.3nV;hFE1/2-90 min.
49#	BFW51A	6	N	Si	L2i		ft-60MHz min;LVCEO-60V;hFE-60 to 240;VBE(1-2)1.5mV;hFE1/2-90 min.
50#	BFW52	6	N	Si	L2i		ft-60MHz min;LVCEO-45V;hFE-150 to 600;VBE(1-2)3mV;hFE1/2-90 min.
51#	BFW52A	6	N	Si	L2i		ft-60MHz min;LVCEO-60V;hFE-150 to 600;VBE(1-2)1.5mV;hFE1/2-90 min.
52#	BFX11*	6	P-DPE	Si	L2d		Pt-40W each;ICBO-10nA max;hFE1/2-80 min;ΔVBE-5.0mV max.
53#	BFX15*	6	N-PL	Si	L2d		Pt-50W each;VBE1/2-5.0mV max;hFE1/2-90 min;ICBO-10nA max.
54#	BFX16*	6	N-DPL	Si	L50		Pt-50W total;BVCEO-45V;hFE1/2-80 min;VBE1/VBE2-5.0mV max.
55#	BFX36*	6	P-DPE	Si	L2b		Pt-40W each;hFE1/hFE2-90 min;VBE1/2-3.0mV max;ICBO-10nA max.
56#	BFX70*	6	N-DPL∅	Si	L2b		Pt-6W;hFE1/2-90 min;VBE(1-2)-5.0mV max;ΔVBE(1-2)/ΔT-10uV/deg.C.
57#	BFX71*	6	N-DPL	Si	L2b		Pt-6W;hFE1/2-80 min;VBE(1-2)-1.5mV max;ΔVBE(1-2)/ΔT-25uV/deg.C.
58#	BFX72*	6	N-DPL	Si	L2b		Pt-6W;hFE1/2-90 min;VBE(1-2)-5.0mV max;ΔVBE(1-2)/ΔT-25uV/deg.C.
59#	BFX99*	6	N-DPL∅	Si	L2b		Pt-6W;hFE1/2-90 min;VBE(1-2)-1.5mV max;ΔVBE(1-2)-50mV max.
60#	BFY81	6	INDPL	Si	L2b		Pt-60W;BVCEO-45V;ft-60Mc min;hFE1/2-80 min;VBE(1-2)-10mV max.
61#	BFY82	6	INDPL	Si	L2b		Pt-50W;BVCEO-60V;ft-250Mc min;hFE1/2-80 min;VBE(1-2)-15mV max.
62#	BFY83	6	INDPL	Si	L2b		Pt-60W;BVCEO-100V;ft-50Mc min;hFE1/2-80 min;VBE(1-2)-15mV max.
63#	BFY84	6	INDPE	Si	L2b		Pt-38W;BVCEO-30V;ft-600Mc min;hFE1/2-80 min;VBE(1-2)-15mV max.
64#	BFY85*	6	N-PE	Si	L2t		Pt-260mW;hFE Diff. 20% max;VBE Diff. 10mV max.
65#	BFY86*	6	N-PE	Si	L2t		Pt-260mW;hFE Diff. 10% max;VBE Diff. 5.0mV max.
66#	BFY91	6	N-PL	Si	L2t		ft-60Mc;BVCEO-45V;hFE-60-240/10uA;5mV-VBE match;10%hFE match.
67#	BFY92	6	N-PL	Si	L2t		ft-60Mc;BVCEO-45V;hFE-60-240/10uA;10mV-VBE match;20%hFE match.
68#	BN209	6	N	Si	L2b		Pt(both sides)-250mW;hFE1/hFE2-80 min;VBE1-VBE2-10mV max.
69#	D12A8	6	N-PL	Si	L17f		Pt(both sides)-500mW;hFE1/2-60 min;VBE(1-2)-15mV max.
70	D12E026	6	N-PL	Si	L2b		hFE1/2-60 min;1.0 max;VBE(1-2)-15mV max;Pc-600mW both.
71	D12E109	6	N-PL	Si	L2p		Pt(both sides)-300mW;VCBO-60V;IC-50mA;hFE1/2-90 min.
72	D12E126	6	N-PL	Si	L2p		hFE1/2-60 min;1.0 max;VBE(1-2)-15mV max;Pc-500mW both.
73	D12X084A	6	N	Si	X14		VCEO-15V max;hFE-30 min at 10mA;ΔhFE-20%;ΔVBE±5.0mV.
74	FM3954*	6	N#∅	Si	L74		IDSS1/2 95 min;VGS(1-2) 5.0mV max;ΔVGS 400uV max;IG(1-2)10nA max;VFS1/2 97 min.
75	FM3954A*	6	N#∅	Si	L74		IDSS1/2 95 min;VGS(1-2) 5.0mV max;ΔVGS 800uV max;IG(1-2)10nA max;VFS1/2 97 min.
76	FM3955*	6	N#∅	Si	L74		IDSS1/2 95 min;VGS(1-2) 5.0mV max;ΔVGS 1.2mV max;IG(1-2)10nA max;VFS1/2 97 min.
77	FM3955A*	6	N#∅	Si	L74		IDSS1/2 95 min;VGS(1-2) 10mV max;ΔVGS 2.0mV max;IG(1-2)10nA max;VFS1/2 95 min.
78	FM3956*	6	N#∅	Si	L74		IDSS1/2 95 min;VGS(1-2) 15mV max;ΔVGS 4.0mV max;IG(1-2)10nA max;VFS1/2 95 min.
79	FM3957*	6	N#∅	Si	L74		IDSS1/2 90 min;VGS(1-2) 20mV max;ΔVGS 6.0mV max;IG(1-2)10nA max;VFS1/2 90 min.
80	FM3958*	6	N#∅	Si	L74		IDSS1/2 85 min;VGS(1-2) 25mV max;ΔVGS 8.0mV max;IG(1-2)10nA max;VFS1/2 85 min.
81	FT2974	6	N-DPL	Si	L2i		Pt-3W ea;IC-30mA;hFE1/2-1 max;VBE(1-2)-2 max;hFE-60 min;VCBO-45V.
82	FT2978	6	N-DPL	Si	L2i		Pt-3W ea;IC-30mA;hFE1/2-1 max;VBE(1-2)-2mV;hFE-60 min;VCBO-60V.
83	FT4020	6	P-DPE	Si	L17e		BVCEO-45V;20% hFE match;Cob-6.0pf;VBE(1-2)-5.0mV;ICBO-10nA max.
84	FT4021	6	P-DPE	Si	L17e		BVCEO-60V;20% hFE match;Cob-6.0pf;VBE(1-2)-5.0mV;ICBO-10nA max.
85	FT4022	6	P-DPE	Si	L17e		BVCEO-60V;20% hFE match;Cob-6.0pf;VBE(1-2)-5.0mV;ICBO-10nA max.
86	FT4023	6	P-DPE	Si	L17e		BVCEO-45V;10% hFE match;Cob-6.0pf;VBE(1-2)-3.0mV;ICBO-10nA max.
87	FT4024	6	P-DPE	Si	L17e		BVCEO-60V;10% hFE match;Cob-6.0pf;VBE(1-2)-3.0mV;ICBO-10nA max.
88	FT4025	6	P-DPE	Si	L17e		BVCEO-60V;10% hFE match;Cob-6.0pf;VBE(1-2)-3.0mV;ICBO-10nA max.
89	HSC3921*	6	N-E#	Si	L21e		VGS(1-2) 5.0mV max;IDSS1/2 1.0;VFS1/2 1.0.
90	HSC3954*	6	N-E#	Si	L21e		VGS(1-2) 5.0mV max;IDSS1/2 1.0;VFS1/2 1.0.
91	LDA400MP	6	N	Si	u34	P	Matched Pair LDA400 Pt-360mW;hFE 1/2-90 min;VBE 1/2-10mV max;ΔVBE 1-2/ΔTA-10uV/°C max.
92	LDA401MP*	6	N	Si	u34	P	Matched Pair LDA 401 Pt-360mW;hFE1/2-90min;VBE1/2-10mVmax;ΔVBE1-2/ΔTA-10uV/°C max.
93	MD708A*	6	N-AN	Si	L66a		Pt-400mW(both sides);hFE1/2-90 min;VBE1/2-5.0mV max;ton-16ns max.
94	MD708AF*	6	N-AN	Si	TO89		Pt-350mW(both sides);hFE1/2-8 min;VBE1/2-10mV max;ton-16ns max.
95	MD708B*	6	N-AN	Si	L66a		Pt-400mW(both sides);hFE1/2-90 min;VBE1/2-5.0mV max;ton-16ns max.
96	MD708BF*	6	N-AN	Si	TO89		Pt-350mW(both sides);hFE1/2-8 min;VBE1/2-10mV max;ton-16ns max.
97	MD918A*	6	N-EA	Si	L66a		Pt-400mW(both sides);hFE1/2-90 min;VBE1/2-5.0mV max;VCEO-15V.
98	MD918AF*	6	N-EA	Si	TO89		Pd(both sides)-350mW;VCEO-15V;hFE1/2-90 min;VBE1-2-5.0mV max.
99	MD918B*	6	N-EA	Si	L66a		Pt-400mW(both sides);hFE1/2-80 min;VBE1/2-10mV max;VCEO-15V.
100	MD918BF*	6	N-EA	Si	TO89		Pd(both sides)-350mW;VCEO-15V;hFE1/2-80 min;VBE1-2-10mV max.
101	MD981	6	N-E	Si	L2d		Pt(both sides)-600mW;VCBO-60V;IC-500mA;hFE-35 min.
102	MD981F	6	N-E	Si	L2f		Pt(both sides)-350mW;VCBO-60V;IC-500mA;hFE-35 min.
103	MD982	6	P-E	Si	L17c		Pt(both sides)-600mW;VCBO-60V;IC-500mA;hFE-35 min.
104	MD982F	6	P-E	Si	L17d		Pt(both sides)-350mW;VCBO-60V;IC-500mA;hFE-35 min.
105	MD984	6	P-E	Si	L17v		Pt(both sides)-600mW;VCBO 40V;IC-200mA;hFE-25 min.
106	MD984F	6	P-E	Si	TO89		Pt(both sides)-350mW; VCBO 40V; IC-200mA; hFE-25 min.
107	MD990	6	P-E	Si	L17c		Pt(both sides)-600mW;VCBO-50V;IC-600mA;hFE-50 min.
108	MD1120	6	N	Si	L2w		hFE 30/120 at IC-100uA;VBE(1-2) max-10mV at IC-100uA.
109	MD1120F	6	N	Si	X22		hFE 30/120 at IC-100uA;VBE(1-VBE2) max-10mV at IC-100uA.
110	MD1121	6	N	Si	L2w		hFE-30/120 at IC-100uA;VBE(1-2) max-10mV at IC-100uA.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY		M A T	DWG. No.	L E O A D E	DESCRIPTION
		U	S T R U C T U R E				
1	MD1121F	6	N	Si	X22		hFE-30/120 at IC-100uA;VBE1-VBE2) max.-10mV at IC-100uA.
2	MD1122	6	N	Si	L2w		hFE-30/120 at IC-100uA;VBE(1-2) max-10mV at IC-100uA.
3	MD1122F	6	N	Si	X22		hFE-30/120 at IC-100uA;VBE1-VBE2) max.-5.0mV at IC-100uA.
4	MD1126	6	N-E	Si	L2d		Pt(both sides)-400mW;V _{CB0} -40V;IC-200mA;hFE-30 min.
5	MD1127	6	N-E	Si	L2d		Pt(both sides)-400mW;V _{CB0} -40V;IC-200mA;hFE-30 min.
6	MD1128†	6	N-PE	Si	L2d		Pt(both sides)-400mW;V _{CB0} -40V;hFE-25 min at IC-10mA and VCE-1V.
7	MD1129	6	N	Si	L2w		hFE-100/300 at IC-100uA;VBE1/2-5.0mV max. at IC-100uA.
8	MD1129F	6	N	Si	X22		hFE-100/300 at IC-100uA; VBE1/VBE2-5.0mV max at IC-100uA
9	MD1130	6	P	Si	L2w		hFE-100/300 at IC-100uA;VBE1/2-5.0mV max. at IC-100uA.
10	MD1130F	6	P	Si	X22		hFE-100/300 at IC-100uA; VBE1/VBE2-5.0mV max at IC-100uA
11	MD1131	6	N-E	Si	L2d		V _{CB0} -30V;V _{CE0} -15V;IC-50mA max;ft-600Mc min;hFE-50 min at IC-1mA.
12	MD1131F	6	N-E	Si	L2f		V _{CB0} -30V;V _{CE0} -15V;IC-50mA max;ft-600Mc min;hFE-50 min at IC-1mA.
13	MD1132	6	N-E	Si	L2w		hFE-50 min. at IC-1.0mA;VBE(1-2)-5.0mV max. at IC-1.0mA.
14	MD1132F	6	N-E	Si	X22		hFE-50 min. at IC-1.0mA;VBE(1-2)-5.0mV max. at IC-1.0mA.
15	MD1134	6	N-E	Si	R131b		Pt 600mW(both sides);V _{CB0} 40V;hFE 50 min. at IC 10mA and VCE 1.0V.
16	MD2369A*	6	N-AN	Si	L66a		Pt-600mW(both sides);hFE1/2-90 min;VBE1/2-5.0mV max;ton-15ns max.
17	MD2369AF*	6	N-AN	Si	T089		Pt-350mW(both sides);hFE1/2-90 min;VBE1/2-5mV max;ton-15ns max.
18	MD2369B*	6	N-AN	Si	L66a		Pt-600mW(both sides);hFE1/2-80 min;VBE1/2-10mV max;ton-15ns max.
19	MD2369BF*	6	N-AN	Si	T089		Pt-350mW(both sides);hFE1/2-80 min;VBE1/2-10mV max;ton-15ns max.
20	MD3250	6	P-AN	Si	L17c		Pt(both sides)600mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min.
21	MD3250A	6	P-AN	Si	L17c		Pt(both sides)-600mW;V _{CB0} -50V;IC-50mA;hFE1/2-90 min;VBE(1-2)-5mVmax
22	MD3250AF	6	P-AN	Si	L17d		Pt(both sides)-350mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min;VBE(1-2)-5mVmax
23	MD3250F	6	P-AN	Si	L17d		Pt(both sides)-350mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min.
24	MD3251	6	P-AN	Si	L17c		Pt(both sides)-600mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min.
25	MD3251A	6	P-AN	Si	L17c		Pt(both sides)-600mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min;VBE(1-2)-5mVmax
26	MD3251AF	6	P-AN	Si	L17d		Pt(both sides)-350mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min;VBE(1-2)-5mVmax
27	MD3251F	6	P-AN	Si	L17d		Pt(both sides)-350mW;V _{CB0} -50V;IC-50mA;hFE1/2-90min.
28	MD5000*	6	P-EA	Si	L66b		Pd(both sides)-400mW;V _{CE0} -15V;hFE1/2-70 min;VBE(1-2)-5.0mV max.
29	MD5000A*	6	P-EA	Si	L66b		Pd(both sides)-400mW;V _{CE0} -15V;hFE1/2-90 min;VBE(1-2)-5.0mV max.
30	MD5000B*	6	P-EA	Si	L66b		Pd(both sides)-400mW;V _{CE0} -15V;hFE1/2-80 min;VBE(1-2)-10mV max.
31	MD8001*	6	N-EA	Si	L2v		Pt-600mW;VBE1/2-15mV;IB1/2-1.0uA max;V _{CE0} -40V max.
32	MD8002*	6	N-EA	Si	L2v		Pt-600mW;VBE1/2-15mV;IB1/2-1.0uA max;V _{CE0} -50V max.
33	MD8003*	6	N-EA	Si	L2v		Pt-600mW;VBE1/2-15mV;IB1/2-1.0uA max;V _{CE0} -60V max.
34	ME501†	6	N-PE	Si	L2		BV _{CE0} -10V;BV _{EB0} -3.0V;IC _{B0} -10mA max at V _{CB} -10V;hFE-60min/IC-100uA.
35	ME502	6	N-PE	Si	L3		Pair of 2N1893, Darlington Amplifier, hFE-750 min. at IC-10mA
36	ME504	6	N-PE	Si	L2		BV _{CB0} -30V;BV _{EB0} -3.0V;IC _{B0} -10mA max;V _{CB} -15V;hFE-100 min/IC-100uA.
37	MEM551*	6	P	Si	L54		Pt-112mW;Yfs1/2-.80 min;Gfs(1-2)-200mV max;VGST-6.0V max.
38	MEM551C*	6	P	Si	L54		Pt 85mW;Yfs1/2-.80 min;Gfs(1-2) 200mV max;VGST 6.0V max.
39	MMF1	6	N	Si	X74	DH	Yfs1/2-.98 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-10uV/deg.C.
40	MMF2	6	N	Si	X74	DH	Yfs1/2-.95 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-10uV/deg.C.
41	MMF3	6	N	Si	X74	DH	Yfs1/2-.98 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-25uV/deg.C.
42	MMF4	6	N	Si	X74	DH	Yfs1/2-.95 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-25uV/deg.C.
43	MMF5	6	N	Si	X74	DH	Yfs1/2-.98 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-50uV/deg.C.
44	MMF6	6	N	Si	X74	DH	Yfs1/2-.95 min;VGS(1-2)-5mV max;ΔVGS(1-2)/ΔT-50uV/deg.C.
45	MQ3799A*	6	P-EA	Si	L56c		Pt-50W;hFE1/2-90 min;VBE1/2-3mV max;ΔVBE(1-2)/ΔT-10uV/deg.C max.
46#	MT102B*	6	P-MOS	Si	L54a		ΔThreshold Voltage-200mV max;Δr _{DS} -60Ω max;Δg _m -35uA/V typ.
47	MF550*	6	N	Si	L74		IDSS1/2-.97 typ;VGS1/2 5.0mV typ;VGS 800uV typ at VDS 15V, ID 2.0mA.
48	NS7200	6	P-PL	Si	L8a		Pt-600mW;VBE1/2-3.0mV max;hFE1/2-1.0 max;ft-60Mc.
49	NS7201	6	P-PL	Si	L8a		Pt-600mW;VBE1/2-5.0mV max;hFE1/2-1.0 max;ft-60Mc.
50	NS7300	6	N-PL	Si	L2b		BV _{CB0} -40V;Pt-600mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-90-1.0
51	NS7301	6	N-PL	Si	L2b		BV _{CB0} -40V;Pt-600mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-80-1.0
52	NS7302	6	N-PL	Si	L2b		BV _{CB0} -40V;Pt-600mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-50-1.0
53	NS7303	6	N-PL	Si	L2j		BV _{CB0} -40V;Pt-400mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-90-1.0
54	NS7304	6	N-PL	Si	L2j		BV _{CB0} -40V;Pt-400mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-80-1.0
55	NS7305	6	N-PL	Si	L2j		BV _{CB0} -40V;Pt-400mW;hFE-100 min;VBE(1-2)-10mV;hFE1/2-50-1.0
56	QD100-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 15% max;VBE(1-2) 5.0mV max;IB(1-2) 25nA max.
57	QD100-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 15% max;VBE(1-2) 5.0mV max;IB(1-2) 25nA max.
58	QD101-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
59	QD101-78*	6	P-E	Si	L2d		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 3.0mV max;IB(1-2) 10nA max.
60	QD102-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
61	QD102-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
62	QD103-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
63	QD103-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
64	QD104-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
65	QD104-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 5.0nA max.
66	QD400-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 15% max;VBE(1-2) 5.0mV max;IB(1-2) 5.0nA max.
67	QD400-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 15% max;VBE(1-2) 5.0mV max;IB(1-2) 5.0nA max.
68	QD401-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 3.0mV max;IB(1-2) 2.0nA max.
69	QD401-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 3.0mV max;IB(1-2) 2.0nA max.
70	QD402-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
71	QD402-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
72	QD403-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
73	QD403-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
74	QD404-71*	6	P-E	Si	L2p		Pt 500mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
75	QD404-78*	6	P-E	Si	L2d		Pt 750mW(both sides);hFE1/2 10% max;VBE(1-2) 1.5mV max;IB(1-2) 2.0nA max.
76	SA2253*	6	N	Si	L8a		BV _{CB0} -40V min;hFE1/hFE2-.7/1.0;VBE1-VBE2-20mV at IC-100uA
77	SA2644*	6	N-PE	Si	L2b		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-.50mV max.
78	SA2648*	6	N-PF	Si	L2b		Pt-6W;hFE1/2-9 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-.3mV max.
79	SA2710*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
80	SA2711*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
81	SA2712*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
82	SA2713*	6	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
83	SA2714*	6	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-10uV/deg.C.
84	SA2715*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
85	SA2716*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
86	SA2717*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
87	SA2718*	6	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-10uV/deg.C.
88	SA2719*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
89	SA2720*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
90	SA2721*	6	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-10uV/deg.C.
91	SA2722*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
92	SA2723*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-3mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
93	SA2724*	6	N	Si	L2t		Pt-6W;hFE1/2-80 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-10uV/deg.C.
94	SA2738*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-1.5mV max;ΔVBE(1-2)/ΔT-3uV/deg.C.
95	SA2739*	6	N	Si	L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2.5mV max;ΔVBE(1-2)/ΔT-5uV/deg.C.
96	SD5010*	6	P-MOS	Si	L53		Pt 325mW(each side) at 25°C Case temp;yfs 1/2 800m min;VGS(1-2) 70mV.
97	SD5011*	6	P-MOS	Si	L54		Pt 325mW(each side) at 25°C Case temp;yfs 1/2 800m min;VGS(1-2) 70mV.
98	SD5012*	6	P-MOS	Si	L53		Pt 325mW(each side) at 25°C Case temp;yfs 1/2 800m min;VGS(1-2) 70mV.
99	SD5013*	6	P-MOS	Si	L54		Pt 325mW(each side) at 25°C Case temp;yfs 1/2 800m min;VGS(1-2) 70mV.
100	SD5014*	6	P-MOS	Si	L53		Pt-325mW(each side) at 25°C case temp;yfs 1/2 .80min;VGS 1/2-200mV max.
101	SD5015*	6	P-MOS	Si	L54		Pt-325mW(each side) at 25°C case temp;yfs 1/2 .80min;VGS 1/2-200mV max.
102	SD5050*	6	N-MOS	Si	L53		Pt-325mW(each side) at 25°C casetemp;yfs 1/2 .80min;VGS 1/2-200mV max.
103	SD5051*	6	N-MOS	Si	L54		Pt-325mW(each side) at 25°C case temp;yfs 1/2 .80min;VGS 1/2-200mV max.
104#	SFT918	6	N-PL	Si	L2b		Pt-300mW each;ft-600 MHz min;hFE-50 min.
105#	SFT918A	6	N-PL	Si	L2b		Pt-300mW each;ft-600 MHz min;hFE 1/2-90 min;VBE (1-2)-5.0mV max.
106#	SFT918B	6	N-PL	Si	L2b		Pt-300mW each;ft-600 MHz min;hFE 1/2-80 min;VBE (1-2)-10mV max.
107#	SL301A*	6	N	Si	L44a		BV _{CB0} -35V;BV _{CE0} -16V;IC-50mA;hFE(1-2)-900m;V _{CE} -600mV;ΔVBE(1-2)-3.0mV.
108#	SL301AE*	6	N	Si	L44b		BV _{CB0} -35V;BV _{CE0} -16V;IC-50mA;hFE(1-2)-900m;V _{CE} -600mV;ΔVBE(1-2)-3.0mV.
109#	SL301B*	6	N	Si	L44a		BV _{CB0} -30V;BV _{CE0} -12V;IC-50mA;hFE(1-2)-500m;V _{CE} -1.0V;ΔVBE(1-2)-12mV.
110#	SL301BE*	6	N	Si	L44b		BV _{CB0} -30V;BV _{CE0} -12V;IC-50mA;hFE(1-2)-500m;V _{CE} -1.0V;ΔVBE(1-2)-12mV.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	MATERIAL	DWG. No.	LEO ADE	DESCRIPTION
1#	SL301C*	6 N	Si	L44a		BVCBO-25V;BVCEO-10V;IC-50mA;VCE-600mV.
2#	SL301CE*	6 N	Si	L44b		BVCBO-25V;BVCEO-10V;IC-50mA;VCE-600mV.
3#	SL301E*	6 N	Si	L44a		BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-800mV;VCE-600mV;ΔVBE(1-2)-5.0mV.
4#	SL301EE*	6 N	Si	L44b		BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-800mV;VCE-600mV;ΔVBE(1-2)-5.0mV.
5#	SL303AE*	6 N	Si			BVCBO-35V;BVCEO-16V;IC-50mA;hFE(1-2)-900mV;VCE-600mV;ΔVBE(1-2)-3.0mV.
6#	SL303AT*	6 N	Si			BVCBO-35V;BVCEO-16V;IC-50mA;hFE(1-2)-900mV;VCE-600mV;ΔVBE(1-2)-3.0mV.
7#	SL303BE*	6 N	Si			BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-500mV;VCE-1.0V;ΔVBE(1-2)-12mV.
8#	SL303BT*	6 N	Si	L43a		BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-500mV;VCE-1.0V;ΔVBE(1-2)-12mV.
9#	SL354BE*	6 N	Si	L67		BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-500mV;VCE-1.0V;ΔVBE(1-2)-12mV.
10#	SL354BF*	6 N	Si	L67		BVCBO-30V;BVCEO-12V;IC-50mA;hFE(1-2)-500mV;VCE-1.0V;ΔVBE(1-2)-12mV.
11	SMT100	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-20mV;Cob-6.0pf.
12	SMT101	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-20mV;Cob-6.0pf.
13	SMT102	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-10mV;hFE1/hFE2-80 min.
14	SMT103	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-10mV;hFE1/hFE2-80 min.
15	SMT104	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-5.0mV;hFE1/hFE2-90 min.
16	SMT105	6 P	Si	L17a		BVCEO-45V;IC-30mA max;Pt. 60W;VBE(1-2)-5.0mV;hFE1/hFE2-90 min.
17	SP2060F	6 N	Si	T089		Pt-350mW(both sides);hFE 1/2-.90min;VBE(1-2)-5.0mV max;ΔVBE(1-2)/ΔT-10uV/°C.
18	SP2223AF	6 N	Si	T089		Pt-350mW(both sides);hFE 1/2-.80min;VBE(1-2)-15mV max;ΔVBE(1-2)/ΔT-25mV/°C.
19	SP2920F	6 N	Si	T089		Pt-350mW(both sides);hFE 1/2-.90min;VBE(1-2)-5.0mV;ΔVBE(1-2)-800uV.
20	SP10801	6 N-DPL	Si	T089		hFE1/hFE2-0.8minΔ VBE1-VBE2-1.6mV max,NF-4.0db max
21	SP10810	6 P-DPE	Si	T089		hFE1/hFE2-0.8minΔ VBE1-VBE2-4.0mV max,hFE-35min at 10mA-1.0V
22	SU2074*	6 N	Si	L21		Pt-300mW;gm1/2-.95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-10uV/Deg.C.
23	SU2075*	6 N	Si	L21		Pt-300mW;gm1/2-.95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-15uV/Deg.C.
24	SU2076*	6 N	Si	L21		Pt-250mW;gm1/2-.95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-10uV/Deg.C.
25	SU2077*	6 N	Si	L21		Pt-250mW;gm1/2-.95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-25uV/Deg.C.
26	SU2078*	6 N	Si	L21		Pt-250mW;gm1/2-.95min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-35uV/Deg.C.
27	SU2079*	6 N	Si	L21		Pt-250mW;gm1/2-.95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-60uV/Deg.C.
28	SU2080*	6 N	Si	L21		Pt-250mW;gm1/2-.90 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-35uV/Deg.C.
29	SU2081*	6 N	Si	L21		Pt-250mW;gm1/2-.90 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-60uV/Deg.C.
30	SU2098*	6 N	Si	L21		Pt-3W;gm1/2-.95 min;VGS(1-2)-5mV;ΔVGS(1-2)/ΔT-10uV/deg.C max.
31	SU2098A*	6 N∅*	Si	L21		Pt 300mW;gm1/2 .95 min;VGS(1-2)5.0mV;ΔVGS(1-2)/ΔT 10uV/°C max.
32	SU2098B*	6 N∅*	Si	L21		Pt 300mW;gm1/2 .95 min;VGS(1-2)5.0mV;ΔVGS(1-2)/ΔT 25uV/°C max.
33	SU2099*	6 N	Si	L21		Pt-3W;gm1/2-.95 min;VGS(1-2)-5mV;ΔVGS(1-2)/ΔT-25uV/deg.C max.
34	SU2099A*	6 N∅*	Si	L21		Pt 300mW;gm1/2 .95 min;VGS(1-2)5.0mV;ΔVGS(1-2)/ΔT 5.0uV/°C max.
35	TD100*	6 N-PL	Si	L2u		Pt-40W;hFE1/2-.90 min;VBE(1-2)-5mV max;ΔVBE(1-2)/ΔT-20uV/deg.C max
36	TD101*	6 N-PL	Si	L2u		Pt-40W;hFE1/2-.90 min;VBE(1-2)-10mV max;ΔVBE(1-2)/ΔT-30uV/deg.C max
37	TD200*	6 N-PL∅1	Si	L2z		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 5.0mV max;ΔVBE(1-2)/ΔT 20uV/°C max.
38	TD201*	6 N-PL∅1	Si	L2z		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 10mV max;ΔVBE(1-2)/ΔT 20uV/°C max.
39	TD250*	6 N-PL∅1	Si	L2z		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 5.0mV max;ΔVBE(1-2)/ΔT 1.5mV max.
40	TD400*	6 P-PL∅1	Si	L17m		Pt 400mW;hFE1/2-.90min;VBE1/2-5.0mV max;ΔVBE(1-2)/ΔT-20uV/Deg.C.
41	TD401*	6 P-PL∅1	Si	L17m		Pt 400mW;hFE1/2-.90min;VBE1/2-10mV max;ΔVBE(1-2)/ΔT-30uV/Deg.C.
42	TD500*	6 P-PL∅1	Si	L17w		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 5.0mV max;ΔVBE(1-2)/ΔT 20uV/°C max.
43	TD501*	6 P-PL∅1	Si	L17w		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 10mV max;ΔVBE(1-2)/ΔT 30uV/°C max.
44	TD550*	6 P-PL∅1	Si	L17w		Pt 400mW;hFE1/2 .90 min;VBE(1-2) 5.0mV max;ΔVBE(1-2)/ΔT 1.5uV/°C max.
45	TIS25	6 N-PE	Si	L21a		FET;BVGSS-50V;IDSS-8.0mA max;Yfs match 5.0%;Yfs-1500umhos min.
46	TIS26	6 N-PE	Si	L21a		FET;BVGSS-50V;IDSS-8.0mA max;Yfs match 10%;Yfs-1500umhos min.
47	TIS27	6 N-PE	Si	L21a		FET;BVGSS-50V;IDSS-8.0mA max;Yfs match 20%;Yfs-1500umhos min.
48	TIS68*	6 N-PE	Si	T092		Pt-360mW;Yfs1/2-.95 min;VGS(1-2)-5.0mV max;IGSS1/2-10nA max.
49	TIS69*	6 N-PE	Si	T092		Pt-360mW;Yfs1/2-.90 min;VGS(1-2)-10mV max;IGSS1/2-10nA max.
50	TIS70*	6 N-PE	Si	T092		Pt-360mW;Yfs1/2-.80 min;VGS(1-2)-15mV max;IGSS1/2-10nA max.
51	U231*	6 N∅	Si	L58		Pt-300mW;IG(1-2)-10nAmax;VGS(1-2)-5.0mVmax;VGS(1-2)ΔT-10uV/°Cmax.
52	U232*	6 N∅	Si	L58		Pt-300mW;IG(1-2)-10nAmax;VGS(1-2)-10mVmax;VGS(1-2)ΔT-25uV/°Cmax.
53	U233*	6 N∅	Si	L58		P5-300mW;IG(1-2)-10nAmax;VGS(1-2)-15mVmax;VGS(1-2)ΔT-50uV/°Cmax.
54	U234*	6 N∅	Si	L58		Pt-300mW;IG(1-2)-10nA max;VGS(1-2)-20mV max;VGS(1-2)ΔT-75uV/°C max.
55	U235*	6 N∅	Si	L58		Pt-300mW;IG(1-2)-10nAmax;VGS(1-2)-25mVmax;VGS(1-2)ΔT-100uV/°Cmax.
56	U257*	6 N *	Si	T078		IDSS 1/2-1.0max;Gfs 1/2-1.0max;Goss(1-2)-20u mho max;VGS(1-2)-100mV max.
57	UCX2910*	6 NΔ∅	Si	L2d		Pt-.75W;hFE1/2-.90 min;VBE(1-2)-1mV;tr-20ns;tf-20ns.
58	UPA15	6 N-PE	Si	L5		Pc-6m max;hFE1/hFE2-8 min;hFE-40 min at 1mA;VBE1/VBE2-10W max.
59#	ZDT11	6 N-PL	Si	L2h		ΔVEC-100uV max; VEC-2.0mV.
60#	ZDT20	6 N-PL	Si	L2h		hFE1/hFE2-1.0 max; VBE1-VBE2-20mV max.
61#	ZDT21	6 N-PL	Si	L2h		hFE1/hFE2-1.0 max; VBE1-VBE2-5.0mV max.
62#	ZDT40	6 N-PL	Si	L2d		PL-500mW(both sides);Pair of ZT 82.
63#	ZDT41	6 N-PL	Si	L2d		PL-500mW(both sides);Pair of ZT 84.
64#	ZDT42	6 N-PL	Si	L2d		PL-500mW(both sides);VBE(1-2)-5mV max;hFE1/hFE2-1.0 max.
65#	ZDT44	6 N-PL	Si	L2d		PL-500mW(both sides);VBE(1-2)-10mV max;hFE1/hFE2-1.0 max.
66#	ZDT45	6 N-PL	Si	L2d		PL-500mW(both sides);VBE(1-2)-10mV max;hFE1/hFE2-1.0 max.
67	1N4378	7 N	Si	X69		Pd-50mW;ID-25nA max;IL-1mA min;tr-2usec max;VCE-30V;VEC-6V.
68	JAN1N4378	7 NΔ	Si	X69		Pt-50mW;ID-10nAmax;IL-9.0mAmax;tr-1.5uSmax;VCE-50V;VEC-8V.
69	2N469	7 P-A	Ge	X42		BVCBO-6.0V;hFE-50;hie-3.0kΩ;ICBO-15uA;Sens-11uA/FC;Cob-30pf.
70	2N469A	7 P	Ge	X42	A	Sensitivity 14.9uA per foot candle;Pt 50mW;BVCBO 20V min;ICBO 8.0uA.
71	2N986	7 N	Si	X8		Pc-.50W max; BVCBO-100V; Photo-Sens-3.1uA/°C max.
72	JAN2N986	7 N	Si	X8		Pc-500mW;BVCBO-100Vmax;Photo Sens-3.0uA/°C;Idark-.01uAmax.
73	2N2452	7 N	Si	X8		Pc-.50W max; BVCBO-100V; Photo-Sens-10.3uA/°C max.
74#	2N5777	7 NΔ	Si	T092	B	Darlington;IL 250mA max;Pt 200mW;ID 100nA max;tr 250uS max;tf 150uS max.
75#	2N5778	7 NΔ	Si	T092	B	Darlington;IL 250mA max;Pt 200mW;ID 100nA max;tr 250uS max;tf 150uS max.
76#	2N5779	7 NΔ	Si	T092	B	Darlington;IL 250mA max;Pt 200mW;ID 100nA max;tr 250uS max;tf 150uS max.
77#	2N5780	7 NΔ	Si	T092	B	Darlington;IL 250mA max;Pt 200mW;ID 100nA max;tr 250uS max;tf 150uS max.
78#	BP101	7 N-PE	Si	X8e	A∅	Pt-300mW;IC-80uA min BVCEO 25V,BVEBO 5.0V;Sens-1.0 lum max;VCE-25V.
79#	BPX25	7 N-PE	Si	X29b		Pt-.30W;ICE(L)-5.0mA;ICE(D)-1.0uA max;Sens-650uA/mW/cm sq.
80#	BPX29	7 N-PE	Si	X29	A∅	Pt-500mW;ICE(L)-1.0mA;ICE(D)-1.0uA max;Sens-130uA/mW/cm sq.
81#	BPX30	7 NΔ	Si	X8	A∅	Pt-500mW;ICE(D)-1.0uA max;Sens-100mA/mW/cm2;tr-3.0usec;tf-3.0usec.
82#	BPX38	7 N-PE	Si	X29c	A∅	Pt-500mW;IC-1.0mA min VCE(SAT) 300mV;Sens-1.0 lum max;VCE-25V.
83#	BPX43	7 N-PE	Si	X8a	A	Pt-300mW;IC-5.0mA min;Sens-1.0 lum max;VCE-25V.
84#	BPY60	7 N-DPL	Si	X8c	A∅	Pt-87W;Sens-250uA/mW/cm2;tr light-1.0usec max;tf light-10usec max.
85#	BPY61/I	7 N-PL	Si	X69		Pt-50mW;IC-5.0mA at B-1000lux;Spectral Sensitivity-1.0uM max.
86#	BPY61/II	7 N-PL	Si	X69		Pt-50mW;IC-1.5mA at B-1000lux;Spectral Sensitivity-1.0uM max.
87#	BPY61/III	7 N-PL	Si	X69		Pt-50mW;IC-3.0mA at B-1000lux;Spectral Sensitivity-1.0uM max.
88#	BPY62/I	7 NPE	Si	X8a	A5	Pt-20W;IC-1.0mAmin atB-1000lux;Sens-1.0uM;VCE-15V.
89#	BPY62/II	7 NPE	Si	X8a	A5	Pt-20W;IC-2.0mAmin atB-1000lux;Sens-1.0uM;VCE-15V.
90#	BPY62/III	7 NPE	Si	X8a	A5	Pt-20W;IC-4.0mAmin atB-1000lux;Sens-1.0uM;VCE-15V.
91#	BPY65	7 N-DPL	Si	X8	A∅	Pt-5W;Sens-250uA/mW/cm2;tr light-1.0usec max;tf light-10usec max.
92#	BPY76	7 NΔ1	Si	u75		Pt-100mW;ICE(D)-100nA max;Sens-300uA/mW/cm2;tr-3.0usec;tf-3.0usec.
93#	E1P	7 P	Ge			Idark-10uA; Ilight-10mA; Sens-.30uA/lumen.
94	FF102*	7 N-EΔ	Si	T072	DH	IG(light) 7.5nA/FC min;ID(light) 80uA/°C typ;tr 30nsec;tf 50nsec.
95	FF409*	7 N-EΔ	Si	T018	DB	IG(light) 8.0nA/FC min;ID(light) 144uA/°C typ;tr 25nsec;tf 40nsec.
96	FF600*	7 N-EΔ	Si	T072	DH	IG(light) 7.5nA/FC min;ID(light) 80uA/°C typ;tr 30nsec;tf 50nsec.
97#	GPT	7 P	Ge			Idark-2.0mA max; Ilight-50mA; Sens-.30uA/lm.
98	GS100	7 N-PLΔ	Si	u54		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
99	GS102	7 N-PLΔ	Si	u54		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
100	GS170	7 N-PLΔ	Si	u54		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
101	GS172	7 N-PLΔ	Si	u54		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
102	GS300	7 N-PLΔ	Si	X90a		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
103	GS302	7 N-PLΔ	Si	X90a		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
104	GS370	7 N-PLΔ	Si	X90a		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
105	GS372	7 N-PLΔ	Si	X90a		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
106	GS400	7 N-PLΔ	Si	X90		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-5.0us max;tf-15us max.
107	GS403	7 N-PLΔ	Si	X90		Pt-50mW;IL-5.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-8.0us max;tf-12us max.
108	GS420	7 N-PLΔ	Si	X90		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-2.0us max;tf-12us max.
109	GS422	7 N-PLΔ	Si	X90		Pt-50mW;IL-5.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-3.0us max;tf-8.0us max.
110	GS423	7 N-PLΔ	Si	X90		Pt-50mW;IL-10mA min;ID-1.0nA;VCE (SAT)-30V;tr-1.5us max;tf-12us max.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	CODE	DESCRIPTION
1	GS470	7	N-PLA	Si	X90		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-3.0us max;tf-12us max.
2	GS600	7	N-PLA	Si	X29d	A	Pt 400mW;IL 20mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
3	GS603	7	N-PLA	Si	X29d	A	Pt 400mW;IL 5.0mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
4	GS606	7	N-PLA	Si	X29d	A	Pt 400mW;IL 30mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
5	GS609	7	N-PLA	Si	X29d	A	Pt 400mW;IL 50mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
6	GS610	7	N-PLA	Si	X29		Pt-150mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-2.0us max;tf-30us max.
7	GS612	7	N-PLA	Si	X29		Pt-150mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-1.5us max;tf-40us max.
8	GS670	7	N-PLA	Si	X29		Pt-150mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-2.0us max;tf-30us max.
9	GS680	7	N-PLA	Si	X29d	A	Pt 400mW;IL 20mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
10	GS683	7	N-PLA	Si	X29d	A	Pt 400mW;IL 5.0mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
11	GS686	7	N-PLA	Si	X29d	A	Pt 400mW;IL 30mA min;ID 5.0nA;VCE(SAT) 300mV;tr 3.0us;tf 20us.
12	L14A502	7	N-PL	Si	X8		Pt-300mW max;BVCE0-45V;BVCE0-45V;BVCE0-5.0;IL-50mA max;ID-10nA max.
13	LS400	7	N-PLA	Si	X69		Pt-50mW;IL-3.0mA typ;ID-25nA max;tr-1.5us;tf-15us typ BVCE0-50V;BVCE0 6.0V.
14	LS600	7	N-PLA	Si	X83c		Pt-50mW;IL-1.0mA typ;ID-25nA max;tr-1.5us;tf-15us typ BVCE0-50V;BVCE0-7.0V.
15#	MEL11	7	N	Si	R110		Pt-360mW;BVCE0-40V;Sens-250uA/mW/Sq. cm. min;Idark-10uA max.
16#	MEL12	7	N	Si	R110		Pt-360mW;BVCE0-60V;Sens-500uA/mW/Sq. cm. min;Idark-10uA max.
17	MRD100*	7	NANTΔ	Si	u43	B	Pd-50mW;BVCE0-80V;BVCE0-40V;ICE0(dark)-100nA max;Sens.Rad.CEO-100nA/mW/sq.cm.
18	MRD150*	7	NANTΔ	Si	u43	B	Pd-50mW;BVCE0-80V;BVCE0-40V;ICE0(dark)-100nA max;Sens.Rad.CEO-100nA/mW/sq.cm.
19	MRD200	7	N-AN	Si	X83		Pt-.05W;ICE0(dark)-25nA;BVCE0-50V;Sens-2.0uA/lum/ft.sq. min.
20	MRD210	7	N-AN	Si	X83a		BVCE0-50V;ICE0-25nA at 25deg C;SICE-4uA/lum/ft-2min;LS-.8um typ.
21	MRD250	7	N-AN	Si	X83a		BVCE0-50V;ICE0-25nA at 25deg C;SICE-8uA/lum/ft-2min;LS-.8um typ.
22	MRD300	7	N-AN	Si	X8d	A	Pt-.25W;ICE0(dark)-25nA;BVCE0-50V;Sens-4.0uA/lum/ft.sq. min.
23	MRD310	7	N	Si	X83a		BVCE0-50V;ICE0-25nA at 25deg C;SICE-1uA/lum/ft-2min;LS-.8um typ.
24	MRD450*	7	NANTΔ	Si	u52		Pd 100mW;BVCE0-40V;ICE0(dark)-100nA max;Sens.Rad.CEO-100nA/mW/sq.cm.
25	MRD600	7	N	Si	X83b		Detector;SRCE-40uA/mW/cm 2 min;IL-800uA min;Pd-50mW;VCE0-50V.
26	OC70	7	P	Ge	R9		Pt-25mW;BVCE0-7.5V;IC-20mA; Sens-10uA/Fc
27	OC71	7	P	Ge	R9		Pt-50mW; BVCE0-25V; IC-20mA; Sens-30A/lm
28#	OS14	7	P-A	Ge	X6		VCE-20V max;IC-50mA max;Pt-.15W;ID-250uA;IL-2.5mA at 500 Lux.
29#	OS18	7	N-D	Ge	X6		VCE-30V max;IC-20mA max;Pt-.40W;ID-.20uA;IL-50uA at 500 Lux.
30#	P20	7	N-PL	Si	X6		Pt-.87W max;BVCE0-80V min;BVCE0-7V min;Sens-20uA/mW/cm min.
31#	P21	7	N-PL	Si	X8		Pt-.50W max;BVCE0-80V min;BVCE0-7V min;Sens-20uA/mW/cm min.
32	P102*	7	P-DØ	Si	X8		IGSS(dk)-10nA max;Sin-.40uA/mW/cm 2 min;tr/ft-10/1.5usec typ.
33	P236	7	N	Si	X68	DH	Pt-300mW;Sens-.3uA/mW/cm.sq.;lg(DARK)-30pA;IGSS(DARK)-.25nA;Vp-2V.
34	P237	7	N	Si	X68	DH	Pt-300mW;Sens-.3uA/mW/cm.sq.;lg(DARK)-30pA;IGSS(DARK)-.25nA;Vp-3V.
35	P238	7	N	Si	X68	DH	Pt-300mW;Sens-.3uA/mW/cm.sq.;lg(DARK)-30pA;IGSS(DARK)-.25nA;Vp-5V.
36#	PH241N*	7	N	Si	TO18		IGSS(light)-8.0nA/fc;D(light)-10uA/Fc.
37#	PH242N*	7	N	Si	TO18		IGSS(light)-8.0nA/fc;D(light)-16uA/Fc.
38#	PH243N*	7	N	Si	TO18		IGSS(light)-8.0nA/fc;D(light)-25uA/Fc.
39#	PH244N*	7	N	Si	TO18		IGSS(light)-8.0nA/fc;D(light)-40uA/Fc.
40	SP1	7	P-E	Si	X69		Pt-.50W;ID-100nA max;Sensitivity-.50mA typ.
41	SP2	7	P-E	Si	X69		Pt-.50W;ID-100nA max;Sensitivity-1.5mA typ.
42	SP3	7	P-E	Si	X69		Pt-.50W;ID-100nA max;Sensitivity-3.0mA typ.
43	TIL58	7	NPLA	Si	X69a		Pd-50mW;ID-25nA max;IL-1.0mA min;tr-2.0usec;BVCE0-50V;BVCE0-8.0V;tf-1.5usec.
44	TIL63	7	N-PLA	Si	X99		ID 25nA max;IL 400uA min;VCE0 50V;VECO 7.0V;Pd 50mW;tr 1.5us;tf 1.5us.
45	TIL64	7	N-PLA	Si	X99		ID 25nA max;IL 400uA min;VCE0 50V;VECO 7.0V;Pd 50mW;tr 1.5us;tf 1.5us.
46	TIL65	7	N-PLA	Si	X99		ID 25nA max;IL 1.0mA min;VCE0 50V;VECO 7.0V;Pd 50mW;tr 1.5us;tf 1.5us.
47	TIL66	7	N-PLA	Si	X99		ID 25nA max;IL 2.5mA min;VCE0 50V;VECO 7.0V;Pd 50mW;tr 1.5us;tf 1.5us.
48	TIL67	7	N-PLA	Si	X99		ID 25nA max;IL 6.0mA min;VCE0 50V;VECO 7.0V;Pd 50mW;tr 1.5us;tf 1.5us.
49	TIL601	7	N-PLA	Si	X83c		Pt-50mW;IL-3.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
50	TIL602	7	N-PLA	Si	X83c		Pt-50mW;IL-5.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
51	TIL603	7	N-PLA	Si	X83c		Pt-50mW;IL-8.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
52	TIL604	7	N-PLA	Si	X83c		Pt-50mW;IL-7.0mA min;ID-25nA max;tr-1.5us;tf-15us BVCE0-50V;BVCE0-7.0V.
53	TIL605	7	N-PLA	Si	u54a		Pt-50mW;IL-3.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
54	TIL606	7	N-PLA	Si	u54a		Pt-50mW;IL-5.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
55	TIL607	7	N-PLA	Si	u54a		Pt-50mW;IL-8.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
56	TIL608	7	N-PLA	Si	u54a		Pt-50mW;IL-7.0mA min;ID-25nA max;tr-1.5us;tf-15us BVCE0-50V;BVCE0-7.0V.
57	TIL609	7	N-PLA	Si	X97		Pt-50mW;IL-3.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
58	TIL610	7	N-PLA	Si	X97		Pt-50mW;IL-5.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
59	TIL611	7	N-PLA	Si	X97		Pt-50mW;IL-8.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
60	TIL612	7	N-PLA	Si	X97		Pt-50mW;IL-7.0mA min;ID-25nA max;tr-1.5us;tf-15us BVCE0-50V;BVCE0-7.0V.
61	TIL613	7	N-PLA	Si	X98		Pt-50mW;IL-3.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
62	TIL614	7	N-PLA	Si	X98		Pt-50mW;IL-5.0mA max;ID-25nA max;tr-1.5us;tf-15us;BVCE0-50V;BVCE0 7.0V.
63	TIL615	7	N-PLA	Si	X98		Pt-50mW;IL-8.0mA max;ID-25nA max;tr-1.5us;tf-15us BVCE0-50V;BVCE0-7.0V.
64	TIL616	7	N-PLA	Si	X98		Pt-50mW;IL-7.0mA min;ID-25nA max;tr-1.5us;tf-15us BVCE0-50V;BVCE0-7.0V.
65	TSP3	7	P-E	Si	X8b	A	Pt-.50W;ID-100nA max;Spectral Sensitivity-.75uM max.
66#	ZM100	7	N-PE	Si	X29a		Pt 200mW;IL 1.0mA/Lum/sq.ft;ID 1.0uA;ton 40usec;toff 100usec.
67#	ZM110	7	N	Si	X8d	A	Pd 300mW;IC(DK)1.0uA;IL 180uA/lum/sq.ft;Max.tr;tf 2.8usec;Pk Spectral Response .80um
68	2N489	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-6.8k ohms max;IV-8.0mA min;Ip-20uA max.
69	2N489A	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-6.8k ohms max;IV-8.0mA min;Ip-15uA max.
70	JAN2N489A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-6.8kΩ max;n-.62 max;Ip-12uA max.
71	2N489B	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-6.8kohms max;IV-8.0mA min;Ip-6.0uA max.
72	2N490	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-20uA max.
73	2N490A	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-15uA max.
74	JAN2N490A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-9.1kΩ max;n-.62 max;Ip-12uA max.
75	2N490B	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-6.0uA max.
76	2N490C	9	P	Si	R33	CC	Pt .45W;RBB 9.1kohms;n .51 min;VEB(sat) 4.0V max.
77	2N491	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-6.8kohms max;IV-8.0mA min;Ip-20uA max.
78	2N491A	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-6.8kohms max;IV-8.0mA min;Ip-15uA max.
79	JAN2N491A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-6.8kΩ max;n-.68 max;Ip-12uA max.
80	2N491B	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-6.8kohms max;IV-8.0mA min;Ip-6.0uA max.
81	2N492	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-9.1kohms max;IV-8.0mA min;Ip-20uA max.
82	2N492A	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-9.1kohms max;IV-8.0mA min;Ip-15uA max.
83	JAN2N492A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-9.1kΩ max;n-.68 max;Ip-12uA max.
84	2N492B	9	P	Si	R33		Pt-.45W;n-.68 max;RBB-9.1kohms max;IV-8.0mA min;Ip-6.0uA max.
85	2N492C	9	P	Si	R33	CC	Pt .45W;RBB 9.1kohms;n .56 min;VEB(sat) 4.3V max.
86	2N493	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-6.8kohms max;IV-8.0mA min;Ip-20uA max.
87	2N493A	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-6.8kohms max;IV-8.0mA min;Ip-15uA max.
88	JAN2N493A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-6.8kΩ max;n-.75 max;Ip-12uA max.
89	2N493B	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-6.8kohms max;IV-8.0mA min;Ip-6.0uA max.
90	2N494	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-9.1kohms max;IV-8.0mA min;Ip-20uA max.
91	2N494A	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-9.1kohms max;IV-8.0mA min;Ip-15uA max.
92	JAN2N494A	9	P	Si	R33	CA	Pt-.60W;VB2E-60V;RBB-9.1kΩ max;n-.75 max;Ip-12uA max.
93	2N494B	9	P	Si	R33		Pt-.45W;n-.75 max;RBB-9.1kohms max;IV-8.0mA min;Ip-6.0uA max.
94	2N494C	9	P	Si	R33	CC	Pt .45W;RBB 9.1kohms;n .62 min;VEB1 4.6V max.
95	2N1671	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-25uA max.
96	2N1671A	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-25uA max.
97	2N1671B	9	P	Si	R33		Pt-.45W;n-.62 max;RBB-9.1kohms max;IV-8.0mA min;Ip-6.0uA max.
98	2N1671C	9	P	Si	R33	CC	Pt .45W;VB2E 30V;VB2B 35V;RBB 4.7 to 9.1kΩ;n .47 to .62;IB2(mod) 6.8 to 22mA.
99	2N2160	9	P	Si	R33	CC	Pt .45W;VB2B 35V max;Ie 70mA;n .80 max;Ip 25uA max.
100#	2N2417	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .62 max;Ip 12uA max;IB2(MOD) 22mA max.
101#	2N2417A	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .62 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
102	JAN2N2417A	9	P	Si	TO72	CA	Pt-.35W;VB2E-60V;RBB-6.8kΩ max;n-.62 max;Ip-12uA max.
103#	2N2417B	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .62 max;Ip 6.0uA max;V0B1 3.0V min.
104#	2N2418	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .62 max;Ip 12uA max;IB2(MOD) 22mA max.
105#	2N2418A	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .62 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
106	JAN2N2418A	9	P	Si	TO72	CA	Pt-.35W;VB2E-60V;RBB-9.1kΩ max;n-.62 max;Ip-12uA max.
107#	2N2418B	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .62 max;Ip 6.0uA max;V0B1 3.0V min.
108#	2N2418C	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .68 max;Ip 12uA max;IB2(MOD) 22mA max.
109#	2N2419A	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .68 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
110	JAN2N2419A	9	P	Si	TO72	CA	Pt-.35W;VB2E-60V;RBB-6.8kΩ max;n-.68 max;Ip-12uA max.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY		M A T	Dwg. No.	L C O A D E	DESCRIPTION
		U S E	STRUC- TURE				
1#	2N2419B	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .68 max;lp 6.0uA max;VOB1 3.0V min.
2#	2N2420	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .68 max;lp 12uA max;IB2(MOD) 22mA max.
3#	2N2420A	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .68 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
4	JAN2N2420A	9	P	Si	T072	CA	Pt-35W;VB2E-60V;RBB-9.1kΩ max;n-.68 max;lp-12uA max.
5#	2N2420B	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .68 max;lp 6.0uA max;VOB1 3.0V min.
6#	2N2421	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .75 max;lp 12uA max;IB2(MOD) 22mA max.
7#	2N2421A	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .75 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
8	JAN2N2421A	9	P	Si	T072	CA	Pt-35W;VB2E-60V;RBB-6.8kΩ max;n-.75 max;lp-12uA max.
9#	2N2421B	9	P	Si	R149	CC	Pt 300mW;RBB 6.8kΩ max;n .75 max;lp 6.0uA max;VOB1 3.0V min.
10#	2N2422	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .75 max;lp 12uA max;IB2(MOD) 22mA max.
11#	2N2422A	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .75 max;VEB1(SAT) 5.0V max;IV 8.0mA min.
12	JAN2N2422A	9	P	Si	T072	CA	Pt-35W;VB2E-60V;RBB-9.1kΩ max;n-.75 max;lp-12uA max.
13#	2N2422B	9	P	Si	R149	CC	Pt 300mW;RBB 9.1kΩ max;n .75 max;lp 6.0uA max;VOB1 3.0V min.
14	2N2646	9	P	Si	T072	CC	Pt .30W;RBB 9.1kohms;lp 5.0uA max;lv 4.0mA min.
15	2N2647	9	P	Si	T072	CC	Pt .30W;n .82;RBB 9.1kohms;lp 2.0uA max;lv 8.0mA min.
16	2N2840	9	P	Si	T072	CA	Pt .30W;VB2E 30V;VBB 35V;lp 10uA max;lv 7.0mA max.
17	2N3479	9	P	Si	R33	GF	Pc .40W;RBB 9.1kohms max;n .62 max;lv 4.0mA min;lp 20uA max.
18	2N3480	9	P	Si	R33	GF	Pc .40W;RBB 9.1kohms max;n .75 max;lv 4.0mA min;lp 20uA max.
19	2N3481	9	P	Si	R33	GF	Pc .40W;RBB 9.1kohms max;n .85 max;lv 4.0mA min;lp 20uA max.
20	2N3483	9	P	Si	R33	GF	Pc .40W;RBB 9.1kohms max;n .75 max;lv 4.0mA min;lp 5.0uA max.
21	2N3484	9	P	Si	R33	GF	Pc .40W;RBB 9.1kohms max;n .85 max;lv 4.0mA min;lp 5.0uA max.
22	2N3980	9	P	Si	T072	CA	Pt .36W;IE 50mA;RBB 8.0kohms;n .82 max;lp 2.0uA max;lv 10mA max.
23	2N4851	9	P	Si	T072	CA	Pd .30W;RBB 9.1kohms max;n .75 max;lv 2.0mA max;lp 2.0uA max;IE(DC).
24	2N4852	9	P	Si	T072	CA	Pd .30W;RBB 9.1kohms max;n .85 max;lv 4.0mA max;lp 2.0uA max.
25	2N4853	9	P	Si	T072	CA	Pd .30W;RBB 9.1kohms max;n .85 max;lv 6.0mA max;lp 40uA max.
26	2N4870	9	P	Si	T092	CB	Pt .30W;VB2B1 35V max;lv 2.0mA min;VOB1 3.0V min;n .75 max.
27	2N4871	9	P	Si	T092	CB	Pd .30W;VB2B1 35V max;lv 4.0mA min;VOB1 5.0V min;n .85 max.
28	2N4891	9	P	Si	X55	CB	Pt-360mW max;rbb-9.1kohms max;n-.82 max;lp-5.0uA max.
29	2N4892	9	P	Si	X55	CB	Pt-360mW max;rbb-9.1kohms max;n-.69 max;lp-2.0uA max.
30	2N4893	9	P	Si	X55	CB	Pt-360mW max;rbb-12kohms max;n-.82 max;lp-2.0uA max.
31	2N4894	9	P	Si	X55	CB	Pt-360mW max;rbb-12kohms max;n-.86 max;lp-1.0uA max.
32	2N4947	9	P	Si	R33a	CC	Pt .36W;RBB 9.1kohms max;n .69 max;lp 2.0uA max.
33	JAN2N4947	9	P	Si	R33a	CA	Pt-360mW;RBB0-9.1kΩ max;n-.69 max;lp-2.0uA max;VB2E-30V.
34	2N4948	9	P	Si	R33a	CC	Pt .36W;RBB 12kohms max;n .82 max;lp 2.0uA max.
35	JAN2N4948	9	P	Si	R33a	CA	Pt-360mW;RBB0-12kΩ max;n-.82 max;lp-2.0uA max;VB2E-30V.
36	2N4949	9	P	Si	R33a	CC	Pt .36W;RBB 12kohms max;n .86 max;lp 1.0uA max.
37	JAN2N4949	9	P	Si	R33a	CA	Pt-360mW;RBB0-12kΩ max;n-.86 max;lp-1.0uA max;VB2E-30V.
38	2N5431	9	P	Si	R141	CA	Pt .30W;n .80 max;RBB 8.5kohms;lp 4.0uA max;lv 2.0mA min.
39	JAN2N5431	9	P	Si	R33a	CC	Pt 300mle 50mA;RBB0 8.5kΩ max;n .80 max;lv 2.0mA min;lp 400mA max.
40#	2SH11	9	N	Si	T05		Pc-450mW;n-.58/.75;VBB-450ohms;le(DC)-50mA.
41#	2SH12	9	N	Si	T05		Pc-450mW;n-.47/.62;VBB-450ohms;le(DC)-50mA.
42#	2SH13	9	N	Si	T05		Pt-.45W.
43#	2SH14	9	N	Si	T05		Pt-.45W.
44#	2SH20	9	N	Si	T018	CB	Pt 200mW;n .90 max;RBB 4.0kohms min;IV 2.0mA min;IP 8.0uA min.
45#	2SH22	9	N	Si	T018	CB	Pt 200mW;n .85 max;RBB 4.0kohms min IV 4.0mA min;IP 4.0uA min.
46	D5E37	9	N	Si	R33a	CA	Pt .30W;RBB 12kohms max;lv 4.0mA min;n .85 max;lp 25uA max.
47	D5E43	9	P	Si	R141	CA	Pt 300mW;lv 6.0mA min;n .82 max;lp 2.0uA;RBB0 9.1kΩ max.
48	D5E44	9	P	Si	R141	CA	Pt 300mW;lv 4.0mA min;n .82 max;lp 5.0uA;RBB0 9.1kΩ max.
49	D5E45	9	P	Si	R141	CA	Pt 300mW;lv 8.0mA min;n .82 max;lp 2.0uA;RBB0 9.1kΩ max.
50	D5K1	9	P-PL	Si	R33a	CC	Pt .30W;RBB 8.2kohms max;lv 2.0mA typ;n .62 max.
51	D5K2	9	P-PL	Si	R33a	CC	Pt .20W;RBB 15kohms max;lv 2.0mA typ;n .62 max.
52	D13T1	9	P-PL	Si	T098		Programmable;Pt-300mW;lv-50uAmax;lp-5.0uAmax;Vf-1.5Vmax.
53	D13T2	9	P-PL	Si	T098		Programmable;Pt-300mW;lv-25uAmax;lp-1.0uAmax;Vf-1.5Vmax.
54#	MEU21	9	P	Si	R110		Pt-300mW;Programmable N. Rbb lp and lv;BVAKO±40V;lp-5.0uA max.
55#	MEU22	9	P	Si	R110		Pt-300mW;Programmable N. Rbb lp and lv;BVAKO±40V;lp-1.0uA max.
56#	MU851	9	N-AN	Si	u43	CB	Pd 200mW;VB2E 30V;VB2B1 28V;RBB 9.1kohms max;lp 2.0uA max.
57#	MU852	9	N-AN	Si	u43	CB	Pd 200mW;VB2E 30V;VB2B1 28V;RBB 9.1kohms max;lp 2.0uA max.
58#	MU853	9	N-AN	Si	u43	CB	Pd 200mW;VB2E 30V;VB2B1 28V;RBB 9.1kohms max;lp 400mA max.
59	MU4891	9	PANT	Si	X20d	CB	Pt .30W;n .82 max;RBB 9.1kohms;lv 2.0mA;lp 5.0uA max;VEB1(sat)4V. max.
60	MU4892	9	PANT	Si	X20d	CB	Pt .30W;n .69 max;RBB 9.1kohms;lv 2.0mA;lp 2.0uA max;VEB1(sat)4V. max.
61	MU4893	9	PANT	Si	X20d	CB	Pt .30W;n .82 max;RBB 12kohms;lv 2.0mA;lp 2.0uA max;VEB1(sat)4V. max.
62	MU4894	9	PANT	Si	X20d	CB	Pt .30W;n .86 max;RBB 12kohms;lv 2.0mA;lp 1.0uA max;VEB1(sat)4V. max.
63#	ST20	9	P	Si	T072	CA	Pt 200mW;VB2E 20V;VBB 20V;lv 20mA max;fab 20MHz.
64#	ST50	9	P	Si	T072	CA	Pt-500mW;VB2E-30V;VBB-20V;lv-50mA max;fab-200kHz.
65	2N941*	10	P-A	Si	T018	A	Voff-1.0mV max;loff-1.0n Amps.
66	2N942*	10	P-A	Si	T018	A	Voff-3.0mV max;loff-3.0n Amps.
67	2N943*	10	P-A	Si	T018	A	Voff-2.0mV max;loff-1.0n Amps; fab-1.0Mc min.
68	2N944*	10	P-A	Si	T018	A	Voff-3.0mV max;loff-1.5n Amps; fab-1.0Mc min.
69	2N945*	10	P-A	Si	T018	A	Voff-4.0mV max;loff-2.0n Amps; fab-1.0Mc min.
70	2N946*	10	P-A	Si	T018	A	Voff-4.0mV max;loff-2.0n Amps; fab-1.0Mc min.
71	2N1676*	10	P-A	Si	T05	A	Voff-1.0mV max;VCE(SAT)-10V at IC-5.0mA;ft-42Mc Typ.
72	2N1677*	10	P-A	Si	T05	A	Voff-3.0mV max;VCE(sat)-10V at IC-5.0mA;ft-32Mc Typ.
73	2N1917*	10	P-A	Si	T05	A	Voff-1.0mV max;loff-1.0n Amps.
74	2N1918*	10	P-A	Si	T05	A	Voff-3.0mV max;loff-3.0n Amps.
75	2N1919*	10	P-A	Si	T05	A	Voff-2.0mV max;loff-1.0n Amps; fab-1.0Mc min.
76	2N1920*	10	P-A	Si	T05	A	Voff-3.0mV max;loff-1.5n Amps; fab-1.0Mc min.
77	2N1921*	10	P-A	Si	T05	A	Voff-4.0mV max;loff-2.0n Amps; fab-1.0Mc min.
78	2N1922*	10	P-A	Si	T05	A	Voff-4.0mV max;loff-2.0n Amps; fab-1.0Mc min.
79	2N2162*	10	P-PA	Si	T05	A	Voff-2.0mV max;rS-20 ohms; ft-14Mc min.
80	2N2163*	10	P-PA	Si	T05	A	Voff-2.0mV max;rS-20 ohms; ft-14Mc min.
81	2N2164*	10	P-PA	Si	T05	A	Voff-1.5mV max;rS-20 ohms; ft-24Mc min.
82	2N2165*	10	P-PA	Si	T05	A	Voff-3.0mV max;rS-20 ohms; ft-10Mc min.
83	2N2166*	10	P-PA	Si	T05	A	Voff-3.0mV max;rS-30 ohms; ft-10Mc min.
84	2N2167*	10	P-PA	Si	T05	A	Voff-2.5mV max;rS-20 ohms; ft-16Mc min.
85	2N2185*	10	P	Si	T018	A	Voff-2.5mV max;ts-250ns max.
86	2N2186*	10	P	Si	T018	A	Voff-2.5mV max;ΔVoff-50uV max;ts-250ns max.
87	2N2187*	10	P	Si	T018	A	Voff-2.5mV max;ΔVoff-50uV max;ts-250ns max.
88	2N2274*	10	P	Si	T018	A	Voff-3.5mV max;ts-250ns.
89	2N2275*	10	P	Si	T018	A	Voff-3.5mV max;ΔVoff:100uV max;ts-250ns.
90	2N2276*	10	P	Si	T018	A	Voff-2.5mV max;ts-250ns.
91	2N2277*	10	P	Si	T018	A	Voff-2.5mV max;ΔVoff:100uV max;ts-250ns.
92	2N2278*	10	P	Si	T018	A	Voff-2.25mV max;ts-250ns.
93	2N2279*	10	P	Si	T018	A	Voff-2.25mV max;ΔVo-50uV max;ts-250ns.
94	2N2280*	10	P-E	Si	T018	A	Voff-2.0mV max;ts-250ns; REC(sat)-18 ohms max.
95	2N2330*	10	N	Si	T05	A	Voff-75mV max;loff-1.0nA max;ft-100Mc min.
96	2N2331*	10	N	Si	T018	A	Voff-75mV max;loff-1.0nA;ft-100Mc min.
97	2N2356*	10	N-*	Si	L6	A	Voff-80uVmax;IEB0 1or2-10nAmax;rs-40Ωmax;ΔIOFF-5nAmax.
98	2N2356A*	10	N	Si	L6	A	Voff-50uV max;loff-2nA max; BVECO-7.0V. max.
99	2N2432*	10	N	Si	T018	A	Pc-600mW at 25 deg.C Case;VEC(off)-50mV;Ccb-12pf;r(ON)-20 ohms
100	2N2432A*	10	N	Si	T018	A	Pc-600mW at 25 deg.C Case;ICES-10nA;hFE(INV)-3.0;VEC(ofs)-70mV max.
101	2N2569*	10	N-PE	Si	T018	A	Pc-300mW;Voff-50mV max;hFE-50 min;loff-2.0nA max.
102	2N2570*	10	N-PE	Si	T018	A	Pc-300mW;Voff-1.0mV max;hFE-50 min;loff-2.0nA max.
103	2N2944A	10	P	Si	T046	A	Pt-400mW;rec(on)-4.0ohms max;VEC(ofs)-30mV max.
104	JAN2N2944A*	10	PΔ	Si	T046	A	Voff-30mV max;rec(on)-4.0Ω max;hFE(inv)-50 min;tr-100nsec.
105	2N2945A	10	P	Si	T046	A	Pt-400mW;rec(on)-6.0ohms max;VEC(ofs)-50mV max.
106	JAN2N2945A*	10	PΔ	Si	T046	A	Voff-50mV max;rec(on)-6.0Ω max;hFE(inv)-30 min;tr-100nsec.
107	2N2946A	10	P	Si	T046	A	Pt-400mW;rec(on)-8.0Ω max;VEC(ofs)-80mV max.
108	JAN2N2946A*	10	PΔ	Si	T046	A	Voff-80mV max;rec(on)-8.0Ω max;hFE(inv)-20 min;tr-100nsec.
109	2N3082*	10	N-PE	Si	L1	A	ΔVoff-75uV max;rS-40 ohms max;VCEO-20V max;Δloff-5.0mA max.
110	2N3083*	10	N-PE	Si	L1	A	ΔVoff-75uV max;rS-40 ohms max;VCEO-20V max;Δloff-2.0mA max.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	LEAD CODE	DESCRIPTION
1	2N3217*	10	P-E	Si	TO46	A	Voff-1.0mV max; R _{sat} -30 ohms max. at I _E -10mA; I _B -1.0mA max.
2	2N3218*	10	P-E	Si	TO46	A	Voff-2.0mV max; R _{sat} -50 ohms max. at I _E -10mA; I _B -1.0mA.
3	2N3219*	10	P-E	Si	TO46	A	Voff-3.0mV max; R _{sat} -60 ohms max. at I _E -10mA; I _B -1.0mA.
4	2N3317*	10	P	Si	R98		Voff-1.75mV max. at I _B -50mA; R _S -20 ohms max. at I _B -1mA; I _E -10mA
5	2N3318*	10	P	Si	R98		Voff-1.5mV max. at I _B -50mA; R _S -18 ohms max. at I _B -1mA; I _E -10mA
6	2N3319*	10	P	Si	R98		Voff-1.5mV max. at I _B -50mA; R _S -18 ohms max. at I _B -1mA; I _E -10mA
7	2N3343*	10	PA	Si	TO5	A	Voff-1.2mV max; h _{FC} -4 min; R _(sat) -35 ohms max; T _{off} -2.5usec max.
8	2N3344*	10	PA	Si	TO5	A	Voff-1.2mV max; h _{FC} -1.5 min; R _(sat) -20 ohms max; T _{off} -2.5usec max.
9	2N3345*	10	PA	Si	TO5	A	Voff-3.0mV max; h _{FC} -1.2 min; R _(sat) -25 ohms max; T _{off} -2.5usec max.
10	2N3346*	10	PA	Si	TO5	A	Voff-1.2mV max; h _{FC} -1.5 min; R _(sat) -20 ohms max; T _{off} -2.5usec max.
11	2N3401*	10	P	Si	TO5	A	Voff-0.1V max; h _{FE} (inv)-1.85 min; R _(sat) -50ohms.
12	2N3677	10	P	Si	TO46	A	Voff-1.0mV; R _S -8.0 ohms max; h _{FE} / at 1 Mc-5.0
13	2N3840	10	P	Si	TO46	A	Pc-400mW; BV _{CEO} -50V; BV _{CE0} -50V; BV _{EBO} -50V; h _{FE} -50 min./IC-1.0mA
14	2N3841	10	P	Si	TO18	A	Pc-300mW; BV _{CEO} -100V; BV _{CE0} -100V; BV _{EBO} -80V; h _{FE} -20 min./IC-1.0mA
15	2N3842	10	P	Si	TO18	A	Pc-300mW; BV _{CEO} -120V; BV _{CE0} -120V; BV _{EBO} -120V; h _{FE} -20 min./IC-1.0mA
16	2N3910*	10	P	Si	TO46	A	Voff-1.2mV max; rd-40ohms max; V _{CE} (sat)-30V max; h _{FE} (inv)-5.0 min.
17	2N3911*	10	P	Si	TO46	A	Voff-90mV max; rd-25ohms max; V _{CE} (sat)-30V max; h _{FE} (inv)-10 min.
18	2N3912*	10	P	Si	TO46	A	Voff-30mV max; rd-20ohms max; V _{CE} (sat)-30V max; h _{FE} (inv)-15 min.
19	2N3913*	10	P	Si	TO18	A	Voff-1.2mV max; rd-40 ohms max; V _{CE} (sat)-3V max; h _{FE} (inv)-5.0 min.
20	2N3914*	10	P	Si	TO18	A	Voff-90mV max; rd-25 ohms max; V _{CE} (sat)-3V max; h _{FE} (inv)-10 min.
21	2N3915*	10	P	Si	TO18	A	Voff-60mV max; rd-20 ohms max; V _{CE} (sat)-3V max; h _{FE} (inv)-15 min.
22	2N3977*	10	P	Si	TO46	A	Voff-1.25mV max; rd-20 ohms max; V _{CE} (sat)-10mV max.
23	2N3978*	10	P	Si	TO46	A	Voff-2.0mV max; rd-35 ohms max; V _{CE} (sat)-15mV max.
24	2N3979*	10	P	Si	TO46	A	Voff-3.0mV max; rd-45 ohms max; V _{CE} (sat)-15mV max.
25	2N4980*	10	PA	Si	TO46	A	Voff-1.2mV; r _s (ON)-16 ohms max; h _{FE} (INV) min-7; V _{CEO} -30V max.
26	2N4981*	10	PA	Si	TO46	A	Voff-1.4mV; r _s (ON)-18 ohms max; h _{FE} (INV) min-6; V _{CEO} -50V max.
27	2N4982*	10	PA	Si	TO46	A	Voff-1.6mV; r _s (ON)-20 ohms max; h _{FE} (INV) min-5; V _{CEO} -70V max.
28	2N5066*	10	NA	Si	TO46	A	Pt-400mW; V _{CE} S-20V; Voff-1.0mV max; r _s (ON)-8.0 ohms max.
29	2N5229*	10	P	Si	TO46	A	Voff-50mV; h _{FE} (inv)-15; r _(on) -6.0 ohms; ccb-5.0pf.
30	2N5230*	10	P	Si	TO46	A	Voff-50mV; h _{FE} (inv)-15; r _(on) -8.0 ohms; ccb-5.0pf.
31	2N5231*	10	P	Si	TO46	A	Voff-80mV; h _{FE} (inv)-15; r _(on) -10 ohms; ccb-5.0pf.
32	2S306*	10	P-A	Si	TO5		Pc-50mW; Voff-1.0mV; I _{EO} -10nA max; rd-200 ohms max.
33	2S307*	10	P-A	Si	TO5		Pc-50mW; Voff-1.0mV; I _{EBX} -10nA max; rd-20 ohms max.
34	2S326*	10	P-A	Si	TO5		Pc-50mW; Voff-1.0mV; I _{EO} -10nA max; rd-200 ohms max.
35	2S327*	10	P-A	Si	R51		Pc-50mW; Voff-1.0mV; I _{EBX} -10nA max; rd-20 ohms max.
36	3N62	10	NA	Si	TO72	GD	Voff 200uV max; r _s (on) 100Ω; BVE1E20 6V; IE1E20 .005uA; ton 250ns.
37	3N63	10	NA	Si	TO72	GD	Voff 100uV max; r _s (on) 100Ω; BVE1E20 6V; IE1E20 .005uA; ton 250ns.
38	3N64	10	NA	Si	TO72	GD	Voff 50uV max; r _s (on) 100Ω; BVE1E20 6V; IE1E20 .005uA; ton 250ns.
39	3N65	10	NA	Si	TO72	GD	Voff 200uV max; r _s (on) 100Ω; BVE1E20 10V; IE1E20 .005uA; ton 20ns.
40	3N66	10	NA	Si	TO72	GD	Voff 100uV max; r _s (on) 100Ω; BVE1E20 10V; IE1E20 .005uA; ton 250ns.
41	3N67	10	NA	Si	TO72	GD	Voff 50uV max; r _s (on) 100Ω; BVE1E20 10V; IE1E20 .005uA; ton 250ns.
42	3N68	10	NA	Si	TO72	GD	Voff 200uV max; r _s (on) 500Ω; BVE1E20 10V; IE1E20 .005uA; ton 250ns.
43	3N68A	10	NA	Si	TO72	GD	BVE1E2S 10V min; Voff .20mV max; IE1E2S 5nA max; ton .25us; Toff .25us.
44	3N69	10	NA	Si	TO72	GD	Voff 100uV max; r _s (on) 500Ω; BVE1E20 10V; IE1E20 .005uA; ton 250ns.
45	3N70	10	NA	Si	TO72	GD	Voff 50uV max; r _s (on) 500Ω; BVE1E20 10V; IE1E20 .005uA; ton 250ns.
46	3N71*	10	N	Si	TO72	GC	Voff 50uV max; h _{FE} (inv) 2.5 min; BVE1E2S 8V min; IE1E20 5nA max.
47	3N72*	10	N	Si	TO72	GC	Voff 100uV max; h _{FE} (inv) 2.5 min; BVE1E2S 8V min; IE1E20 5nA max.
48	3N73*	10	N	Si	TO72	GC	Voff 200uV max; h _{FE} (inv) 1.5 min; BVE1E2S 8V min; IE1E20 5nA max.
49	3N74*	10	NA	Si	TO72	GC	Voff 50uV max; IE1E2S 2nA max; BVE1E2S 18V max; ΔVoff/ΔT 75uV/°C.
50	JAN3N74*	10	N	Si	TO72	GC	VE1E2(ofs)-50uV max; re1e2(on)-10Ω min; Ce2b-5pf max.
51	3N75*	10	NA	Si	TO72	GC	Voff 100uV max; IE1E2S 2nA max; BVE1E2S 18V max; ΔVoff/ΔT 125uV/°C.
52	JAN3N75*	10	N	Si	TO72	GC	VE1E2(ofs)-100uV max; re1e2(on)-10Ω min; Ce2b-5pf max.
53	3N76*	10	NA	Si	TO72	GC	Voff 200uV max; IE1E2S 2.0nA max; BVE1E2S 18V max; ΔVoff/ΔT 175uV/°C.
54	JAN3N76*	10	N	Si	TO72	GC	VE1E2(ofs)-200uV max; re1e2(on)-10Ω min; Ce2b-5pf max.
55	3N77*	10	NA	Si	TO72	GC	Voff 50uV max; IE1E2S 5.0nA max; BVE1E2S 12V max; ΔVoff/ΔT 75uV/°C.
56	3N78*	10	NA	Si	TO72	GC	Voff 100uV max; IE1E2S 5.0nA max; BVE1E2S 12V max; ΔVoff/ΔT 125uV/°C.
57	3N79*	10	NA	Si	TO72	GC	Voff 200uV max; IE1E2S 10nA max; BVE1E2S 12V max; ΔVoff/ΔT 175uV/°C.
58	3N87*	10	N	Si	TO72	GC	Voff 50uV max; IE1E2S 20pA max; BVE1E2S 10V max; ΔVoff/ΔT 100uV/°C.
59	3N88*	10	N	Si	TO72	GC	Voff 100uV max; IE1E2S 20pA max; BVE1E2S 10V max; ΔVoff/ΔT 100uV/°C.
60	3N90*	10	PA	Si	TO72	GD	Voff 50uV max; BVE1E20 50V; IE1E20 1.0nA max; ΔVoff/ΔT 75uV/°C.
61	3N91*	10	PA	Si	TO72	GD	Voff 100uV max; BVE1E20 50V; IE1E20 1.0nA max; ΔVoff/ΔT 125uV/°C.
62	3N92*	10	PA	Si	TO72	GD	Voff 200uV max; BVE1E20 50V; IE1E20 1.0nA max; ΔVoff/ΔT 175uV/°C.
63	3N93*	10	PA	Si	TO72	GD	Voff 50uV max; BVE1E20 50V; IE1E20 1.9nA max; ΔVoff/ΔT 75uV/°C.
64	JAN3N93*	10	P	Si	TO72	GD	Voff-50uV max; RE1E2-50Ω max; tr-20nsec max; ts-250nsec max.
65	3N94*	10	PA	Si	TO72	GD	Voff 100uV max; BVE1E20 50V; IE1E20 1.0nA max; ΔVoff/ΔT 125uV/°C.
66	3N95*	10	PA	Si	TO72	GD	Voff 200uV max; BVE1E20 50V; IE1E20 1.0nA max; ΔVoff/ΔT 175uV/°C.
67	3N100	10	PA	Si	TO72	GC	Pt .30W; Voff 50uV max; IC 50mA; BV _{CEO} 20V; r _s 50Ω max.
68	3N101	10	PA	Si	TO72	GC	Pt .30W; Voff 50uV max; IC 50mA; BV _{CEO} 30V; r _s 50Ω max.
69	3N102	10	PA	Si	TO72	GC	Pt .30W; Voff 50uV max; IC 50mA; BV _{CEO} 40V; r _s 50Ω max.
70	3N103	10	PA	Si	TO72	GC	Pt .30W; Voff 50uV max; IC 50mA; BV _{CEO} 50V; r _s 50Ω max.
71	3N104	10	PA	Si	TO72	GC	Pt .30W; Voff 50uV max; IC 50mA; BV _{CEO} 60V; r _s 50Ω max.
72	3N105	10	PA	Si	TO72	GC	Pt .30W; Voff 250uV max; IC 50mA; BV _{CEO} 20V; r _s 100Ω max.
73	3N106	10	PA	Si	TO72	GC	Pt .30W; Voff 250uV max; IC 50mA; BV _{CEO} 40V; r _s 100Ω max.
74	3N107	10	PA	Si	TO72	GC	Pt .30W; Voff 250uV max; IC 50mA; BV _{CEO} 60V; r _s 100Ω max.
75	3N108	10	P	Si	TO72	GC	VE1B0 50V; IE1E2 .10nA max; re1/e2(on) 50Ω max.
76	JAN3N108*	10	P	Si	TO72	GC	Pt-600mW case; IE1E2-.10nA max; VE1E2/-30uV; re1e2(on)-50Ω max.
77	3N109	10	P	Si	TO72	GC	VE1B0 50V; IE1E2 .10nA max; re1/e2(on) 50Ω max.
78	3N110	10	P	Si	TO72	GC	VE1B0 30V; IE1E2 .50nA max; re1/e2(on) 50Ω max.
79	3N111	10	P	Si	TO72	GC	VE1B0 30V; IE1E2 .50nA max; re1/e2(on) 50Ω max.
80	3N112*	10	P Δ	Si	L38		Pt-.2W; VE1E20-30V; IE1E20-1nA; re1e2-100 ohms; (Vo)1,2-50uV.
81	3N113*	10	P Δ	Si	L38		Pt-.2W; VE1E20-50V; IE1E20-1nA; re1e2-100 ohms; (Vo)1,2-50uV.
82	3N114*	10	P	Si	TO72	GD	Voff 50uV max; BVE1E20 12V; IE1E20 1.0nA max; ΔVoff/ΔT 75uV/°C.
83	3N115*	10	P	Si	TO72	GD	Voff 100uV max; BVE1E20 12V; IE1E20 1.0nA max; ΔVoff/ΔT 125uV/°C.
84	3N116*	10	P	Si	TO72	GD	Voff 200uV max; BVE1E20 12V; IE1E20 1.0nA max; ΔVoff/ΔT 175uV/°C.
85	3N117*	10	P	Si	TO72	GD	Voff 50uV max; BVE1E20 20V; IE1E20 1.0nA max; ΔVoff/ΔT 75uV/°C.
86	3N118*	10	P	Si	TO72	GD	Voff 100V max; BVE1E20 20V; IE1E20 1.0nA max; ΔVoff/ΔT 125uV/°C.
87	3N119*	10	P	Si	TO72	GD	Voff 200uV max; BVE1E20 20V; IE1E20 1.0nA max; ΔVoff/ΔT 175uV/°C.
88	3N120*	10	NA	Si	TO72	GC	BVE1E20 20V; Voff 10uV max; ΔVoff/ΔT 20uV/°C; r _(on) 25Ω max.
89	3N121*	10	NA	Si	TO72	GD	BVE1E20 20V; Voff 10uV max; ΔVoff/ΔT 20uV/°C; r _(on) 250Ω max.
90	3N123*	10	P	Si	TO72	GD	BVE1E20 25V; Voff 25mV max; IE1E20 1.0nA max; ΔVO/ΔT 150uV/°C.
91	3N127*	10	N	Si	TO72		IB-10mA; IE-10mA; Ceb-2.0pf; Vo-10uV.
92	JAN3N127*	10	N	Si	GC		VE1E2(ofs)-10uV max; re1e2(on)-1.0Ω min; Ce2b-2pf max.
93	3N129*	10	PA	Si	TO72	GC	VE1E2/ΔT 10uV max; r _s (on) 15Ω max; V(BR)E1E2 10V; VE1E2 30uV.
94	3N130*	10	PA	Si	TO72	GC	VE1E2/ΔT 10uV max; r _s (on) 15Ω max; V(BR)E1E2 20V; VE1E2 30uV.
95	3N131*	10	PA	Si	TO72	GC	VE1E2/ΔT 10uV max; r _s (on) 15Ω max; V(BR)E1E2 30V; VE1E2 30uV.
96	3N132*	10	PA	Si	TO72	GC	VE1E2/ΔT 10uV max; r _s (on) 15Ω max; V(BR)E1E2 40V; VE1E2 30uV.
97	3N133*	10	PA	Si	TO72	GC	VE1E2/ΔT 10uV max; r _s (on) 15Ω max; V(BR)E1E2 50V; VE1E2 30uV.
98	3N134*	10	PA	Si	TO72	GC	VE1E2/ΔT 25uV max; r _s (on) 15Ω max; V(BR)E1E2 15V; VE1E2 100uV.
99	3N135*	10	PA	Si	TO72	GC	VE1E2/ΔT 25uV max; r _s (on) 15Ω max; V(BR)E1E2 30V; VE1E2 100uV.
100	3N136*	10	PA	Si	TO72	GC	VE1E2/ΔT 25uV max; r _s (on) 15Ω max; V(BR)E1E2 50V; VE1E2 100uV.
101	5	10	N-DM	Si	L6		Matched pair; ICBO-10uA; BV _{CEO} -20V; BV _{EBO} -5.0V.
102	6	10	N-DM	Si	X32		Matched pair; ICBO-10uA; BV _{CEO} -20V; BV _{EBO} -5.0V.
103	7	10	N-PE	Si	X33		Matched pair; ICEO-2.0nA; BV _{CEO} -45V; ft-30Mc.
104	10	10	N-DM	Si	OV13		Matched pair; ICEO-2.0nA; BV _{CEO} -45V; ft-30Mc.
105	12C101	10	N-PL	Si	L1a		Pt-500mW; V _{CEO} -20V; ΔVoff-50uV max; ΔIoff-2mA max.
106	12C102	10	N-PL	Si	L1a		Pt-500mW; V _{CEO} -20V; ΔVoff-100uV max; ΔIoff-2.0mA max.
107	20	10	P-A	Si	OV13		Matched pair; ICBO-2.0uA; BV _{CEO} -20V; BV _{EBO} -12V.
108	30	10	P-A	Si	X33a		Matched pair; ICBO-2.0uA; BV _{CEO} -20V; BV _{EBO} -12V.
109	40	10	P-A	Si	X33c		Matched pair; ICBO-25nA; BV _{CEO} -35V; BV _{CEO} -40V.
110	50	10	P-A	Si	X33e		Matched pair; ICBO-3.0uA; BV _{CEO} -25V; BV _{CEO} -25V.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	2] TYPE No.	1] CATEGORY		M	DWG. No.	L C E O A D E	DESCRIPTION
		U	S				
1	60	10	P-A	Si	X33b		Matched pair; ICBO-2.0uA; BVCEO-36V; BVEBO-12V.
2	70	10	P-A	Si	X33d		Matched pair; ICBO-3.0nA; BVCEO-6.0V; BVEBO-10V.
3	A569	10	N	Si	TO18	A	Matched Pair of 2N2569; Voff - ±50uV.
4	A570	10	N	Si	TO18	A	Matched Pair of 2N2570; Voff - ±100uV.
5#	BFV34*	10	P-PE	Si	u34b	P	Pt. 15W;hFE(inv)-6.0 min;VEC(ofs)-.30mV;rec(on)-20 ohms.
6#	BFV35*	10	P-PE	Si	u34b	P	Pt. 15W;hFE(inv)-4.0 min;VEC(ofs)-.50mV;rec(on)-35 ohms.
7#	BFV36*	10	P-PE	Si	u34b	P	Pt. 15W;hFE(inv)-3.0 min;VEC(ofs)-.80mV;rec(on)-45 ohms.
8#	BFV37*	10	N-PE	Si	u34b	P	Pt. 15W;hFE(inv)-2.0 min;VEC(ofs)-.50mV;rec(on)-20 ohms.
9#	BFV38*	10	N-PE	Si	u34b	P	Pt. 15W;hFE(inv)-3.0 min;VEC(ofs)-.40mV;rec(on)-15 ohms.
10#	BFV89*	10	N-PE	Si	u26a	B	Pt. 30W;hFE(inv)-2.0 min;VEC(ofs)-.40mV;rec(on)-15 ohms.
11#	BFV89A*	10	N-PE	Si	u26a	B	Pt. 30W;hFE(inv)-3.0 min;VEC(ofs)-.70mV;rec(on)-15 ohms.
12#	BSV22*	10	N-MOS*	Si	TO72	DW	Pt 200mW;Voff 30uV max;Roff 100MΩ;Cob 4.0pf max.
13#	BSS82*	10	N-MOS	Si	TO33	DW	Pt 250mW;Voff 30uV max;Cob 4.0pf max;RDS(off) 20MΩ.
14#	BSY89*	10	N-PE	Si	TO18	A	Voff-1.0mV max;rs-20 ohms;cob-12pf;ft-40Mc min.
15	D12X013	10	N-PE	Si	L11		Pt-500mW each;VCEO-20V;ΔVoff-100uV max;Δloff-10uA max.
16	D12X070	10	N-PE	Si	L11		Pt-500mW each;VCEO-20V;ΔVoff-50uV max;Δloff-10mA max.
17	LDS207*	10	N-PEΔ	Si	u34	P	Pt.-36W;hFE(INV)-20min;Voff-.10mV max;rec(on)-4 ohms max.
18	ME209*	10	NPE	Si	TO18	A	Voff-250uV max; loff-2.0n Amps max; Rsat-15ohms.
19	ME214*	10	NPE	Si	TO18	A	Voff-500uV max; loff-2.0n Amps max; Rsat-15ohms.
20#	UPA36A	10	N-PE	Si	L6a		Pt-200mW;VCE-5.0V;VECR-5.0V;IC-50mA;IE-50mA;ΔVoff-50uV max;Δloff-1.0nA max.
21#	ZDT10	10	N-PL	Si	L2h		ΔVEC-250uV max;VEC-2.0mV;IE1E2-10nA max.
22#	ZDT30*	10	N-PE	Si	TO72	GC	VE1E2 50uV at IB 500uA;IE1E20 10nA at VE1E2 5.0 to 5.0V;rS 15Ω.
23#	ZDT31*	10	N-PE	Si	TO72	GC	VE1E2 50uV at IB 500uA;IE1E20 10nA at VE1E2 5.0 to 5.0V;rS 15Ω.
24#	2C111*	11	N-DPL	Si	L2b		VCEO-12V min;Pt.-38W;ft-200Mc min;ton-40nsec;hFE-80 at IC-10mA.
25#	2C415*	11	N-DPL	Si	L2b		VCEO-35V min;Pt.-43W;ft-100Mc;ICBO-3.0nA;hFE-60 min at IC-10uA.
26#	2C425*	11	N-DPL	Si	L2b		VCEO-60V min;Pt.-51W;ft-40Mc min;ICBO-1.0nA;hFE-85 at IC-10mA.
27	2N998	11	N-PL	Si	L4		Pc.-50W max;BVCEO-100V;hFE-1600 min/IC-10mA;BVCEO-60V;ICBO-.010uA
28	2N999	11	N	Si	L4		Pc.-50W; hFE-70000 max. pulsed at IC-100mA and VCE-10V
29	2N2641*	11	N	Si	L2t		Pt.-6W;VCE(sat)-100ohms max;VBE-.60V min;hFE-50 min.
30	2N2644*	11	N	Si	L2t		Pt.-6W;VCE(sat)-100ohms max;VBE-.60V min;hFE-100 min.
31	2N2785	11	N	Si	L4		Pc.-50W; BVCEO-60V; hFE-2,000-20,000
32	2N2804*	11	P	Si	L17k		Pt.-50W;hFE-20-120 at IC-.10mA,VCE-5V;VCE(SAT)-5V.
33	2N2807*	11	P	Si	L17k		Pt.-50W;hFE-40-120 at IC-.10mA,VCE-5V;VCE(sat)-5V.
34	2N2913*	11	N	Si	L2t		Pt.-50W;ICBO-10uA at 150 deg.C;VBE(ON)-.70V max;VCE(sat)-.35V max.
35	2N2914*	11	N	Si	L2t		Pt.-50W;ICBO-10uA at 150 deg.;VBE(ON)-.70V max;VCE(sat)-.35V max.
36	2N3425*	11	N	Si	L2t		Pt.-4W;VC1C2-200V;ton-50nsec max;toff-90nsec max.
37	2N3800*	11	P	Si	L17e		Pt-360mW;hFE-100 min. at IC-10uA;VCE(sat)-.20V max.
38	2N3801*	11	P	Si	L17e		Pt-360mW;hFE-225 min. at IC-10uA;VCE(sat)-.20V max.
39	2N3806*	11	P	Si	L17k		Pt-600mW;hFE-100 min. at IC-10uA;VCE(sat)-.20V max.
40	2N3807*	11	P	Si	L17k		Pt-600mW;hFE-225 min. at IC-10uA;VCE(sat)-.20V max.
41	2N3812*	11	P	Si	L17s		Pt.-35W;hFE-100 min. at IC-10uA, VCE-5.0V.
42	2N3813*	11	P	Si	L17s		Pt.-35W;hFE-225 min. at IC-10uA, VCE-5.0V.
43	2N3836	11	N-Δ	Si	L35		Pt-1.0W;ton-500nsec;toff-1.0usec;BVCEO-80V;ICEX-500uA.
44	2N3837	11	N-Δ	Si	L35		Pt-1.0W;ton-500nsec;toff-1.0usec;BVCEO-100V;ICEX-500uA.
45	2N4017*	11	P	Si	L17x		Pt-600mW;hFE-60 min at VCE of 5.0V and IC of 1.0uA;IEBO-10nA max.
46	2N4018*	11	P	Si	L17x		Pt-600mW;hFE-60 min at VCE of 5.0V and IC of 1.0uA;IEBO-10nA max.
47	2N4019*	11	P	Si	L17x		Pt-600mW;hFE-180 min at VCE of 5.0V and IC of 1.0uA;IEBO-10nA max.
48	2N4939	11	P	Si	L17k		Pt.-60W;BVCE1C2-200V max;hFE-50 min;BVCEO-50 max;IC-50mA max.
49	2N4942	11	P	Si	L17d		Pt.-35W;BVCEO-50 max;hFE-50 min;ICBO-.02uA max.
50	2N4955*	11	N	Si	L2s		Pt.-45W;NF-4.5db at 10kohms.
51	2N5254*	11	P	Si	L17t		Pt.-43W;hFE-50 min;VBCO-40V;VEBO-5.0V;ft-40M min.
52	2N5305	11	N	Si	L3f		Pt.-40W;VCB1-25V max;VCE-25V max;IC-.20A max;hFE-2000 min;ft-60Mc min
53	2N5306	11	N	Si	L3f		Pt.-4W;VCB1-25V max;VCE2-25V max;IC-.2A max;hFE-7000 min;ft-60Mc min
54	2N5307	11	N	Si	L3f		Pt.-4W;VCB1-40V max;VCE2-40V max;IC-.2A max;hFE-2000 min;ft-60Mc min
55	2N5308	11	N	Si	L3f		Pt.-4W;VCB1-40V max;VCE2-40V max;IC-.2A max;hFE-7000 min;ft-60Mc min
56	2N5390	11	N	Si	L35a		Pt-1W;VCB1-120V max;VCE-80V max;IC-2A max;hFE-2000 min;ft-40Mc min
57#	2OC26	11	P	Ge	MD3		VCBO 20V;VCEO 20V;IC 3.5A;Pt 12W;hFE 20 min.
58#	2OC30	11	P	Ge	MD17c	C	VCBO 32V;VCEO 16V;IC 1.4A;Pt 40W;hFE 32.
59#	2V205*	11	P-DPE	Si	L17a		Pt.-45W;ft-100Mc min;BVCEO-15V;hFE-55 at IC-10mA.
60#	2V435*	11	P-DPE	Si	L17a		VCEO-25V min;Pt.-55W;ft-100Mc min;ICBO-.50nA;ton-50ns;toff-100ns.
61	3N189*	11	PMOSΔ	Si	L58b		Pt 525mW;tr 30nS;td 15nS;toff 50nS.
62	3N191*	11	PMOSΔ	Si	L58b		Pt 525mW;tr 30nS;td 15nS;toff 50nS.
63	4JD12X009	11	N-PL	Si	L42		Contains 3-2N1613 transistors and a 1N914 diode;Pt-300mW.
64	12X006	11	N-PL	Si	L31		Emitter Coupled Logic or/and gate;Pt-100mW;hFE-120;VCEO-15V
65	12X008	11	N-PL	Si	L30		Functional Device and gate;Pt-100mW;hFE-120max;VCEO-15V
66	12X040	11	N-PL	Si			Active Functional Device;VCEO-60V;hFE1/hFE2-1.0;ΔVBE-5.0mV
67	12X058	11	N-PL	Si			Active Functional Device;VCEO-60V;hFE1/hFE2-1.0;ΔVBE-10mV
68	12X059	11	N-PL	Si			Active Functional Device;VCEO-60V;hFE1/hFE2-1.0;ΔVBE-5.0mV
69	40675*	11	N-PE	Si	L68		VCEO-35V;VEBO-3.5V;Pt-100W;IC-10A;ICES-30mA max;Cob-250pF max.
70#	BFV70	11		Si	TO84		Pt.-4W;BVCEO-60V min;hFE-100 min;ft-200MHz min;Toff-40ns max.
71#	BFV71	11		Si	TO84		Pt.-4W;BVCEO-60V min;hFE-100 min;ft-350MHz min;Toff-18ns max.
72#	BFV73	11		Si	TO84		Pt.-4W;BVCEO-60V min;hFE-40 min;ft-350MHz min;Toff-18ns max.
73#	BFV73N	11		Si	MP126		Pt.-4W;BVCEO-60V min;hFE-40 min;ft-350MHz min;Toff-18ns max.
74#	BFV75	11		Si	TO89		Pt.-4W;BVCEO-45V min;IC-30mA max;ft-30MHz min.
75#	BFV76	11		Si	TO89		Pt.-4W;BVCEO-15V min;VEC(off)-500uV;Rec(on)-20 ohms.
76#	BFV91	11		Si	TO84		Pt.-4W;BVCEO-12V min;ft-400MHz min;Toff-90us max.
77#	BFV91N	11		Si	MP126		Pt.-4W;BVCEO-12V min;ft-400MHz min;Toff-90us max.
78#	BFV93A	11		Si	TO84		BVCEO-60V min;hFE-100 min;VCE(sat)-.40V max.
79#	BFV93AN	11		Si	MP126		BVCEO-60V min;hFE-100 min;VCE(sat)-.40V max.
80#	BFV95	11		Si	TO84		BVCEO-60V min;hFE-40 min;VCE(sat)-.40V max.
81#	BFV95N	11		Si	MP126		BVCEO-60V min;hFE-40 min;VCE(sat)-.40V max.
82#	BFX67	11	N	Si	L4		Pc.-50W;hFE-7000 max. pulsed at IC-100mA and VCE-10V.
83	D12X010	11	N-PL	Si	L29		Two stage amplifier;VCEO-60V;hFE-40.
84	D12X011	11	N-PL	Si	L27		Three stage amplifier with Darlington input;hFE-40.
85	D12X014	11	N-PL	Si	L26		Three Stage Amplifier with Darlington output;hFE-40.
86	D12X015	11	N-PL	Si	L11		Active Functional Device;VCEO-60V;hFE1/2-1.0;ΔVBE-10mV.
87#	FI0049*	11	PDPPL	Si	L18a		Pt-1.7W max;IDSS-1.0nA max;BVDS-30V max;BVSS-25V max.
88	FT701	11	P-DPL	Si	L51a		Pt.-60W; VDSS,VSDS-30V; ID-200mA; IG-10mA.
89	FT4017	11	P-DPE	Si	L17e		BVCEO-80V;BVCEO-80V;IC-200mA max;hFE-100 min. at 10uA, 5.0V.
90	FT4018	11	P-DPE	Si	L17e		BVCEO-60V;BVCEO-60V;IC-200mA max;hFE-100 min. at 10uA, 5.0V.
91	FT4019	11	P-DPE	Si	L17e		BVCEO-45V;BVCEO-45V;IC-200mA max;hFE-250 min. at 10uA, 5.0V.
92	G125F*	11	N	Si	L49a		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.05nA.
93	G126F*	11	N	Si	L49a		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.05nA.
94	G127F*	11	N	Si	L49a		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.10nA.
95	G128F*	11	N	Si	L49a		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.10nA.
96	G129F*	11	N	Si	L49b		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.05nA.
97	G130F*	11	N	Si	L49b		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.05nA.
98	G131F*	11	N	Si	L49b		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.10nA.
99	G132F*	11	N	Si	L49b		4 Chan.FET Choppers;Pt-375mW;BVGSS-40V;ID(off) and IS(off)-.10nA.
100	L14B	11	N-PLT	Si	TO98	B	Photo-Darlington Amp;Pt-150mW;IL-100mA;VCEO-12V;VCBO-18V.
101	M106*	11	P-MOSΔ	Si	L51b		FET;BVDS-30V;BVGSS-30V;IGSS-100pA;rDS-120Ω;Pt-500mW;CGSS-4.0pF.
102	M107*	11	P-MOS	Si	L51b		FET;BVDS-30V;BVGSS-30V;IGSS-100pA;rDS-120Ω;Pt-500mW.
103	M108*	11	P-MOS	Si	L51b		FET;BVDS-30V;BVGSS-30V;IGSS-1.0pA;rDS-120Ω;Pt-500mW.
104	MD708*	11	N-AN	Si	L66a		Pt-400mW(both sides);ton-16ns max;toff-30ns max;ts-25ns max.
105	MD708F*	11	N-AN	Si	TO89		Pt-350mW(both sides);ton-16ns max;toff-30ns max;ts-25ns max.
106	MD918*	11	N-EA	Si	L66a		Pt-400mW(both sides);VCEO-15V;hFE-50 min. at 1.0mA and 5.0V.
107	MD918F*	11	N-EA	Si	TO89		Pd(both sides)-350mW;VCEO-15V;hFE-50 min at 1.0mA,5.0V.
108	MD2218*	11	N-AN	Si	L17k		Pt 600mW;td 20ns max;tr 40ns max;ts 280ns max;tf 70ns max.
109	MD2218A*	11	N-AN	Si	R131b		Pt 600mW(both sides);td 15ns max;tr 30ns max;ts 250ns;tf 60ns.
110	MD2218AF*	11	N-AN	Si	L17d		Pt 350mW;td 15ns max;tr 30ns max;ts 250ns max;tf 60ns max.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	LEAD CODE	DESCRIPTION
1	MD2218F*	11	N-AN	Si	L17d		Pt 350mW;td 20ns max;tr 40ns max;ts 280ns max;tf 70ns max.
2	MD2219*	11	N-AN	Si	L17k		Pt 600mW;td 20ns max;tr 40ns max;ts 280ns max;tf 70ns max.
3	MD2219A*	11	N-AN	Si	L17k		Pt 600mW;td 15ns max;tr 30ns max;ts 250ns max;tf 60ns max.
4	MD2219AF*	11	N-AN	Si	L17d		Pt 350mW;td 15ns max;tr 30ns max;ts 250ns max;tf 60ns max.
5	MD2219F*	11	N-AN	Si	L17d		Pt 350mW;td 20ns max;tr 40ns max;ts 280ns max;tf 70ns max.
6	MD2369*	11	N-AN	Si	L66a		Pt-600mW(both sides);ton-15ns max;toff-20ns max;ts-13ns max.
7	MD2369F*	11	N-AN	Si	T089		Pt-350mW(both sides);ton-15ns max;toff-20ns max;ts-13ns max.
8	MD2904*	11	P-AN	Si	L17k		Pt 600mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
9	MD2904A*	11	P-AN	Si	L17k		Pt 600mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
10	MD2904AF*	11	P-AN	Si	L17d		Pt-600mW;td-12ns max;tr-35ns max;ts-100ns max;tf-40ns max.
11	MD2904F*	11	P-AN	Si	L17d		Pt-600mW;td-12ns max;tr-35ns max;ts-100ns max;tf-40ns max.
12	MD2905*	11	P-AN	Si	L17k		Pt 600mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
13	MD2905A*	11	P-AN	Si	L17k		Pt 600mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
14	MD2905AF*	11	P-AN	Si	L17d		Pt-600mW;td-12ns max;tr-35ns max;ts-100ns max;tf-40ns max.
15	MD2905F*	11	P-AN	Si	L17d		Pt-600mW;td-12ns max;tr-35ns max;ts-100ns max;tf-40ns max.
16	MD3133*	11	P-AN	Si	L17c		Pd-600mW;ton-75ns max;toff-150ns max;hFE-25 min at 1.0mA;10V.
17	MD3133F*	11	P-AN	Si	T089		Pd-350mW;ton-75ns max;toff-150ns max;hFE-25 min at 1.0mA;10V.
18	MD3134*	11	P-AN	Si	L17c		Pd-600mW;ton-75ns max;toff-150ns max;hFE-50 min at 1.0mA;10V.
19	MD3134F*	11	P-AN	Si	T089		Pd-350mW;ton-75ns max;toff-150ns max;hFE-50 min at 1.0mA;10V.
20	MD3725*	11	N-ANA	Si	L2t		Pt-600mW;ton-45ns;toff-75ns;VCE(sat)-26V.
21	MD3725F*	11	N-ANA	Si	L2f		Pt-350mW;ton-45ns;toff-75ns;VCE(sat)-26V.
22	MD4957*	11	P-AN	Si	L17k		Pt-400mW;hFE-150 max;NF-2.6 typ;ft-1000 min.
23	MEM550*	11	P	Si	L53		Pt-112mW;VGS-6.0V max;BVDSS-50V;BVGSS-40V;ID(ON)-5.0mA;ID-25mA.
24	MHM1001	11	N-PL	Si	T05	A0	Pc-1.34W;BVBCO-60V;BVCEO-40V;hFE-3000 min. at IC-100mA
25	MHM1101	11	N-PL	Si	T018	A0	Pc-1.0W;BVBCO-60V;BVCEO-40V;hFE-3000 min. at IC-100mA
26	MHM1201	11	N-PL	Si	T047		Pt-260mW;VCBO-60V min;VCEO-40V min;VEBO-12V min;TJ-125deg.C
27	MHM2001	11	N-PL	Si	R89c	GG	Pt-2.0W at 100°C;BVBCO-120V;IC-3.0A;hFE-1.0k min.
28	MHM2011	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3.0A max.
29	MHM2012	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-80V min;BVCEO-60V min;BVEBO-15V min;IC-3.0A max.
30	MHM2013	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-100V min;BVCEO-80V min;BVEBO-15V min;IC-3.0A max.
31	MHM2014	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3.0A max.
32	MHM2015	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-80V min;BVCEO-60V min;BVEBO-15V min;IC-3.0A max.
33	MHM2016	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-100V min;BVCEO-80V min;BVEBO-15V min;IC-3.0A max.
34	MHM2017	11	N-PL	Si	R89a	GG	Pt-2.0W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3.0A max.
35	MHM2101	11	N-PL	Si	MT42a		Pt-12.5W at 100 deg.C;BVBCO-120V;IC-3.0A;hFE-1000 min.
36	MHM2111	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3A max.
37	MHM2112	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-80V min;BVCEO-60V min;BVEBO-15V min;IC-3A max.
38	MHM2113	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-100V min;BVCEO-80V min;BVEBO-15V min;IC-3A max.
39	MHM2114	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3A max.
40	MHM2115	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-80V min;BVCEO-60V min;BVEBO-15V min;IC-3A max.
41	MHM2116	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-100V min;BVCEO-80V min;BVEBO-15V min;IC-3A max.
42	MHM2117	11	N-PL	Si	MT42		Pt-12.5W max;BVBCO-60V min;BVCEO-40V min;BVEBO-15V min;IC-3A max.
43	MHM2201	11	N-PL	Si	MT53	GH	Pt-12.5W at 100°C;BVBCO-120V;IC-3.0A;hFE-1000 min.
44	MHM2211	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-60V;BVCEO-40Vmin;BVEBO-15Vmin.
45	MHM2212	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-80V;BVCEO-60Vmin;BVEBO-15Vmin.
46	MHM2213	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-100V;BVCEO-80Vmin;BVEBO-15Vmin.
47	MHM2214	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-60V;BVCEO-40Vmin;BVEBO-15Vmin.
48	MHM2215	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-80V;BVCEO-60Vmin;BVEBO-15Vmin.
49	MHM2216	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-100V;BVCEO-80Vmin;BVEBO-15Vmin.
50	MHM2217	11	N-PL	Si	MT53	GH	Pt-12.5Wmax;BVBCO-60V;BVCEO-40Vmin;BVEBO-15Vmin.
51#	ML101A	11	P-MOS	Si	L25		Single device;Rd(on) 850Ω max;VGS(th) 6.0V max;ID 50mA max.
52#	ML101B	11	P-MOS	Si	L25		Single device;Rd(on) 850Ω max;VGS(th) 6.5V max;ID 50mA max.
53#	ML102A	11	P-MOS	Si	L54		Matched pair of devices;ΔRon 40Ω max;VGS(th)6.0V max;ID 50mA max.
54#	ML102B	11	P-MOS	Si	L54		Matched pair of devices;ΔRon 40Ω max;VGS(th)6.5V max;ID 50mA max.
55#	ML153A	11	P-MOS	Si	L71		Two common-source pairs;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
56#	ML153B	11	P-MOS	Si	L71		Two common-source pairs;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
57#	ML154A	11	P-MOS	Si	L72		Set of six common-source pairs;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
58#	ML154B	11	P-MOS	Si	L72		Set of six common-source pairs;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
59#	ML157A	11	P-MOS	Si	L73		Six devices;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
60#	ML157B	11	P-MOS	Si	L73		Six devices;Rd(on)-700Ω max;VGS(th)-6.5V max;ID-50mA max.
61	MQ2218*	11	N-AN	Si	L56		Four devices;Pt 500mW;td 20ns max;tr 40ns max;ts 280ns max;tf 70ns max.
62	MQ2219A*	11	N-AN	Si	L56		Four devices;Pt 500mW;td 15ns max;tr 30ns max;ts 250ns max;tf 60ns max.
63	MQ2904*	11	P-AN	Si	L56		Four devices;Pt 500mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
64	MQ2905A*	11	P-AN	Si	L56		Four devices;Pt 500mW;td 12ns max;tr 35ns max;ts 100ns max;tf 40ns max.
65	MQ3725*	11	N-ANA	Si	L56c		Pt-500mW;ton-45ns;toff-75ns;VCE(sat)-26V.
66	MQ3799*	11	P-EA0	Si	L56c		Pt-500W;ft max-500MchFE-300 to 900 at IC-1.0mA.
67	RA1	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.2%/deg.C at 0-70 deg.C;hFE-10min at 50mA
68	RA1A	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.05%/deg.C at 0-70 deg.C;hFE-10min at 50mA
69	RA1B	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.02%/deg.C at 0-70 deg.C;hFE-10min at 50mA
70	RA1C	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.01%/deg.C at 0-70 deg.C;hFE-10min at 50mA
71	RA2	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.2%/deg.C at 55-150 deg.C;hFE-40min at 50mA
72	RA2A	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.05%/deg.C at 55-150 deg.C;hFE-40min at 50mA
73	RA2B	11	N	Si	T012		Pc-3W;BVCEO-45V;TC-0.02%/deg.C at 55-150 deg.C;hFE-40min at 50mA
74	RA3	11	N	Si	T012		Pc-3W;BVCEO-60V;TC-0.2%/deg.C at 55-150 deg.C;hFE-30min at 50mA
75	RA3A	11	N	Si	T012		Pc-3W;BVCEO-60V;TC-0.05%/deg.C at 55-150 deg.C;hFE-30min at 50mA
76	RA3B	11	N	Si	T012		Pc-3W;BVCEO-60V;TC-0.02%/deg.C at 55-150 deg.C;hFE-30min at 50mA
77	S708*	11	N-PE	Si			Dual Chip;BVBCO-55V;BVCEO-30V;Cob-6.0pf;Po-4.0W.
78	S715*	11	N-PE	Si	TQ39		Dual Chip;BVBCO-55V;BVCEO-30V;Cob-6.0pf;Po-2.5W.
79	SA2725*	11	N	Si	L2t		Pt-8W;Sat.Res.-300 ohms max;hFE-250 at IC-1.0mA.
80	SA2726*	11	N	Si	L2t		Pt-6W;Sat.Res.-300 ohms max;hFE-150 at IC-1.0mA.
81	SP328F	11	P	Si	T089		Pt-350mW(both sides);VEBO-20V;hFE-(9-22)at 3.0mA,500mV.
82	SP328QF	11	P	Si	T086		Pt-500mW;VEBO-20V;hFE-(9-22)at 3.0mA,500mV.
83	SP329F	11	P	Si	T089		Pt-350mW(both sides);VEBO-20V;hFE-(18-44)at 3.0mA,500mV.
84	SP329QF	11	P	Si	T086		Pt-500mW;VEBO-20V;hFE-(9-22)at 3.0mA,500mV.
85	SP706F	11	N	Si	T089		Pt-350mW(both sides);ts-60ns;hFE-20min at 10mA,1.0V.
86	SP708F	11	N	Si	T089		Pt-350mW(both sides);ton-16ns;toff-30ns;ts-25ns.
87	SP918F	11	N	Si	T089		Pt-350mW(both sides);VCEO-15V;hFE-20min at 3.0mA,1.0V.
88	SP929QF	11	N	Si	T086		Pt-500mW;VCEO-45V;hFE-40min at 10uA,5.0V.
89	SP930QF	11	N	Si	T086		Pt-500mW;VCEO-45V;hFE-100min at 10uA,5.0V.
90	SP1132F	11	P	Si	T089		Pt-350mW(both sides);VCEO-30V;hFE-(30-90)at 150mA,10V.
91	SP1711F	11	N	Si	T089		Pt-350mW(both sides);VCBO-75V;hFE-100min at 150mA,10V.
92	SP1890F	11	N	Si	T089		Pt-350mW(both sides);VCEO-60V;hFE-(100-300)at 150mA,10V.
93	SP1893F	11	N	Si	T089		Pt-350mW(both sides);VCEO-80V;hFE-(40-120)at 150mA,10V.
94	SP2218AF	11	N	Si	T089		Pt-350mW(both sides);td-15ns;tr-30ns;ts-250ns;tf-60ns.
95	SP2218F	11	N	Si	T089		Pt-350mW(both sides);td-20ns;tr-40ns;ts-280ns;tf-70ns.
96	SP2219AF	11	N	Si	T089		Pt-350mW(both sides);td-15ns;tr-30ns;ts-250ns;tf-60ns.
97	SP2219F	11	N	Si	T089		Pt-350mW(both sides);td-20ns;tr-40ns;ts-280ns;tf-70ns.
98	SP2221AF	11	N	Si	T089		Pt-350mW(both sides);td-15ns;tr-30ns;ts-250ns;tf-60ns.
99	SP2221AQF	11	N	Si	T086		Pt-500mW(both sides);td-15ns;tr-30ns;ts-265ns;tf-60ns.
100	SP2221F	11	N	Si	T089		Pt-350mW(both sides);td-20ns;tr-40ns;ts-280ns;tf-70ns.
101	SP2221QF	11	N	Si	T086		Pt-500mW;td-20ns;tr-40ns;ts-280ns;tr-70ns.
102	SP2222AF	11	N	Si	T089		Pt-350mW(both sides);td-15ns;tr-30ns;ts-265ns;tf-60ns.
103	SP2222AQF	11	N	Si	T086		Pt-500mW;td-15ns;tr-30ns;ts-265ns;tf-60ns.
104	SP2222F	11	N	Si	T089		Pt-350mW(both sides);td-20ns;tr-40ns;ts-280ns;tf-70ns.
105	SP2222QF	11	N	Si	T086		Pt-500mW;td-20ns;tr-40ns;ts-280ns;tr-70ns.
106	SP2369AF	11	N	Si	T089		Pt-350mW(both sides);ton-12ns;toff-18ns;ts-13ns.
107	SP2369F	11	N	Si	T089		Pt-350mW(both sides);ton-12ns;toff-18ns;ts-13ns.
108	SP2483QF	11	N	Si	T086		Pt-500mW;VCEO-60V;hFE-40min at 10uA,5.0V.
109	SP2484F	11	N	Si	T089		Pt-350mW(both sides);VCEO-60V;hFE-100min at 10uA,5.0V.
110	SP2484QF	11	N	Si	T086		Pt-500mW;VCEO-60V;hFE-100min at 10uA,5.0V.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	LEAD CODE	DESCRIPTION
1	SP2804QF	11	P	S	T088		Pt-500mW;VCE0-45V;hFE-40min at 10uA, 5.0V.
2	SP2805QF	11	P	S	T088		Pt-500mW;VCE0-45V;hFE-100min at 10uA, 5.0V.
3	SP2904AF	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-180nS;tf-50nS.
4	SP2904AQF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-190nS;tf-50nS.
5	SP2904F	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-180nS;tf-50nS.
6	SP2904QF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-190nS;tf-50nS.
7	SP2905AF	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-180nS;tf-50nS.
8	SP2905AQF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-190nS;tf-50nS.
9	SP2905F	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-180nS;tf-50nS.
10	SP2905QF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-190nS;tf-50nS.
11	SP2906AF	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-80nS;tf-30nS.
12	SP2906AQF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-90nS;tf-30nS.
13	SP2906F	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-80nS;tf-30nS.
14	SP2906QF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-90nS;tf-30nS.
15	SP2907AF	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-80nS;tf-30nS.
16	SP2907AQF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-90nS;tf-30nS.
17	SP2907F	11	P	Δ	T089		Pt-350mW(both sides);td-10nS;tr-40nS;ts-80nS;tf-30nS.
18	SP2907QF	11	P	Δ	T088		Pt-500mW;td-10nS;tr-40nS;ts-90nS;tf-30nS.
19	SP3046F	11	P	Δ	T089		Pt-350mW(both sides);VCE0-40V;Vce-800uV max at IB-200uA.
20	SP3019F	11	N	Δ	T089		Pt-350mW(both sides);VCE0-80V;hFE-15min at 1.0A, 10V.
21	SP3020F	11	N	Δ	T089		Pt-350mW(both sides);VCE0-80V;hFE-15min at 1.0A, 10V.
22	SP3115F	11	N	Δ	T089		Pt-350mW(both sides);td-20nS;tr-75nS;ts-300nS;tf-100nS.
23	SP3116F	11	N	Δ	T089		Pt-350mW(both sides);td-20nS;tr-75nS;ts-300nS;tf-100nS.
24	SP3133F	11	P	Δ	T089		Pt-350mW(both sides);ton-75nS;toff-150nS;hFE-25min at 1.0mA, 10V.
25	SP3134F	11	P	Δ	T089		Pt-350mW(both sides);ton-75nS;toff-150nS;hFE-50min at 1.0mA, 10V.
26	SP3135F	11	P	Δ	T089		Pt-350mW(both sides);ton-75nS;toff-150nS;hFE-25min at 1.0mA, 10V.
27	SP3136F	11	P	Δ	T089		Pt-350mW(both sides);ton-75nS;toff-150nS;hFE-50min at 1.0mA, 10V.
28	SP3724QD	11	N	Δ	T0116		Pt-800mW;ton-35nS;toff-60nS;hFE-10min at 1.0A, 1.0V.
29	SP3724QF	11	N	Δ	T088		Pt-500mW;ton-35nS;toff-60nS;hFE-10min at 1.0A, 1.0V.
30	SP3725F	11	N	Δ	T089		Pt-350mW(both sides);ton-45nS;toff-75nS;hFE-30min at 500mA, 2.0V.
31	SP3725QD	11	N	Δ	T0116		Pt-800mW;ton-35nS;toff-60nS;hFE-10min at 1.0A, 1.0V.
32	SP3725QF	11	N	Δ	T088		Pt-500mW;ton-35nS;toff-60nS;hFE-10min at 1.0A, 1.0V.
33	SP10800	11	N-DPL	S	T089		BVCEO-45V;hFE-150min at 1.0mA-5V;ICBO-10mA max;NF-4.0db max
34	SP10811	11	P-DPE	S	T089		BVCEO-15V;hFE-35 min at 10mA-1.0V; ICBO-10mA max;Cobo-10pf max.
35	TD102*	11	N-PLT	S	L2u		Pt 400mW;hFE 100 min at VCE 5.0V and IC 10uA;ft 120MHz max;Vsat 20Ω max.
36	TD202*	11	N-PLT	S	L2u		Pt 400mW;hFE 100 min at VCE 5.0V and IC 10uA;ft 120MHz max;Vsat 20Ω max.
37	TD402*	11	P-PLT	S	L17m		Pt 400mW;hFE 100 min at VCE 5.0V and IC 10uA;ft 100MHz max;Vsat 20Ω max.
38	TD502*	11	P-PLT	S	L17w		Pt 400mW;hFE 100 min at VCE 5.0V and IC 10uA;ft 100MHz max;Vsat 20Ω max.
39	TD2219*	11	N-PL1A	S	L2u		Pt 400mW;hFE 35 min at VCE 10V and IC 100uA;Vsat 2.6Ω max.
40	TD2905*	11	P-PL1A	S	L17m		Pt 400mW;hFE 35 min at VCE 10V and IC 100uA;Vsat 2.6Ω max.
41	UC2139	11	N-PEØ	S	L21b		FET;BVDS 30V;ID(on)-6.0mA;gm-750umhos.
42	UC2148	11	N-PEØ	S	L21b		FET;BVDS 30V;ID(on)-15mA;gm-1000umhos.
43	UC2149	11	N-PEØ	S	L21b		FET;BVDS 50V;ID(on)-2.0mA;gm-2000umhos.
44	UC2766*	11	P-MOSΔ	S	L56a		Pt-525mW;ton-36nS;toff-60nS;hFE-10min;IG-10pA max;VSDS-30V min.
45	UD3005†	11	N-PE	S	L56a		BVCBO-60V;BVCEO-40V;BVEBO-5.0V;hFE-100-300 at IC-150mA;ft-200Mc.
46	UD3006†	11	N-PE	S	L56a		BVCBO-60V;BVCEO-40V;BVEBO-5.0V;hFE-100-300 at IC-150mA;ft-200Mc.
47	2N2451*	13	NDPE	S	T046		Rad. Res. Switch; Irradiation-10kT nvt.
48	2N5065*	13	N-PA	S	R83a	A	Pc-2.5W;hFE-19 typ. at VCE-50V;ton-15nsec max;toff-35nsec max.
49	2N5106*	13	N	S	T039	A	Post Rad. of 300T nvt;ICBO-100nA;hFE-8.0 at VCE-10V;IC-150mA
50	2N5107*	13	N	S	T018	A	Post Rad. of 300T nvt;ICBO-100nA;hFE-8.0 at VCE-10V;IC-150mA
51	2N5108*	13	N-PA	S	T039	A	Post Rad. of 300T NVT;tr-35nS;td-10nS;ts-35nS;tf-30nS;MAX;ft-250MHz min.
52	2N5145*	13	NΔ	S	T039	A	Post Rad. of 300T NVT;tr-35nS;td-10nS;ts-35nS;tf-30nS;MAX;ft-250MHz min.
53	2N5200*	13	N	S	T046	A	Pd-1.2W;Post Rad. of 300T nvt;hFE-10 min;ICES-.05uA max.
54	2N5201*	13	N	S	T046	A	Pd-1.2W;Post Rad. of 300T nvt;hFE-12 min;ICES-.05uA max.
55	2N5244*	13	P	S	T018	A	Pd-360mW;Post Rad-300T NVT;ICES-.10A max;tr-40nS;ts-100nS;td-15nS;tf-50nS.
56	2N5292*	13	P	S	T018	A	Max. Rad. Level-300T nvt;hFE-10min;tr-12nS;tf-15nS.
57	2N5332*	13	P Δ	S	T046	A	Max. Rad. Level-1000T NVT;hFE-10 min;pulsed;tr-8nS;ts-70nS;tf-16nS.
58	JAN2N5332*	13	P Δ	S	T046	A	lpp-25mA max;Radiation-1000T NVT;tr-8.0nS max;tf-16nS max.
59	2N5399	13	NΔ	S	T046	A	Max. Rad. Level-1000T nvt;Post Rad. hFE-12 min;ICBO-10uA;tr-8nS;tf-16nS.
60	JAN2N5399*	13	NΔ	S	T046	A	lpp-25mA max;Radiation-1000T NVT;tr-8.0nS max;tf-16nS max.
61	2N5527*	13	N	S	R811	A	Max. Rad. Level-500T NVT;hFE-15 min pulsed;ICBO-1mA;VCE(sat)-6.7 max.
62	2N5528*	13	N	S	T059	A	Max. Rad. Level-500T NVT;hFE-15 min pulsed;ICBO-1mA;VCE(sat)-6.7 max.
63	2N5529*	13	N	S	T061	A	Max. Rad. Level-500T NVT;hFE-15 min pulsed;ICBO-1mA;VCE(sat)-6.7 max.
64	2N5530*	13	N	S	T061	A	Max. Rad. Level-500T NVT;hFE-15 min pulsed;ICBO-1mA;VCE(sat)-6.7 max.
65	2N5531*	13	N	S	R811	A	Max. Rad. Level-500T NVT;hFE-7 min;pulsed;ICBO-1mA;VCE(sat)-1 max.
66	2N5532*	13	N	S	T059	A	Max. Rad. Level-500T NVT;hFE-7 min;pulsed;ICBO-1mA;VCE(sat)-1 max.
67	2N5533*	13	N	S	T061	A	Max. Rad. Level-500T NVT;hFE-7 min;pulsed;ICBO-1mA;VCE(sat)-1 max.
68	2N5534*	13	N	S	T061	A	Max. Rad. Level-500T NVT;hFE-7 min;pulsed;ICBO-1mA;VCE(sat)-1 max.
69	2N5535*	13	N Δ	S	T061	A	Max. Rad. Level-500T NVT;hFE-15 min;pulsed;ICBO-1mA;td-25nS;tf-300nS.
70	2N5536*	13	N Δ	S	T061	A	Max. Rad. Level-500T NVT;hFE-15 min;pulsed;ICBO-1mA;td-25nS;tf-300nS.
71	2N5537*	13	N Δ	S	T061	A	Max. Rad. Level-500T NVT;hFE-10 min;pulsed;ICBO-2mA;td-25nS;tf-300nS.
72	2N5538*	13	N Δ	S	T061	A	Max. Rad. Level-500T NVT;hFE-10 min;pulsed;ICBO-2mA;td-25nS;tf-300nS.
73	2N5763*	13	P Δ	S	T018	A	Pt 1.8W;Post Rad. 500T NVT;ICBO 25nA;tr 40nS max;td 10nS max;ts 150nS max;tf 50nS max
74	2N5938*	13	N	S	u79	A	Max. Rad. Level 100T NVT;hFE 10 min.
75	2N5939*	13	N	S	T0111	A	Max. Rad. Level 100T NVT;hFE 10 min.
76	2N5940*	13	N	S	T0111	A	Max. Rad. Level 100T NVT;hFE 10 min.
77	BR100B*	13	N	S	MT27	A	Max. Rad. Level-500T nvt;Post Rad hFE-25;ICBO-1.0mA
78	BR100D*	13	N	S	T060	A	Max. Rad. Level-500T nvt;Post Rad hFE-25;ICBO-1.0mA
79	BR101B*	13	N	S	MT27	A	Max. Rad. Level-500T nvt;Post Rad hFE-15;ICBO-1.0mA
80	BR101D*	13	N	S	T060	A	Max. Rad. Level-500T nvt;Post Rad hFE-15;ICBO-1.0mA
81	PPR1006*	13	N	S	MT27	A	Post Rad hFE-15 at Ic 3.0A;VCE 5.0V.
82	PPR1007*	13	N	S	T060	A	Post Rad hFE-15 at Ic 3.0A;VCE 5.0V.
83	PPR1008*	13	N	S	MT27	A	Post Rad hFE-7.0 at Ic 3.0A;VCE 5.0V.
84	PPR1009*	13	N	S	T060	A	Post Rad hFE-7.0 at Ic 3.0A;VCE 5.0V.
85	PPR1010*	13	N	S	T061	A	Post Rad hFE-15 at Ic 10A;VCE 5.0V.
86	PPR1011*	13	N	S	T061	A	Post Rad hFE-15 at Ic 10A;VCE 5.0V.
87	PPR1012*	13	N	S	T061	A	Post Rad hFE-10 at Ic 10A;VCE 5.0V.
88	PPR1013*	13	N	S	T061	A	Post Rad hFE-10 at Ic 10A;VCE 5.0V.
89	PT12	14	N-PL	S	T046	A	Press 1.0psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
90	PT13	14	N-PL	S	T046	A	Press 1.0psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
91	PT22	14	N-PL	S	T046	A	Press 2.0psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
92	PT23	14	N-PL	S	T046	A	Press 2.0psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
93	PT52	14	N-PL	S	T046	A	Press 5.0psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
94	PT53	14	N-PL	S	T046	A	Press 5.0psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
95	PT-H2	14	N-PL	S	T046	A	Press .50psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
96	PT-H3	14	N-PL	S	T046	A	Press .50psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
97	PT-L2	14	N-PL	S	T046	A	Press .10psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
98	PT-L3	14	N-PL	S	T046	A	Press .10psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
99	PT-M2	14	N-PL	S	T046	A	Press .25psid nom;temp.coeff ±.20V/°C;hFE 10 nom;BVCEO 120.
100	PT-M3	14	N-PL	S	T046	A	Press .25psid nom;temp.coeff ±.05V/°C;hFE 10 nom;BVCEO 120.
101	M22P2	15	N-PL	S	u58a	T	BVCBO-25V;BVCEO-18V;BVEBO-5.0V;Ic-100mA;hFE-70min at Ic 2.0mA and VCE 4.5V.
102	M22P3	15	N-PL	S	u58a	T	BVCBO-25V;BVCEO-18V;BVEBO-5.0V;Ic-100mA;hFE-110min at Ic 2.0mA and VCE 4.5V.
103	M22P4	15	N-PL	S	u58a	T	BVCBO-25V;BVCEO-18V;BVEBO-5.0V;Ic-100mA;hFE-150min at Ic 2.0mA and VCE 4.5V.
104	M23P-X504	15	N-PE	S	u70	T	N2219-22 chips.
105	M23P-X509	15	N-PE	S	u70	T	2N3975 chip.
106	M23P-X516	15	N-PE	S	u70	T	2N3976 chip.
107	M24P-X502	15	N-PE	S	u58a	T	2N2714 chip.
108	M26P-X504	15	N-PE	S	u59a	T	2N2484 chip.
109	M26P-X505	15	N-PE	S	u59a	T	2N930 chip.
110	M26P-X516	15	N-PE	S	u59a	T	2N3859 chip.

13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	TYPE No.	CATEGORY	U	STRUCTURE	MATERIAL	DWG. No.	LEA D E	DESCRIPTION
1	M26P-X517	15	N-PE	Si	u59a	T		2N5232 chip.
2	M26P-X531	15	N-PE	Si	u59a	T		2N929 chip.
3	M26P-X558	15	N-PE	Si	u59a	T		2N5172 chip.
4	M26P-X560	15	N-PE	Si	u59a	T		2N3860 chip.
5	M28P-X507	15	N-PE	Si	u59a	T		2N3855A chip.
6	M28P-X508	15	N-PE	Si	u59a	T		2N3856A chip.
7	M32P-X503	15	N-PE	Si	u71	T		2N3414 chip.
8	M32P-X506	15	N-PE	Si	u71	T		2N3416 chip.
9	M32P-X508	15	N-PE	Si	u71	T		2N3417 chip.
10	M32P-X509	15	N-PE	Si	u71	T		2N3415 chip.
11	M63P-X503	15	N-PE	Si	u72	T		2N918 chip.
12	M67P-X504	15	N-PE	Si	u70	T		2N2905-07 chips.
13	M73P1	15	N-PE	Si	u73	T		Darlington chip;BVCBO-18V;BVEBO-12V;hFE-3.0k at Ic-2.0mA and VCE-5.0V.
14	M73P-X502	15	N-PE	Si	u73	T		2N5306 Darlington chip.
15	M82P-X500	15	N-PE	Si	u74	T		2N708 chip.
16	TH95	15	P-PE	Si	u66	GP		BVCBO50V;BVCEO50V;BVEBO50V;Ic100mAmax;hFE20min at Ic3.0mAandVCE500mV.
17	TH2192	15	N-PE	Si	u64	T		BVCBO60V;BVCEO40V;BVEBO5.0V;Ic1.0mAmax;hFE100min at Ic50mAandVCE;10V.
18	TH2221	15	N-PE	Si	u48	T		2N2221 chip;Aluminum Contacts;Gold Metallization on back.
19	TH2221A	15	N-PE	Si	u48	T		2N2221A chip;Aluminum Contacts;Gold Metallization on back.
20	TH2222	15	N-PE	Si	u48	T		2N2222 chip;Aluminum Contacts;Gold Metallization on back.
21	TH2222A	15	N-PE	Si	u48	T		2N2222A chip;Aluminum Contacts;Gold Metallization on back.
22	TH2369	15	N-PE	Si	u60	T		BVCBO40V;BVCEO15V;BVEBO4.5V;Ic500mAmax;hFE40min at Ic10mAand VCEVCE5.0V.
23	TH2906	15	P-PE	Si	u48	T		2N2906 chip;Aluminum Contacts;Gold Metallization on back.
24	TH2906A	15	P-PE	Si	u48	T		2N2906A chip;Aluminum Contacts;Gold Metallization on back.
25	TH2907	15	P-PE	Si	u48	T		2N2907 chip;Aluminum Contacts;Gold Metallization on back.
26	TH2907A	15	P-PE	Si	u48	T		2N2907A chip;Aluminum Contacts;Gold Metallization on back.
27	TH2926	15	N-PE	Si	u58	T		BVCBO18V;BVCEO18V;BVEBO5.0V;Ic100mAmax;hFE35min at Ic2.0mAandVCE;10V.
28	TH2944	15	P-PE	Si	u67	T		BVCBO15V;BVCEO10V;BVEBO15V;Ic100mAmax;hFE80min at Ic1.0mAandVCE;500mV.
29	TH2945	15	P-PE	Si	u67	T		BVCBO25V;BVCEO20V;BVEBO25V;Ic100mAmax;hFE40min at Ic1.0mAandVCE500mV.
30	TH2946	15	P-PE	Si	u67	T		BVCBO40V;BVCEO35V;BVEBO40V;Ic100mAmax;hFE30min at Ic1.0mAandVCE500mV.
31	TH3638	15	P-PE	Si	u48	T		BVCBO25V;BVCEO25V;BVEBO4.0V;Ic500mAmax;hFE30min at Ic50mAandVCE10V.
32	TH3877	15	N-PE	Si	u59	T		BVCBO70V;BVCEO70V;BVEBO4.0V;Ic50mAmax;hFE20min at Ic2.0mAandVCE;4.5V.
33	TH3904	15	N-PE	Si	u62	T		BVCBO60V;BVCEO40V;BVEBO6.0V;Ic200mAmax;hFE100min at Ic10mAandVCE;5.0V.
34	TH3906	15	P-PE	Si	u63	T		BVCBO40V;BVCEO40V;BVEBO5.0V;Ic200mAmax;hFE100min at Ic10mAandVCE5.0V.
35	TH4258	15	P-PE	Si	u61	T		BVCBO12V;BVCEO12V;BVEBO4.5V;Ic50mAmax;hFE30min at Ic10mAandVCE5.0V.
36	TH4384	15	N-PE	Si	u48	T		2N4384 chip;Aluminum Contacts;Gold Metallization on back.
37	TH4386	15	N-PE	Si	u48	T		2N4386 chip;Aluminum Contacts;Gold Metallization on back.
38	TH4413	15	P-PE	Si	u48	T		2N4413 chip;Aluminum Contacts;Gold Metallization on back.
39	TH4415	15	P-PE	Si	u48	T		2N4415 chip;Aluminum Contacts;Gold Metallization on back.
40	TH7500	15	P-PE	Si	u65	T		BVCBO60V;BVCEO40V;BVEBO5.0V;Ic1.0mAmax;hFE100min at Ic50mAandVCE;10V.
41	TH7501	15	P-PE	Si	u65	T		BVCBO60V;BVCEO60V;BVEBO5.0V;Ic1.0mAmax;hFE100min at Ic50mAandVCE;10V.
42	2N2723	16	N-PL	Si	L4			hFE 1.5k-15k;BVCEO 60V.
43	2N2724	16	N-PL	Si	L4			hFE 5.0k-60k;BVCEO 45V.
44	2N2725	16	N-PL	Si	L4			hFE 1.5k-15k;BVCEO 45V.
45	2N4974	16	P	Si	L55			Pt 800mW;BVCBO 40V;BVCEO 30V;BVEBO 10V;hFE 5000 min.
46	2N4975	16	P	Si	L55			Pt 800mW;BVCBO 40V;BVCEO 30V;BVEBO 10V;hFE 1000 min.
47	#BDY87	16	NA	Si				Pt 35W;BVCBO 20V;hFE 2.5k at IC 4.0A;VCE 2.0V.
48	#BDY88	16	NA	Si				Pt 35W;BVCBO 40V;hFE 2.5k at IC 4.0A;VCE 2.0V.
49	#BDY89	16	NA	Si				Pt 35W;BVCBO 60V;hFE 2.5k at IC 4.0A;VCE 2.0V.
50	D12X012	16	N-PL	Si	L28			hFE 9000 min. at 1.0mA;BVCEO 100V.
51	D40C1	16	NA	Si	X51a	F		Pd 1.25W;BVCEO 30V;BVEBO 13V;hFE 10k to 60k;ts 350n typ.
52	D40C2	16	NA	Si	X51a	F		Pd 1.25W;BVCEO 30V;BVEBO 13V;hFE 40k min;ts 350n typ.
53	D40C4	16	NA	Si	X51a	F		Pd 1.25W;BVCEO 40V;BVEBO 13V;hFE 10k to 60k;ts 350n typ.
54	D40C5	16	NA	Si	X51a	F		Pd 1.25W;BVCEO 40V;BVEBO 13V;hFE 40k min;ts 350n typ.
55	D40C7	16	NA	Si	X51a	F		Pd 1.25W;BVCEO 50V;BVEBO 13V;hFE 10k to 60k;ts 350n typ.
56	MCH2005F	16		Si	L76			Pd 500mW;hFE 1.0k min. at IC 1.0A;VCE 10V;BVCBO 50V;BVCEO 30V;ton 350ns max.
57	MJ900	16	P	Si	T03	C		BVCBO 60V;BVCEO 60V;BVEBO 5.0V;Pd 90W;ICBO 200u;hFE 1.0k min.
58	MJ901	16	P	Si	T03	C		BVCBO 80V;BVCEO 80V;BVEBO 5.0V;Pd 90W;ICBO 200u;hFE 1.0k min.
59	MJ1000	16	N	Si	T03	C		BVCBO 60V;BVCEO 60V;BVEBO 5.0V;Pd 90W;ICBO 200u;hFE 1.0k min.
60	MJ1001	16	N	Si	T03	C		BVCBO 80V;BVCEO 80V;BVEBO 5.0V;Pd 90W;ICBO 200u;hFE 1.0k min.
61	MPSA12	16	N	Si	T092	A		Pd 310mW;hFE 20k min. at IC 10mA;VCE 5.0V;BVCEO 20V;VCE(sat) 1.0V. max.
62	RM3005	16	N	Si	T072			Pd 500mW;hFE 2.0k min;VCB 100V max.
63	RM3022	16	N-PL	Si	T018	A		Pd 1.8W max;hFE 1.6k min. at IC 10mA;BVCEO 60V.
64	#SI345P	16	P-DPL	Si	ZA17			Pt 600mW;BVCBO 50V;BVCEO 35V;hFE 300 min;BVEBO 12V.
65	#SI346P	16	P-DPL	Si	ZA17			Pt 600mW;BVCBO 30V;BVCEO 20V;hFE 2.0k min;BVEBO 12V.
66	#SL305B	16	N-E*	Si	L63			Pt 600mW;BVCBO 50V;hFE 600 typ. at IE 1.0mA;ft 600MHz.

14. TYPES WITH U.S. MILITARY SPECIFICATIONS

IN TYPE NUMBER SEQUENCE

TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/
1N4378	none	300A	2N461	GESY	45A	2N696	FSC	99E	2N1016D	SEN	102A	2N1195	MOTA	71D
2N43A	GESY	6A		MOTA	AMEND		TES	AMEND	2(cont.)	WESY			none	165
2N44A	GESY	6A			2	2N697	FSC	99E	2N1021A	none	217A	2N1197	APX	SigC
2N78A	GESY	90	2N463	none	USAF		TES	AMEND	2N1022A	none	217A	2N1224	RCA	189A
		AMEND			70A	2N700A		1	2N1025M	CRY	78B			AMEND
		1			AMEND	2N702	MOTA	123A	2N1026M	CRY	78B	2N1225	APX	189A
2N117	TII	USAF	2N464	none	1	2N703		EL		SPR	89C		RCA	AMEND
2N118	TII	2B			49C	2N705	TII	153B		KSC	AMEND	2N1234	APX	189A
2N119	TII	2B	2N465	MOTA	EL	2N706		EL	2N1039	TII	1		RCA	AMEND
2N123	none	30A	2N466M	GIC	49C		MOTA	153B			89C	2N1302	CRY	179
2N128	SPR	USAF		MOTA	EL	2N707	TII	EL	2N1041	KSC	AMEND	2N1303	SOD	AMEND
2N158	KSC	9B	2N467	GIC	51D	2N708	MOTA	86A		TII	89C	2N1304	CRY	179
2N167A	GESY	11B	2N489A	MOTA	AMEND	2N718A	TII	AMEND			AMEND	2N1305	SOD	AMEND
2N174A	DEL	13B			1		FSC	120C	2N1042	KSC	137B	2N1306	GIC	126B
	MOTA	2	2N490A	GESY	49C		ITT		2N1043	TII	137B	2N1307	RCA	126B
2N220	none	1A	2N491A	ITII	75B	2N720A	MOTA	RAYN	2N1044	KSC	137B	2N1308	TII	126B
2N240	SPR	25B			AMEND	2N744	RAYN	TEC	2N1045	TII	137B	2N1309	GESY	126B
2N297A	KSC	36C	2N492A	ITII	1	2N757A	TES	TES	2N1046	KSC	137B	2N1310	GIC	126B
2N326	MOTA	0	2N493A	ITII	75B	2N759A	TII	TII	2N1047A	TII	137B	2N1311	RCA	126B
2N328A	KSC	40B	2N494A	ITII	AMEND	2N760A	TES	TES	2N1048A	TII	137B	2N1312	TII	126B
		0			1		1	1	2N1049A	TII	137B	2N1313	GIC	126B
		110B	2N497	ITII	75B	2N869A	FSC	283B	2N1050A	SEN	176A	2N1314	RCA	126B
2N329A	CRY	NSC	2N498	ITII	AMEND	2N910	TII	0	2N1051	SIL	AMEND	2N1315	TII	126B
	NSC	RAYN	2N499	ITII	1	2N911	TES	0	2N1072	SIL	AMEND	2N1316	GIC	126B
	RAYN	SOD	2N499A	ITII	75B	2N912	ITII	274B	2N1094	TII	163	2N1317	RCA	126B
	SOD	SPR	2N501A	ITII	AMEND	2N914	FSC	EL	2N1099	none	AMEND	2N1318	TII	126B
	SPR	CRY	2N502A	ITII	1	2N916	TII	274B	2N1118	CRY	138C	2N1412	MOTA	76C
	CRY	NSC	2N502B	ITII	62B	2N918	FSC	EL	2N1119	SPR	AMEND	2N1412A	DEL	76C
	NSC	RAYN	2N526	ITII	AMEND	2N929	RAYN	EL	2N1120	CRY	139B	2N1412A	MOTA	AMEND
	RAYN	SOD	2N537	ITII	1		TES	274B	2N1121	SPR	AMEND	2N1412A	DEL	AMEND
	SOD	SPR	2N539	ITII	112C	2N929	TES	EL	2N1122	SPR	AMEND	2N1412A	MOTA	AMEND
	SPR	MOTA	2N539A	ITII	EL	2N930	TES	274B	2N1123	CRY	AMEND	2N1412A	DEL	AMEND
	MOTA	TEC			112C		TES	EL	2N1124	SPR	AMEND	2N1412A	MOTA	AMEND
	TEC	TII	2N545	ITII	EL	2N930	TES	0	2N1125	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	60E	2N930	TES	0	2N1126	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	AMEND	2N545	ITII	100A	2N930	TES	0	2N1127	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	AMEND	2N930	TES	0	2N1128	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1129	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1130	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1131	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1132	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1133	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1134	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1135	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1136	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1137	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1138	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1139	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1140	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1141	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1142	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1143	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1144	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1145	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1146	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1147	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1148	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1149	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1150	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1151	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1152	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1153	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1154	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1155	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1156	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1157	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1158	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1159	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1160	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1161	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1162	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1163	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1164	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1165	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1166	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1167	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1168	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1169	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1170	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1171	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1172	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1173	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1174	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1175	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1176	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1177	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1178	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1179	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1180	SPR	AMEND	2N1412A	MOTA	AMEND
	TII	1	2N545	ITII	1	2N930	TES	0	2N1181	SPR	AMEND	2N1412A	DEL	AMEND
	TII	1	2N545	ITII	1									

14. TYPES WITH U.S. MILITARY SPECIFICATIONS

IN TYPE NUMBER
SEQUENCE

TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/	TYPE No.	MFRS	MIL-S-19500/
2N1553A	MOTA	331 AMEND 1	2N2218A	†FSC 251E	2N2500	†none	378A	2N2905A	†TII	290B	2N3418	†none	393	
		EL		†MOTA			USAF		†MOTA	AMEND			AMEND	
2N1554A	MOTA	331		†NSC	2N2528	MOTA	309		†NSC	1			4	
		AMEND	2N2219	†TRAYN			AMEND		†TRAYN		2N3419	†none	USAF	
		1		†TES			1		†TEC				393	
		EL		†TII	2N2553	KSC	89C	2N2906	†TES	291B			AMEND	
2N1555A	MOTA	331		†TII			AMEND		†TII	AMEND			4	
		AMEND		†TII			1		†MOTA	1	2N3420	†TII	USAF	
		1		†NSC	2N2555	KSC	89C		†NSC	1			393	
		AMEND		†TRAYN			AMEND		†TRAYN				AMEND	
2N1556A	MOTA	331		†TEC	2N2557	KSC	89C	2N2906A	†TEC	1			4	
		AMEND	2N2219A	†TES			AMEND		†TII				AMEND	
		1		†TII			1		†TII	291B	2N3421	†TII	USAF	
		EL		†FSC	2N2559	KSC	89C		†MOTA	AMEND			393	
		AMEND		†MOTA			AMEND		†NSC	1			AMEND	
2N1557A	MOTA	330A		†NSC	2N2604	NSC	354		†TRAYN				4	
		AMEND	2N2221	†TRAYN			AMEND		†TEC				USAF	
		1		†TES			2		†TES				368	
		EL		†TII	2N2605	NSC	354	2N2907	†TII	291B	2N3439	RCA	NAVY	
		AMEND		†FSC			AMEND		†MOTA	AMEND			368	
2N1558A	MOTA	330A		†TII			2		†NSC	1	2N3440	RCA	NAVY	
		AMEND		†TII	2N2606	SIX	2		†TRAYN				369	
		1		†TII			EL		†TEC				AMEND	
		AMEND		†FSC			292	2N2907A	†TES				1	
2N1559A	MOTA	330A		†TII			AMEND		†TII	291B	2N3441	RCA	NAVY	
		AMEND	2N2221A	†TII			2		†MOTA	AMEND			370	
		1		†TII			EL		†NSC	1			AMEND	
		AMEND		†FSC	2N2607	SIX	2		†TRAYN				1	
2N1560A	MOTA	330A		†TII			NAVY		†TEC				AMEND	
		AMEND		†TII			294	2N2911	†TES				NAVY	
		1		†TII			AMEND		†TII	381	2N3444	MOTA	347	
2N1613	†FSC	181C	2N2222	†TII			2		†none	EL			NAVY	
	†MOTA	AMEND		†TII			NAVY			355A	2N3449	MOTA	338	
	†TRAYN	2		†TII			295	2N2919	†FSC	AMEND			AMEND	
	†TES			†TII			AMEND		†MOTA	355A			1	
2N1646	†TII	223B		†TII			2		†NSC				USAF	
	none	USAF		†TII			NAVY		†TRAYN				348	
2N1651	MOTA	219A		†TII			296	2N2944A	†CRY	382	2N3467	†none	AMEND	
		AMEND	2N2222A	†TII			AMEND		†TII	AMEND			2	
		4		†TII			2		†MOTA	1			NAVY	
2N1652	MOTA	219A		†TII			NAVY		†NSC	1			348	
		AMEND		†TII			303	2N2945A	†CRY	382	2N3468	†none	AMEND	
		4		†TII			AMEND		†TII	AMEND			2	
2N1653	MOTA	219A		†TII			NAVY		†MOTA	1			NAVY	
		AMEND	2N2222A	†TII			316A		†NSC	1			392	
		4		†TII			AMEND		†TRAYN				AMEND	
2N1711	†FSC	225D		†TII			1		†TEC				1	
	†TES	AMEND	2N2273	†TII			USAF		†TII	382	2N3485A	†MOTA	392	
	†TII	2		†TII			AMEND		†TII	AMEND			AMEND	
2N1714		283A		†TII			1		†TII	1	2N3486A	†MOTA	392	
		AMEND	2N2369A	†TII			USAF		†TII	1			AMEND	
		2		†TII			302A	2N2996	†TII	1	2N3498	†MOTA	366A	
2N1715	†TII	283A		†TII			USAF		†TII	1			AMEND	
		AMEND		†TII			NAVY		†TII	1			1	
2N1716	†TII	283A		†TII			360	2N2997	†TII	1			EL	
		AMEND		†TII			NAVY		†TII	1			366A	
2N1717	†TII	283A		†TII			360	2N3013	†TII	1	2N3499	†MOTA	AMEND	
		AMEND	2N2377	†TII			NAVY		†TII	1			1	
		2		†TII			310	2N3019	†TII	1			AMEND	
2N1722	†TEC	282F		†TII			AMEND		†TII	1			EL	
	†TII	AMEND	2N2378	†TII			NAVY		†TII	1			366A	
	†TII	2		†TII			343A	2N3055	†TII	1			AMEND	
2N1724	†TII	282F		†TII			381		†TII	1			1	
	†TII	AMEND	2N2417A	†TII			EL		†TII	1			EL	
2N1853	RCA	171B		†TII			381	2N3057A	†TII	1	2N3501	†MOTA	366A	
		NAVY	2N2418A	†TII			EL		†TII	1			AMEND	
2N1854	RCA	172B		†TII			303		†TII	1			1	
		NAVY	2N2419A	†TII			AMEND		†TII	1			EL	
2N1890	†FSC	225D		†TII			NAVY		†TII	1	2N3506	†MOTA	349A	
	†TES	AMEND	2N2420A	†TII			315B		†TII	1			AMEND	
2N1893	†FSC	182C		†TII			AMEND		†TII	1			1	
	†TES	AMEND	2N2421A	†TII			2		†TII	1			AMEND	
2N2015	RCA	248A		†TII			NAVY		†TII	1	2N3507	†MOTA	349A	
		AMEND	2N2422A	†TII			315B		†TII	1			AMEND	
		1		†TII			AMEND		†TII	1			1	
2N2016	RCA	248A		†TII			AMEND		†TII	1			AMEND	
		AMEND	2N2432	†TII			1		†TII	1			341B	
		1		†TII			USAF		†TII	1			AMEND	
2N2034	†none	381		†TII			290B		†TII	1			†RCA	
		AMEND	2N2432A	†TII			AMEND		†TII	1			384	
		1		†TII			1		†TII	1			AMEND	
2N2060	†FSC	270B		†TII			NAVY		†TII	1			1	
	†MOTA	AMEND	2N2481	†TII			347		†TII	1			NAVY	
	†TRAYN	2		†TII			NAVY		†TII	1			384	
	†TES	NAVY		†TII			378A		†TII	1			AMEND	
2N2079A	†TII	340		†TII			AMEND		†TII	1			1	
2N2084	MOTA	213B		†TII			1		†TII	1			NAVY	
2N2150	†TEC	277C		†TII			NAVY		†TII	1			357B	
		AMEND	2N2484	†TII			378A		†TII	1			AMEND	
2N2151	†TEC	277C		†TII			AMEND		†TII	1			1	
		AMEND	2N2497	†TII			1		†TII	1			EL	
2N2218	†FSC	251E		†TII			NAVY		†TII	1			357B	
	†MOTA	AMEND	2N2498	†TII			378A		†TII	1			AMEND	
	†NSC	1		†TII			AMEND		†TII	1			1	
	†TRAYN		2N2499	†TII			1		†TII	1			EL	
	†TEC			†TII			NAVY		†TII	1				
	†TES			†TII			378A		†TII	1				
	†TII			†TII			AMEND		†TII	1				
				†TII			1		†TII	1				
				†TII			NAVY		†TII	1				
				†TII			378A		†TII	1				
				†TII			AMEND		†TII	1				
				†TII			1		†TII	1				
				†TII			NAVY		†TII	1				
				†TII			378A		†TII	1				
				†TII			AMEND		†TII	1				
				†TII			1		†TII	1				
				†TII			NAVY		†TII	1				
				†TII			378A		†TII	1				
				†TII			AMEND		†TII	1				
				†TII			1		†TII	1				
				†TII			NAVY		†TII	1				
				†TII			378A		†TII	1				
				†TII			AMEND		†TII	1				
				†TII			1		†TII	1				
				†TII			NAVY		†TII	1				

15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

THE PREFIX LETTERS OF THE OUTLINE DRAWING NUMBERS INDICATE THE FOLLOWING:

- L** - MULTIPLE Lead Type
- MD** - MOUNTED Type - DIAMOND Base
- MM** - MOUNTED Type - MISCELLANEOUS
- MS** - MOUNTED Type - SQUARE and
- MT** - MOUNTED Type - THREADED
- OV** - OVAL Case
- R** - ROUND Case
- TO** - JEDEC Type
- u** - MICROMINIATURE CASE
- x** - MISCELLANEOUS Configuration including Phototransistor
- ZA** - DRAWING REFERENCE INFORMATION

NOTES:

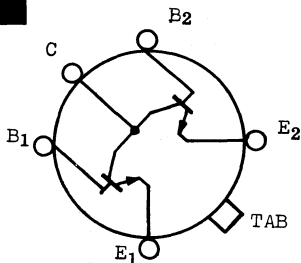
These outline drawings are intended as a guide for the user. They should not be used for construction purposes without first checking with the appropriate manufacturer.

These drawings are referenced in the Technical Sections of this D.A.T.A. BOOK in accordance with information supplied by the manufacturers.

The DO and TO drawings have been reproduced from JEDEC Publication No. 12E (May 1964) with the permission of the National Electrical Manufacturer's Association - Electrical Industries Associates. JEDEC designations are assigned only to outlines submitted by the JS-10 Committee on Mechanical Standardization. The procedure of assigning and announcing the JEDEC designation constitutes registration.

All drawings have circular symmetry unless indicated.

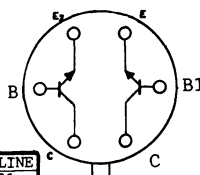
L1



L1 - TO77 - DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

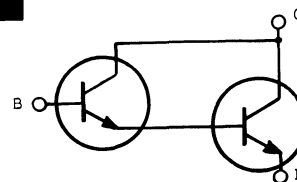
L1A - TO71 - DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L2



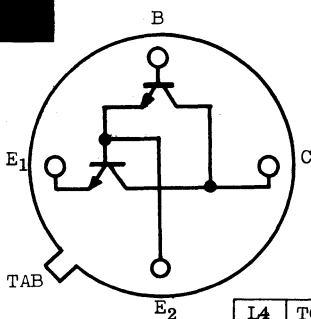
	E1	B1	C1	E2	B2	C2	OUTLINE	
L2	3	2	1	5	6	7	R131	
L2b	3	2	1	5	6	7	TO77	
L2d	3	2	1	5	6	7	TO78	
L2f	2	1	9	4	5	7	TO89	
L2g	3	2	1	4	5	6	TO78	
L2h	1	2	3	7	6	5	R102e	
L2i	1	2	3	5	6	7	TO71	
L2m	3	2	1	5	6	7	TO70	
L2p	3	2	1	5	6	7	TO71	
L2r	3	2	1	5	6	7	R136	
L2s	3	2	1	5	6	7	R137	
L2t	3	2	1	5	6	7	R131c	
L2u	1	3	2	4	6	5	R138	
L2v	3	2	1	5	6	6	R131d	
L2w	3	2	1	5	6	7	R131b	
L2y	3	2	1	5	6	7	R131f	
L2z	1	2	3	4	5	6	R138	

L3



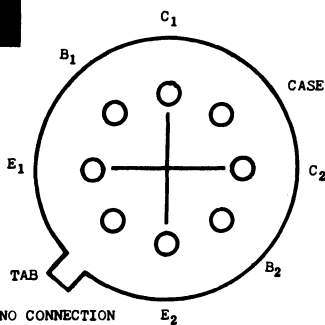
	E	B	C	POLARITY	OUTLINE
L3	1	2	3	NPN	TO18
L3a	1	2	3	NPN	TO8
L3b	1	2	3	PNP	TO18
L3c	1	2	3	PNP	TO8
L3d	1	2	3	NPN	TO8S
L3e	1	2	3	NPN	TO8S
L3f	2	1	3	NPN	TO8S

L4



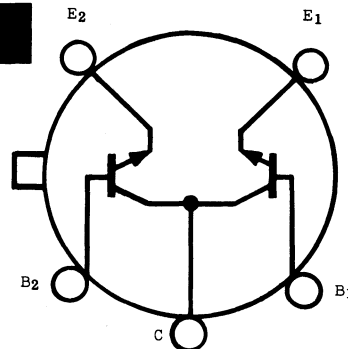
L4	TO72
L4a	TO46

L5



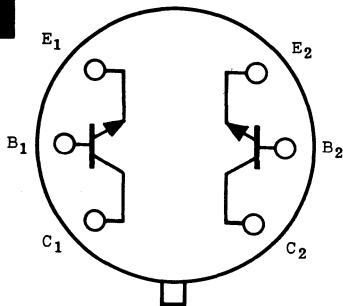
DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L6



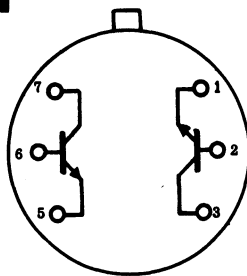
OUTLINE DRAWINGS
L6 TO5 dimensions except for number of leads
L6a R144

L8



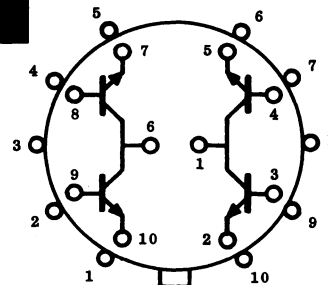
	INTERNAL CONFIGURATION	OUTLINE DRAWING
L8		TO33
L8a		R52

L10



TO5
DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L11

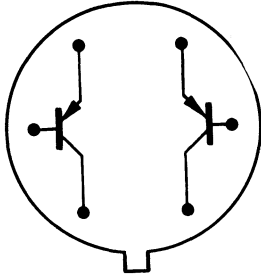


TO5
DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

15. OUTLINE DRAWINGS

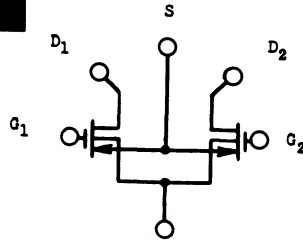
IN DRAWING NUMBER SEQUENCE

L 17



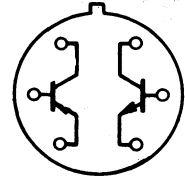
	E1	B1	C1	E2	B2	C2	OUTLINE
L17a	3	2	1	5	6	7	TO77
L17b	3	2	1	5	6	7	R52b
L17c	3	2	1	5	6	7	TO78
L17d	2	1	9	4	5	7	TO89
L17e	1	2	3	5	6	7	TO71
L17f	3	2	1	5	6	7	R52
L17g	3	2	1	5	6	7	R131b
L17h	3	2	1	4	5	6	R131a
L17i	3	2	1	5	6	7	R131
L17j	3	2	1	5	6	7	R131c
L17k	3	2	1	5	6	7	R131c
L17m	1	2	3	4	5	6	R138
L17n	2	1	9	4	5	7	X22
L17t	3	2	1	5	6	7	R137
L17u	1	6	7	2	5	3	TO71
L17v	3	2	1	4	5	6	R52a
L17w	1	2	3	4	5	6	R138
L17x	3	2	1	5	6	7	R131a

L 18



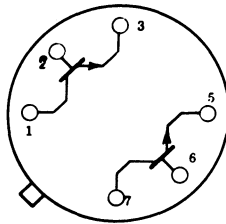
	D1	G1	D2	G2	S	SUBSTRATE	OUTLINE
L18	1	2	7	6	8	4	TO77
L18a	1	3	7	5	8	4	TO76
L18b	1	2	7	6	8	4	TO78
L18c	1	3	7	5	8	4	TO99

L 19



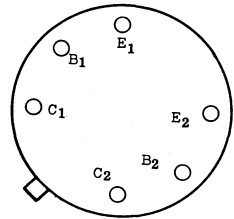
	NPN			PNP			OUTLINE
	E1	B1	C1	E2	B2	C2	
L19	3	2	1	5	6	7	TO77
L19a	3	2	1	5	6	7	TO78
L19b	1	3	2	4	6	5	R138
L19c	2	1	9	4	5	7	TO89
L19d	1	2	3	4	5	6	R138
L19e	1	2	3	4	5	6	R52

L 22



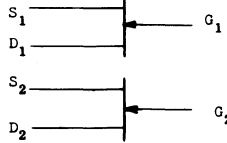
TO18 Dimensions except for Lead configurations

L 23



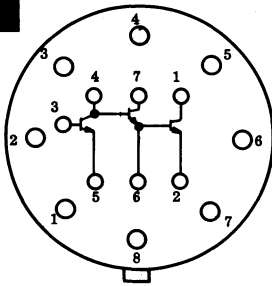
R33 Dimensions except for internal configurations

L 21



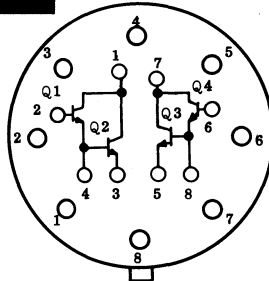
	S1	D1	G1	S2	D2	G2	OUTLINE
L21	1	2	3	5	6	7	TO71
L21a	1	2	3	5	6	7	TO76
L21b	1	2	3	4	5	6	R120
L21c	2	1	9	4	5	7	TO89
L21d	1	2	3	4	5	6	TO71
L21e	1	2	3	4	5	6	R148

L 27



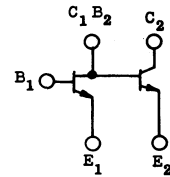
TO77 - DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L 28



TO77 - DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

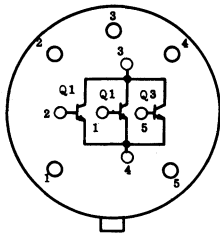
L 29



	E1	B1	C1B2	E2	C2	OUTLINE
L29	3	2	1	4	5	TO77
L29a	1	6	5	7	2	TO71

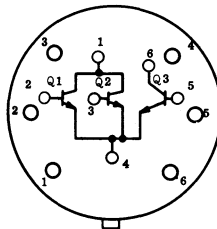
TO5 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L 30



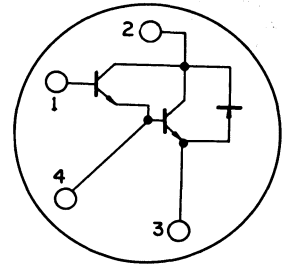
TO77 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L 31



TO77 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L 35



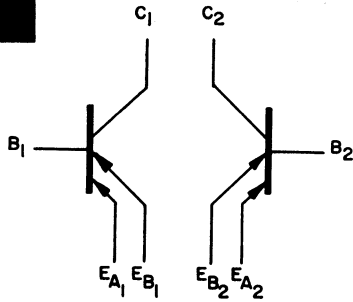
X19 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

	B1	C	E	B2	OUTLINE
L35	1	2	3	4	X19
L35a	3	4	1	2	TO33

15. OUTLINE DRAWINGS

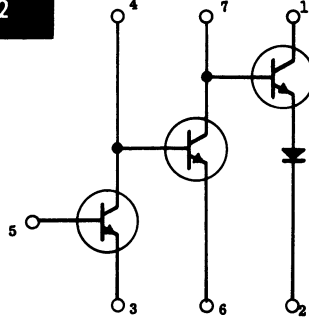
IN DRAWING NUMBER SEQUENCE

L 38



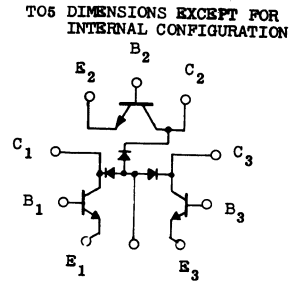
	EA1	EB1	B1	C1	EA2	EB2	B2	C2	POL.	OUTLINE
L38	6	7	5	4	9	10	1	2	PNP	TO90
L38a	6	7	5	4	9	10	1	2	NPN	X66

L 42



TO77 OUTLINE

L 43

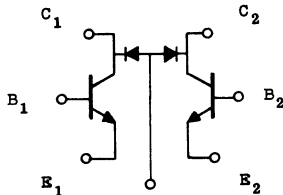


TO5 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

	E1	B1	C1	E2	B2	C2	E3	B3	C3	
L43	1	2	3	4	5	6	7	8	9	TO5
L43a	1	2	3	4	5	6	7	8	9	TO78
L43b	2	3	4	14	13	12	5	6	7	X91

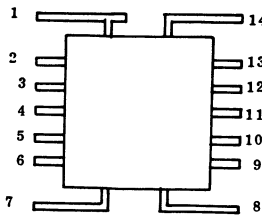
L 44

TO5 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION



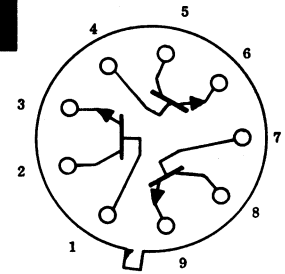
	E1	B1	C1	E2	B2	C2	OUTLINE
L44	1	2	3	7	6	5	TO5
L44a	1	2	3	7	6	5	TO78
L44b	2	3	4	14	13	12	X91

L 49



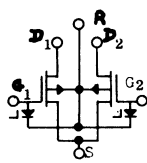
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OUTLINE							
L49a	N	C	G	1	2	3	4	N	C	S	4	D	3	S	2	D	2	S	1	D	1	TO84
L49b	N	C	G	1	2	3	4	N	C	S	4	D	3	S	2	D	2	S	1	D	1	TO84

L 50



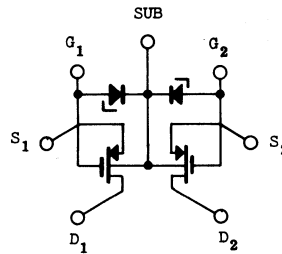
R129 OUTLINE AND DIMENSIONS

L 51



	G1	D1	B	G2	D2	S	OUTLINE
L51	3	1	4	5	7	8	TO78
L51a	3	1	4	5	7	8	TO78
L51b	3	1	4	5	7	8	TO99

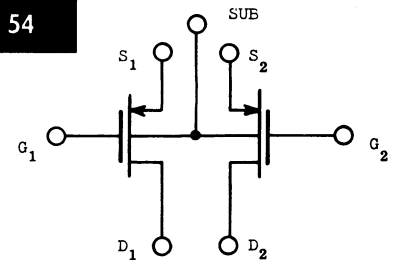
L 53



TO77 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

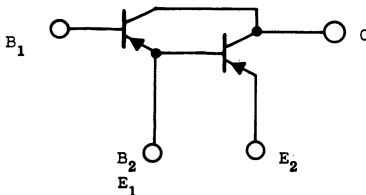
OUTLINE	D1	S1	G1	G2	S2	D2	SUBSTRATE
TO77	1	2	3	5	6	7	4 8

L 54



OUTLINE	S1	D1	G1	S2	D2	G2	SUB
L54	TO77	2	1	3	6	7	5 4
L54a	TO5	1	3	2	7	5	6 8
L54b	TO78	1	2	3	5	6	7 4

L 55



B1	B2 & E1	E2	C	OUTLINE
2	4	1	3	TO12

L 56

	E1	B1	C1	E2	B2	C2	E3	B3	C3	E4	B4	C4	POLARITY	OUTLINE
L56	3	2	1	7	6	5	8	9	10	14	13	12	PNP	TO86
L56a	2	1	13	12	3	4	5	10	11	6	8	9	NPN	TO85
L56b	2	1	13	12	3	4	5	10	11	6	8	9	PNP	TO85
L56c	3	2	1	5	6	7	10	9	8	12	13	14	NPN	TO86
L56d	1	2	3	5	6	7	10	9	8	12	13	14	PNP	TO84
L56e	1	2	3	5	6	7	10	9	8	12	13	14	PNP	X84
L56f	1	2	3	5	6	7	10	9	8	12	13	14	NPN	TO84
L56g	1	2	3	5	6	7	10	9	8	12	13	14	NPN	X84
L56h	1	4	3	2	6	5	4	9	10	14	13	12	NPN	TO84
L56i	1	4	3	2	6	5	4	9	10	14	13	12	NPN	X84

L 58

	S1	D1	G1	S2	D2	G2	POLARITY	OUTLINE
L58	1	2	3	4	5	6	N	TO71
L58a	1	2	3	4	5	6		R52b
L58b	2	1	3	6	7	5	P	TO99

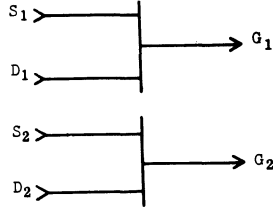
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

L 59

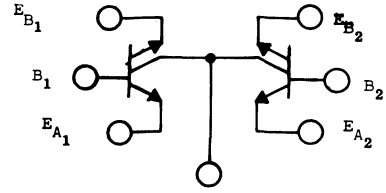
L59	NPN				PNP				OUTLINE				
	E1	B1	C1	E2	B2	C2	E3	B3		C3	E4	B4	C4
	2	1	13	4	3	12	11	10	5	9	8	6	TO85

L 61



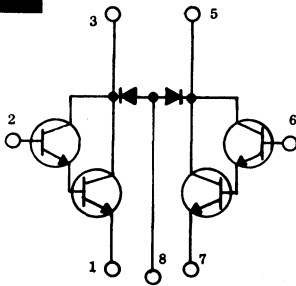
L61	S1	D1	G1	S2	D2	G2	OUTLINE
	L61	1	2	3	4	5	
L61a	1	2	3	5	6	7	TO71
L61c	2	3	1	5	4	6	R52

L 62



L62	EA1	B1	EB1	EB2	B2	EA2	C	POL	OUTLINE
		1	2	3	5	6	7	8	

L 63

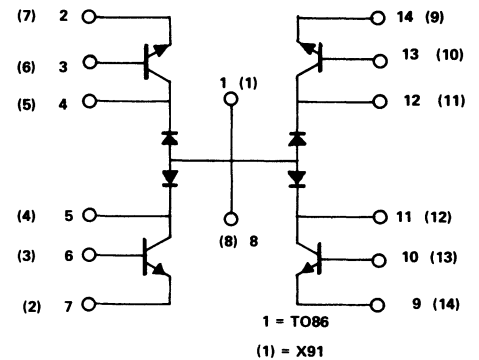


TO77 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

L 66

L66	LEAD CONFIGURATION								OUTLINE
	1	2	3	4	5	6	7	8	
L66	C	B	E	OMIT	E	B	C	OMIT	TO99
L66a		NPN			PNP				TO99
L66b		NPN			PNP				TO99

L 67

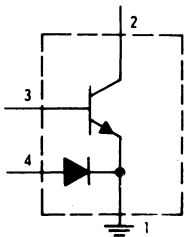


1 = TO86

(1) = X91

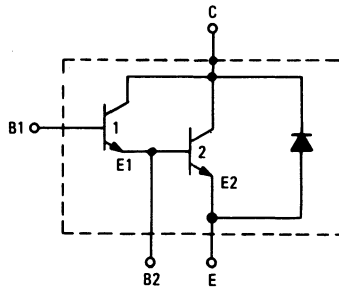
L 68

IN MT67a PACKAGE

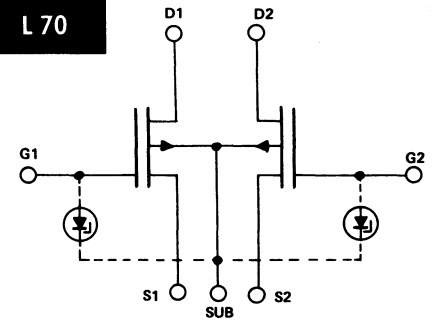


L 69

IN MD39 PACKAGE



L 70

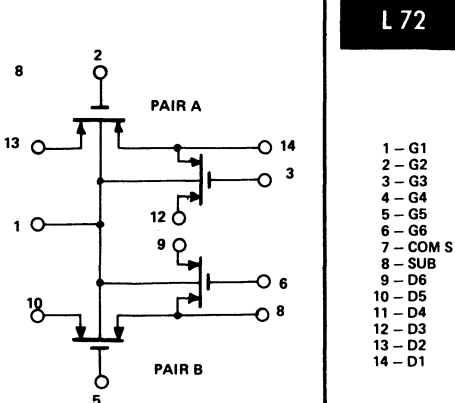


L70	S1	G1	D1	S2	G2	D2	SUB	OUTLINE
		1	3	2	7	5	6	

L70a - ZENER DIODES OMITTED

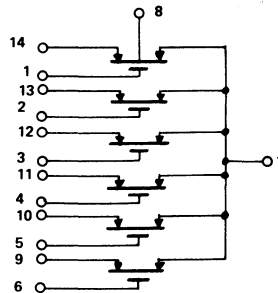
L 71

- 1 - SUB
- 2 - G1a
- 3 - G2a
- 4 -
- 5 - G1b
- 6 - G2b
- 7 -
- 8 - COM SB
- 9 - D2b
- 10 - D1b
- 11 -
- 12 - D2a
- 13 - D1a
- 14 - COM SA

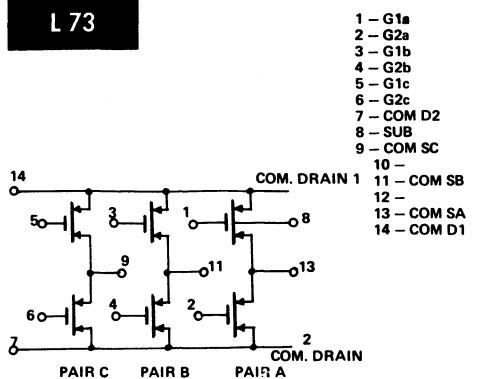


L 72

- 1 - G1
- 2 - G2
- 3 - G3
- 4 - G4
- 5 - G5
- 6 - G6
- 7 - COM S
- 8 - SUB
- 9 - D6
- 10 - D5
- 11 - D4
- 12 - D3
- 13 - D2
- 14 - D1



L 73

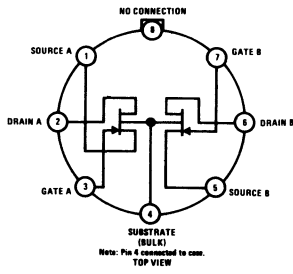


- 1 - G1a
- 2 - G2a
- 3 - G1b
- 4 - G2b
- 5 - G1c
- 6 - G2c
- 7 - COM D2
- 8 - SUB
- 9 - COM SC
- 10 -
- 11 - COM SB
- 12 -
- 13 - COM SA
- 14 - COM D1

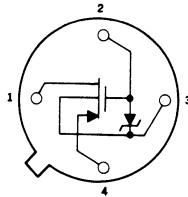
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

L 74

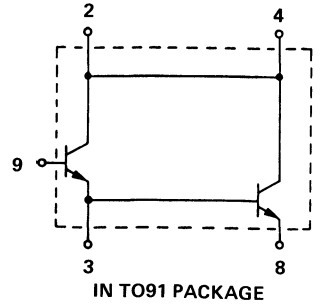


L 75

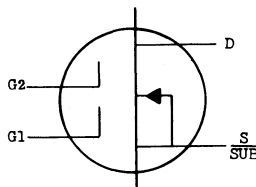


TO33 DIMENSIONS EXCEPT FOR INTERNAL CONFIGURATION

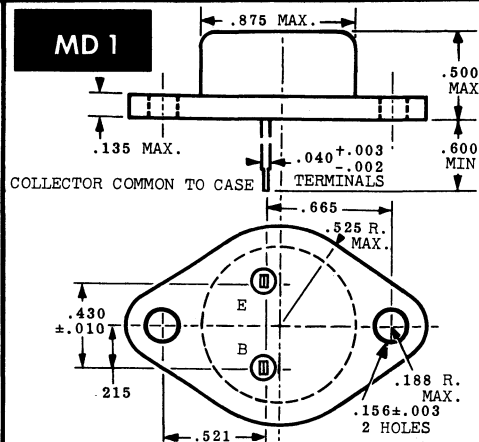
L 76



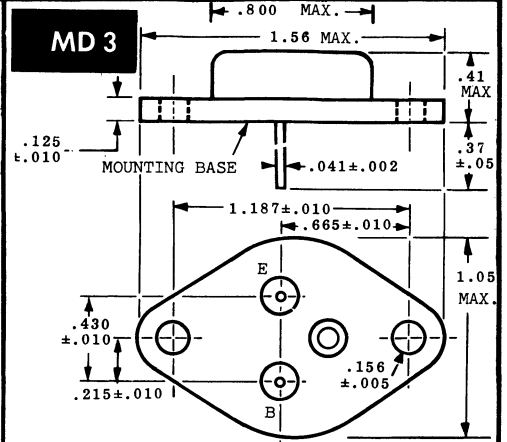
L 77



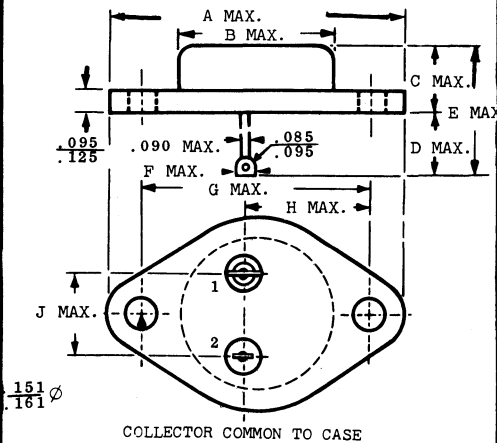
MD 1



MD 3



MD 4

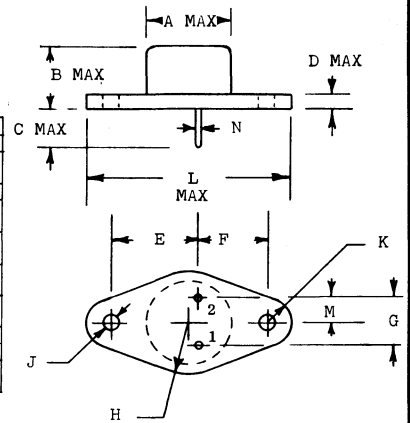


COLLECTOR COMMON TO CASE

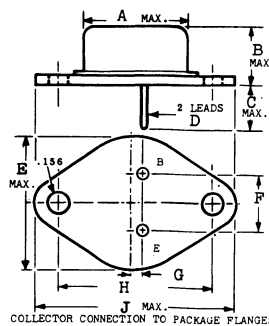
	A	B	C	D	E
MD4	1.531	.783	.380	.665	1.032
MD4a		.773	.338	.376	
	F	G	H	J	
MD4	.145	1.192	.670	.440	
MD4a	.198	1.191	.672	.440	

MD 6

	A	B	C	D	E	F	G	H	J	K	L	M	N
MD6	.768	.400	.480	.130	.665	.521	.430		.166		1.53	.215	
MD6a	.875	.562	.312	.135	.665	.521	.440	.525	.156	.188	1.55		.038
MD6b	.560	.315	.394	.079	.536	.990	.236		.161		1.23		.043
MD6c	.830	.300	.050	.135	.665	.522	.420		.151		1.55	.205	.038
MD6d	.830	.300	.420	.135	.675	.522	.440		.151		1.55	.255	.052
MD6e	.500	.340	.360	.100	.580	.380	.200	.350	.147	.145	1.25	.100	.31
MD6f	.875	.450	.312	.135	.675		.440	.525	.161	.188	1.57	.225	.052
MD6g	.575	.385	.433		.515	.389	.236		.165		1.24	.118	.043
MD6h	.590	.390	.340	.130	.520	.390	.240	.375	.170	.165	1.24	.120	.040
MD6j	.875	.250	.440	.135	.655		.420	.525	.151	.188		.205	.038
		.450	.480	MAX.	.675		.440	MAX.	.161	MAX.		.225	.043



MD 9



COLLECTOR CONNECTION TO PACKAGE FLANGES

	A	B	C	D	E	F	G	H	J
MD9	.650	.500	.480	.040	1.005	.430	.072	1.184	1.545
MD9a	.811	.354	.452	.039	1.04	.429		1.18	1.5

15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

MD 10

COLLECTOR COMMON TO CASE

	A	B	C	D	E	F	G	H
MD10	.570	1.22	.949	.322	.785	.355		.295
MD10a	.590	1.22	.949	.322	.785	.355		.295
MD10b	.590	1.30	.949	.322	.785	.355		.295
MD10c	.551	1.22	.913	.244	.743	.413	.523	
MD10d	.551	1.22	.913	.244	.743	.413	.523	.263
MD10e	.500	1.25	.962	.210	.700	.360	.580	.340
MD10f	.492	1.26	.969	.201	.709	.393	.579	.315

MD 11

GOLD PLATED

MD 14

NOTE 1: Lead diameter is controlled in the zone between .050 and .250 from the base seat. Between .250 and end of lead a max. of .021 is held.

MD 16

MD 17

	A	B	C	D	E	F	G	H	J
MD17	1.18	.350	.350	.071	.562	.900	.157	.506	.226
MD17a		.350	.382	.106	.562	.910	.165	.528	.250
			.429			.900	.157	.506	.226
MD17b	1.23	.315	.394	.079	.562	.910	.157	.506	.226
						.910	.165	.528	.250
MD17c	1.23	.350	.354	.106	.574	.897	.157	.506	.226
			MAX		MAX	.913	.165	.528	.250
MD17d	1.56	.275	.400	.150	.900	1.18	.157	.506	.226
			MAX		MAX	1.20	.165	.528	.250
MD17e	1.20	.291	.374	.078	.553	.901	.157	.506	.226
	1.23	.314	.413		.559	.909	.165	.528	.250
MD17f	1.48	.283	.472	.078	.790	1.18	.161	.650	.424
	1.54	.345			.800			.680	.434

MD 18

	A	B	C	D	E	F	G	H	J
MD18	1.30	2.09	1.69	1.41	.990	.146	.589	.450	.760
MD18a	1.22	2.32	1.81	1.54	1.20	.138	.610	.547	.512

MD 21

MD 24

MD 23

	A	B	C	D	E	F
MD23	.295	.374	.020	.898	.512	.159
MD23a	.386	.433	.020	.898	.512	.159
MD23b	.390	.340	.130	.910	.520	.170

MD 24

MD 24

15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

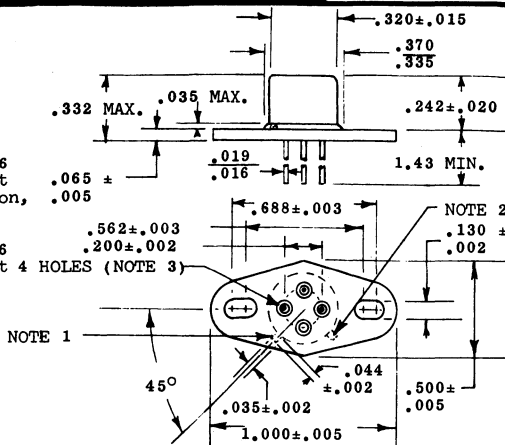
MD 25

NOTES FOR MD25

NOTE 1: Index tab shown for 40255 or 40256 for lead orientation corresponding to that for MD-14 Outline. For lead identification, refer to terminal diagram.

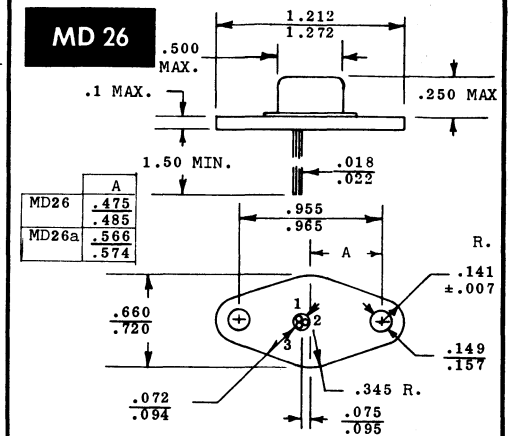
NOTE 2: Index tab shown for 40255 or 40256 for lead orientation corresponding to that for TO-37 Outline.

NOTE 3: .070 MIN., .074 MAX. Dia. Countersunk 90 degrees or Counterbored .125 Dia. x .025 Deep.

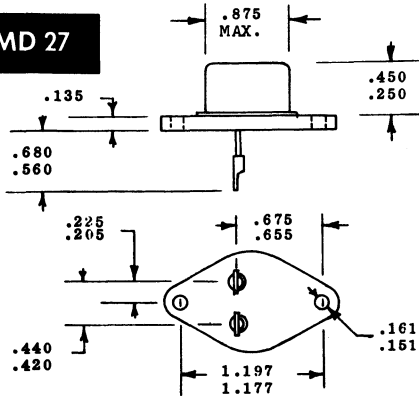


MD 26

	A
MD26	.475
	.485
MD26a	.566
	.574

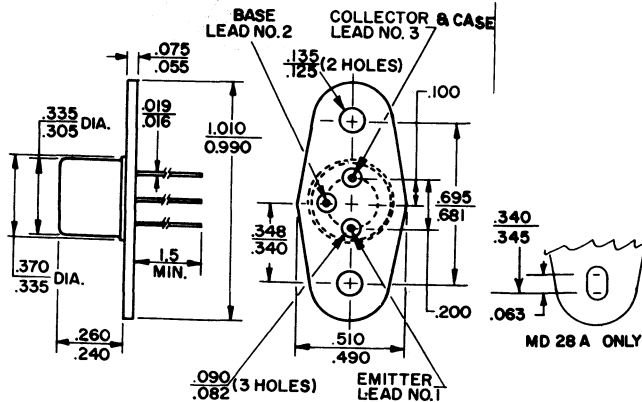


MD 27



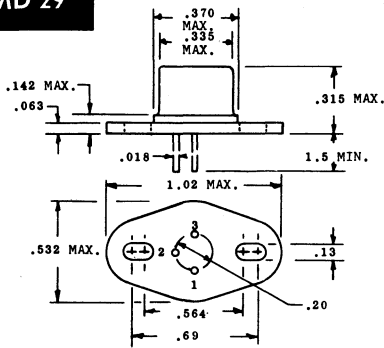
COLLECTOR CONNECTED TO CASE

MD 28

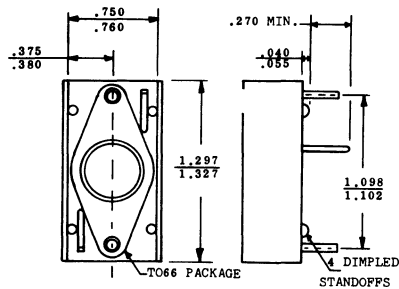


MD 28 A ONLY

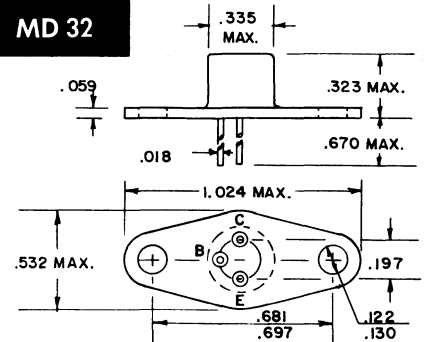
MD 29



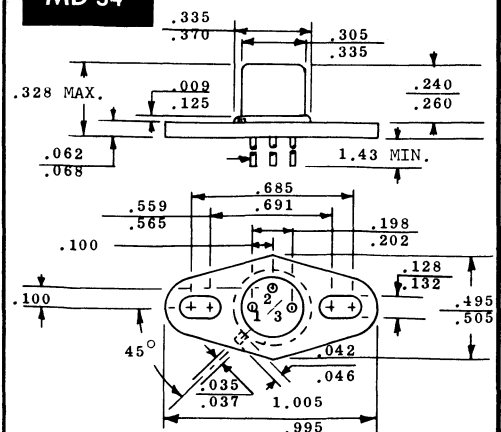
MD 30



MD 32



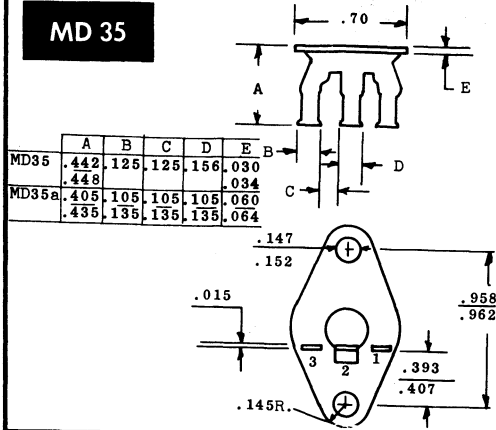
MD 34



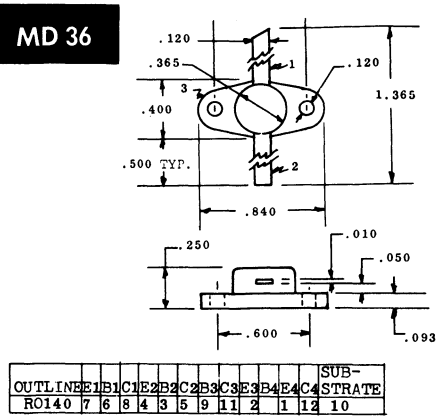
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

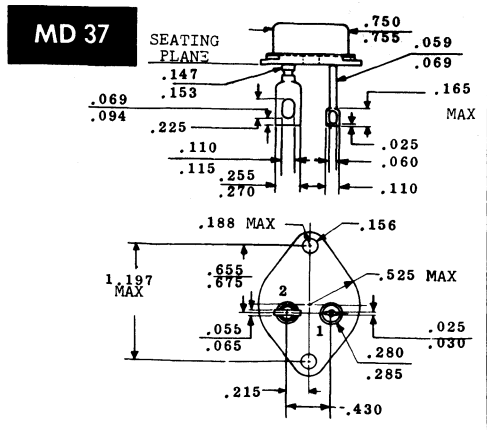
MD 35



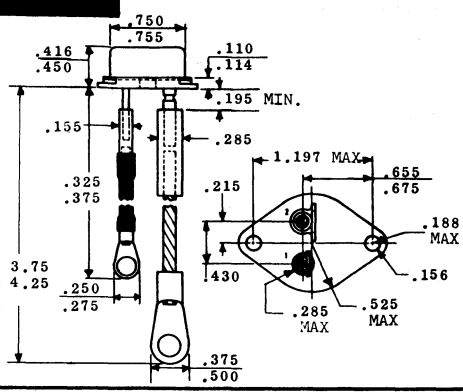
MD 36



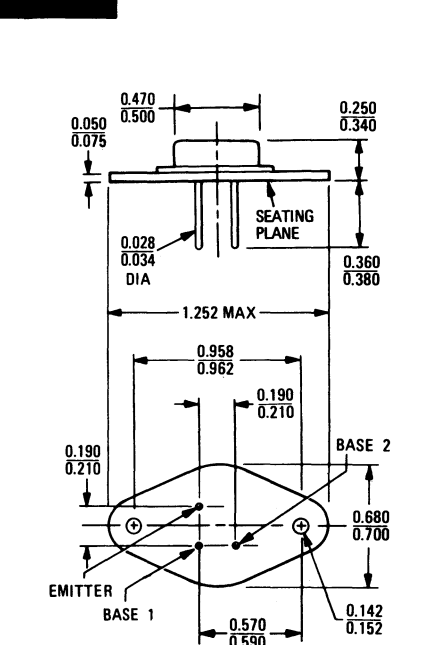
MD 37



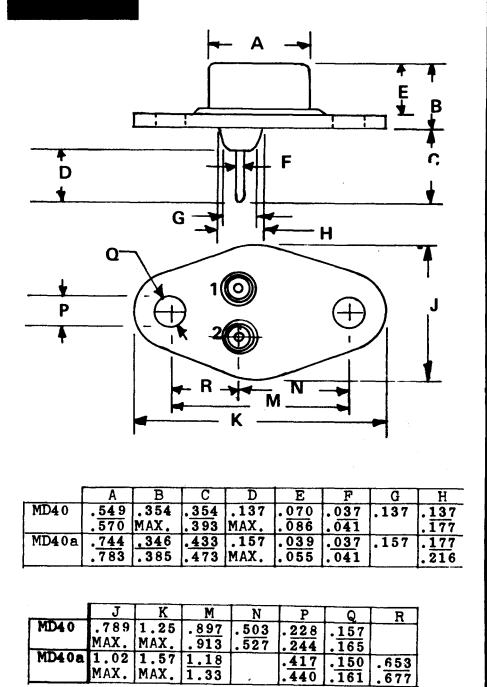
MD 38



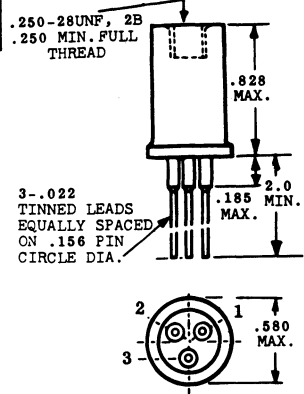
MD 39



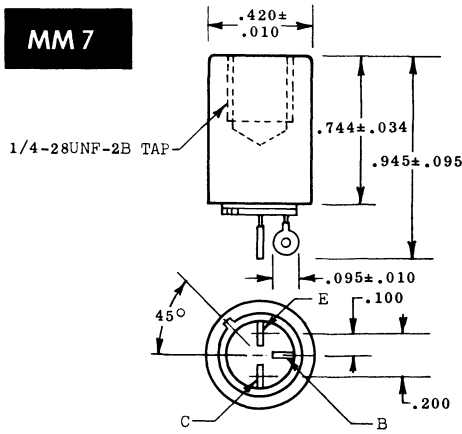
MD 40



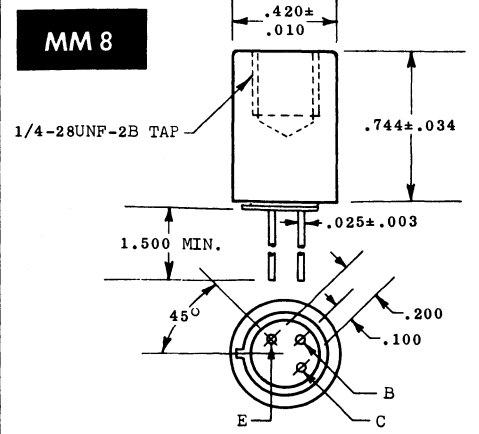
MM 3



MM 7

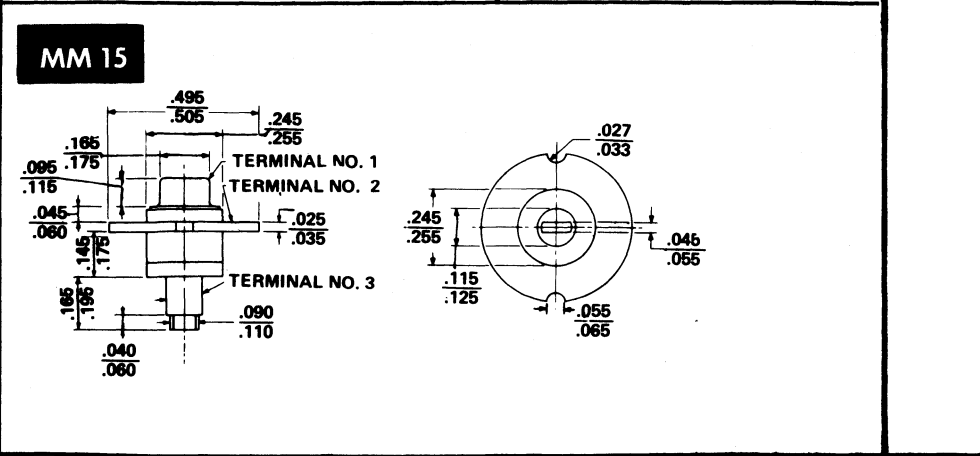
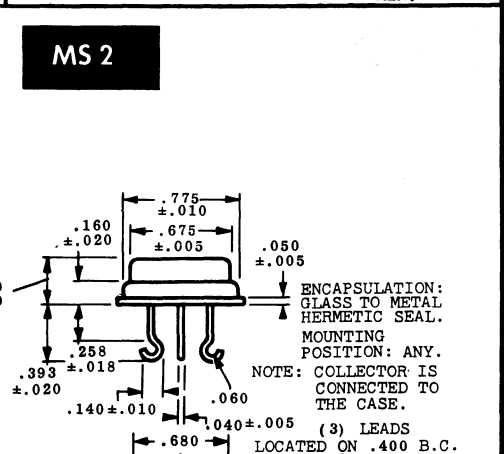
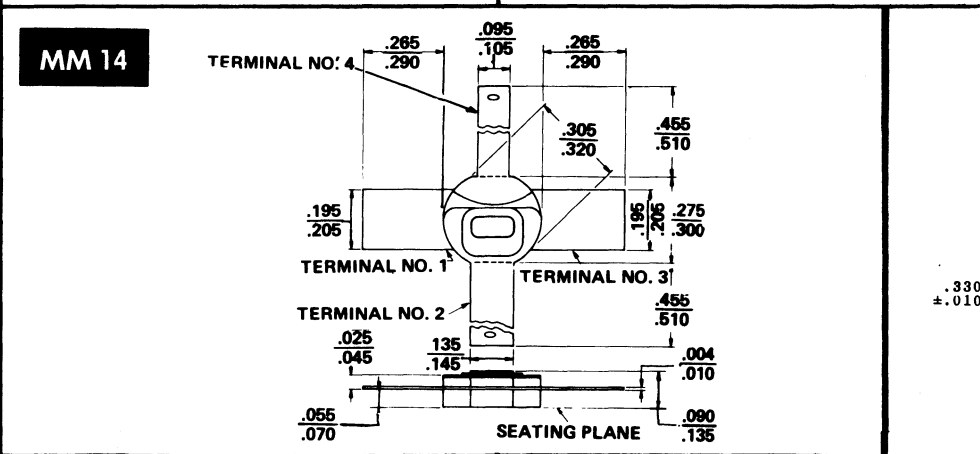
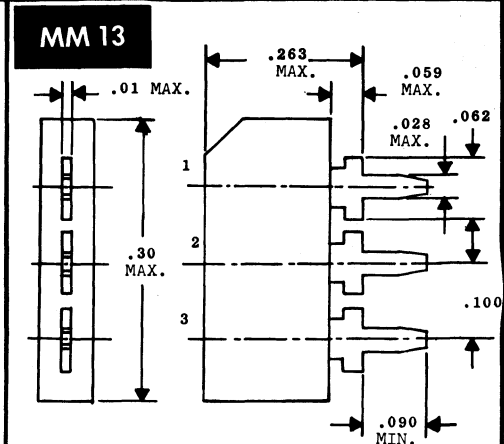
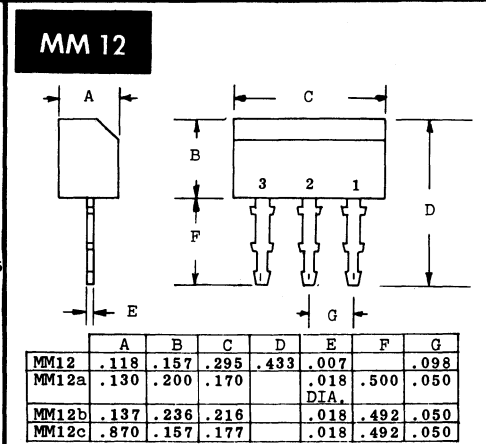
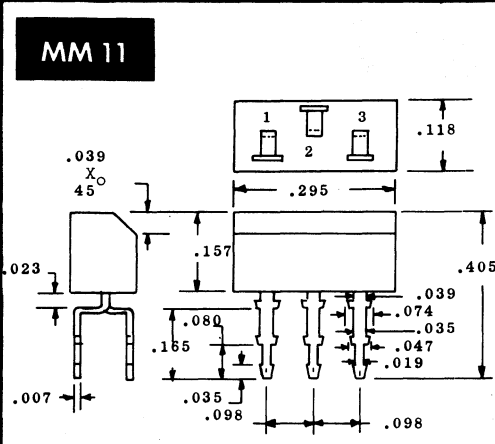
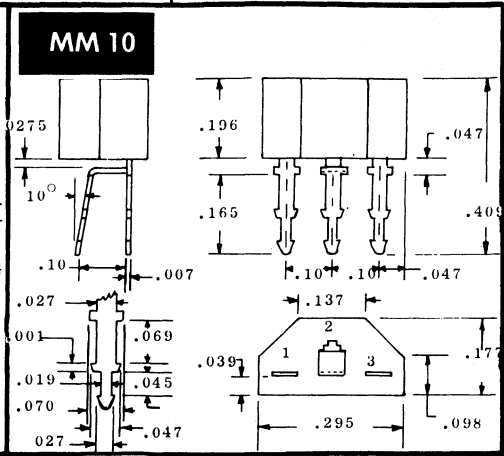
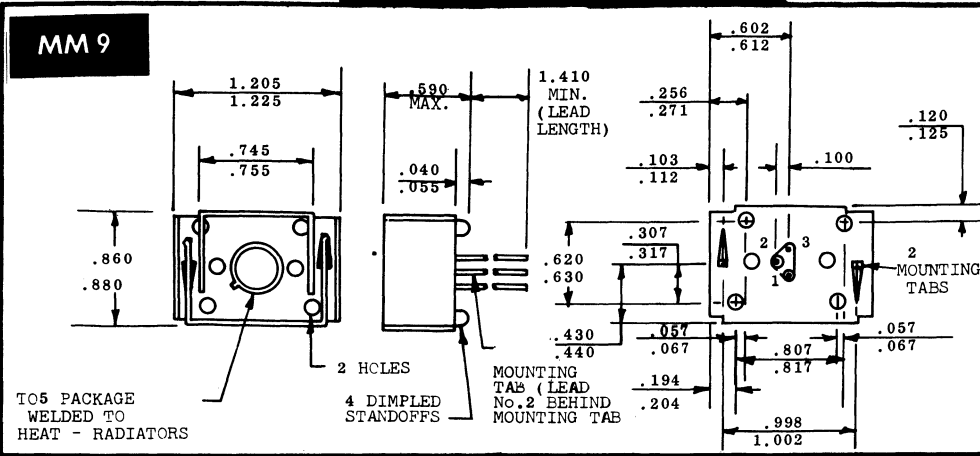


MM 8



15. OUTLINE DRAWINGS

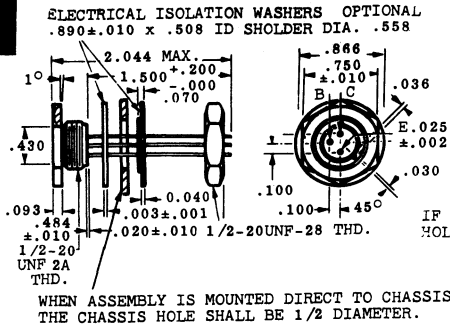
IN DRAWING NUMBER SEQUENCE



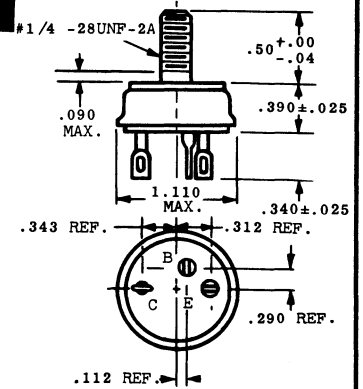
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

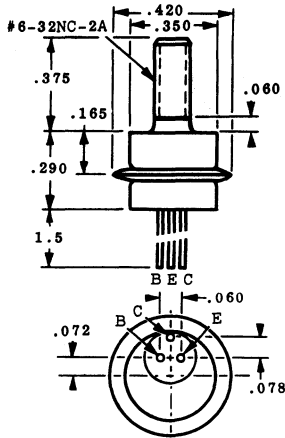
MT 6



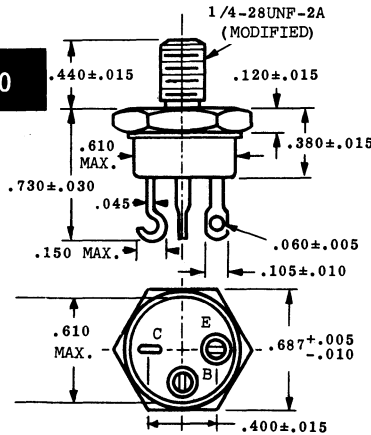
MT 7



MT 9

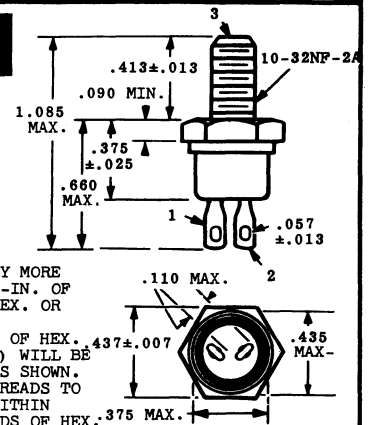


MT 10



MT10 COLLECTOR COMMON TO CASE
 MT10a COLLECTOR ISOLATED FROM CASE

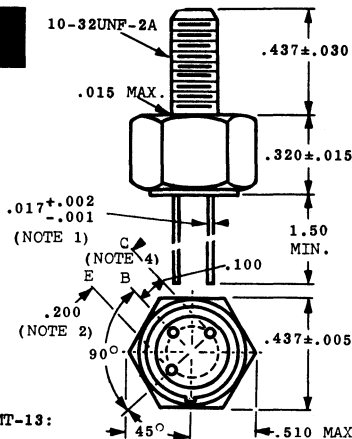
MT 11



NOTES:

- DO NOT APPLY MORE THAN 15 LB.-IN. OF TORQUE TO HEX. OR TO NUT.
- BOTTOM EDGE OF HEX. (LOWER SIDE) WILL BE CHAMFERED AS SHOWN.
- COMPLETE THREADS TO EXTEND TO WITHIN 2 1/2 THREADS OF HEX.

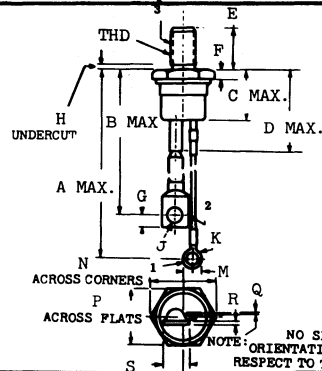
MT 13



NOTES FOR MT-13:

- The specified lead diameter applies in a zone between .050 and .250 from the base seat. Between .250 and 1.5 a maximum of .021 diameter is held. Outside of these zones the lead diameter is not controlled.
- Leads having maximum diameter (.019) measured in gaging plane .054^{+ .001} below base seat of the device shall be within .007 of their true location relative to the maximum diameter (.510) circumscribing the hex.
- The position of the leads in relation to the hex flats is not controlled.
- The collector is electrically connected to the case.

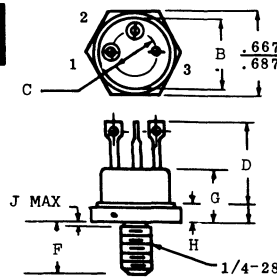
MT 14



NO SPECIFIC ORIENTATION WITH RESPECT TO THE BASE HEX.

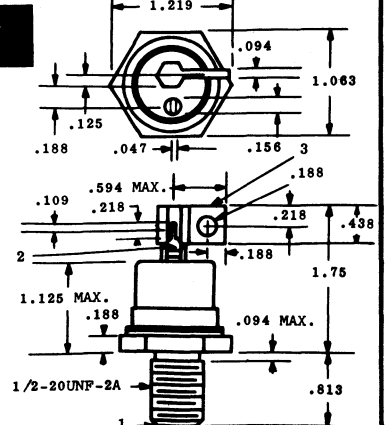
	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R	S	THD
MT14	7.12	6.37	1.12	1.75	.812	.187	.375	.093	.265	.140	.250	1.21	1.06	.031	.093	.562	1/2-20UNF-2A
MT14a	8.25	8.25	1.75	2.25	1.06	.230	.340	.080	.260	.145	.300		1.25	.032	.070	.755	3/4-16UNF-2A

MT 16



	B	C	D	F	G	H	J
MT16	.580	.345	.710	.410	.370	.090	.060
MT16a	.570	.340	.640	.422	.325	.090	.090
	.610	.415	.875	.455	.460	.150	

MT 17



15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

MT 18

5/16
24UNF-2A
(MODIFIED)

.130 ± .015
.475 ± .015
.500 ± .020
.850 ± .030
.765 MAX.
.150 MAX.
COLLECTOR COMMON TO CASE
.105 ± .010
.060 ± .005
.765 MAX.
.500 ± .015
.875 ± .015

MT 19

.375 MAX.
.330 ± .005
.330 MAX.
.065
.312 MAX.
6-32 N.C.
.250
1.350 MIN.
.030
.017 ± .002
.200 ± (NOTE 1)
.010
.029
.083
.100
.031 ± .003
45°
E
B
C

NOTE 1: All leads are protected from grounding on mounting panel up to 1/4 in. thick. Between .250 and end of lead a max. of .021 is held.

MT 20

45°
.430 ± .006
.200
.017 ± .002
-.001
.400
A (MIN.)
B
.125
#10-32
NF-2A
.452 MAX.

MT20	A	B
MT20a	1.435	.375

MT 21

.50 MAX.
90°
E
.160
.438 MAX.
.055 ± .010
.062 ± .007
.270 MAX.
1.03 ± .05
.360 MAX.
.650 MAX.
#10-32UNF-2A (NOTE 1)
.415 ± .015
1. Complete threads extend to within 2 1/2 threads of seating plane.
2. The Collector is in electrical contact with the case.

MT 22

.580
1.50
.290
.020
E
C
B
.40 MIN.
.75
.25
.09
1-1/4 16UN 2A

MT 23

.580
.290
.020
C
E
B
.40 MIN.
.72
1.250
.093 MAX.
.812
3/8 24UNF 2A

MT 24

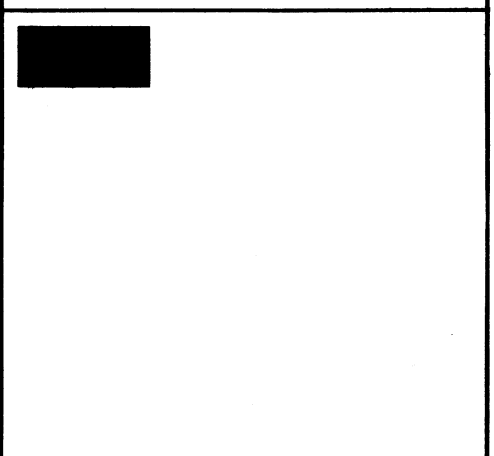
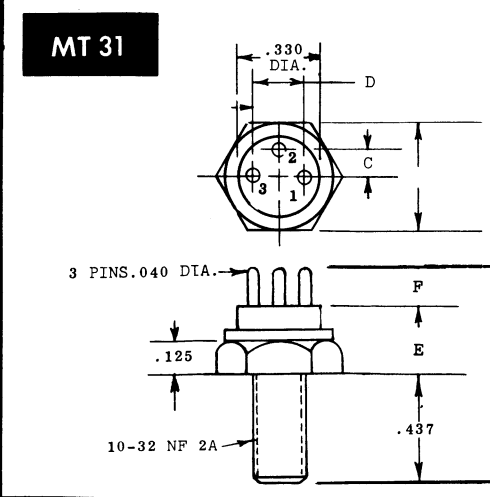
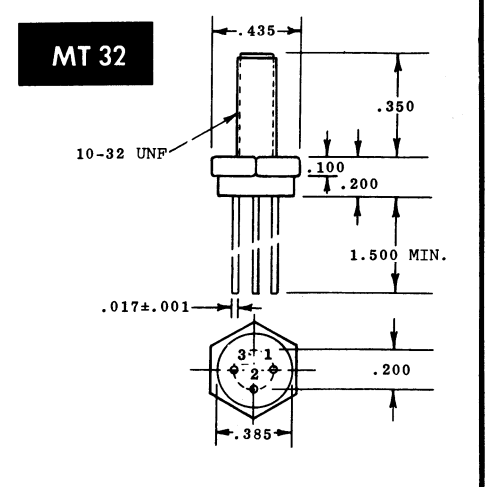
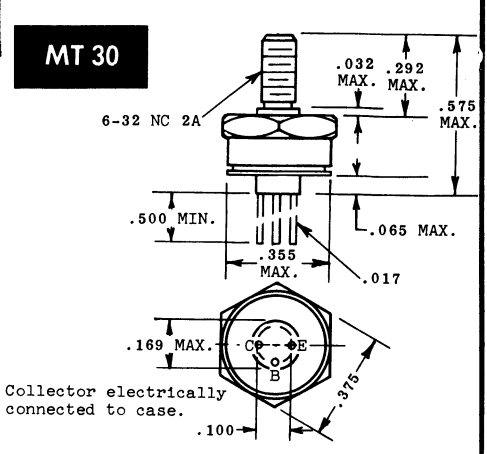
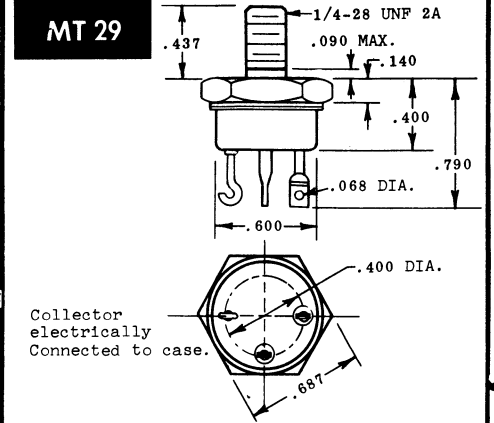
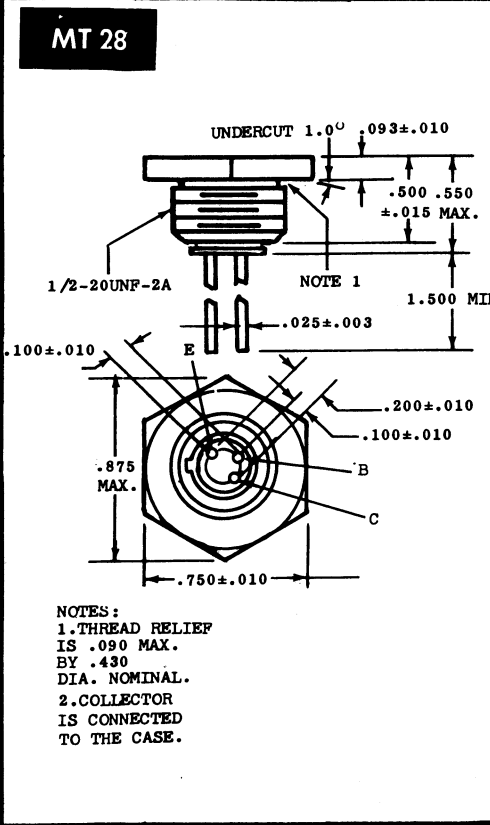
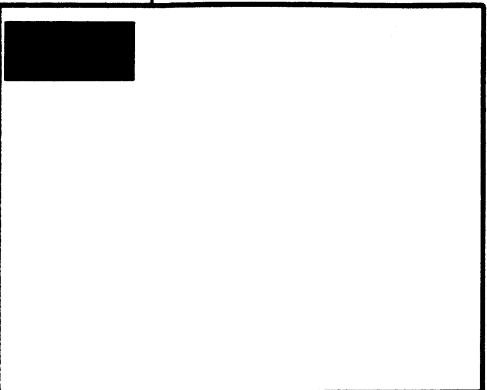
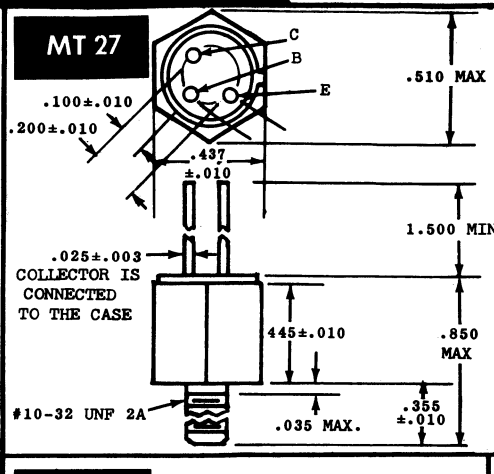
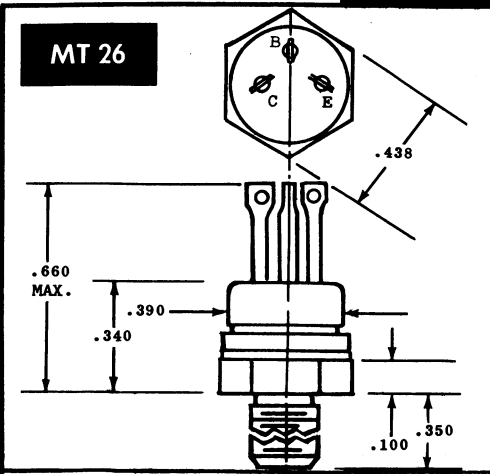
A
B
C
D
E
F
G
H
THREAD
THREAD
10-32UNF2A
M5

	A	B	C	D	E	F	G	H
MT24	.420	.562	.250	.536	.312	.280	.115	.437
MT24a	.326	.433			.149	.149	.129	.440

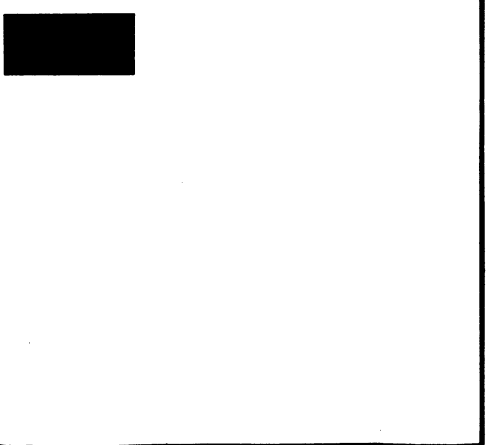
MT 25

THD
.428 ± .028
.123 ± .033
1.052 ± .017
1.272 ± .042
.040
.051
.272 ± .022
.349 ± .026
.052
THD
MT25 10-32NF-28
MT25a 10-32UNF-2A
.092
.430 ± .006
.100
.200 ± .005

15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

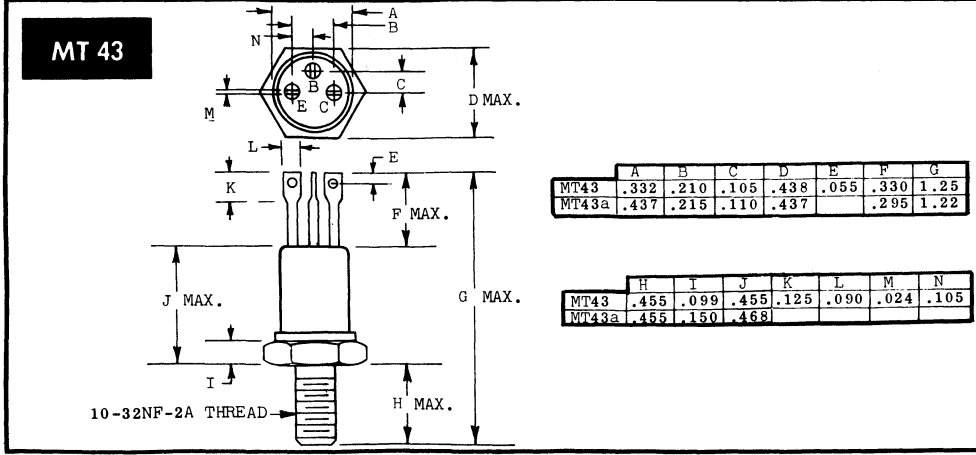
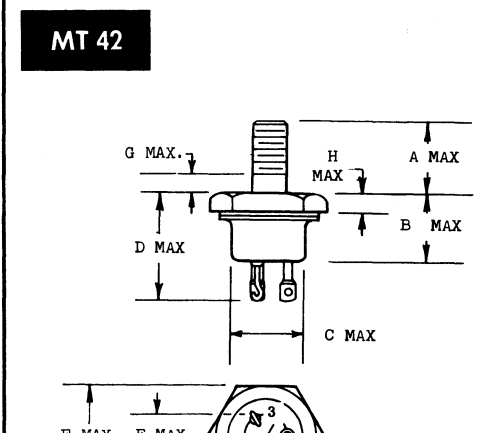
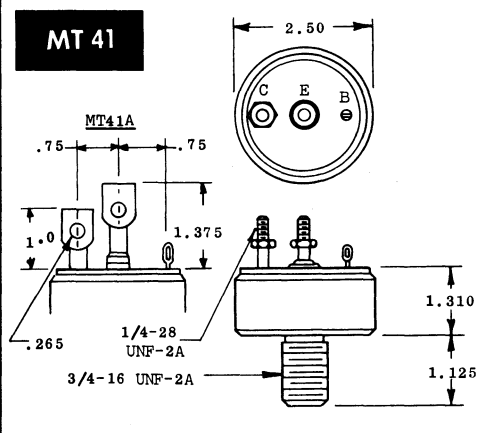
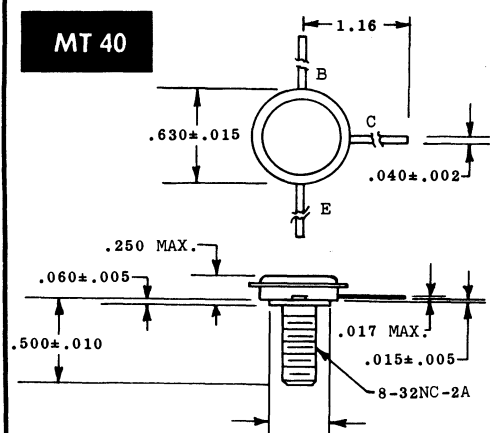
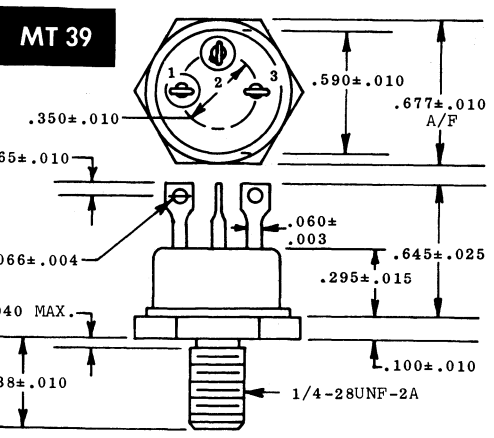
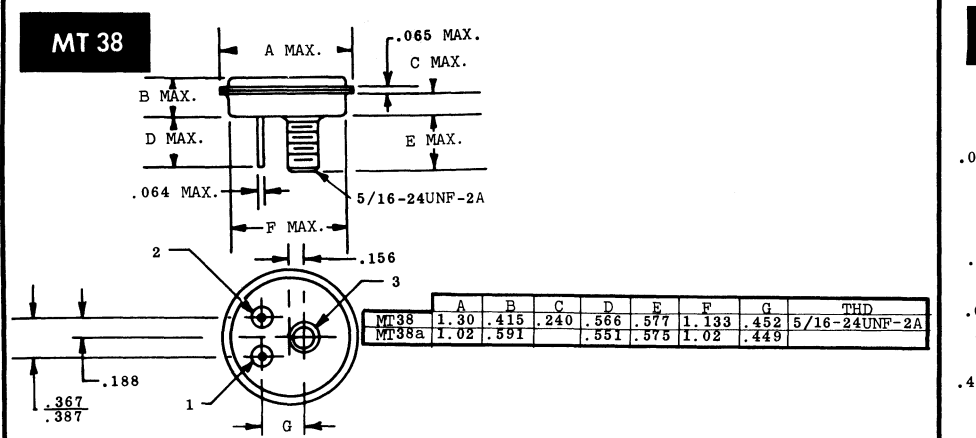
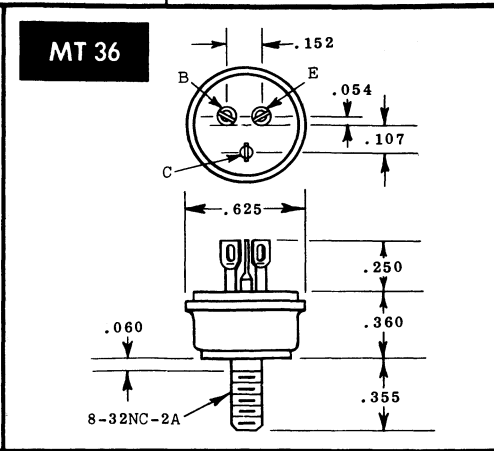
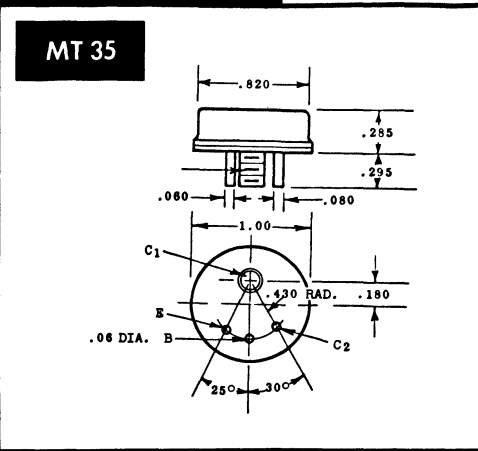
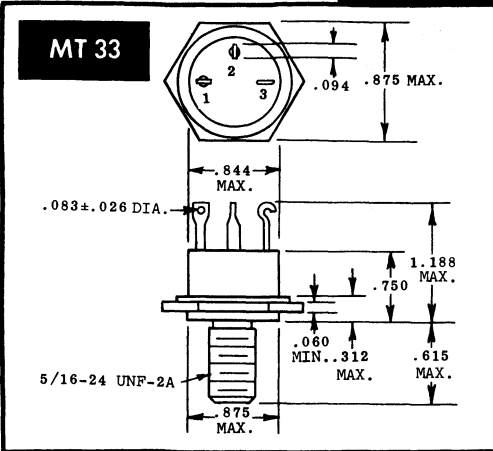


	A	B	C	D	E	F
MT31	.857	.430	.100	.200	.270	.150
MT31a	.906	.409				



15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE



15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

MT 45

8-32 UNF-2A THREAD

MT 46

MT 47

MT 49

	A	B	C	D	E	F	G	H	J	K	M	N	P
MT49	.584	.335	.312	.903	1.067	.640	.890	.880	.530	.213	.433	.700	.810
MT49a	.254	.317	.910	1.062				.485	.590	.185	.249	.690	.815

MT 50

	A	B	C	D	E	F	G	H	J	THREAD
MT50	.505	.875	.482	1.513	.490	.766	.359	.148	.375	5/16-24UNF-2A
MT50a	.415	.687	.350	1.245	.455	.610	.365	.125	.315	1/4-28UNF-2A
MT50b	.510	.875	.497	1.497	.490	.775		.060	.343	5/16-24UNF-2A

MT 51

MT 52

MT 53

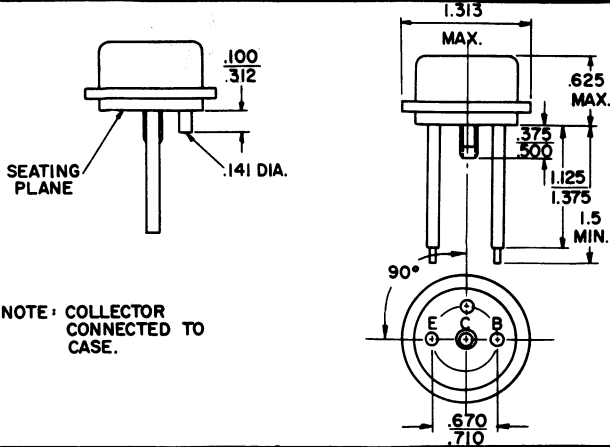
	1	2	3	4
MT53	E	B2	B1	C
MT53a	E	B	C	CASE
MT53b	E	B	C	N.C.
MT53c	E2	B	E1	C
MT53d	B	C	CASE	E

MT 55

15. OUTLINE DRAWINGS

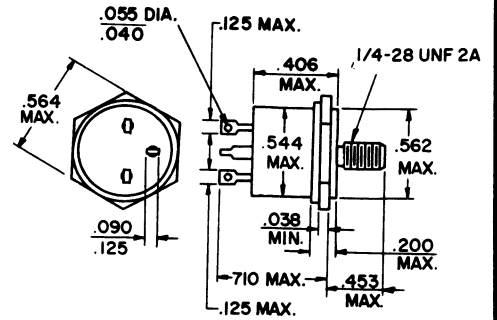
IN DRAWING NUMBER SEQUENCE

MT 56

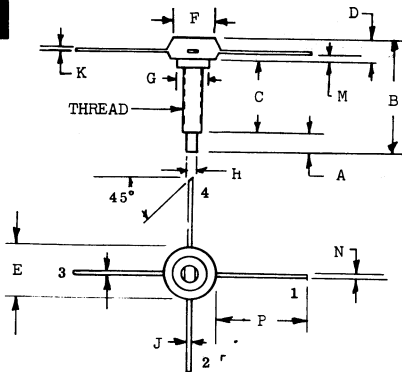


NOTE: COLLECTOR CONNECTED TO CASE.

MT 58

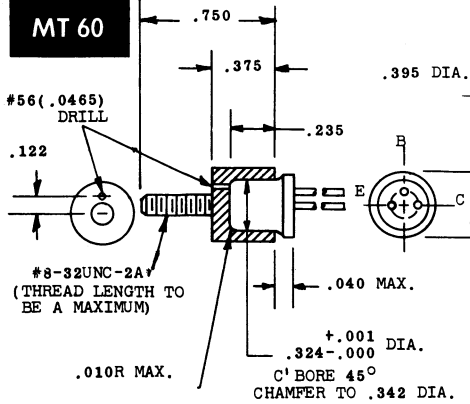


MT 59

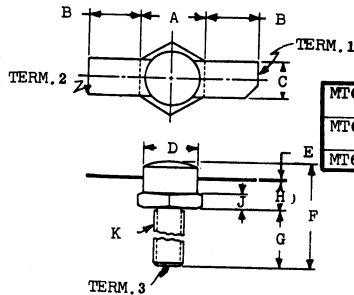


	A	B	C	D	E	F	G	H	J	K	M	N	P	THREAD
MT59	.125	.655	.500	.155	.375			.060	.030	.015	.055	.030	.450	8-32UNC-2B
MT59b	.118	.655	.500	.155	.375			.060	.030	.015	.055	.030	.450	8-32UNC-2B
MT59c	.145	.655	.500	.155	.375			.060	.030	.015	.055	.030	.450	8-32UNC-2B
MT59d	.118	.787	.626	.614	.394	.378	.276	.079	.079	.0039	.063	.118	.450	8-32UNC-2B
MT59e		.641	.484	.157	.394	.378			.033	.016	.075	.033	.250	M5
MT59f	.145	.615	.355	.160	.365	.365	.250	.060	.223	.006	.070	.223	.375	8-32UNC-2A
MT59g	.145	.670	.385	.155	.365		.250	.060	.030	.015	.055	.290	.250	8-32UNC-2A
MT59h	.137	.700			.396		.295	.078	.031	.020	.125	.031	.275	8-32
MT59j	.145	.645	.550	.145	.355		.240	.060	.030	.014	.055		.500	8-32UNC2A

MT 60

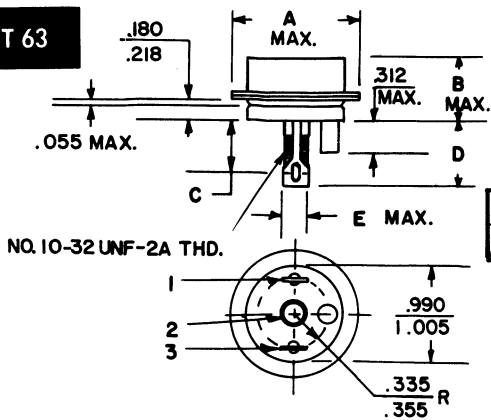


MT 62



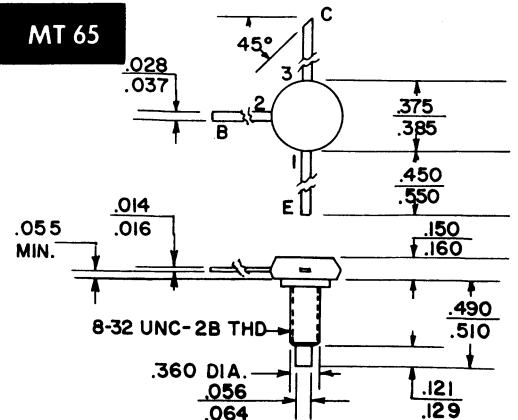
	A	B	C	D	E	F	G	H	J	K
MT62	.420	.380	.250	.375	.005	.765	.440	.190	.100	10-32
MT62a	.660	.425	.380	.600	.007	.850	.440	.260	.150	1/4-28
MT62b	.431	.350	.250	.407	.006	.725	.440	.190	.110	10-32UNF-2A

MT 63



	A	B	C	D	E
MT63	1.250	.520	.375	.610	.185
MT63a	1.240	.500	.438	.594	.140

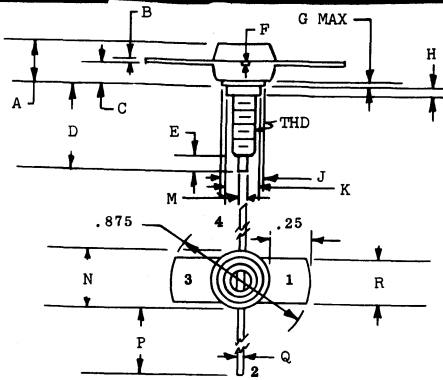
MT 65



15. OUTLINE DRAWINGS

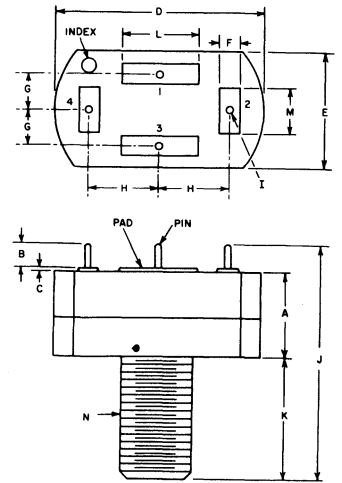
IN DRAWING NUMBER SEQUENCE

MT 66



	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R	THD
MT66	.165	.015	.055	.515	.145	.015	.020	.060	.285	.250	.060	.375	.500	.030	.290	8-32UNC2A
MT66a	.220	.003	.106	.512	.118	.007			.323	.275	.079	.433	.075	.079	.118	M4

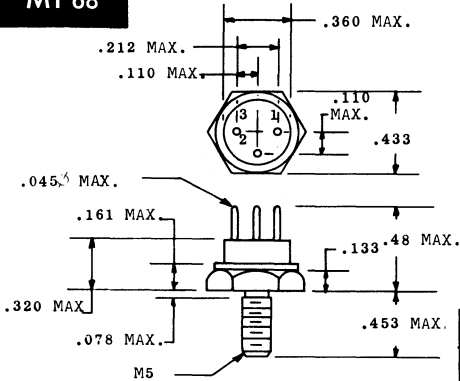
MT 67



	A	B	C	D	E	F	G	H	I	J
MT67	.218	.072	.015	.469	.337	.055	.089	.140	.021	.655
MT67a	.284	.085	MAX	.490	.345	.105	.150	.023	.724	
	.315	.088	MAX	.680	.380	.065	.131	.233	.025	.650

	K	L	M	N
MT67	.360	.145		10-32UNF-2A
MT67a	.390			
	.420	.235	.135	1/4-28UNF-2A
	.460	.250	.150	

MT 68

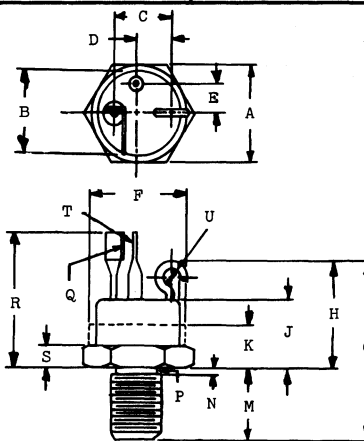


	A	B	C
MT68	.212	.453	M5
	MAX	MAX	
MT68a	.185	.250	10-32
	.215	.270	UNF-2A

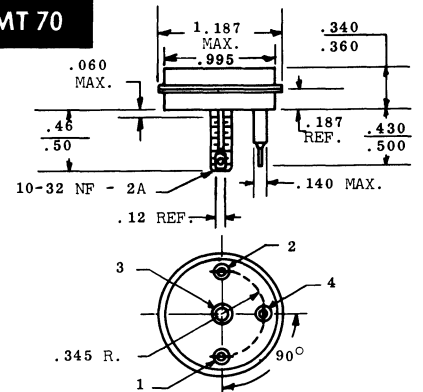
MT 69

	A	B	C	D	E	F	G	H	J	K
MT69	1.04	.885	.531	.219	.281	.915	1.82	1.048	.688	.375
MT69a	1.07	.915	.609	.266	.328	1.08	2.14	1.313	.797	MAX
	1.03						1.82			.090
	1.06						2.57			.400

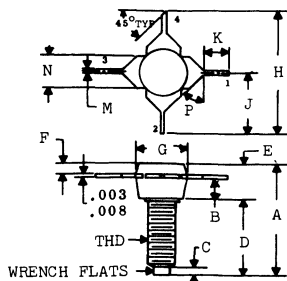
	M	N	P	Q	R	S	T	U
MT69	.781	.156	.425	.180	1.35	.090	.078	.234
	.828	MAX	.500	.210	1.75	.270	.109	.281
MT69a	.781	.156	.425		1.04			.234
	.828	MAX	.500		1.75			.281



MT 70

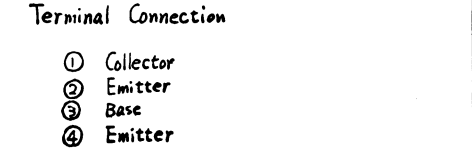
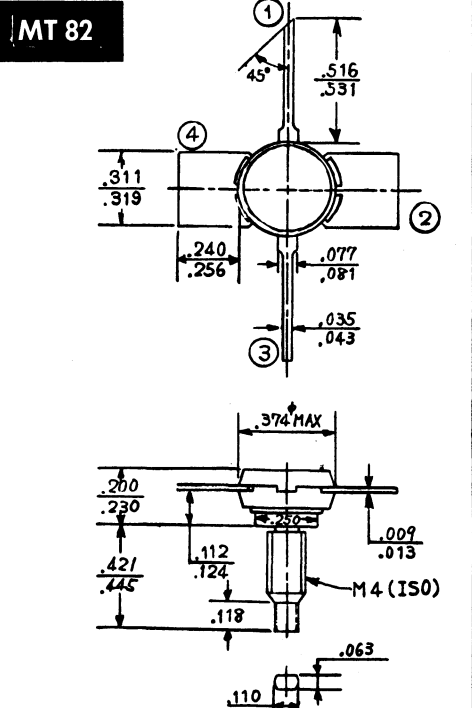
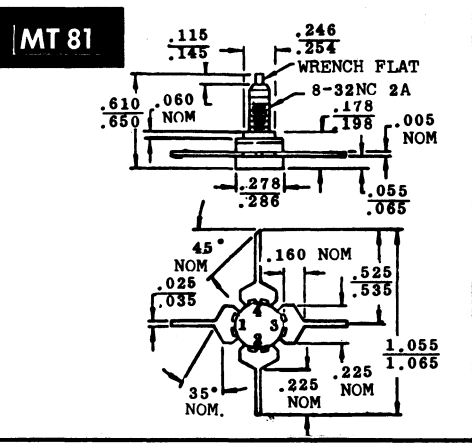
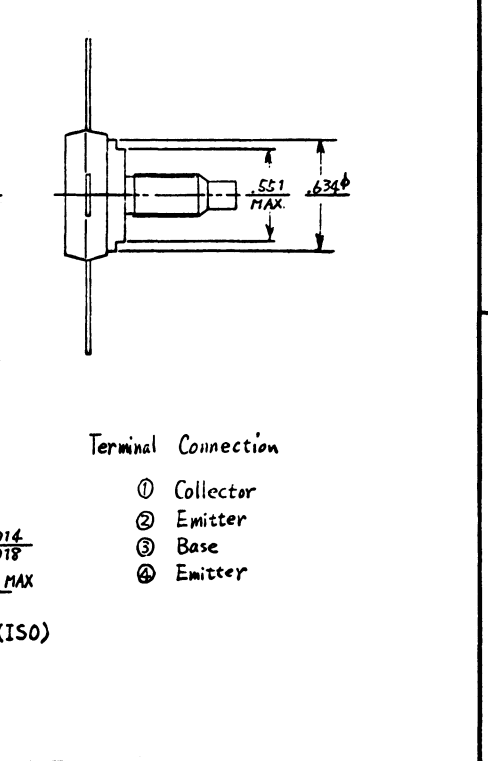
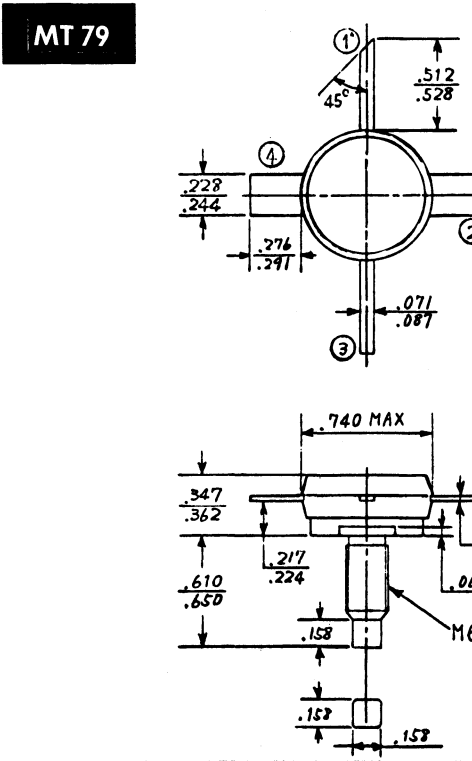
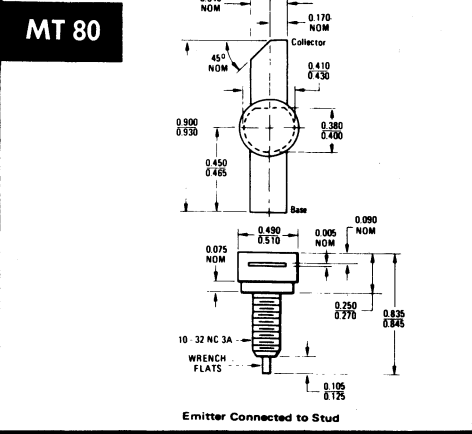
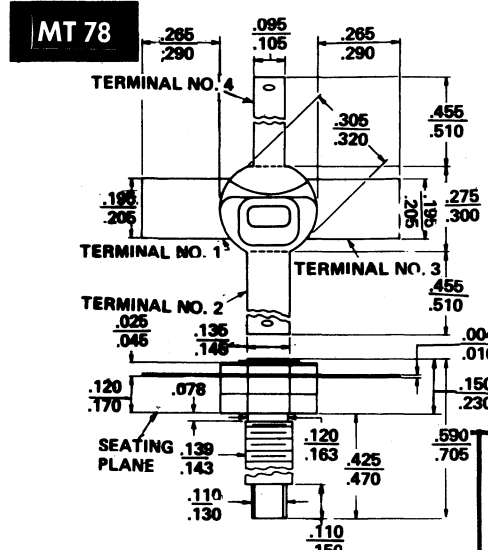
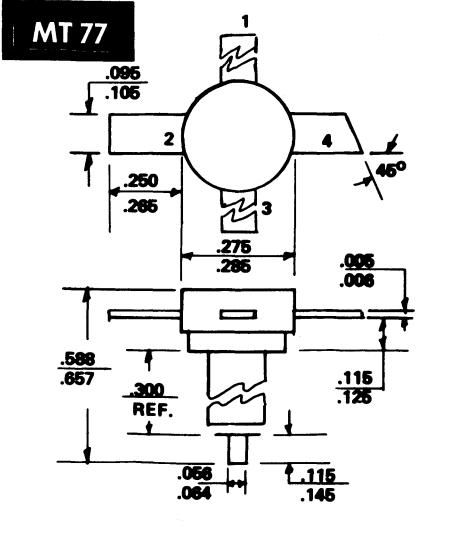


MT 71



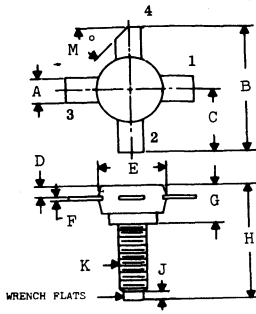
	A	B	C	D	E	F	G	H	J	K	M	N	P	THD
MT71	.675		.120	.360	.195	.065	.365	1.055	.520	.180	.025	.220		8-32N.C.2A
	.695		.130	.350	.215	.085	.385	1.065	.540	TYP	.035	TYP		8-32UNC
MT71a	.597	.066	.137	.393	.149	.065	.396	1.106	.335		.030	.220		8-32N.C.3A
	.680	MAX	MAX	.531	MAX	MAX	MAX	MAX	.355		.036	.230		8-32N.C.3A
MT71b	.710		.100	.465	.245	.080	.365	1.055	.520	.220	.025	.215	35	8-32N.C.3A
	.750		.130	.475	.275	.100	.385	1.065	.540	.230	.035	.225		8-32N.C.3A
MT71c	.710		.100	.465	.245	.080	.365	1.055	.524	.175	.025	.215	45	8-32N.C.3A
	.750		.130	.475	.275	.100	.325	1.065	.524	.185	.035	.225		8-32N.C.3A
MT71d	.610		.115	.492	.178	.055	.278	1.05	.525	.225	.025	.225	35	8-32N.C.3A
	.650		.145	.512	.198	.065	.286	1.06	.535		.035			8-32N.C.3A

15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



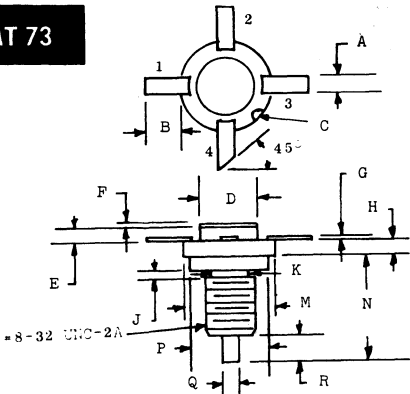
15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

MT 72



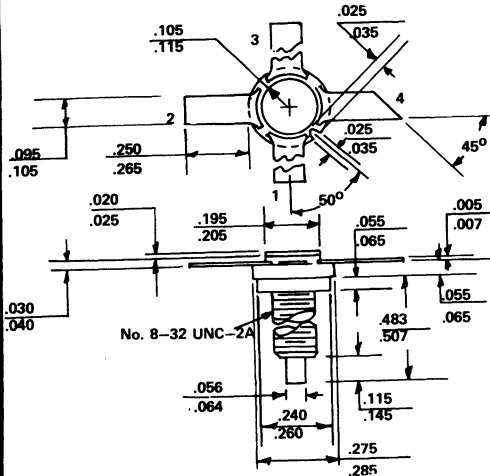
	A	B	C	D	E	F	G	H	J	K	M
MT72	.220 .230	1.055 1.065	.520 .540	.065 .085	.465 .485	.003 .008	.240 .260	.710 .730	.120 .130	8-32N.C.2A	45°
MT72a	.225	1.0 MIN			.390 MAX	.005 .010	.195	.640	.115	8-32UNC24THD	45°
MT72b	.120 .125		.358 .378		.220 .240	.008	.200	.305 MAX	.145	6-32	30°
MT72c	.146	.984 1.142	.571	.102	.375 MAX	.005 MAX	.226	.687	.134	8-32UNC	
MT72d	.223 MAX			.045 TYP	.355 .375	.006 TYP	.155 .165	.595 .635	.130	8-32UNC-2A	45°
MT72e	.225 MAX			.104 TYP	.490 .510	.006 TYP	.260 .280	.700 .750	.120	8-32UNC-2A	45°
MT72f	.078	.866			.275	.003	.242	.774	.118	J50M3	45°
MT72g	.220 .230	1.095 MIN			.365 .385	.004 .008	.205 .225	.630 .750		8-32UNC2ATHD	45°
MT72h	.220 .230	1.055 1.065	.520 .540	.080 .100	.365 .385	.004 .007	.245 .275	.710 .750	.100 .130	8-32NC3A	45°
MT72j	.031			.082	.393	.157		.484		8-32UNC-2A	

MT 73



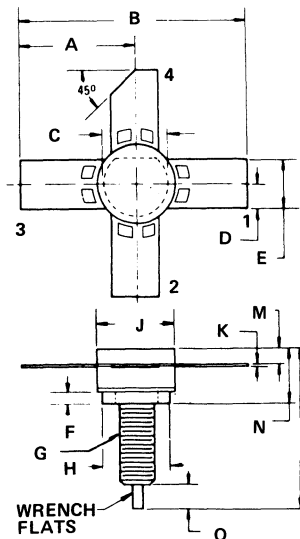
	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R	
MT73	.060	.100	NA	.200	.025	.010		.005	.070	.078 MAX	.120 .163	.276 .286	.483 .527	.245 .255	.060 over flats on a .120 dia.	.115 .145
MT73a	.095 .105	.250 .265	.025 .035	.195 .205	.030 .040	.020 .025		.005 .007	.055 .065	NA	NA	.275 .285	.483 .527	.240 .260	.056 over flats on a .115 .120dia	.115 .145

MT 74



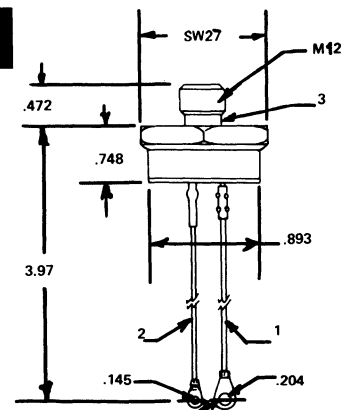
MT 75

	A	B	C	D	E	F	G	H	J	K	
MT75	.520 .540	1.05 1.06	.325	.110 .115	.220 .230	.075	10-32NC3A	.305	.365 .385	.005	
MT75a	.515 .535	1.05 1.06		.110 .115	.220 .230	.080 .100	8-32NC3A	.321 .329	.365 .385	.005	
MT75b	.520 .530	1.05 1.06	.420	.110 1.15	.220 .230	.080 .100	10-32NC3A		.490 .510	.005	
MT75c						.071 .085	.075 .081		.295 MAX	.295 MAX	.003



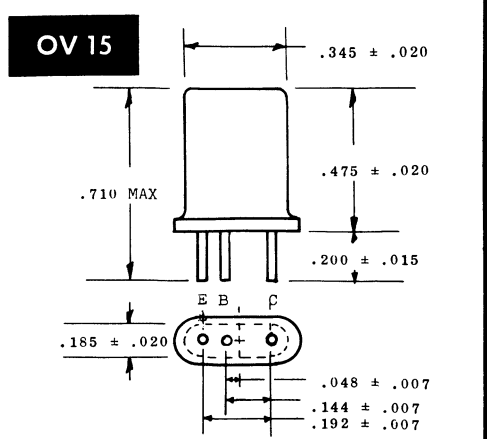
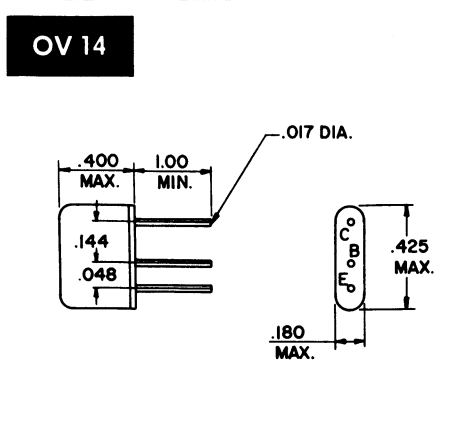
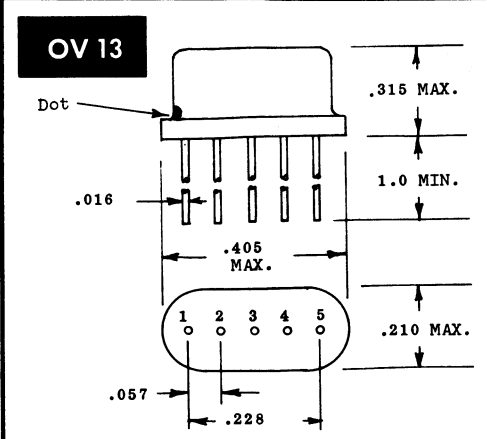
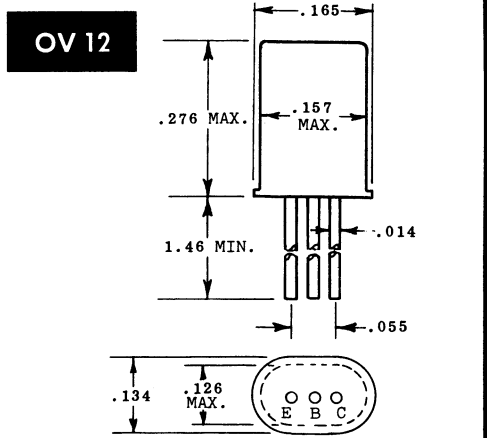
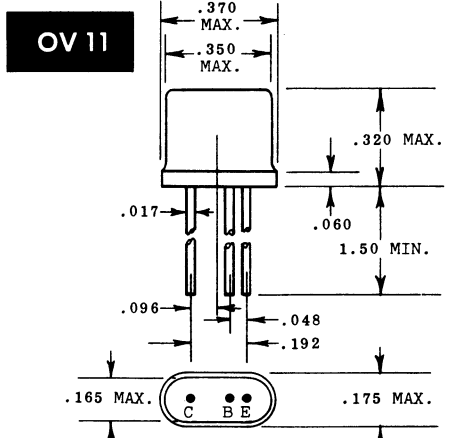
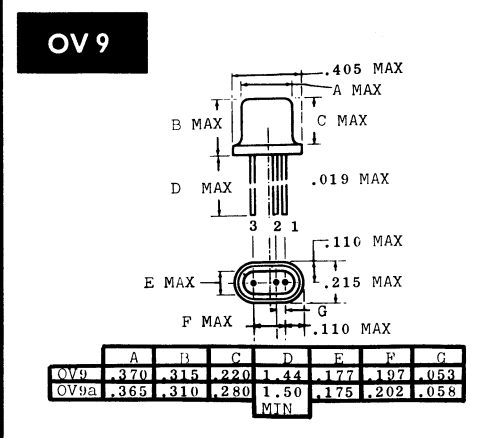
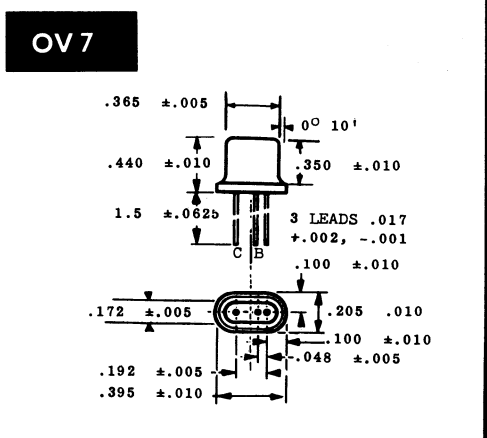
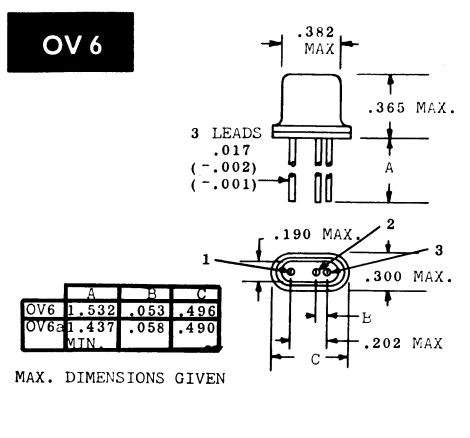
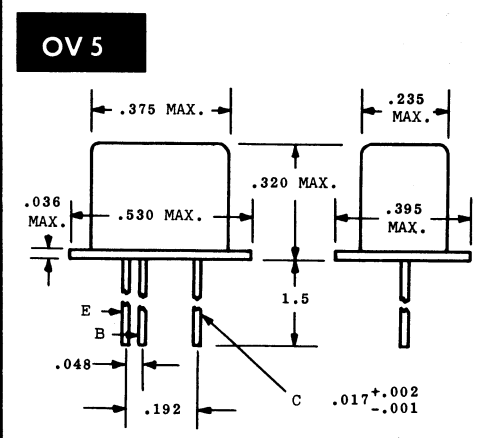
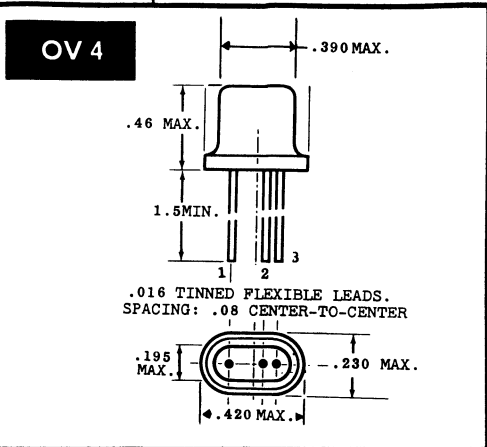
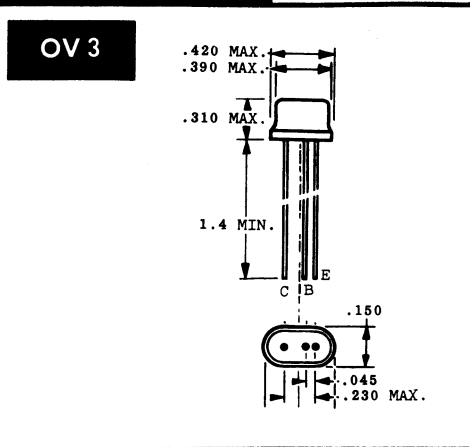
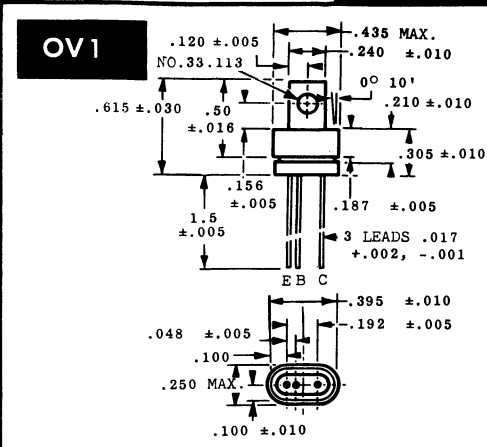
	M	N	P	Q
MT75	.080 .100	.245 .275	.710 .750	.100 .130
MT75a	.080 .100	.245 .275	.600 .640	
MT75b	.080 .100	.245 .275	.835 .845	.110 .120
MT75c		.193 .215	.716	.115 .121

MT 76



15. OUTLINE DRAWINGS

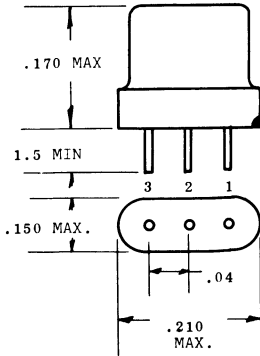
IN DRAWING NUMBER SEQUENCE



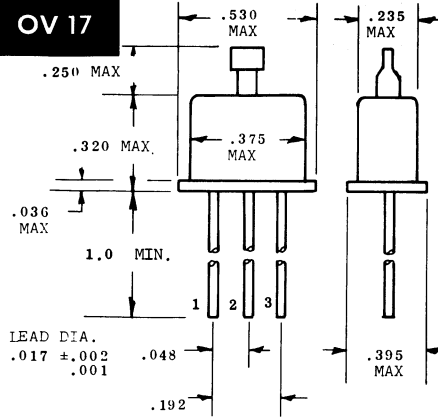
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

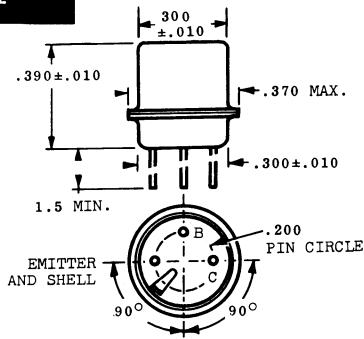
OV 16



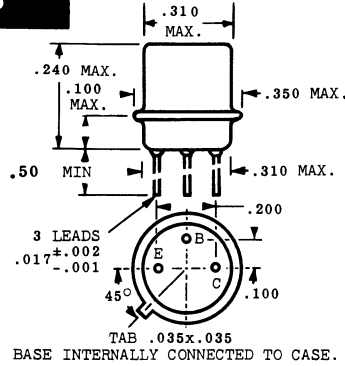
OV 17



R 2



R 5

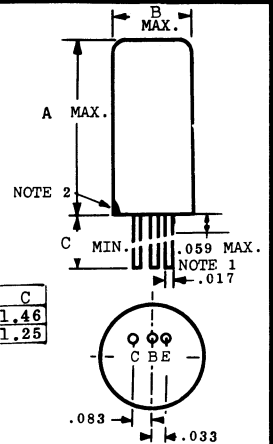


R 8

NOTE 1:
THIS ZONE OF THE
LEAD IS NOT TINNED.

NOTE 2:
THE COLORED DOT
INDICATES THE
POSITION OF THE
COLLECTOR.

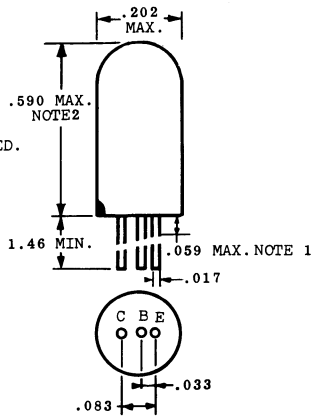
	A	B	C
R 8	.619	.236	1.46
R 8a	.375	.250	1.25



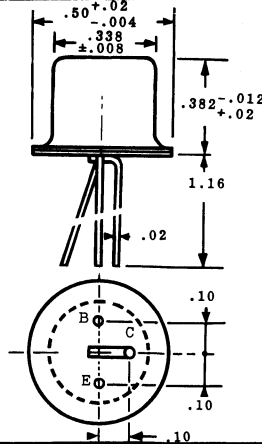
R 9

NOTE 1:
THIS ZONE OF THE
LEAD IS NOT TINNED.

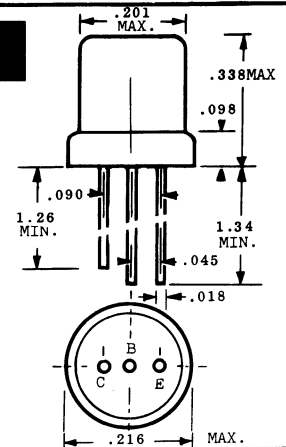
NOTE 2:
THE COLORED DOT
INDICATES THE
POSITION OF THE
COLLECTOR.



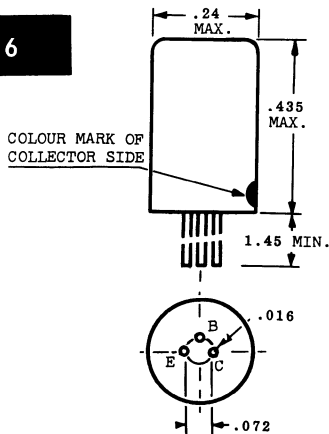
R 13



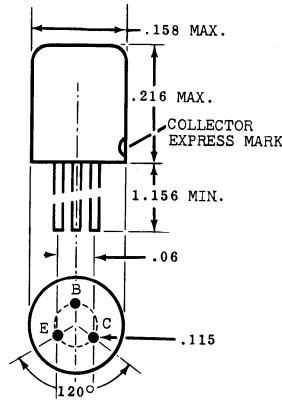
R 14



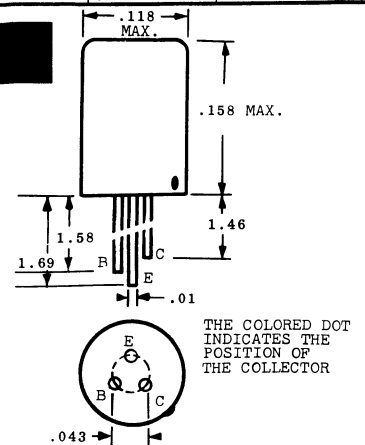
R 16



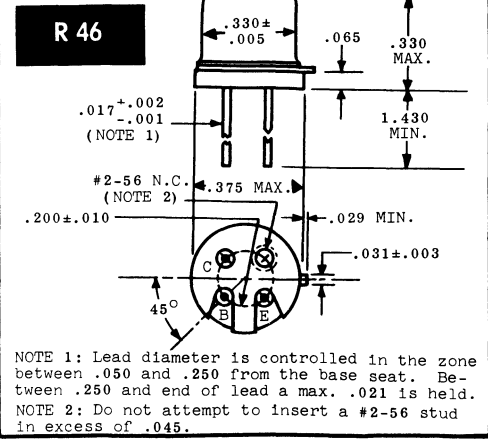
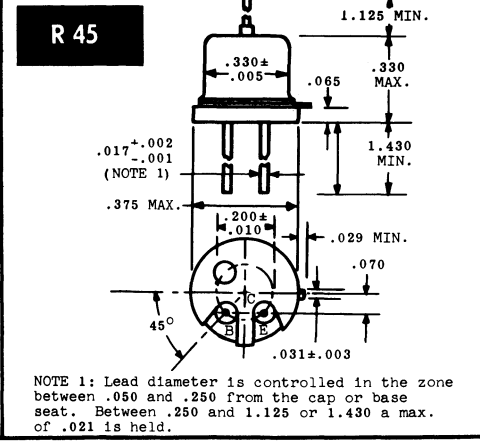
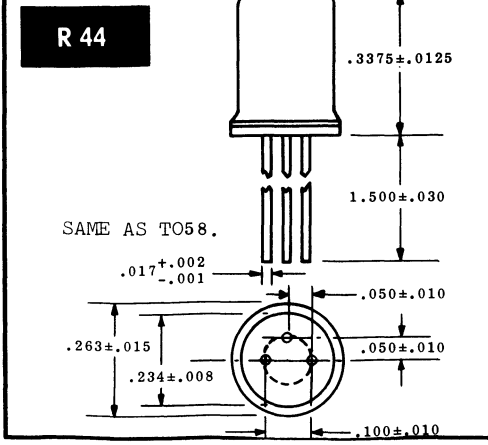
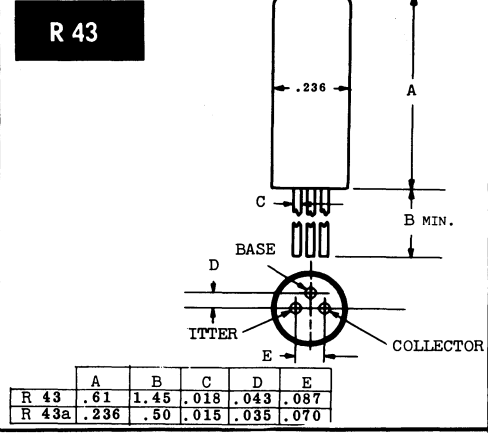
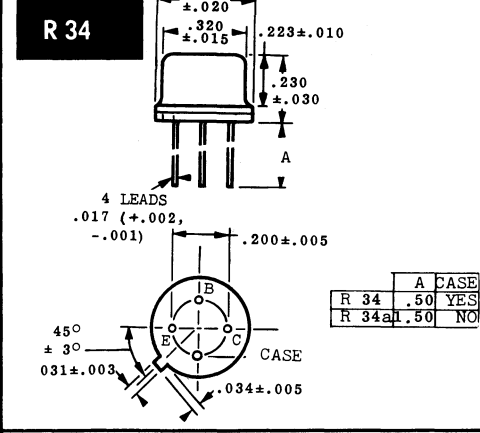
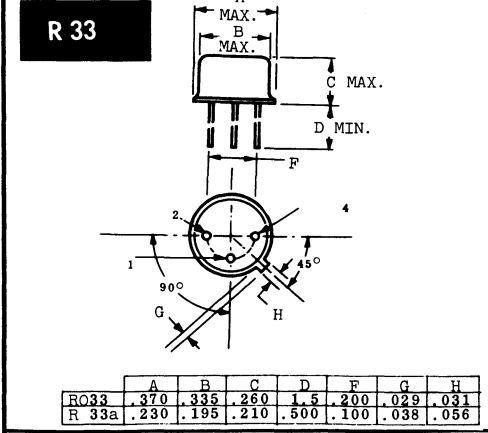
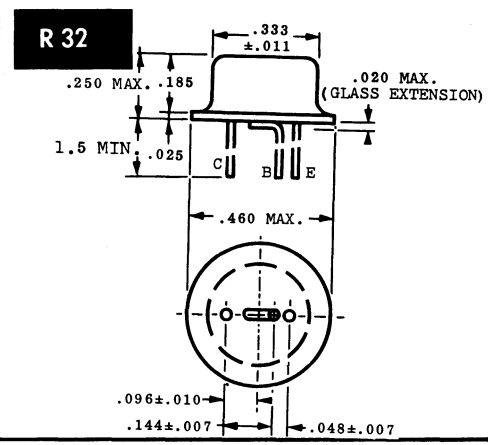
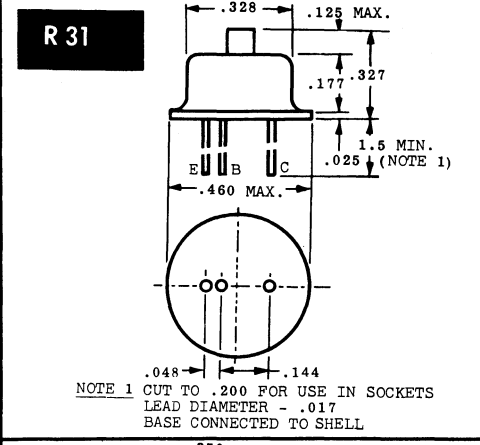
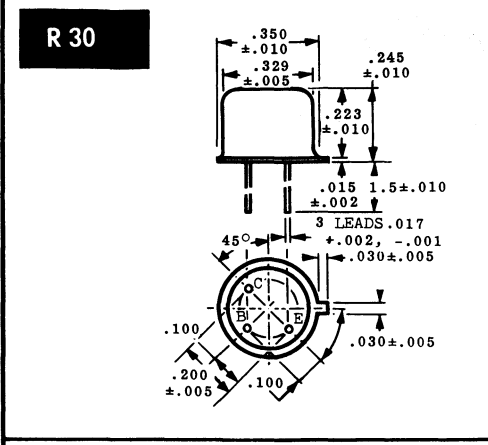
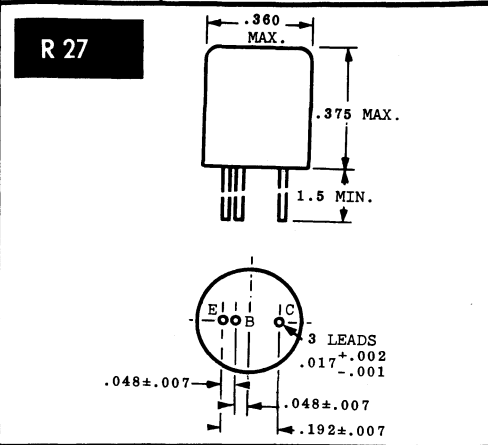
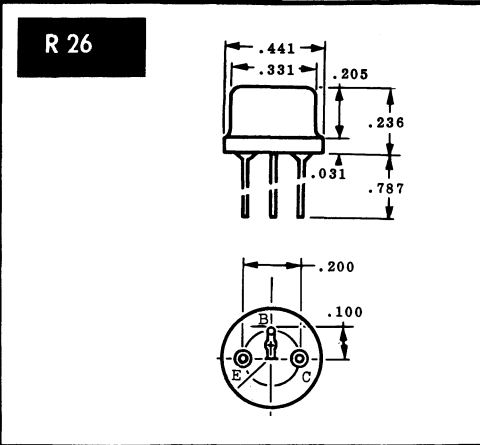
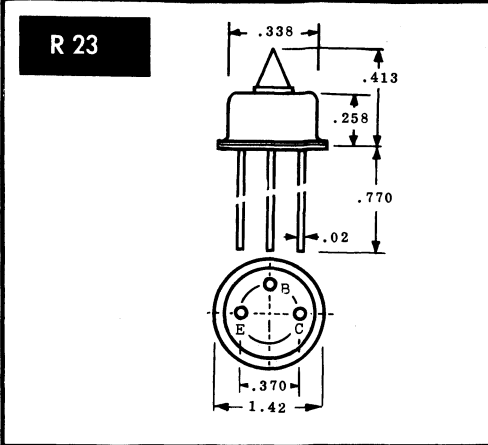
R 18



R 19

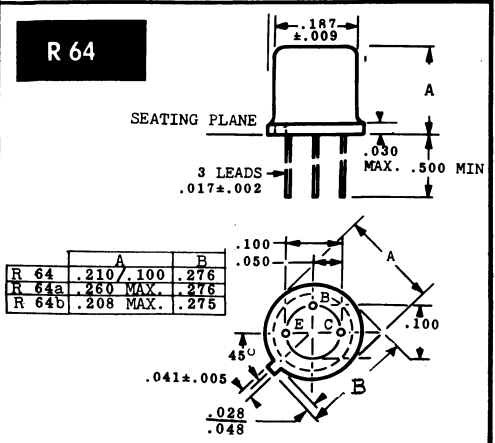
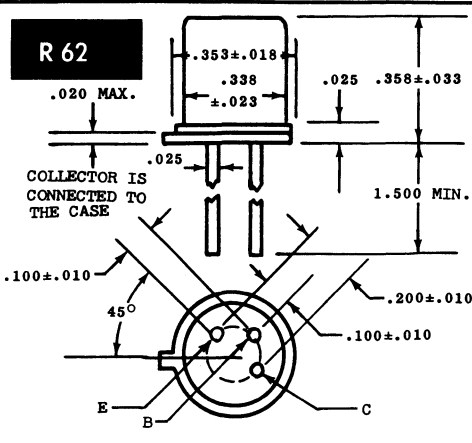
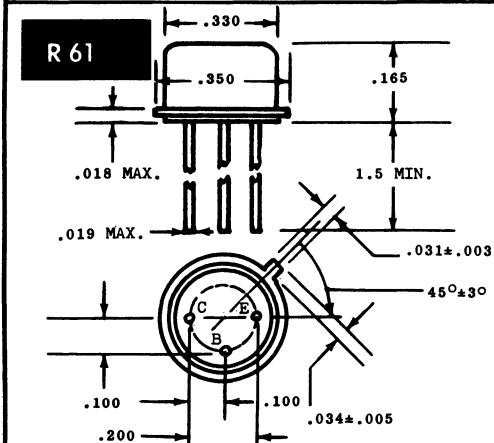
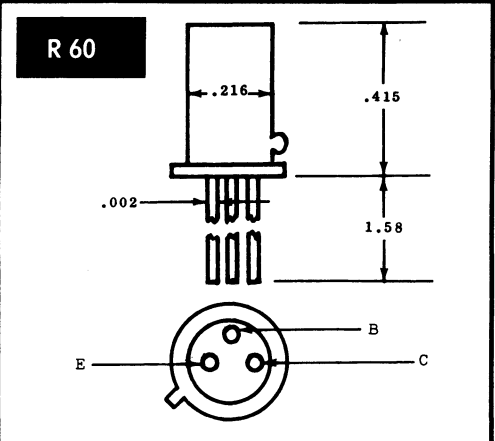
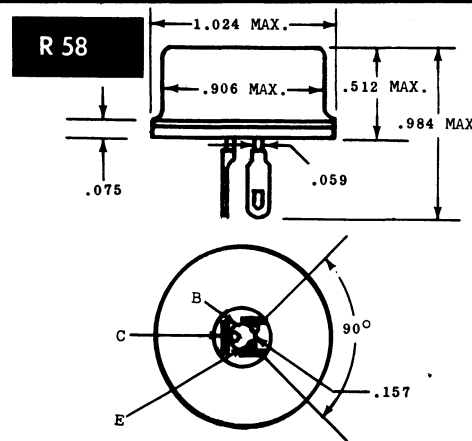
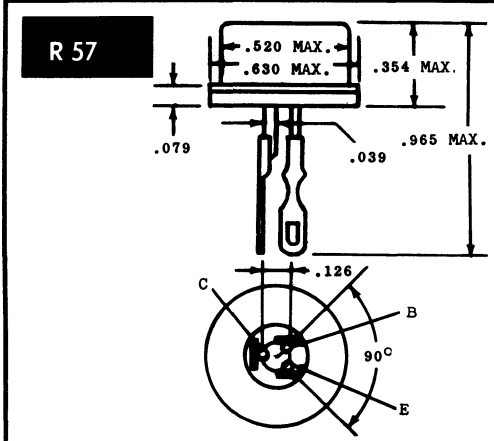
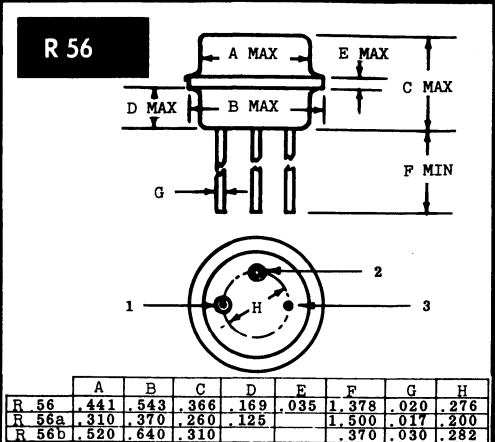
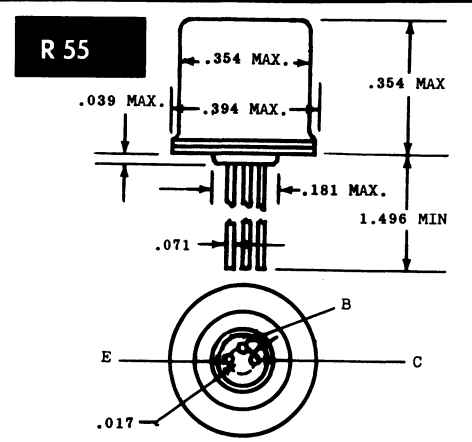
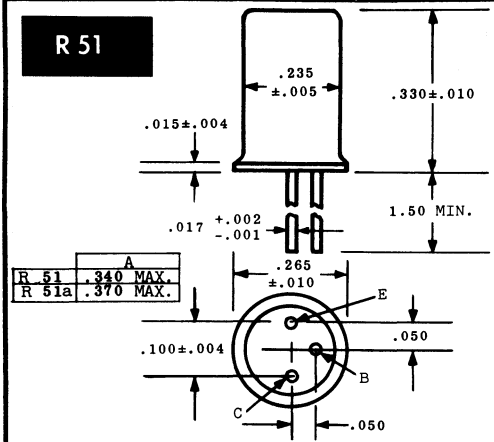
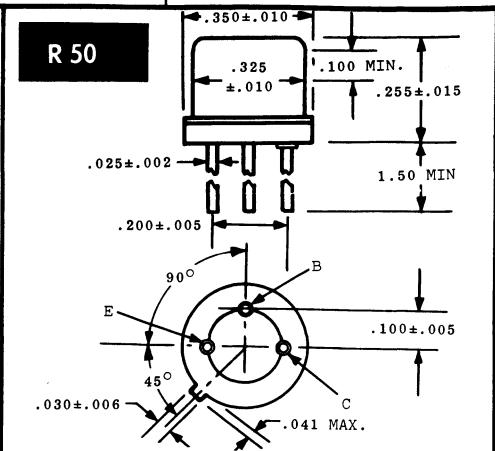
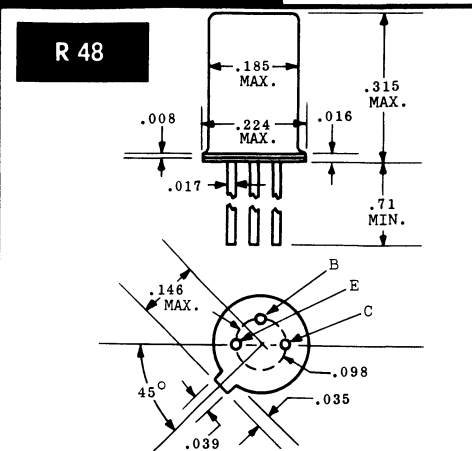
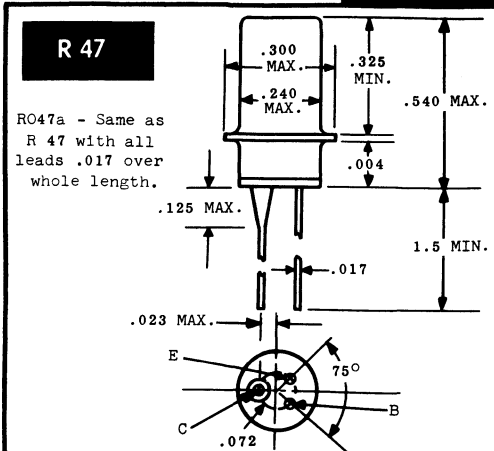


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



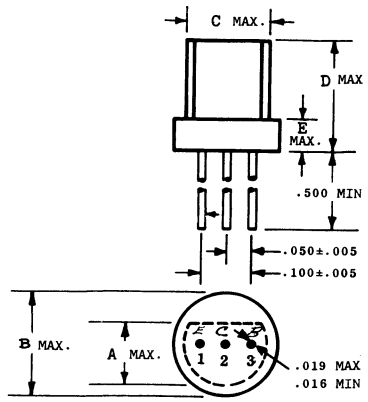
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE



15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

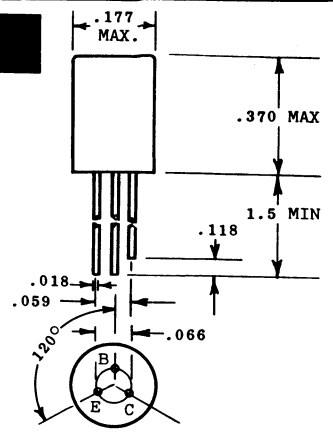
R 67



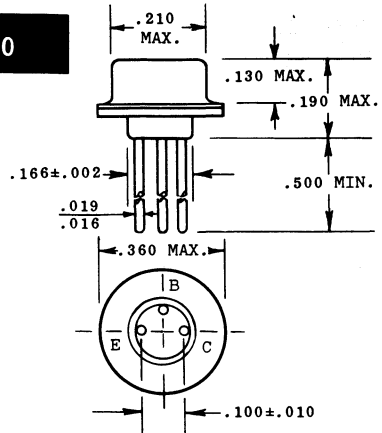
NOTE: THE LEAD DIA. APPLIES TO THE ZONE BETWEEN .050 & .250 FROM THE BASE OF THE SEAT. BETWEEN .250 AND END OF LEAD A MAX. OF .021 DIA. IS HELD. OUTSIDE OF THESE ZONES THE LEAD DIA. IS NOT CONTROLLED.

	A	B	C	D	E
R 67	.135	.205	.185	.260	.075
R 67a	.178	.238	.195	.210	.039

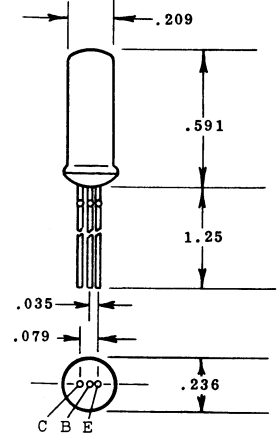
R 69



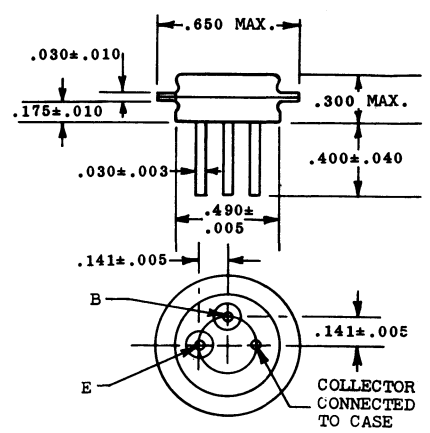
R 70



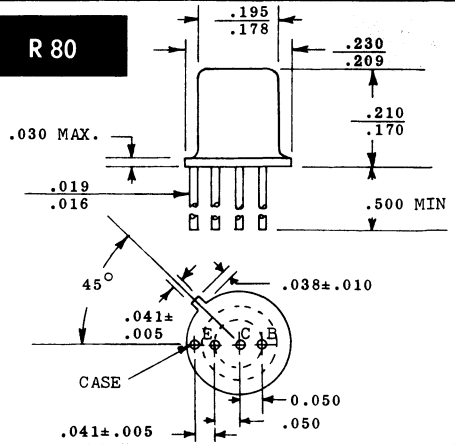
R 72



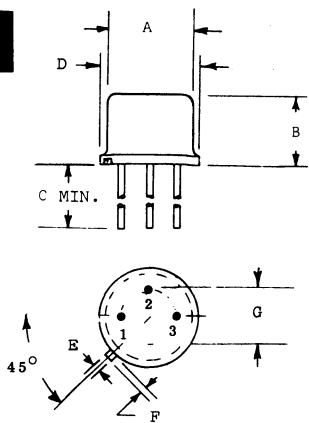
R 74



R 80



R 81



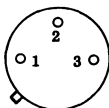
	A	B	C	D	E	F	G
R81	.305	.240	1.50	.370	.028	.029	.200
R81a	.330	.260		.335	.034	.045	.200
R81b	.335	.200	.500	.370	.028	.029	.200
R81c	.275	.260		.335	.034	.045	
R81d	.305	.150	1.50	.370	.028	.029	.200
R81e	.335	.260		.335	.034	.045	
R81f	.310	.240	1.50	.370	.028	.029	.200
R81g	.340	.390		.335	.034	.045	
R81h	.320	.240	.500	.370	.028	.029	.200
R81i	.330	.260		.335	.034	.045	
R81j	.305	.160	.500	.370	.028	.029	.200
R81k	.335	.180		.335	.034	.045	
R81l	.330	.255	1.00	.370	.028	.029	.200
R81m				.335	.034	.045	
R81n	.310	.240	1.00	.370	.028	.029	.200
R81o	.330	.260		.335	.034	.045	
R81p	.305	.240	.500	.370	.028	.029	.200
R81q	.335	.260		.335	.034	.045	
R81r	.305	.240	1.50	.370	.028	.029	.200
R81s	.335	.260		.335	.034	.045	
R81t	.181	.065	1.50	.210	.041	.042	.100
R81u	.193	.085	MIN	.230			
R81v	.275	.200	1.50	.280	.028	.029	.141
R81w	.335	.260		.370	.034	.045	.141

15. OUTLINE DRAWINGS

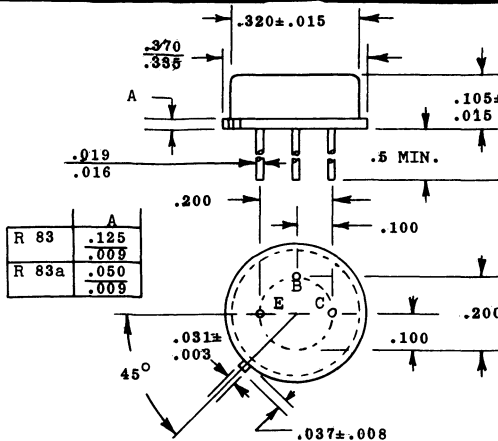
IN DRAWING NUMBER SEQUENCE

R 82

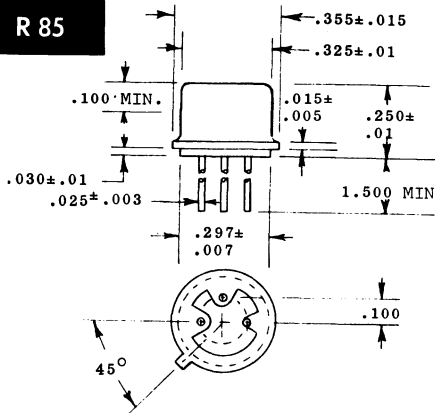
SAME AS T05 EXCEPT FOR LEAD DESIGNATION



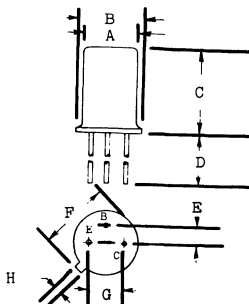
R 83



R 85

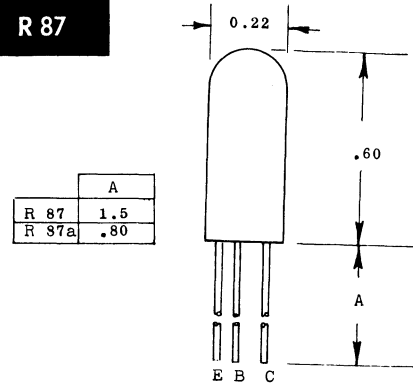


R 86

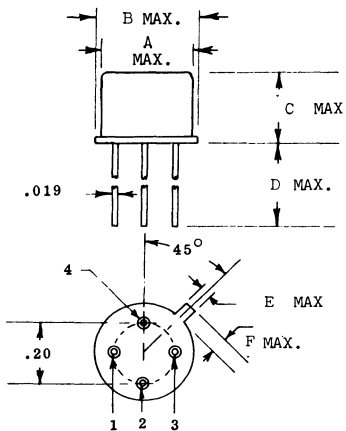


	A	B	C	D	E	F	G	H
R86	.200	.228	.335	.492	.050	.280	.100	.046
	MAX	MAX	MAX	MIN		MAX	MAX	MAX
R86a	.334	.377	.263	.905	.098		.196	.033
	MAX	MAX	MAX	MIN				

R 87

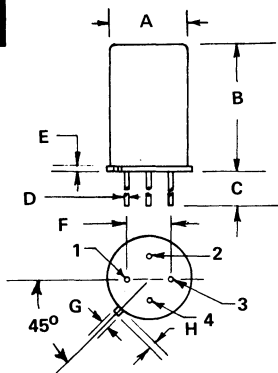


R 89



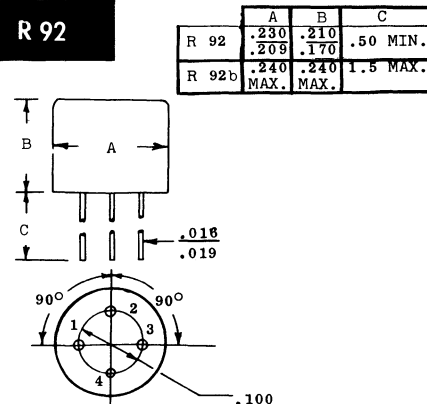
	A	B	C	D	E	F
R 89	.335	.370	.260	.591	.034	.040
R 89a	.325	.360	.170	1.50	.031	.029
R 89b	.330	.370	.260	.500	.034	.035
R 89c	.335	.370	.210	1.50	.033	.029
			MIN			MIN

R 90



	A	B	C	D	E	F	G	H
R90	.190	.350	.500	.017	.012	.100	.041	.039
	MAX	MAX	MIN					
R90a	.220	.366	.521	.017	.011	.102	.035	.035
	.232	.385		.021	.019		.043	.043

R 92



15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

R 94

3 LEADS
.019
.016

BASE

EMITTER

COLLECTOR

45°

.031±.003

.037±.008

R 95

Sleeving Color

E	Grn
B	Yel
C	Bare

C B E

R 96

C MAX.

D MAX.

A MAX.

B MAX.

E

1 2 3 4

45°

	A	B	C	D	E
R 96	.346	.030	.230	.195	.100
R 96a	.085	.040	.230	.195	.100
R 96b	.183		.362	.336	.200
R 96c	.085		.212	.186	.100
R 96d	.210	.030	.230	.195	.100

R 97

A MAX.

C

B MAX.

F MIN.

D

E

1 2 3

Leads electrically isolated from case

	A	B	C	D	E	F
R97	.330	.250		.200	.100	.400
R97a	.215	.250	.115	.100	.050	.400
R97b	.210	.200		.100	.050	.500
R97c	.215	.200		.100	.050	.400
R97d	.215	.250		.100	.050	.400
R97e	.320	.220		.200	.100	.400

R 98

Same as TO18 except without tab

R 100

Same as TO5 except for lead length of .300 MIN.

R 101

.610

.640

.400

.350

±.003

.025 DIA.

3 LEADS

1.500 MIN.

.100

45°

.200

1.00

2 BASE

3 COLLECTOR

1 EMITTER

R 103

SEATING PLANE

RED DOT INDICATES COLLECTOR

4 LEADS .016 .019

A MAX.

B MAX.

C MIN.

D

90°

90°

45°

INDENT BETWEEN SHIELD AND EMITTER

	A	B	C	D
R 103	.240	.410	1.5	.100
R 103A	.236	.236	.689	.100
R 103B	.236	.236	.532	.071

R 108

.350 MAX.

.246 ±.010

.225 MAX.

8E

B

8C

COLOR DOT

.096

.017 DIA.

.046 MAX.

R 110

LEAD NO.3

A MAX.

C

E MIN.

B MAX.

F DIA.

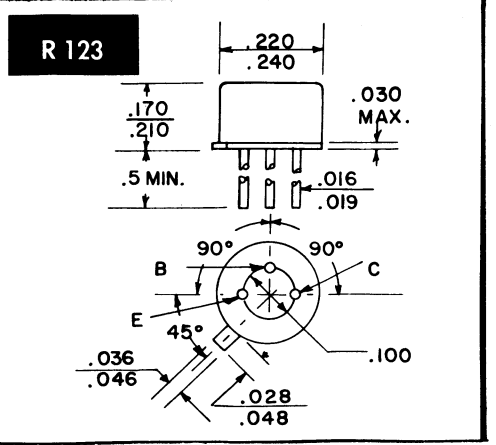
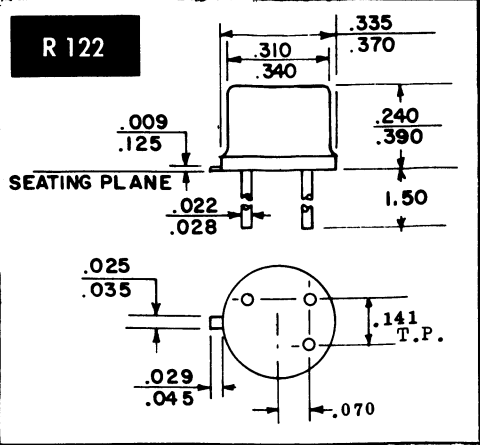
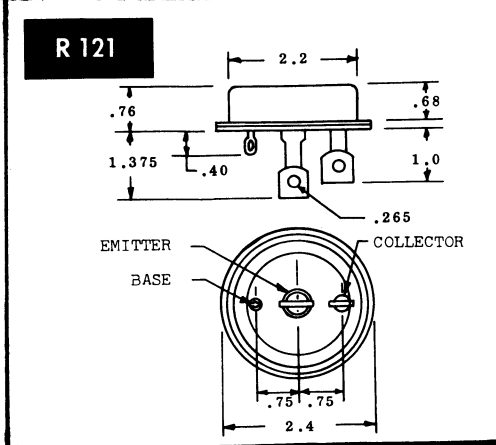
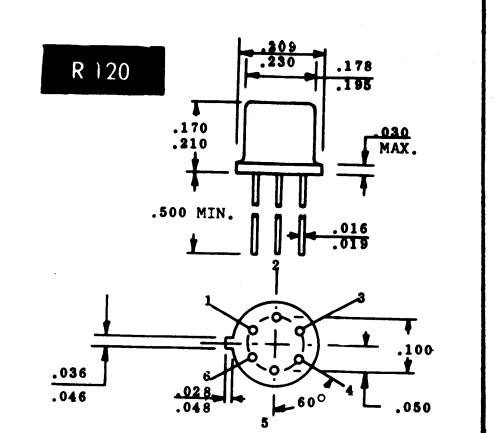
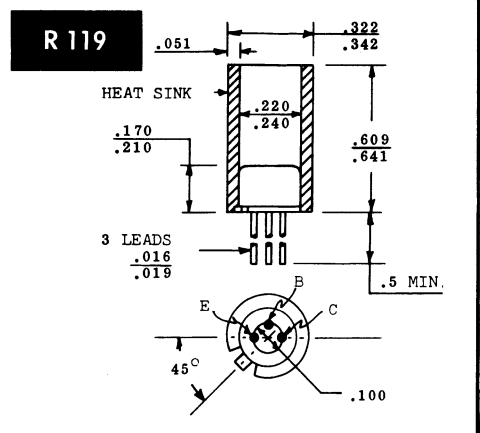
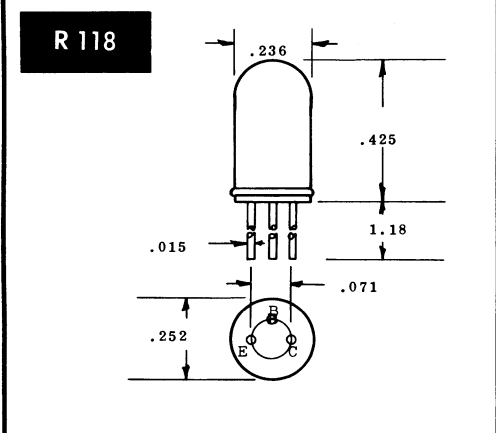
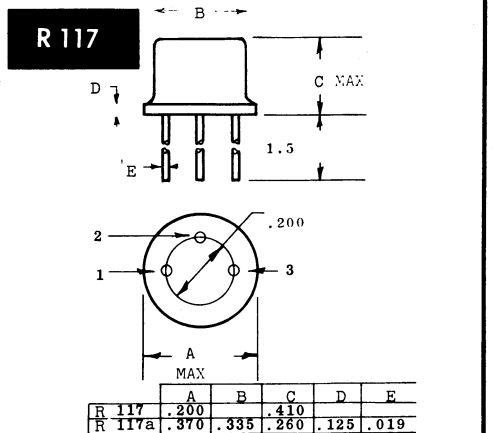
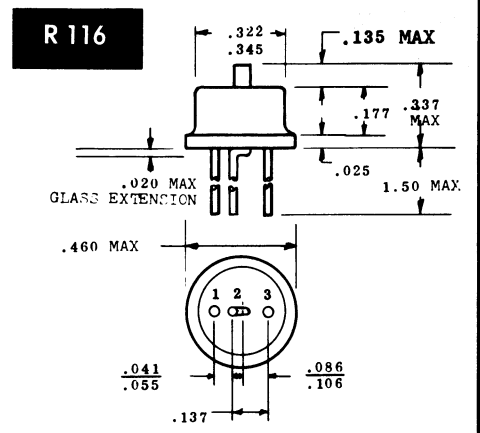
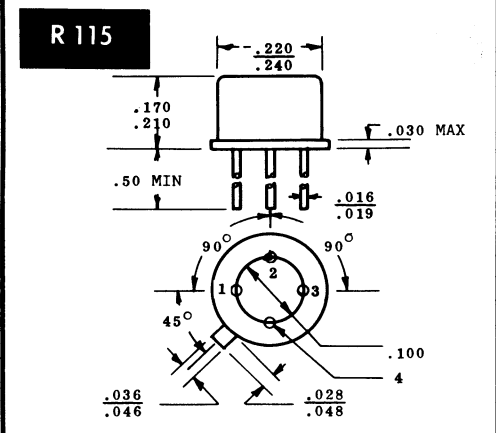
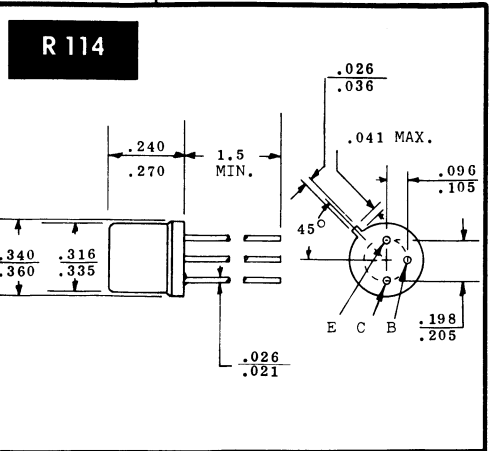
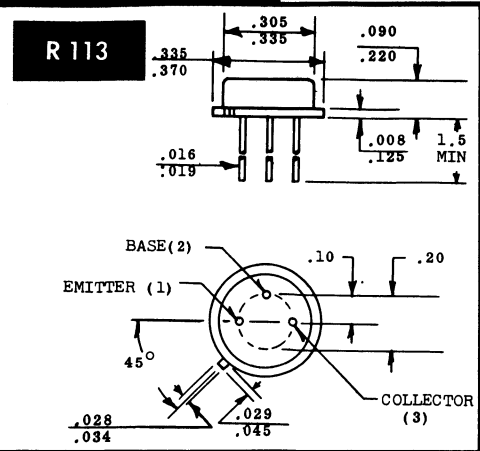
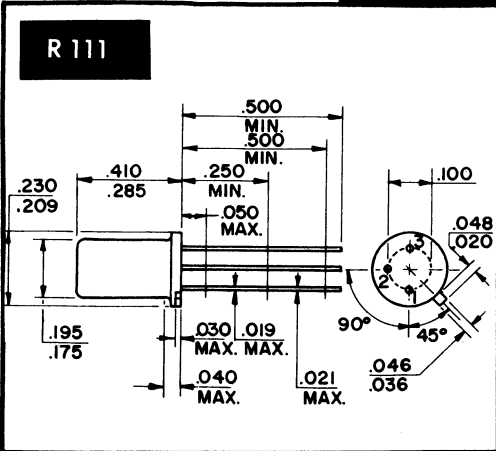
D

LEAD NO.2

LEAD NO.1

	A	B	C	D	E	F
R 110	.210	.100	.120 .100	.250 .140	.400	.022 .016
R 110 A	.330	.200	.120 .100	.250 .140	.400	.022 .016
R 110 B	.250	.100		.250	.500	.019 .016

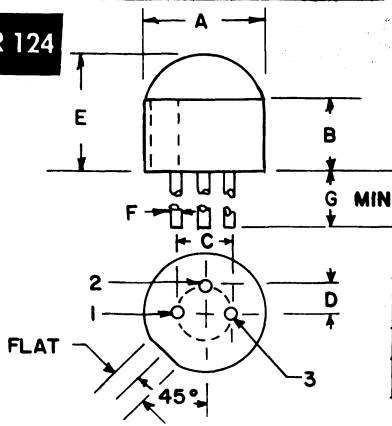
15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



15. OUTLINE DRAWINGS

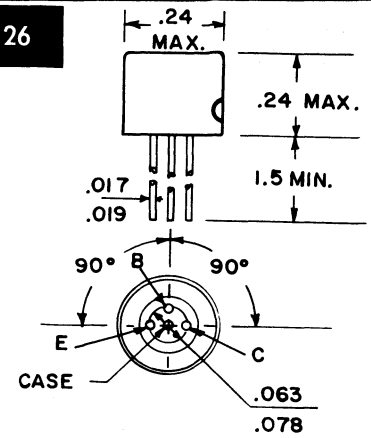
IN DRAWING NUMBER SEQUENCE

R 124

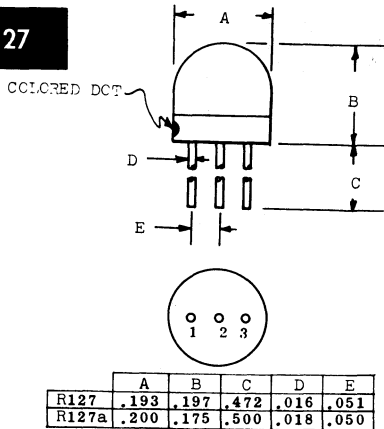


	A	B	C	D	E	F	G	FLAT
R124	.215	.120	.100	.050	.250	.016	.400	.080
R124b	.330	.115	.200	.100	.250	.016	.400	.090
		.105				.022		
R124c	.325		.200	.100	.240	.016	.500	
	MAX				MAX	.018		
R124d	.330	.080	.200		.220	.016	.500	
	MAX				MAX	.019		

R 126

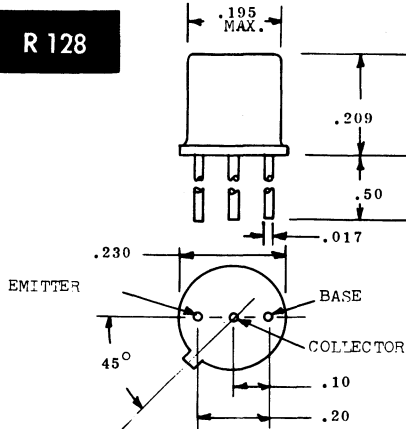


R 127

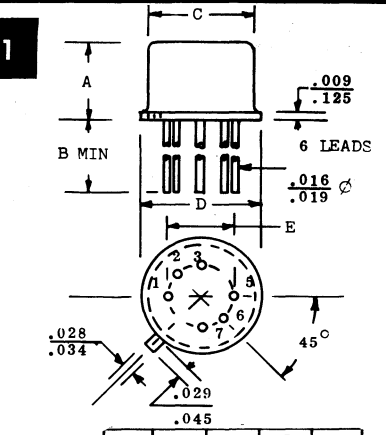


	A	B	C	D	E
R127	.193	.197	.472	.016	.051
R127a	.200	.175	.500	.018	.050

R 128

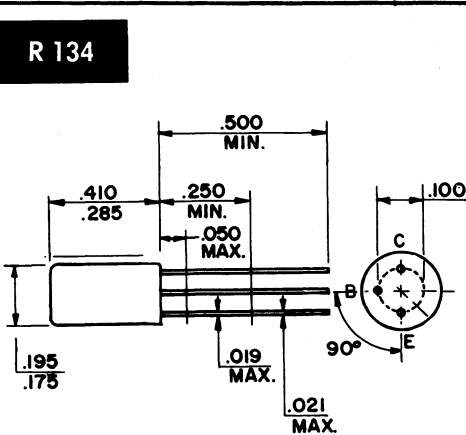


R 131

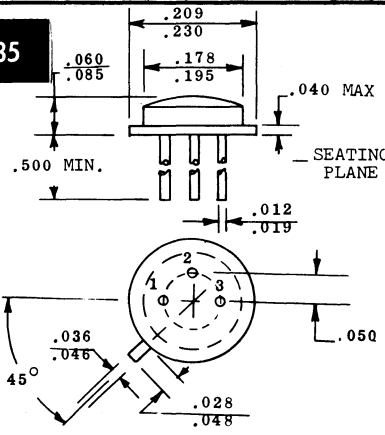


	A	B	C	D	E
RO131	.240	1.50	.305	.335	.200
	.260		.335	.370	
R 131a	.150	1.50	.305	.335	.200
	.180		.335	.370	
R 131b	.150		.305	.335	.200
	.280		.335	.370	
R 131c	.140	.500	.305	.335	.200
	.260		.335	.370	
R 131d	.140	.150	.305	.335	.200
	.260		.335	.370	
R 131e	.170	.500	.178	.209	.100
	.210		.195	.230	

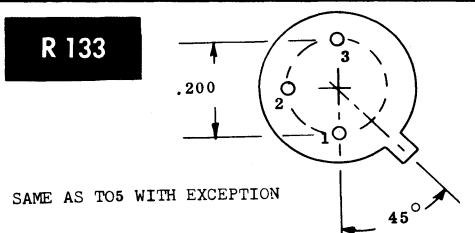
R 134



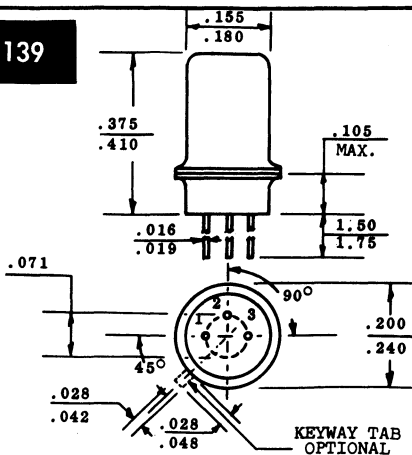
R 135



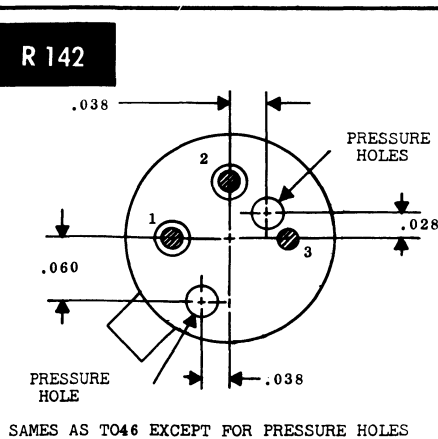
R 133



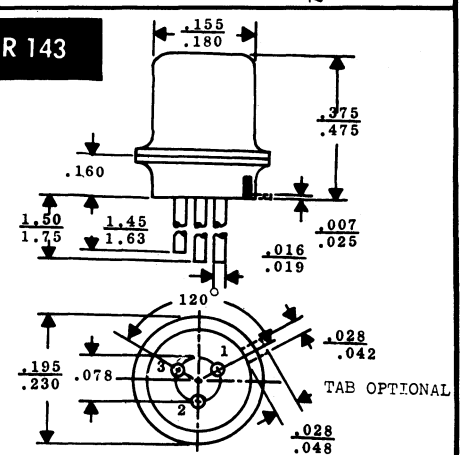
R 139



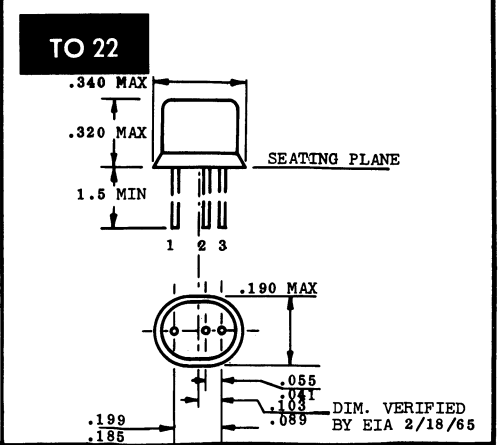
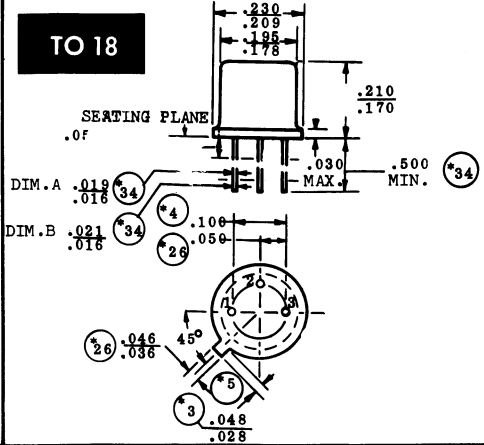
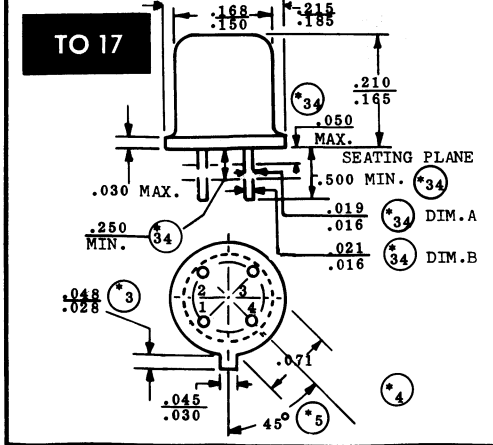
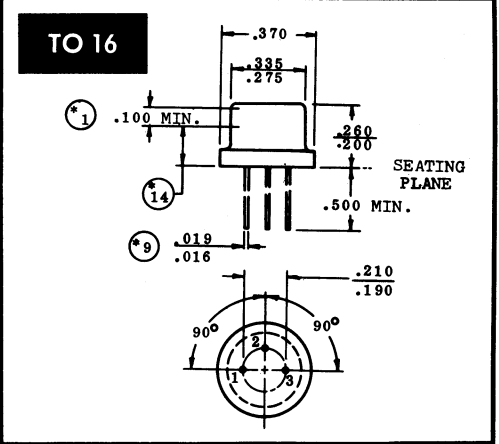
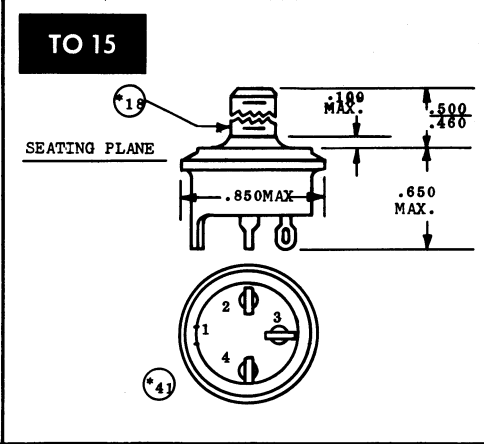
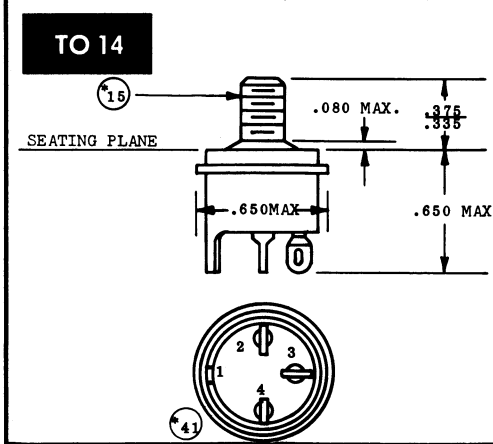
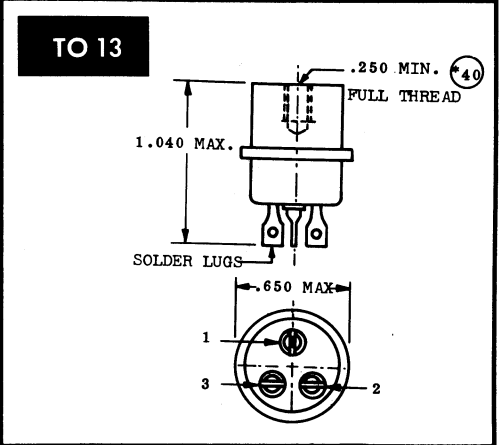
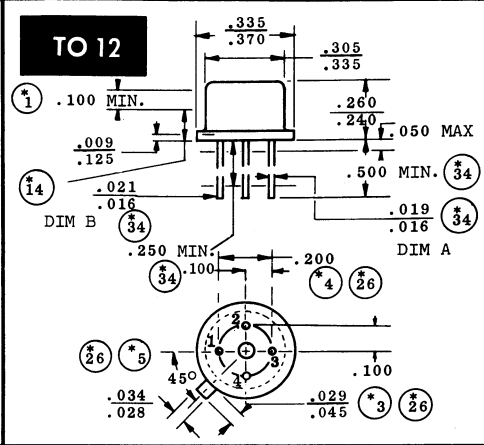
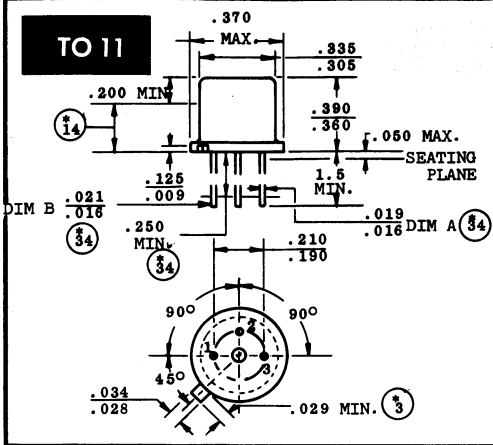
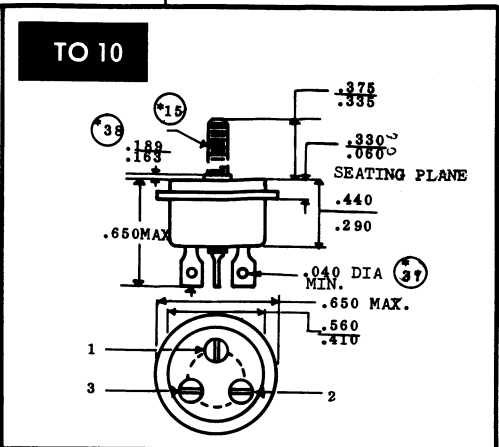
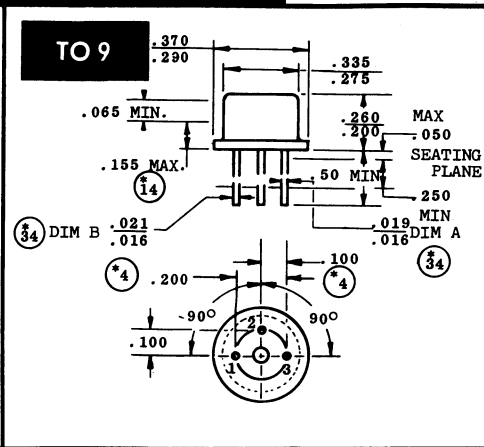
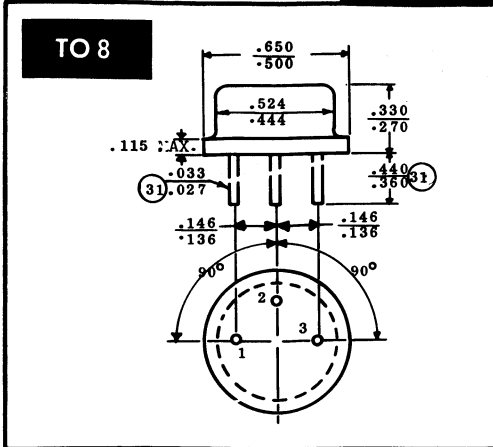
R 142



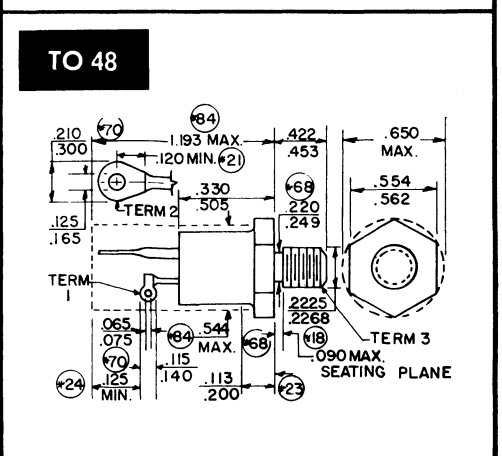
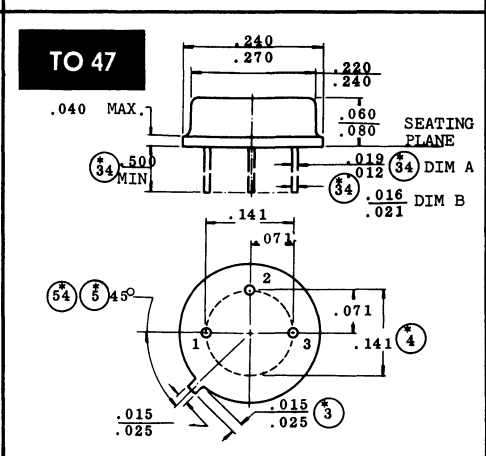
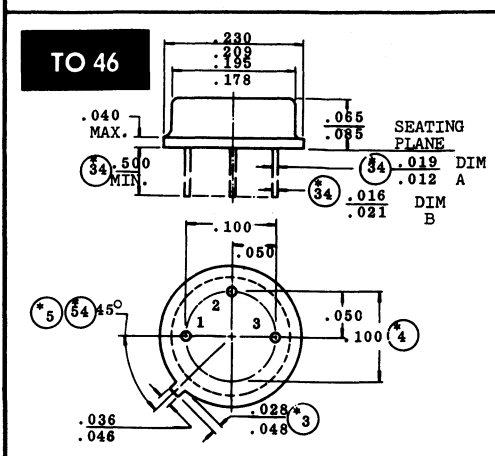
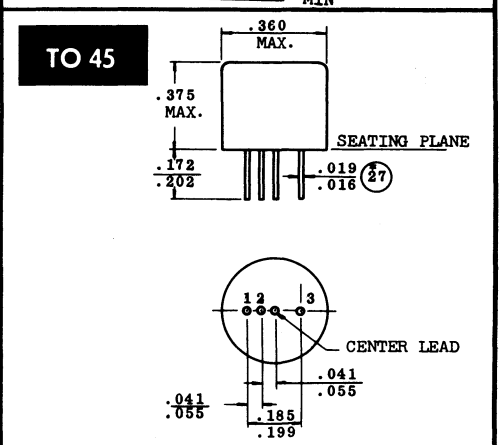
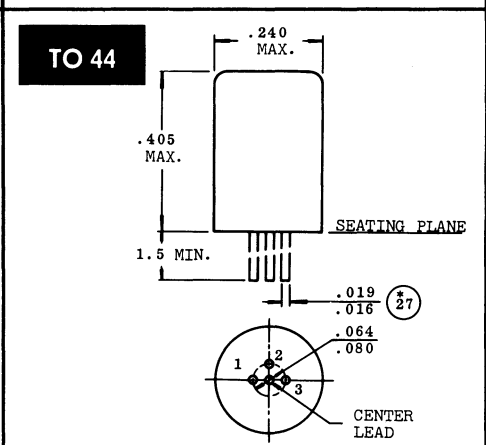
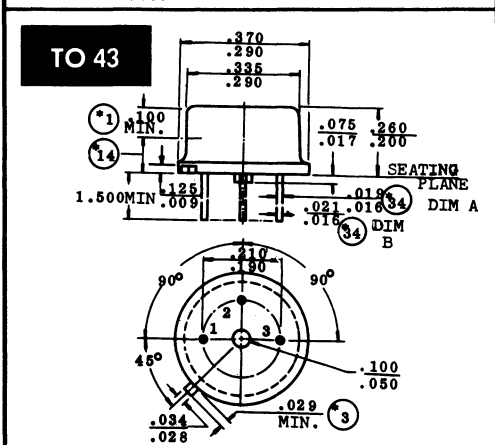
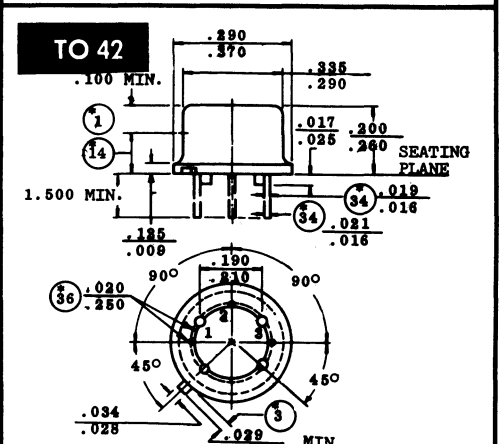
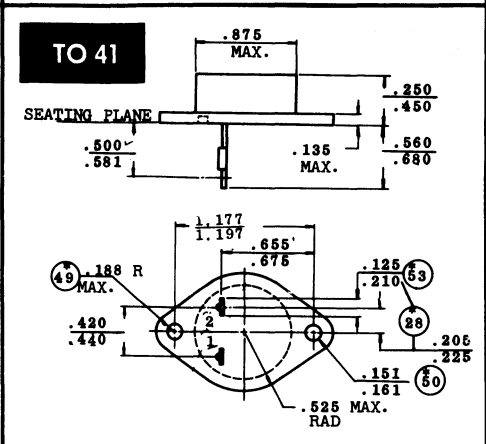
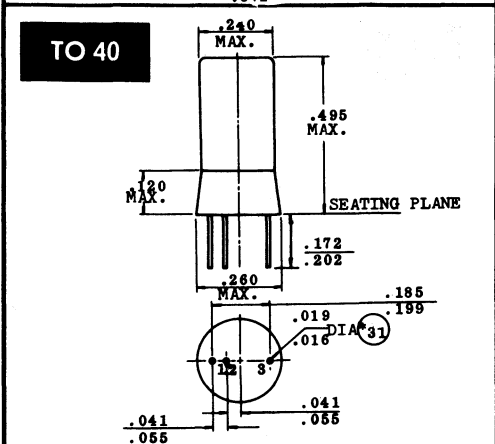
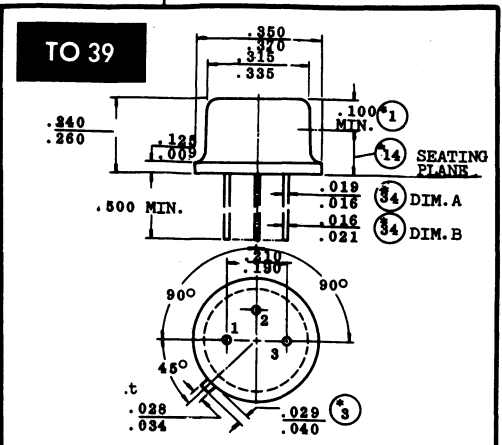
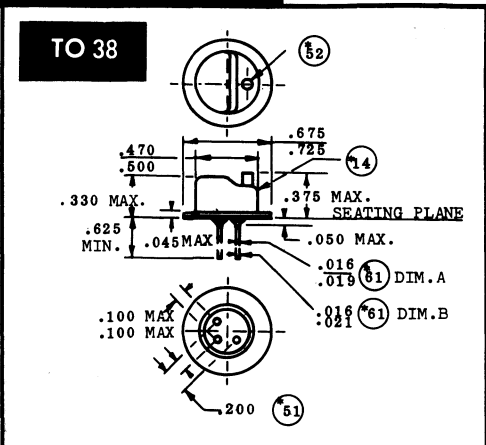
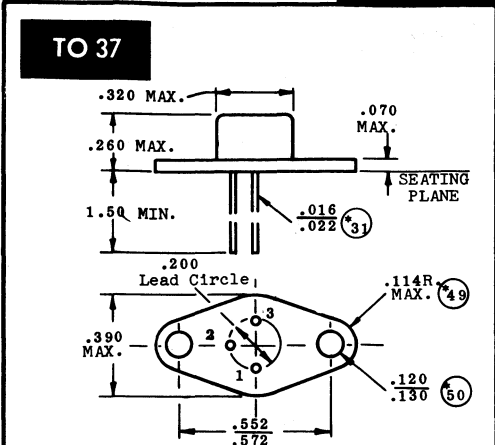
R 143



15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

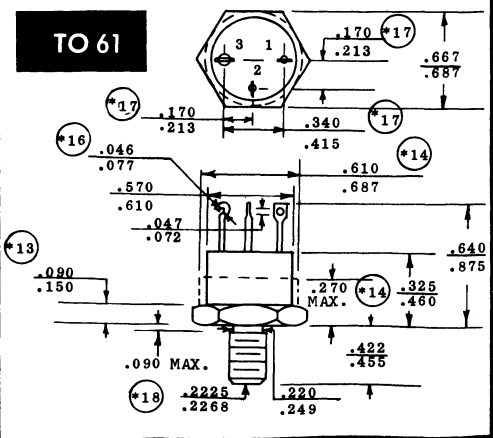
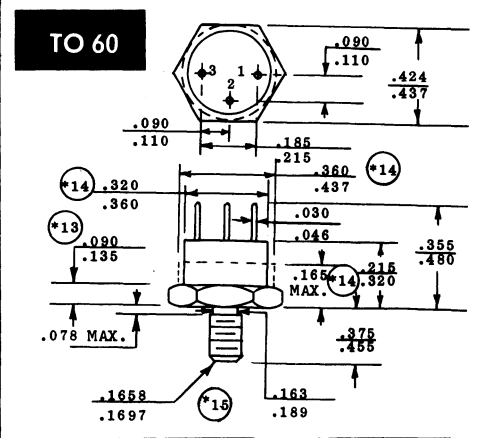
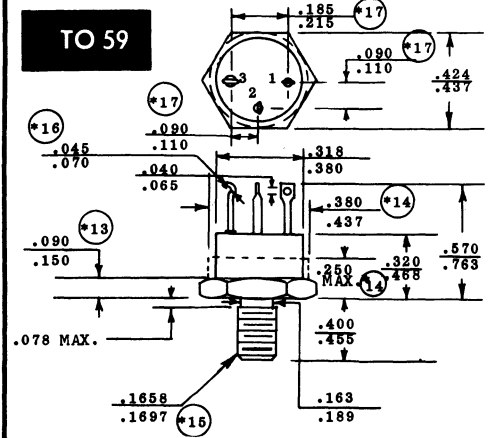
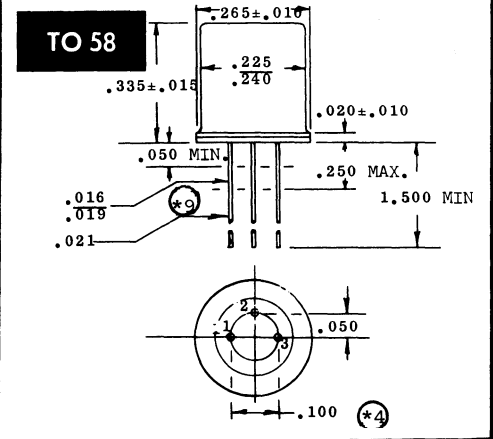
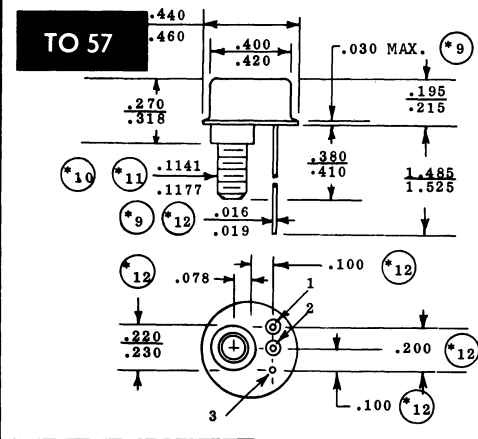
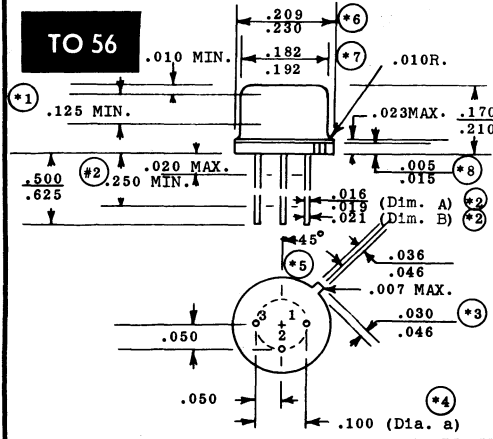
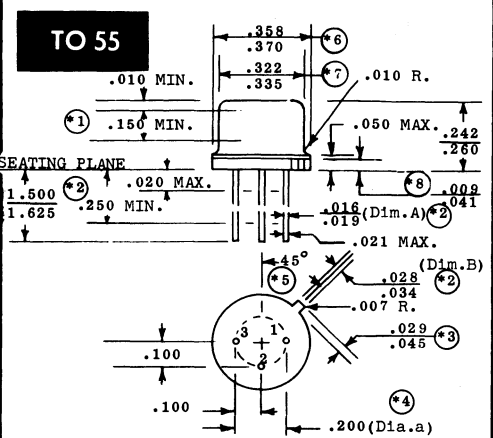
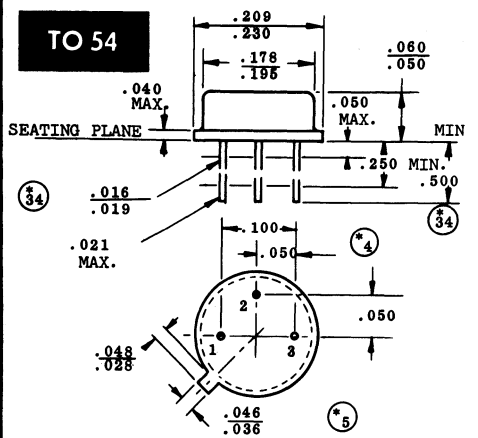
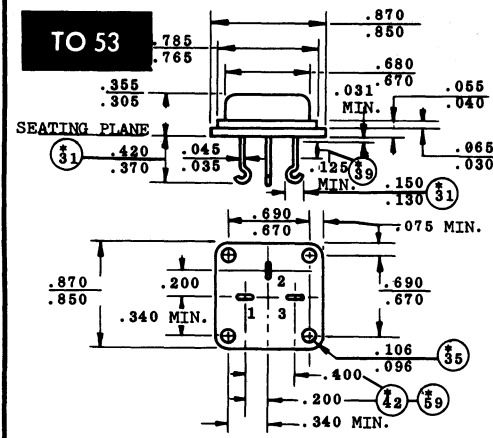
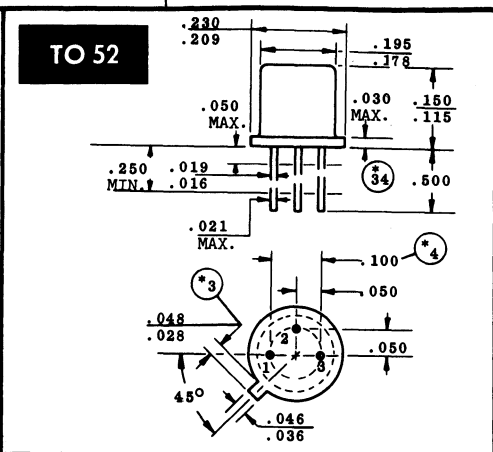
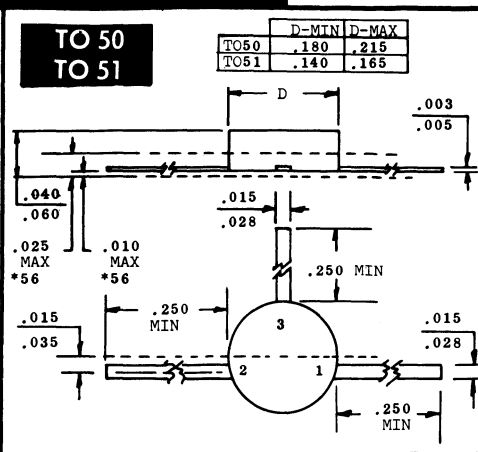
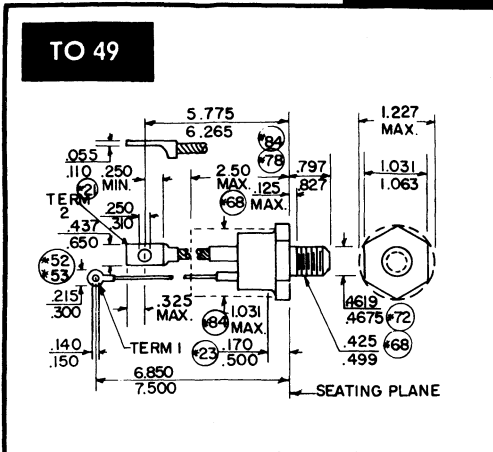


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



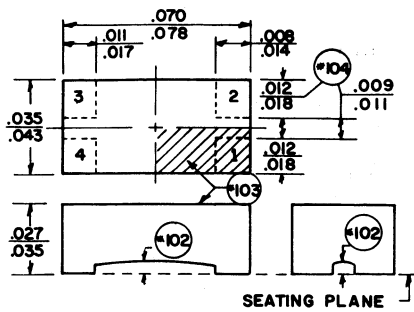
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

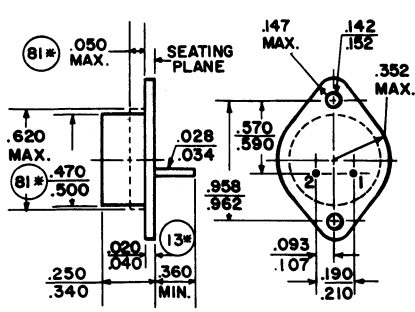


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

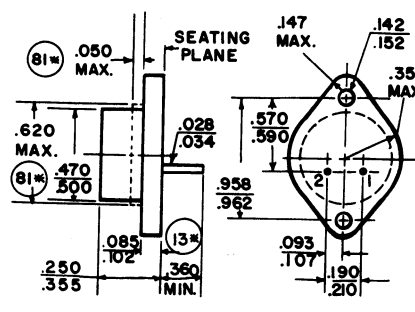
TO 122



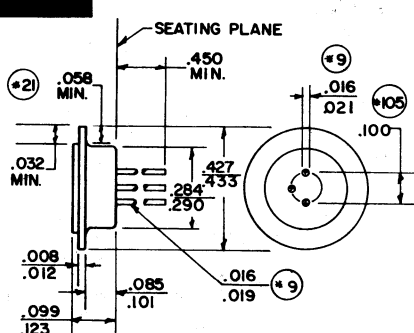
TO 123



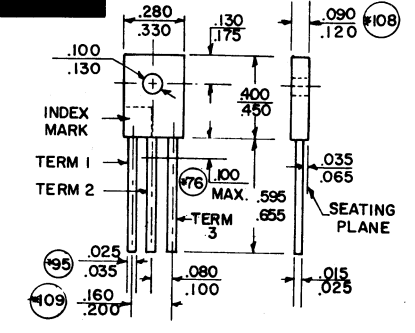
TO 124



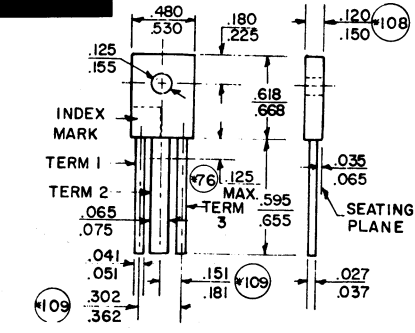
TO 125



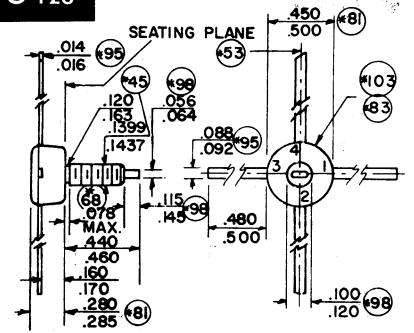
TO 126



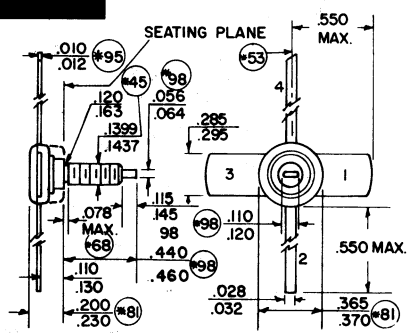
TO 127



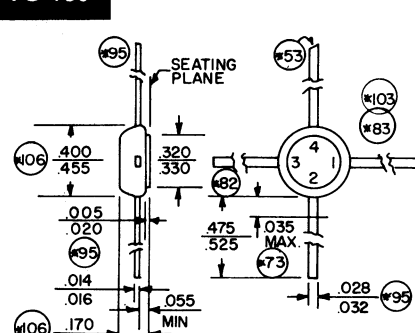
TO 128



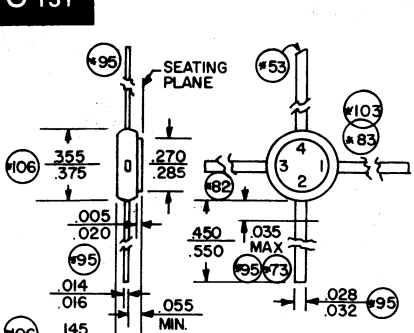
TO 129



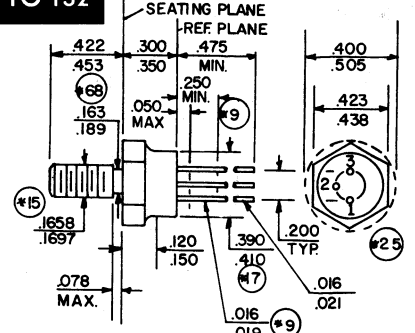
TO 130



TO 131



TO 132

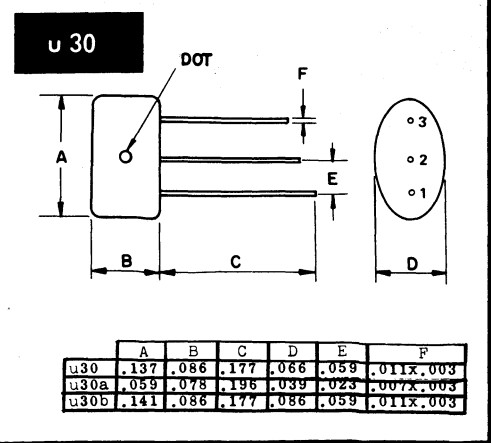
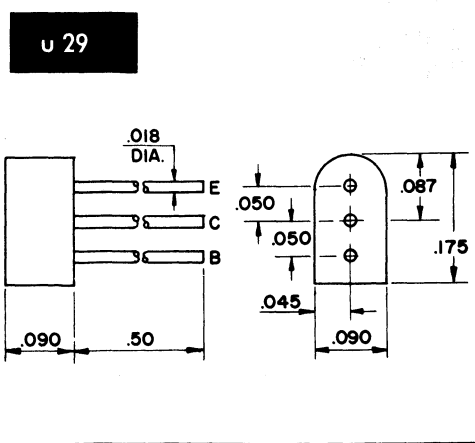
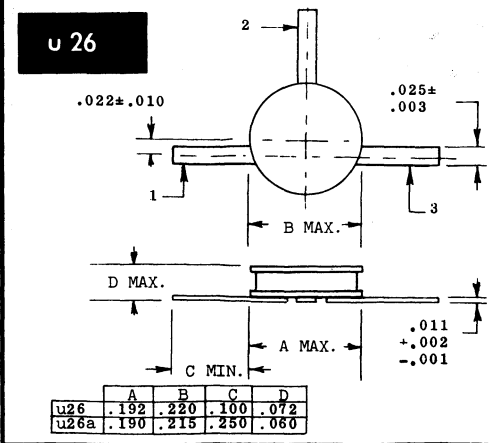
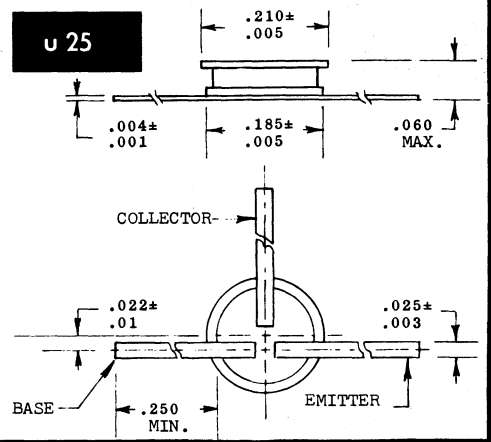
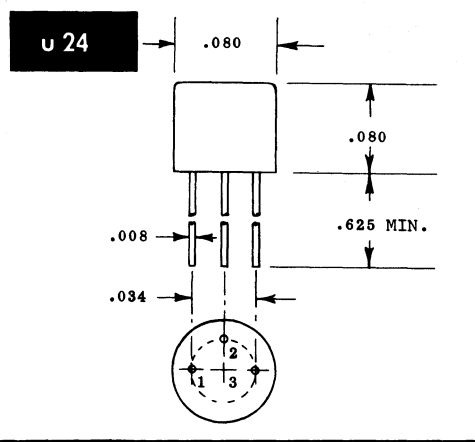
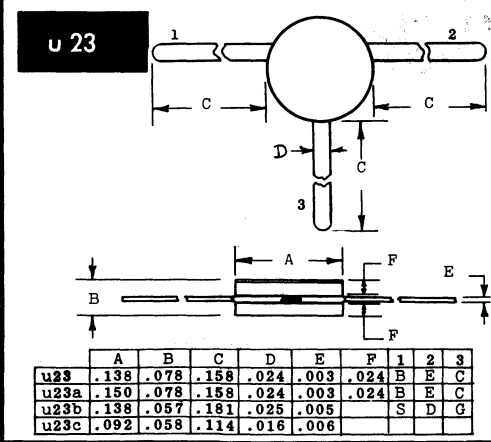
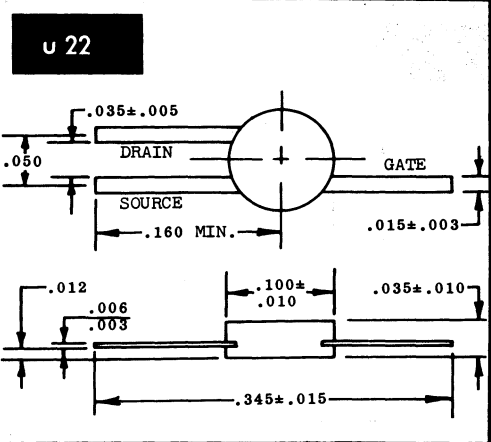
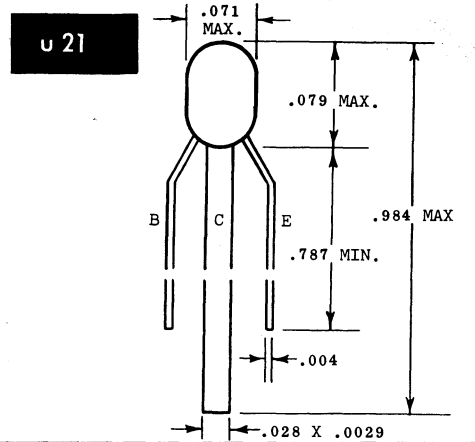
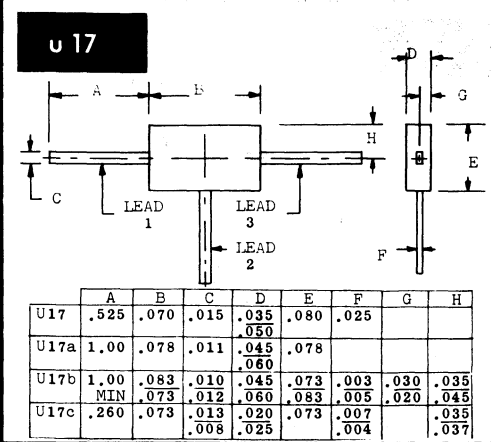
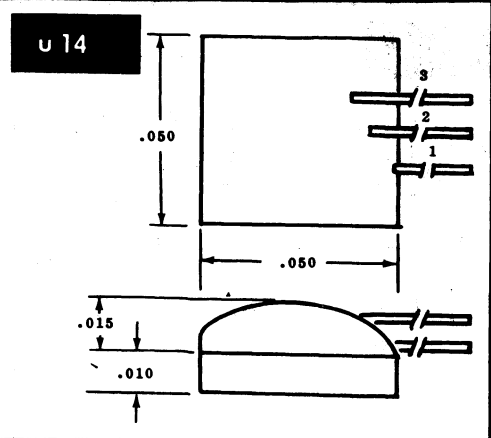
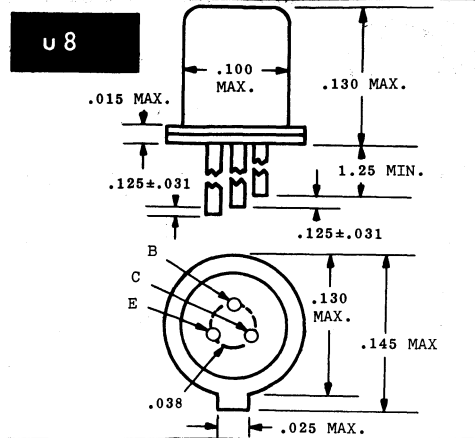
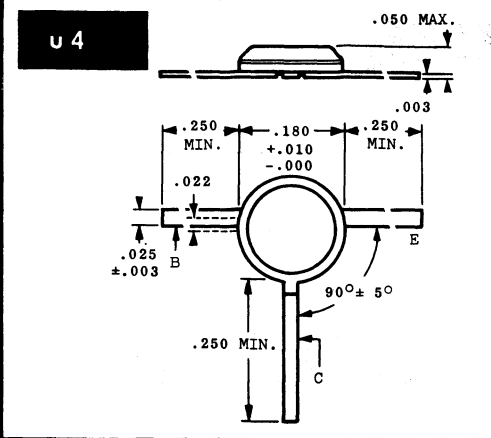


TO 133



15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE



15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

U 31

MARK OF EMITTER

LEADS

1	E
2	B
3	C

Dimensions: .043, .043, .019, .006, .059, .275 MIN., .141 MAX., .004 MAX., .15 MAX., .078 MAX.

U 32

Dimensions: .078, .011, .039, .059, .472, .0028x.007, .0028x.023

U 34

DOT MARKS EMITTER

GOLD PLATED LANDS

	A	B	C	D	E	F
u34	.042	.033	.078	.015	.009	.012
u34a	.055	.031	.074	.019	.007	.011
u34b	.084	.057	.114	.031	.0135	.0135

Dimensions: E MIN, F, A MAX, B, C MAX, D, D, B

U 35

Dimensions: .070 MAX., .570 MIN., .070 MAX., .570 MIN., .005 x .010, .050 MAX.

U 37

Dimensions: .185, .236, .354, .023, .043, .043, .125, .003

U 38

COLOR DOT

1. BASE
2. SHIELD
3. COLLECTOR
4. EMITTER

Dimensions: .0433, .0118, .0047, .110, .138, .0138, .025, .110, .0158

U 40

INDEX

Dimensions: A MAX., B MAX., C MIN., D, E, A

	A	B	C	D	E
u40	.070	.085	.400	.005	.025
u40a	.071	.078	.709	.008	.024
u40b	.070	.105	.400	.005	.025

U 41

90° ± 5°

Dimensions: .008, .013, .004, .007, .250 MIN., .150 MAX., .060 MAX., .020, .030

U 43

1, 2, 3

u43a OMIT LEAD NO. 3

DRAFT 50° ± 2°

BOTTOM

Dimensions: .010 TYP., .016 TYP., .078, .092, .015, .025, .180 MIN., .001, .003, .213 REF., .020, .030, .048, .058, .004, .006 TYP.

U 44

UNCONTROLLED DIMENSION

INDEX (DEPRESSION)

2*

Dimensions: .075, .015, .085, .030, .045, .003, .005, .035, .045, .014, .021, .200 MIN., .075, .085

U 45

Dimensions: .070 MAX., .070 MAX., .590 MAX., .010, .011, .059 MAX., .003 MIN.

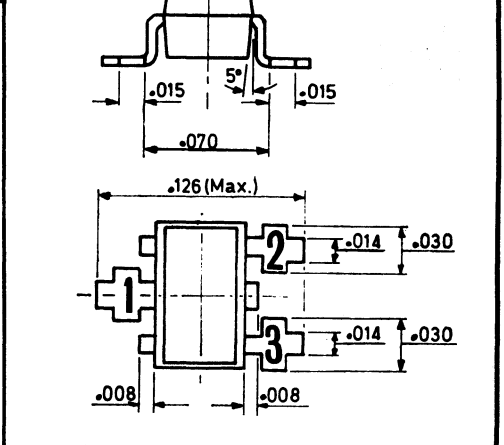
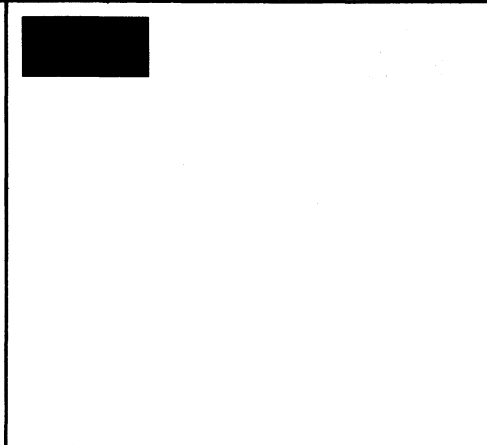
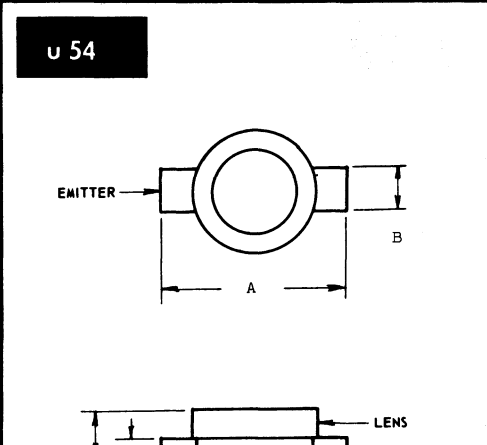
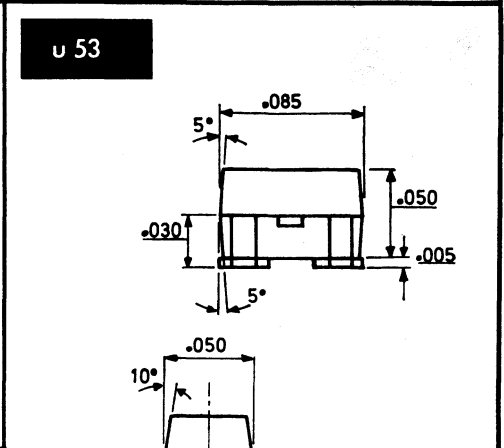
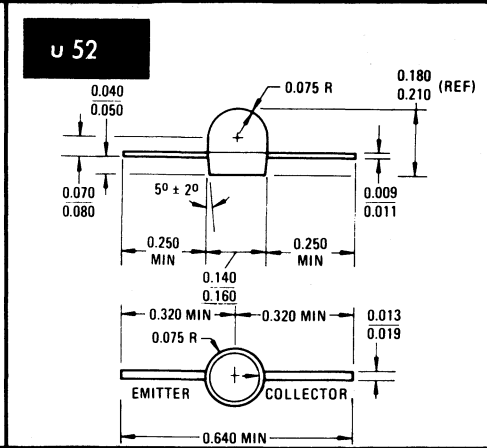
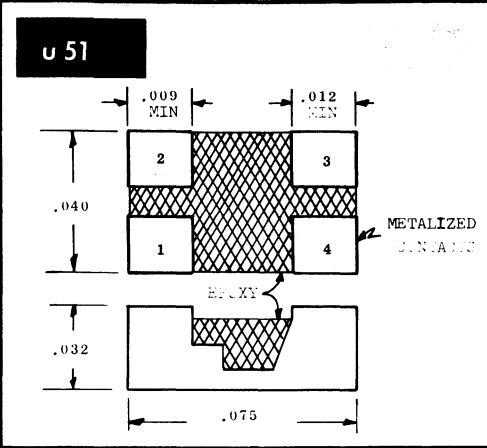
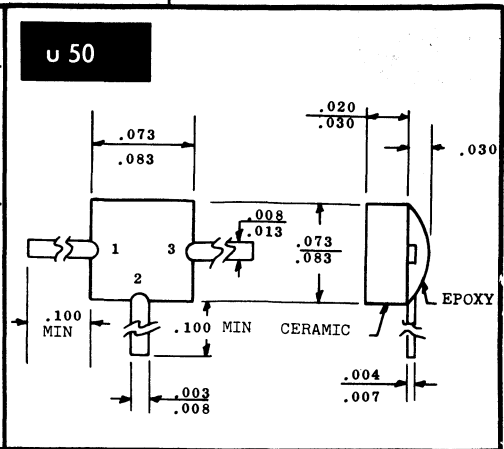
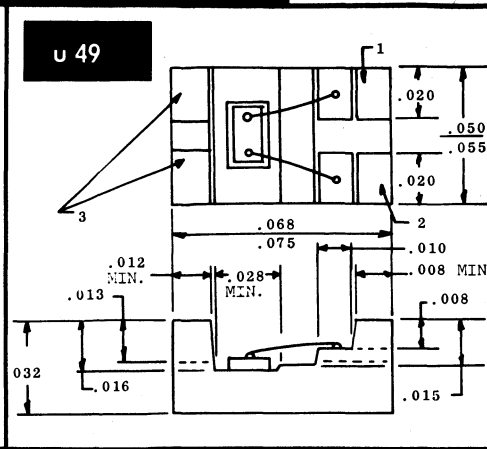
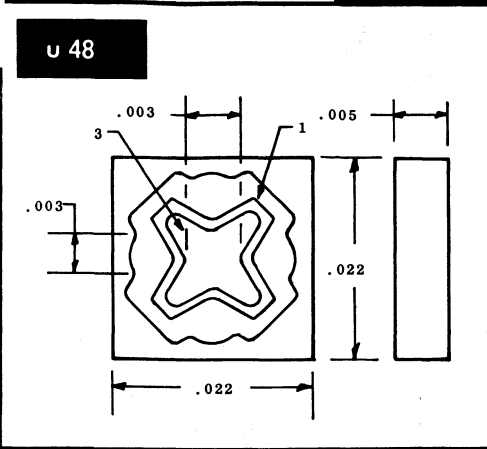
U 47

Dimensions: A, B, .007 x .003, .177, .023, C

	A	B	C
U47	.059	.089	
U47a	.066	.094	.062

*NOTE: EITHER LEAD CAN BE CLIPPED FOR ALTERNATE LEAD CONFIGURATION

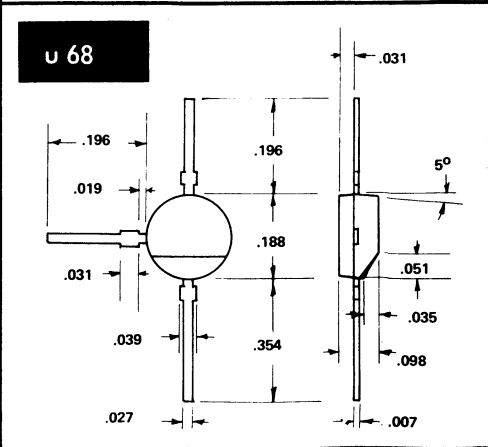
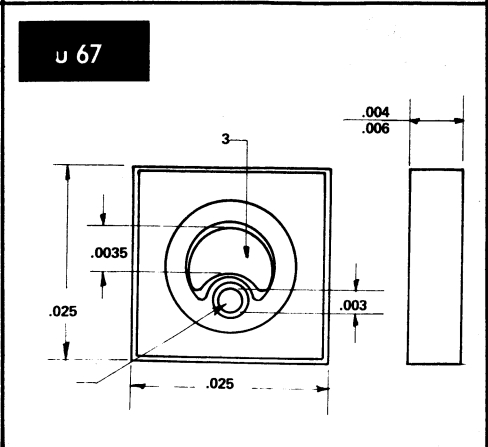
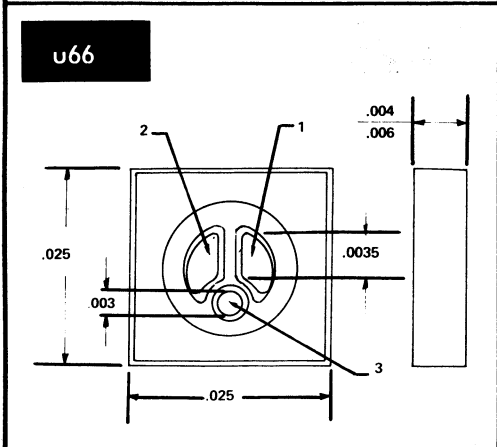
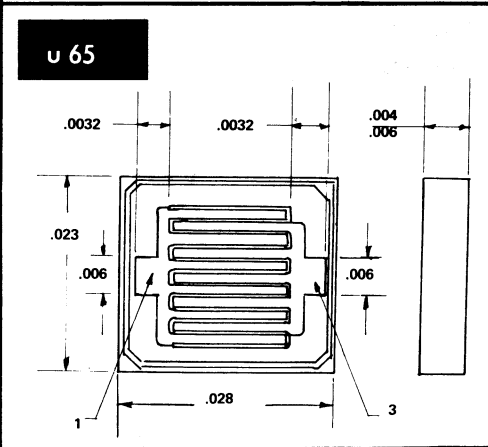
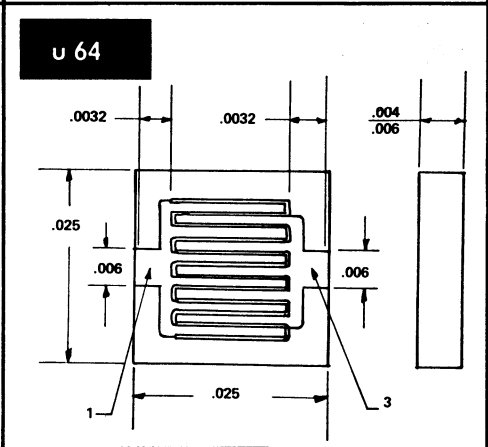
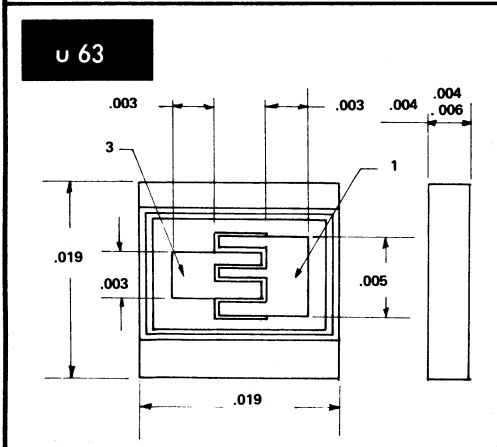
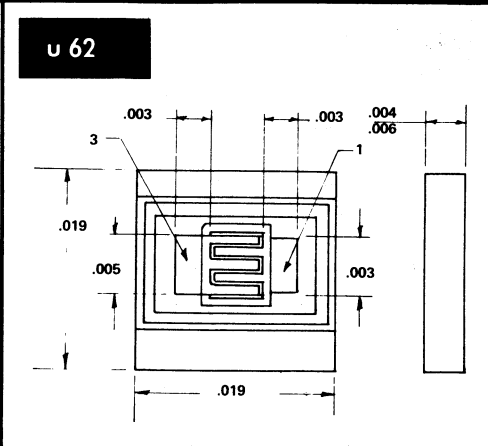
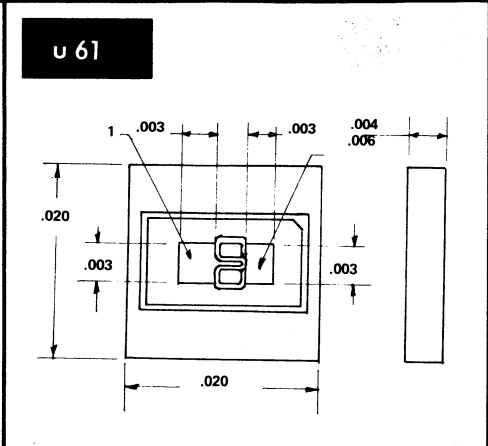
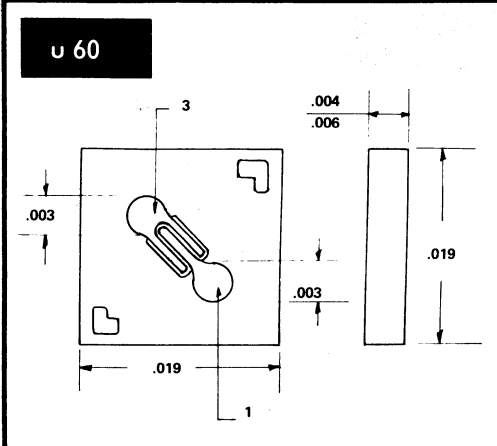
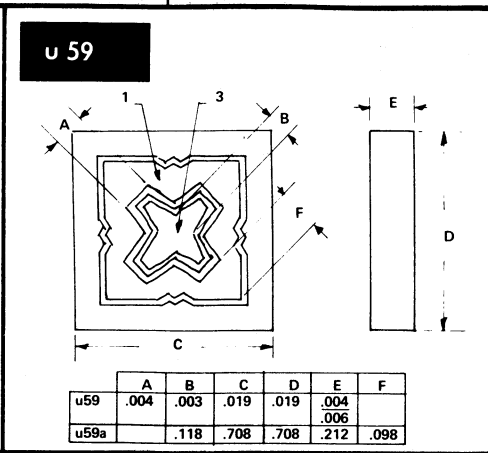
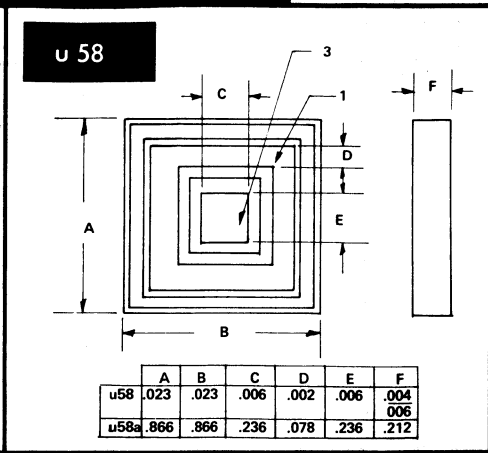
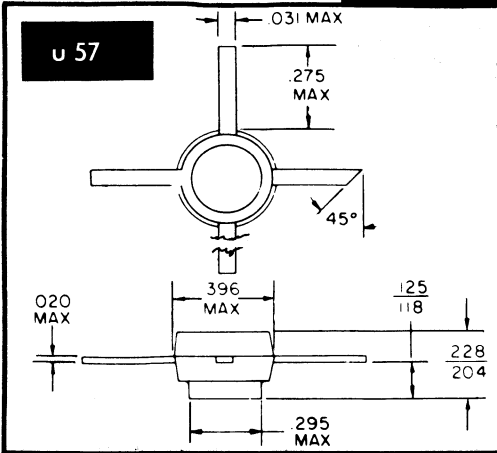
15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



	A	B	C	D	E	F	G	H
u54	.084	.016	.015	.004	.009	.059	.044	.060
	.092	.024	.020	.006	.019	.062	.046	.066
u54a	.084	.016	.018	.005	.009	.058	.063	.082
	.092	.024	.032	.010	.019	.061	.067	.088

	A	B	C	D	E	F	G	H
u54	.084	.016	.015	.004	.009	.059	.044	.060
	.092	.024	.020	.006	.019	.062	.046	.066
u54a	.084	.016	.018	.005	.009	.058	.063	.082
	.092	.024	.032	.010	.019	.061	.067	.088

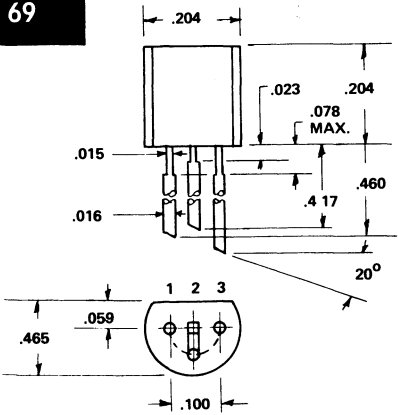
15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



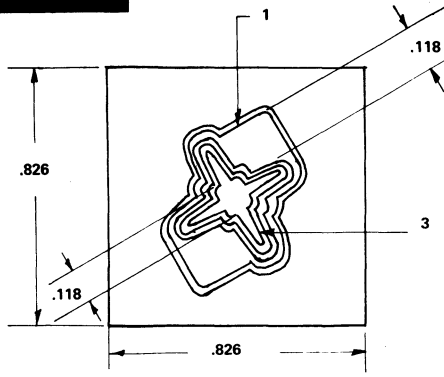
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

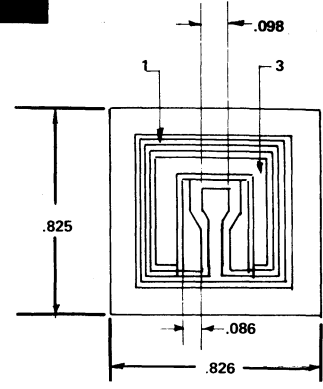
U 69



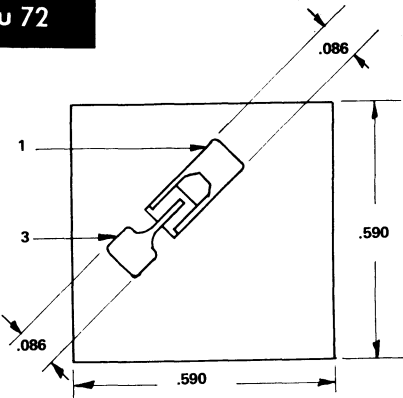
U 70



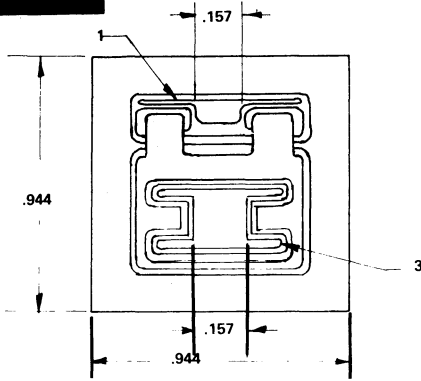
U 71



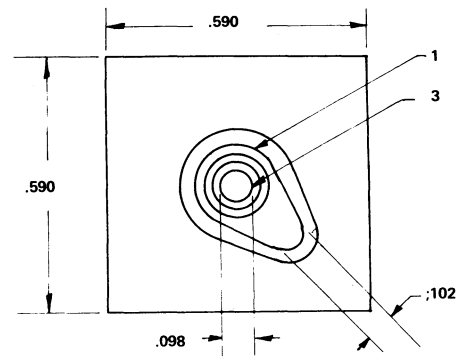
U 72



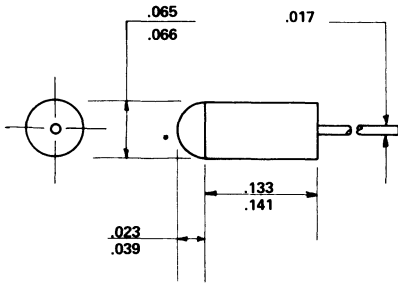
U 73



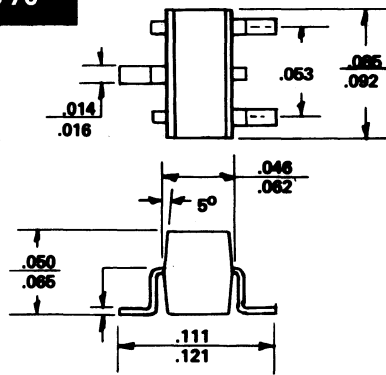
U 74



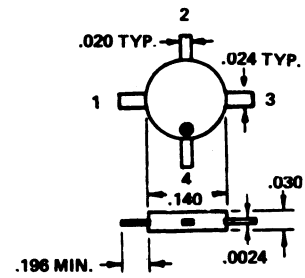
U 75



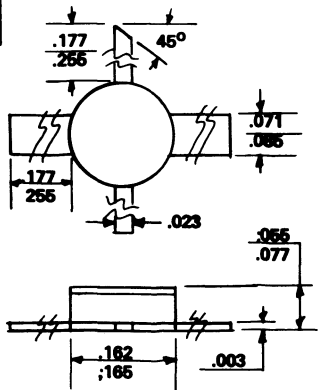
U 76



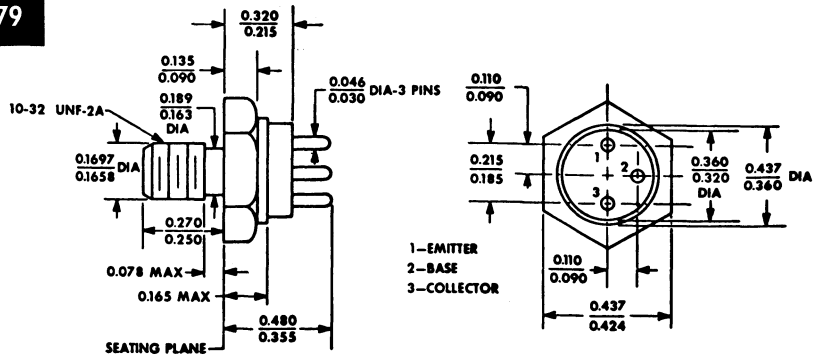
U 77



U 78

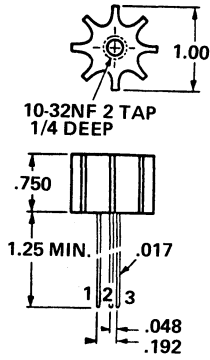


MT 79

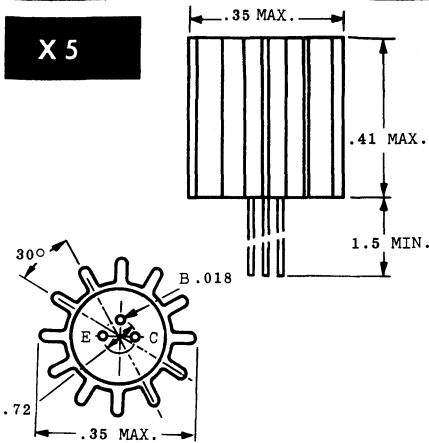


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

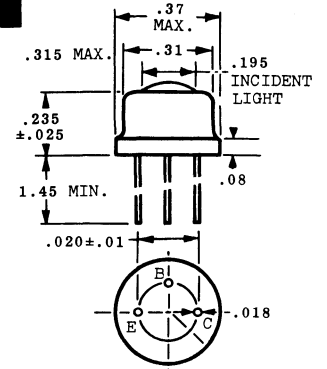
X 4



X 5

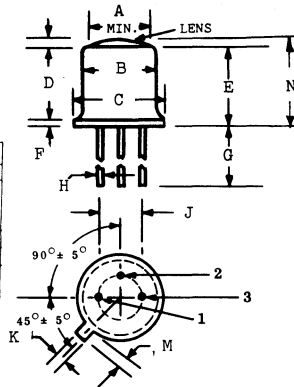


X 6



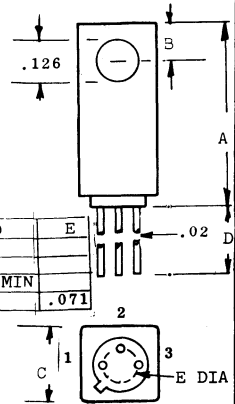
X 8

	A	B	C	D	E	F	G	H	J	K	M	N
X8	.110	.186	.220	.020	.190	.030	.500	.017	.100	.040	.038	
X8a		.185	.216		.240		.531	.015	.098			
X8b		.1865	.2095		.291		.500	.0175	.100			
X8c	.228	.334	.370	.039	.260	.010	.500	.015	.200	.031	.043	
X8d		.187	.220		.190	.030	1.50	.019	.100	.041	.042	
X8e		.169					.492	.017	.087			.157
							.570		.111			

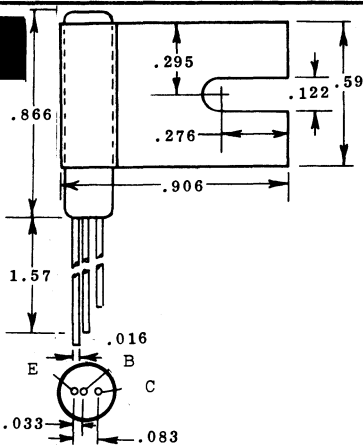


X 9

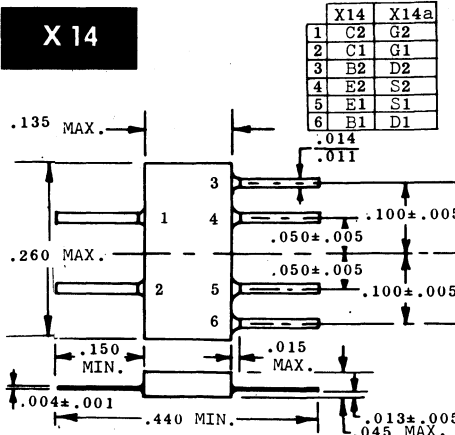
	A	B	C	D	E
X9	.670	.118	.236	1.58	
X9a	.610	.134	.276	1.58	
X9b	.670	.118	.236	.50 MIN	
X9c	.618	.134	.283	1.50	.071



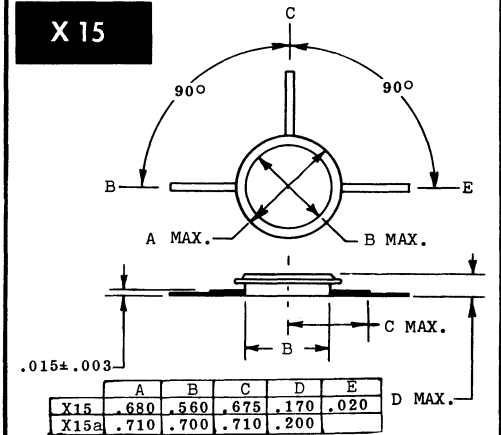
X 12



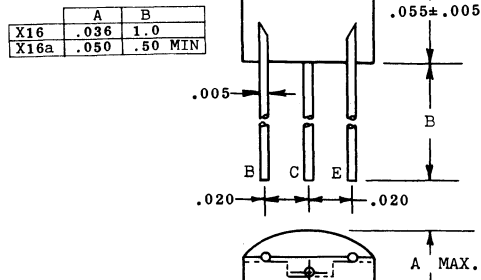
X 14



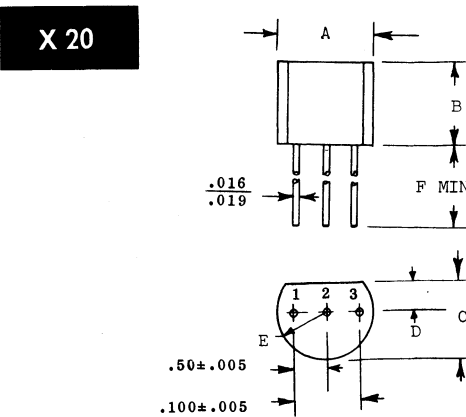
X 15



X 16



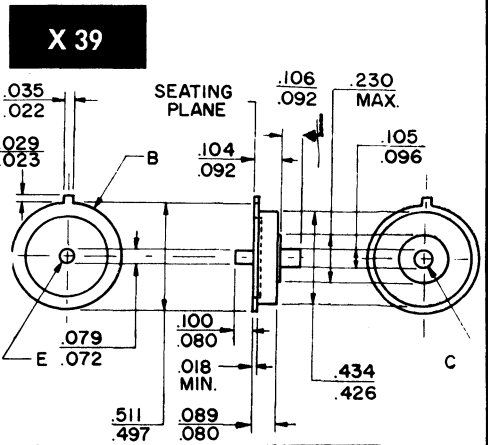
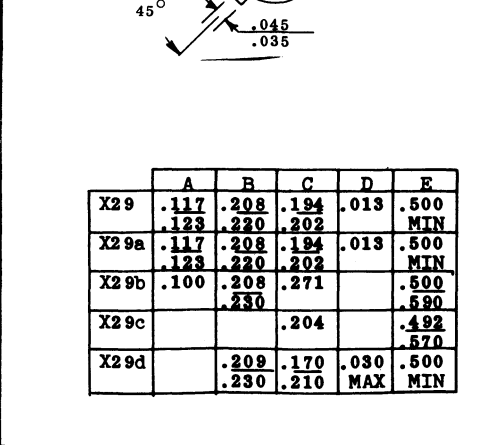
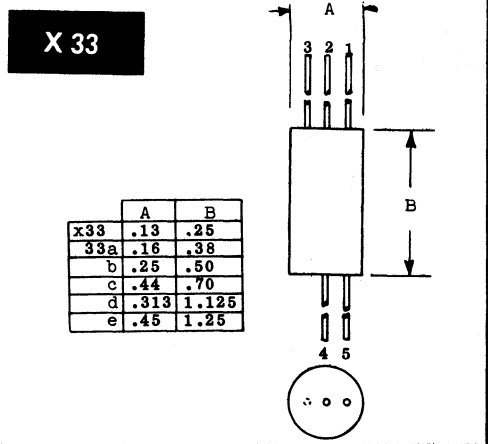
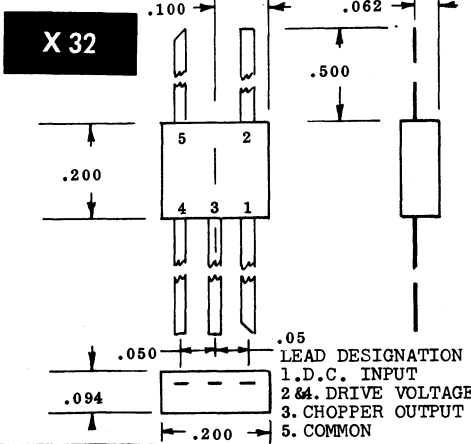
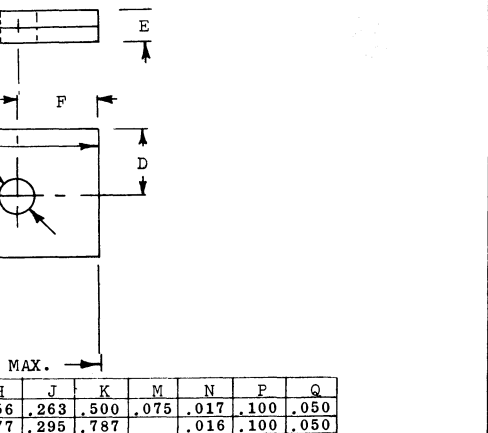
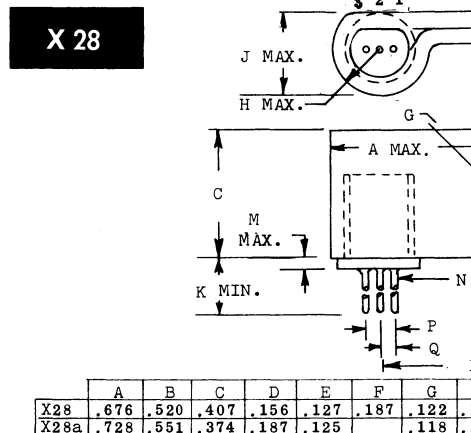
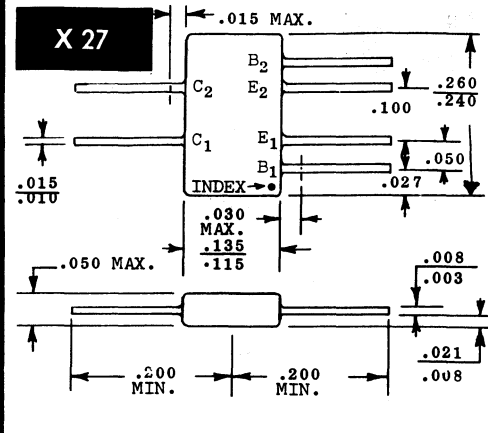
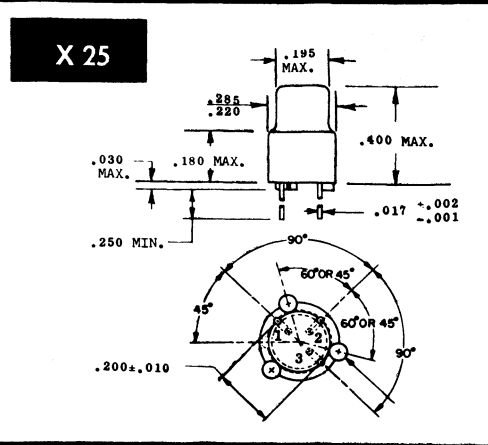
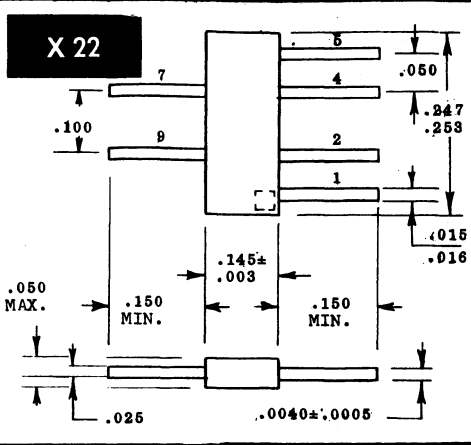
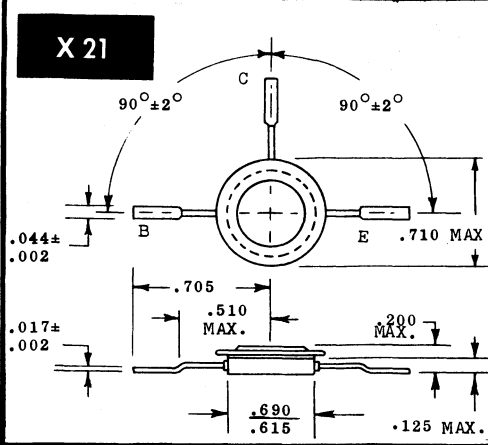
X 20



	A	B	C	D	E	F
X20	.200	.180	.160	.095	.095	.500
X20a	.200	.180	.160	.055	.095	.500
X20a & b		.210		.065	.105	
X20d		.175		.045	.085	.500
		.185		.055	.095	
X20e	.221	.241	.170	.060		.500
X20f	.175	.170	.125		.020	.450
	.205	.210	.165		.105	

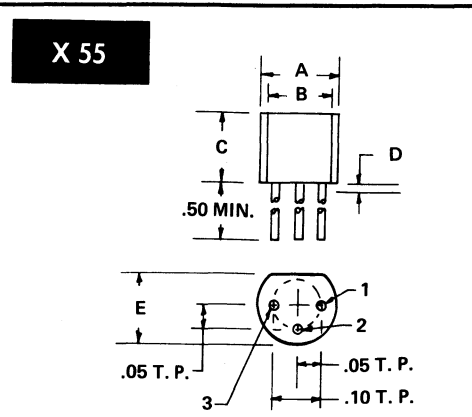
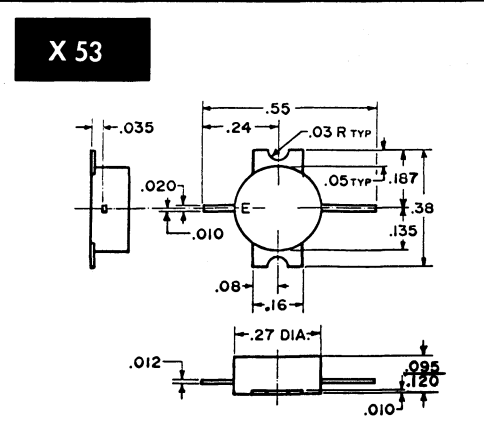
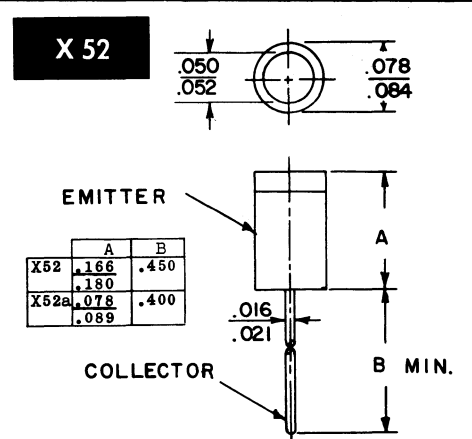
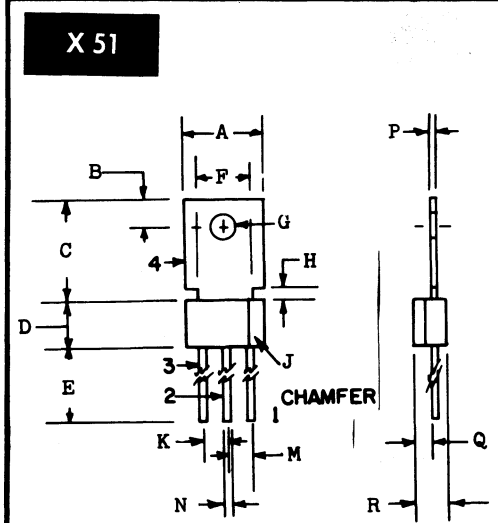
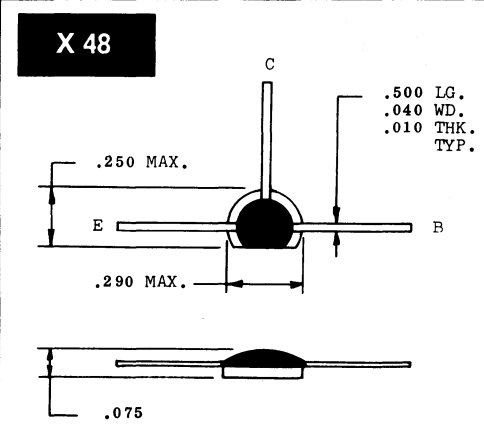
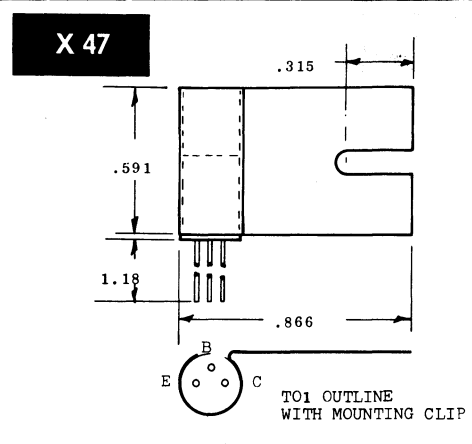
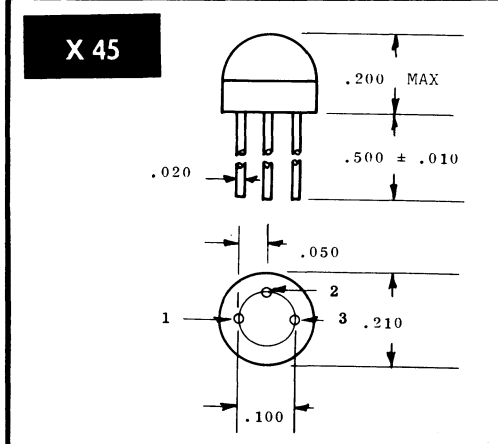
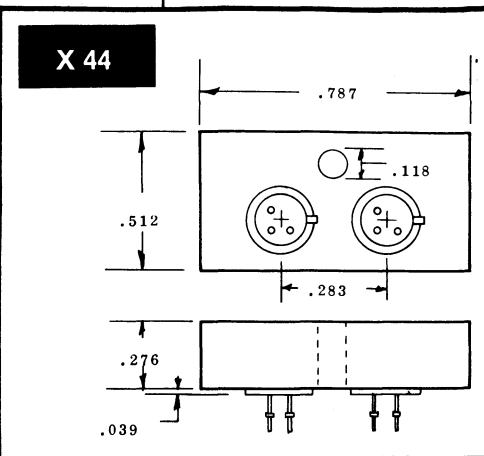
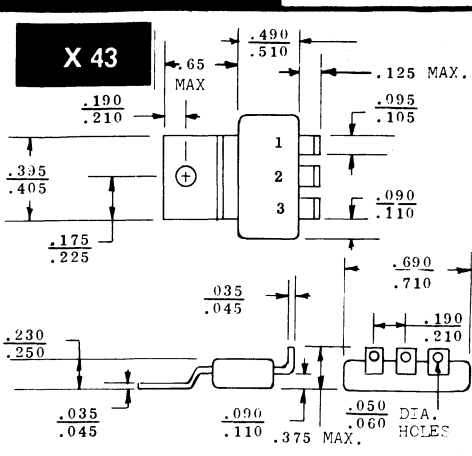
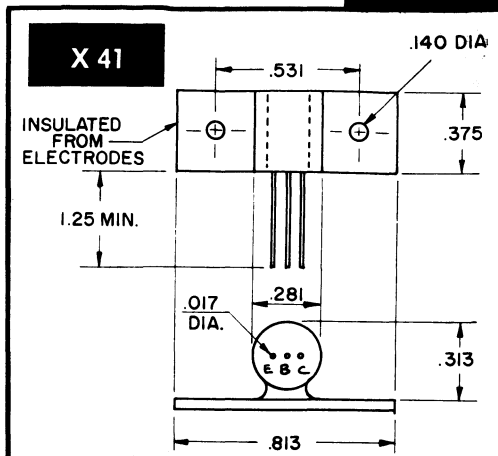
NOTE: FOR X16a - DIMENSION B IS FOR B LEAD ONLY. ADD .125 FOR COLLECTOR AND EMITTER LEADS.

15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE



15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE



	A	B	C	D	E	F	G	H
X51	.360	.115	.470	.280	.470	.245	.122	.050
	.430	.135	.530	.320	.600	.255	.128	.070
X51a	.360	.115	.480	.280	.400	.240	.122	.050
	.400	.135	.500	.320	.420	.260	.128	.070
X51b	.382	.154	.583	.347	.453		.158	.098
	.405	.161	.598	.362	.492		.165	MAX

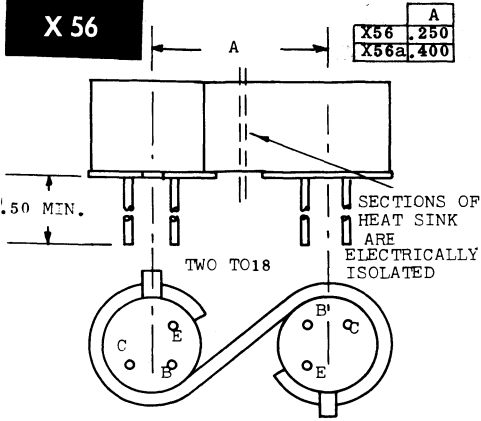
	J	K	M	N	P	Q	R
X51	.065	.095	.095	.047	.017	.095	.175
	.075x45	.105	.105	.053	.023	.105	.185
X51a	.065	.095	.095	.024	.019	.095	.170
	.075x45	.105	.105	.028	.025	.105	.190
X51b		.114	.114	.114	.020		.169
		.122	.122	.122	.024		.185

	A	B	C	D	E
X55	.195	.150	.180	.015	.155
	.205	.170	.190		.165
X55a	.175	.135	.170	.050	.125
	.205	.170	.210	MAX	.165

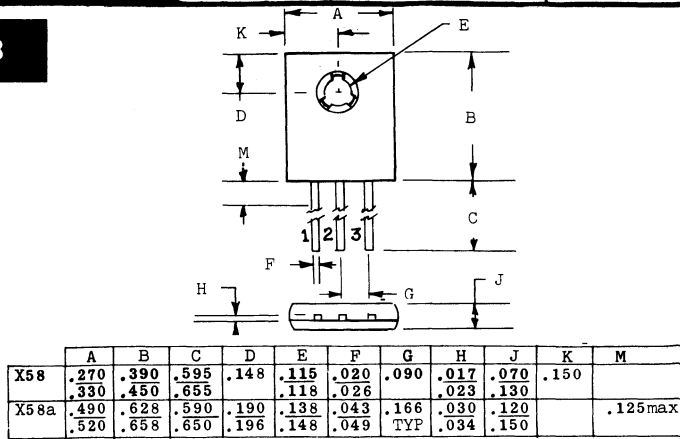
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

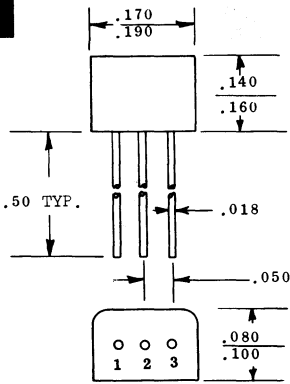
X 56



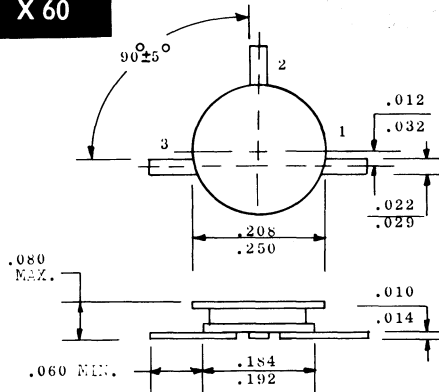
X 58



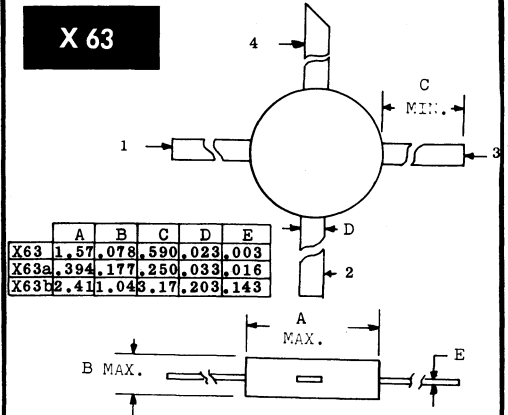
X 59



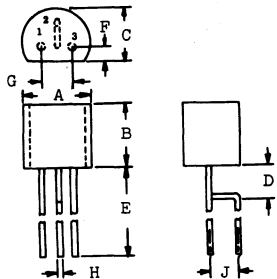
X 60



X 63

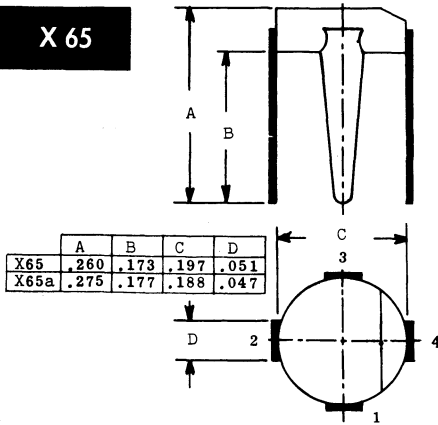


X 64

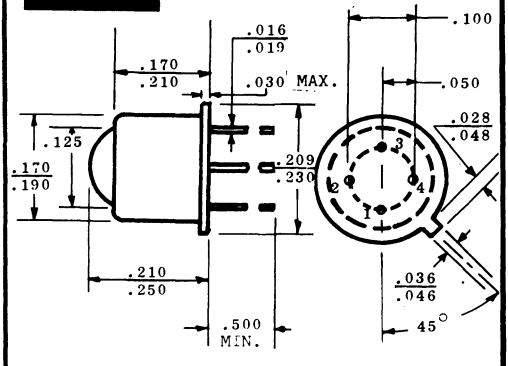


	A	B	C	D	E	F	G	H	J
X64	.197	.197	.157	.087	.492	.059	.098	.020	.048
X64a	.175	.170	.125	.050	.500		.095	.016	.050
	.205	.210	.165				.105	.019	
X64b	.173	.165	.133		.492		.095	.017	
	.188	.181	.149		.570		.103		

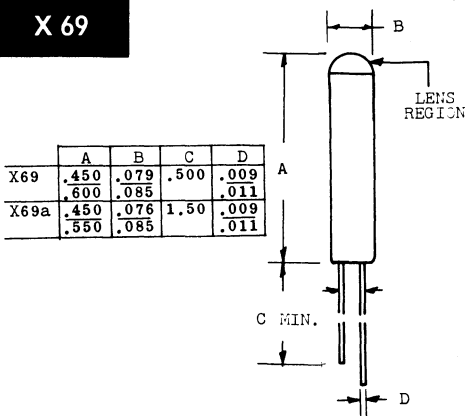
X 65



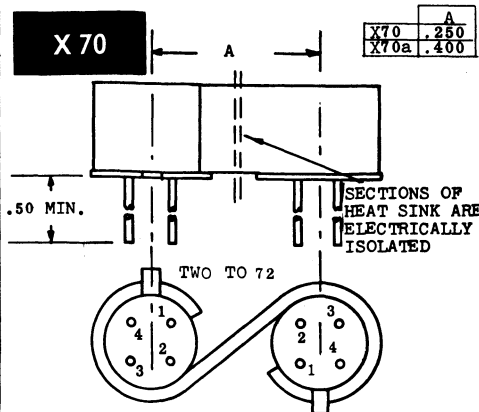
X 68



X 69



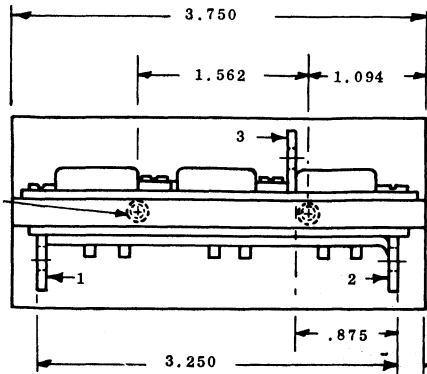
X 70



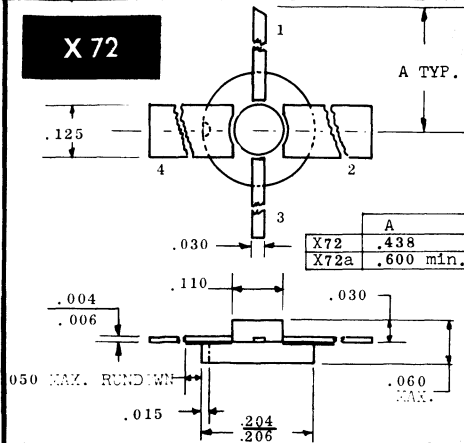
15. OUTLINE DRAWINGS

IN DRAWING NUMBER SEQUENCE

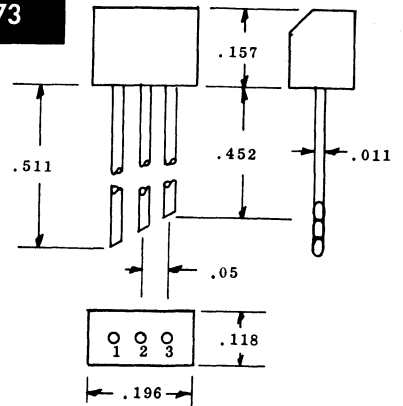
X 71



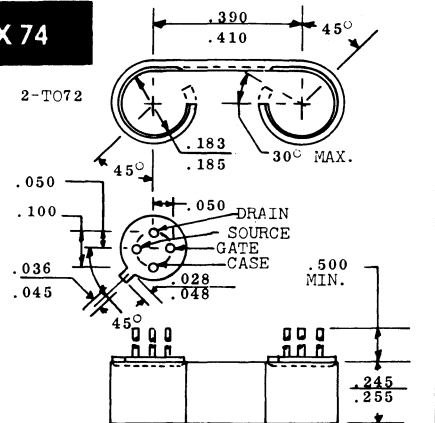
X 72



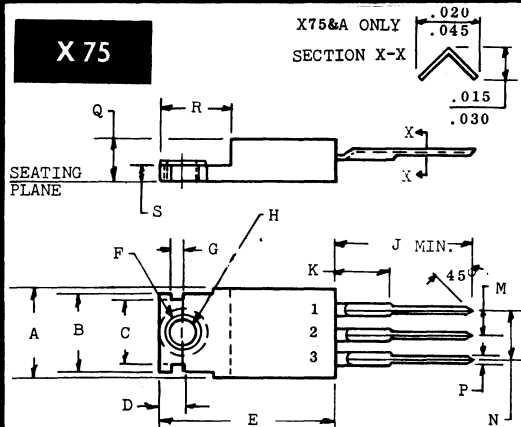
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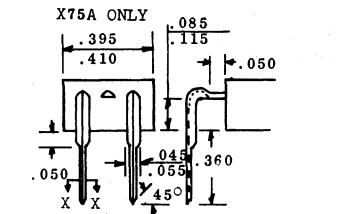
X 74



X 75



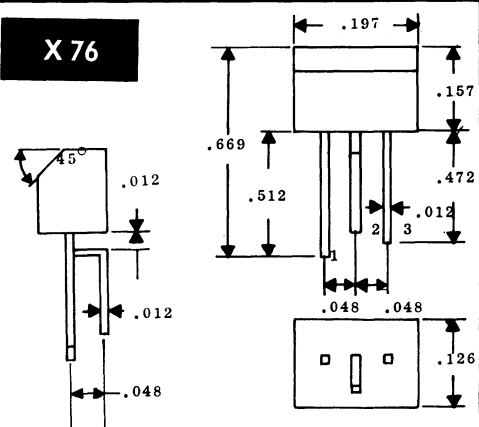
X75A ONLY



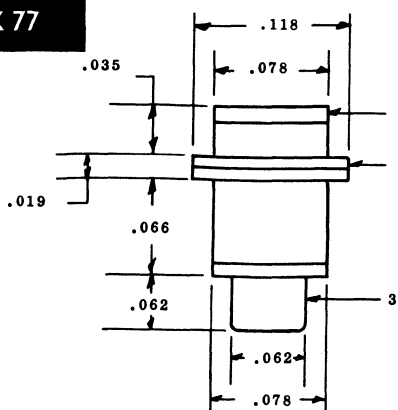
	A	B	C	D	E	F	G	H
X75&A	.395	.365	.300	.100	.575	.141	.040	.115
	MAX. .410	MAX. .385	MAX. .320	MAX. .120	MAX. .600	MAX. .145	MAX. .060	MAX. .121
X75B	.380	.365	.300	.140	.560	.090	.090	.141
	MAX. .420	MAX. .385	MAX. .320	MAX. .160	MAX. .620	TYP. .145		

	J	K	M	N	P	Q	R	S
	.500	.250	.095	.190	.045	.160	.235	.020
	MIN. .540	MIN. .180	MIN. .105	MIN. .210	MIN. .055	MIN. .190	MIN. .265	MIN. .055
	MAX. .160	MAX. .090	MAX. .190	MAX. .029	MAX. .140			MAX. .045
	MIN. .180	MIN. .110	MIN. .210	MIN. .035	MIN. .160			MIN. .055

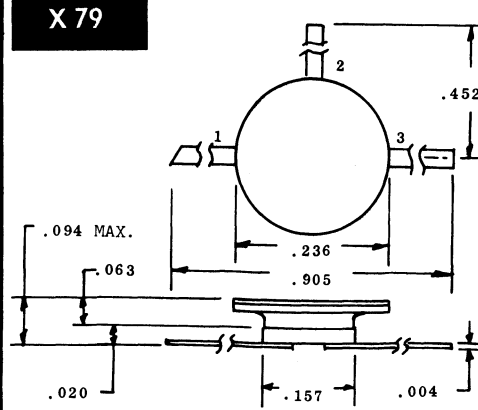
X 76



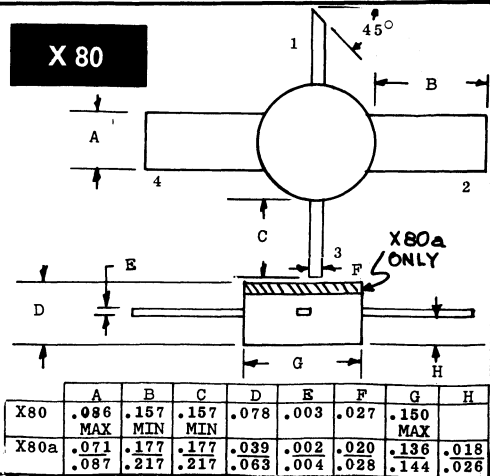
X 77



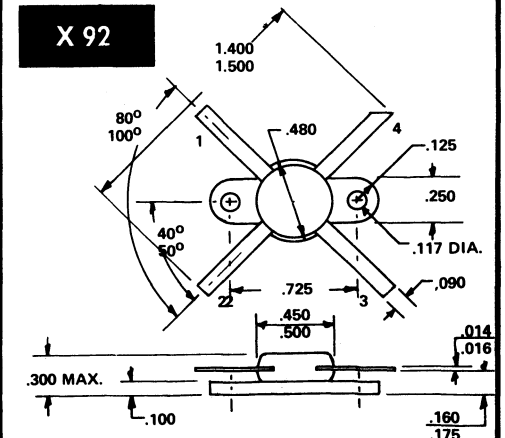
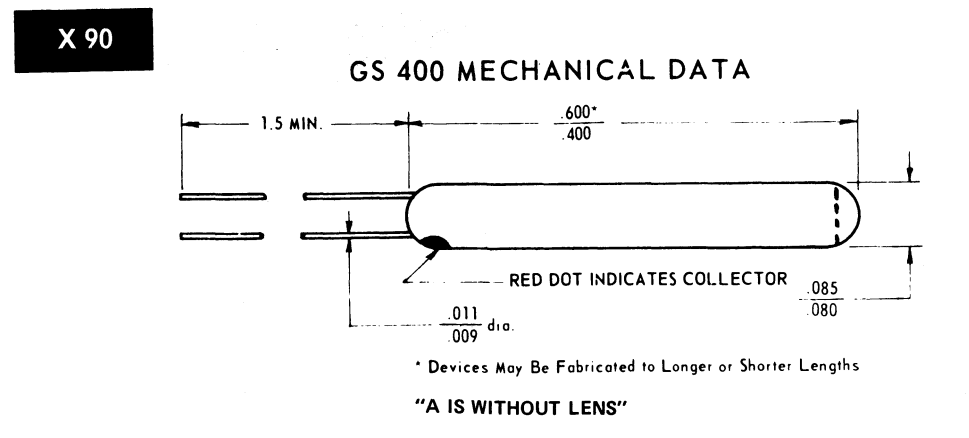
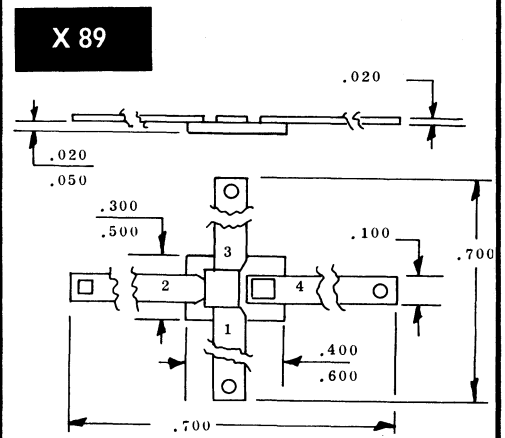
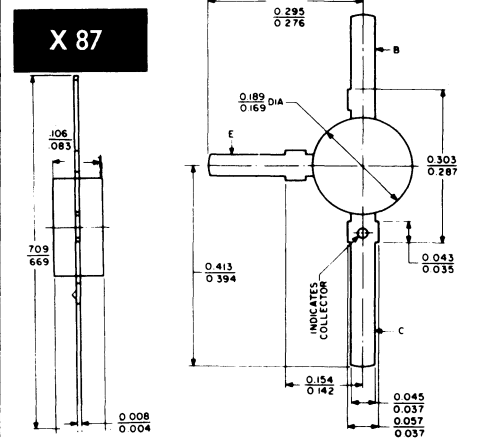
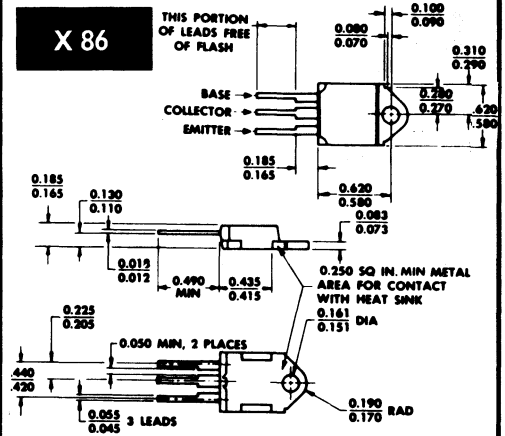
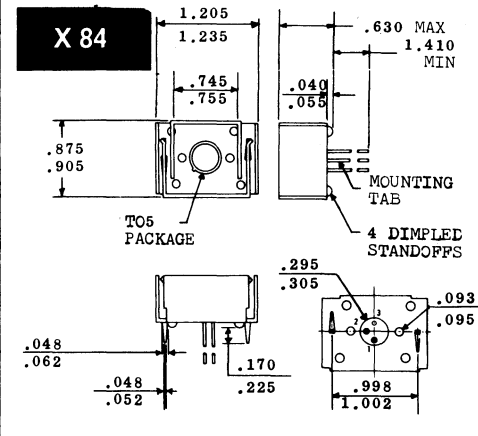
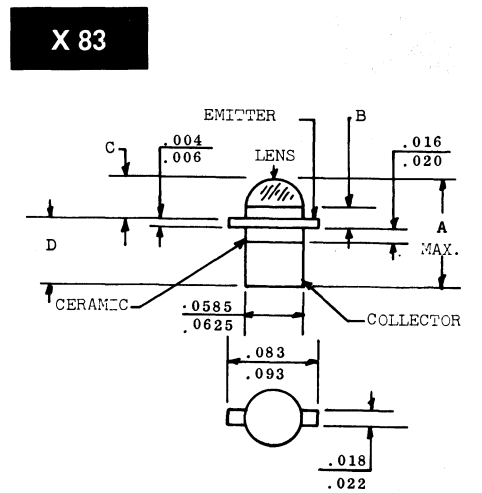
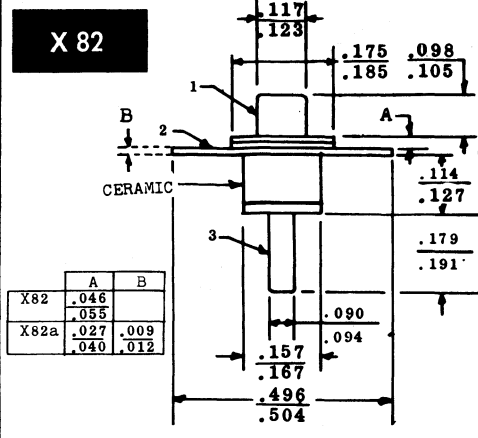
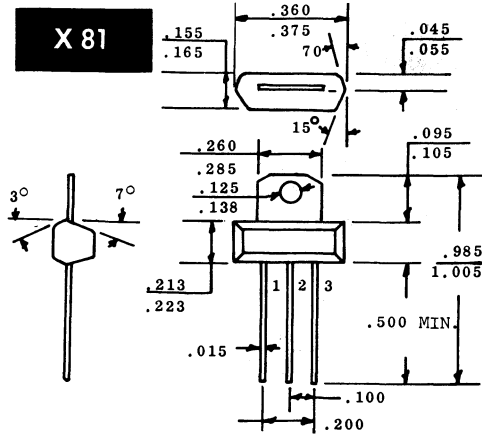
X 79



X 80

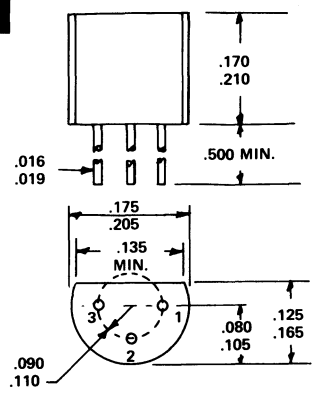


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

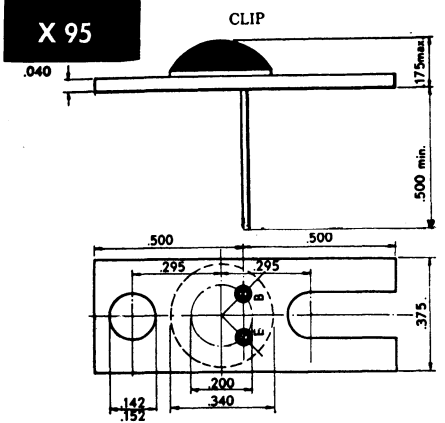


15. OUTLINE DRAWINGS IN DRAWING NUMBER SEQUENCE

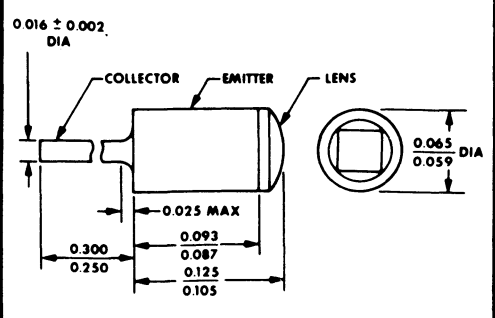
X 93



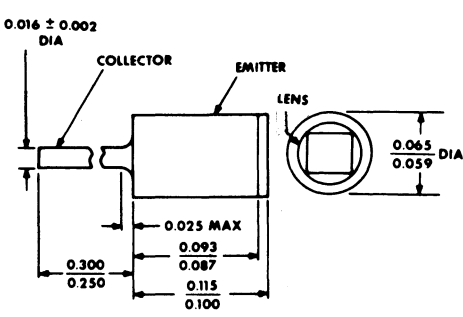
X 95



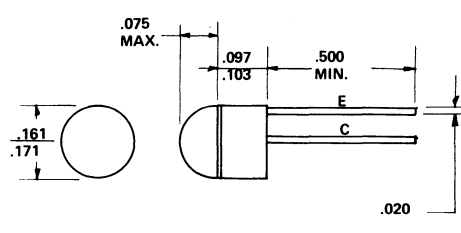
X 97



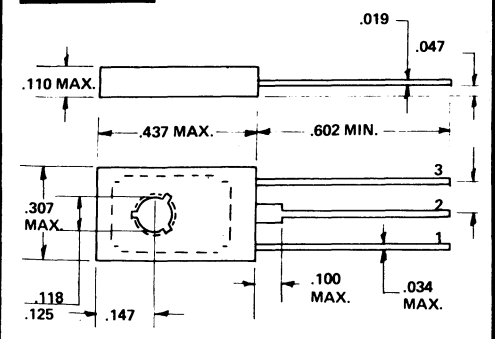
X 98



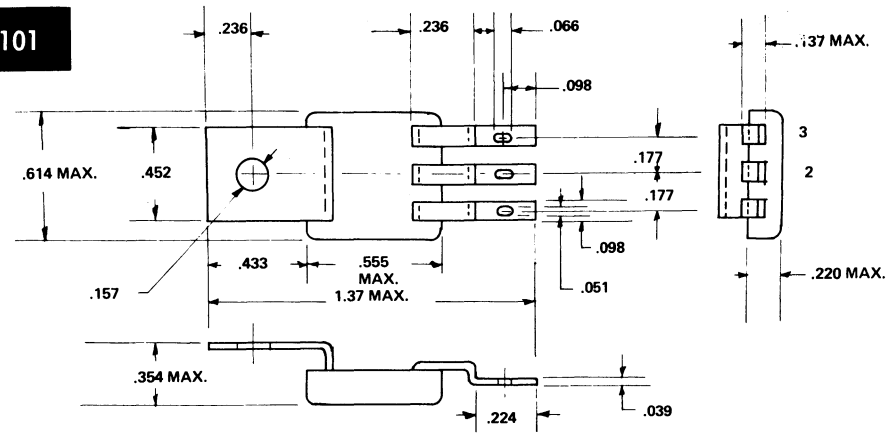
X 99



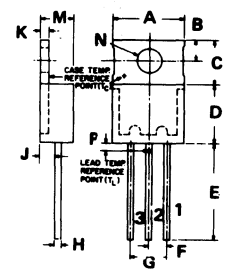
X 100



X 101

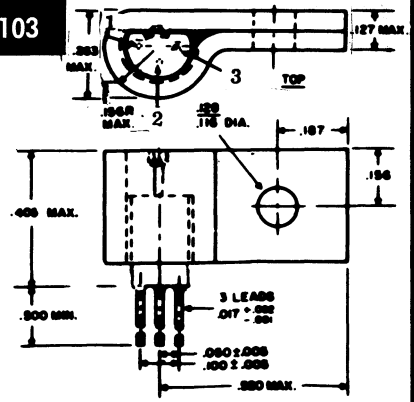


X 102



	A	B	C	D	E	F	G	H	J	K	M	N	P
X102	.395	.110	.250	.340	.500	.095	.190	.029	.085	.050	.170	.141	.065
	.405	.120	.260	.350		1.05	.210	.035	.115	.060	.190	.145	

X 103





ZA NOTES

1. The outline drawing for this device may be either MT6 or MT26. Consult manufacturer.
4. Same as TO36 outline except 5mm (metric) thread.
8. Outline available in different package styles. Consult manufacturer for details.
9. Device available with more than one outline.

Suffix	Outline
a	u30
b	u30a

11. Device also available R51 outline.
17. The outline drawing for this device may be either L3b (with reduced dissipation) or L3c. Consult manufacturer.
22. The outline drawing for this device may be either TO5, TO13, or ZA23. Consult manufacturer.
23. The outline drawing for this device is identical with a TO13 outline with .022 x 2.5 long tin nickel leads welded to each terminal.
24. The outline drawing for this device may be either TO13 or ZA23. Consult manufacturer.
25. For the outline drawing, refer to the individual slash numbers.
26. Type number with slash S same as X56 outline. Type number with slash L same as X56a outline.
27. The outline drawing for this device may be either R81 or R3a. Consult manufacturer.
29. Type number with R suffix indicates a TO18 package; type number with a S suffix indicates a TO5 package.
30. The outline drawing for this device may be either MT25a or MT42b. Consult manufacturer.

JEDEC "TO" DRAWING NOTES

1. This zone is controlled for automatic handling. The variation in actual diameter within the zone shall not exceed 0.010 (0.25MM).
2. (All leads) Diameter is uncontrolled to .020 from seating plane and beyond minimum tolerance of lead length (1.5 or .5) from seating plane. Dim. A applies between .020 and .250 from seating plane. Dim B applies between .250 and minimum tolerance of lead length.
3. Measured from maximum diameter of the actual device.
4. Leads having maximum diameter .019 (.483MM) measured in gaging plane .054 - .001 (1.37MM - .025MM - .000MM) below the seating plane of the device shall be within .007 (.178MM) of their true locations.
5. Tab centerline.
6. Diameter (a) concentric within 0.006 total indicator reading. Cap flange shall never extend beyond header periphery. 0.005 max burr or weld flash.
7. Diameter (a) concentric within 0.006 total indicator reading.
8. Applies to thickness of tab.
9. (Three leads), the specified lead diameter applies to the zone between .050 (1.27MM) and .250 (6.35 MM) from the reference plane. Between .250 (6.35MM) and end of lead, a maximum of .021 (.533MM) is held. Outside of the zones the lead diameter is not controlled.
10. 6-32NC-2A. Maximum pitch diameter of plated threads shall be basic pitch diameter (.1177, 2.98MM). Reference (screw thread standards for federal services 1957) handbook H28-part 1.
11. Complete threads shall extend to within three threads of the seating plane and shall remain within tolerances to within two threads tip of stud.
12. Maximum (.019, .483MM) diameter leads and maximum (.230, 5.84MM) stud shoulder to within .007 (.178MM) radius of true location relative to the (.460, 11.68MM) diameter flange at a gauging plane .054 (1.37 MM) .001 (.025MM), - .000 (.000MM), from the reference plane.
13. Dimension does not include sealing flanges.
14. The outline contour with exception of hexagon is optional within zones or dimension specified.
15. Pitch diameter of 10-32 UNF-2A (coated) threads. (ASA B1.1-1960).
16. This terminal can be flatten and pierced or hook type.
17. Position of leads in relation to the hexagon is not controlled.
18. Pitch diameter - thread 1/4-28 UNF-2A (coated). Reference screw thread standards for federal services - handbook H-28 or ASA B1.1 - 1960.
19. Pitch diameter - thread 5/16-24 UNF-2A (coated). Reference (screw thread standards for federal services - handbook H-28 or ASA B1.1 - 1960).
20. Contour and orientation of fixed terminal lugs are optional.



JEDEC "TO" DRAWING NOTES

21. Minimum flat.
22. Minimum diameter of seating plane.
23. A chamfer (or undercut) on one or both ends of hexagonal portion is optional.
24. Minimum difference in terminal lengths to establish datum line for numbering terminals.
25. Minimum spacing between terminals.
26. The device may be measured by direct methods or by the gage and gaging procedure described on gage drawing GS-1.
27. Four leads.
28. These dimensions should be measured at points .050 to .055 below seating plane. When gage is not used, measurement will be made at seating plane.
29. Two leads.
30. Insulation rundown.
31. Three leads.
32. (Insulated) locator pin.
33. Externally coated devices shall not have coating on the leads beyond this zone.
34. (All leads) Diameter is uncontrolled to .050 from seating plane and beyond minimum tolerance of lead length (1.5 or .5) from seating plane. Dim A applies between .050 and .250 from seating plane. Dim B applies between .250 and minimum tolerance of lead length from seating plane.
35. Four holes.
36. Four equally spaced feet to lie within this zone. Minimum distance between a lead and a foot .031.
37. Angular orientation of individual terminals is undefined.
38. Complete threads shall extend to within 2-1/2 threads of the seating plane.
39. The leads shall be essentially straight within this zone.
40. 1/4-28 UNF-2B.
41. Terminals may be referred to by number as follows: Terminal No. 1 is the odd terminal and connected to the case. Other terminals are numbered clockwise from No. 1.
42. Leads having maximum diameter .045 measured in gage plane .031, .001, .000 below the seating plane of the device shall be within .010 of their true position relative to minimum diameter .096 holes in the mounting flange.
43. 8-32 UNF-2A.
44. Hex for standard 1/4 ignition wrench.



JEDEC "TO" DRAWING NOTES

45. Pitch diameter of 8-32 UNC-2A (coated) threads (ASA B1.1-1960).
46. Maximum size leads and stud must be within .0055 of the exact positions shown with respect to the .885 maximum diameter measured at points .015 maximum below seating plane.
47. .190-32 UNF-2A. Maximum pitch diameter of plated threads shall be basic pitch diameter .190 reference (screw thread standards for federal services 1957) handbook H28 1957 P1.
48. Lead diameter in this area unrestricted.
49. Both ends.
50. Two mounting holes.
51. Maximum diameter leads measured at a gaging plane .054, .001, .000 below the seating plane shall be within .010 of their true positions with respect to the .725 diameter.
52. Angular orientation of edge optional.
53. Square, radius or diagonal on end of terminal is optional.
54. Index tab for visual orientation only.
56. Leads shall emerge from the body diameter dimension within the limits indicated by the .015/.035, .010 & .025 dimensions.
57. Minimum and Maximum dimensions both apply to the major (largest) diameter only.
58. Radius at corners of mounting flange optional.
59. Angular orientation of terminal ends as shown ± 15 deg.
60. A .075 clearance from hole centers to .765/.785 diameter for mounting fasteners.
61. (All leads) Diameter is uncontrolled beyond .625 from seating plane. Dim A applies between .050 and .250 from seating plane. Dim B applies between .250 and .625 from seating plane.
62. Measured at seating plane.
63. Complete threads to extend to within 3-1/2 threads of seating plane.
64. Leads having maximum diameter .019 (.483MM) measured in gaging plane .025 (.635MM) .001 (.025MM) - .000 (.000MM) below the seating plane of the device shall be within .007 (.178MM) of their true positions.
65. (Eight leads). Maximum number of leads omitted in this outline, three (3). The number and position of leads actually present are indicated in the product registration. Outline designation determined by the location and minimum angular spacing of any two adjacent leads.
66. (Four leads). Maximum number of leads omitted in this outline, none (0). The number and position of leads actually present are indicated in the product registration. Outline designation determined by the location and minimum angular or linear spacing of any two adjacent leads.



JEDEC "TO" DRAWING NOTES

67. (Four, six, ten, or twelve leads). Maximum number of leads omitted in this outline, one (1). The number and position of leads actually present are indicated in the product registration. Outline designation determined by the location and minimum angular spacing of any two adjacent leads.
68. Length of incomplete or undercut threads.
69. Lead diameter uncontrolled above the seating plane.
70. Contour and orientation of terminal flats are undefined.
71. The body and terminals of the device, with the exception of the extended lug length, lies within the cylinder defined by the dotted outline.
72. Pitch diameter of 1/2-20 UNF-2A (coated) threads (ASA-B1.1).
73. Leads missing from their designated positions shall also be counted when numbering leads for specific applications.
74. Lead spacing shall be measured within .030 (.762MM) from the point of emergence from the body.
75. Diameter of hole or width of slot on either side of terminals.
76. Lead dimensions uncontrolled in this zone to allow for body and lead finish irregularities.
77. Contour of the package beyond this zone is uncontrolled.
78. Seated height with lead bent at right angles.
79. Flexible leads for terminals 1 and 2 are identified by color coding for specific applications.
80. Pitch diameter of 3/4-16 UNF-2A (coated) threads (ASA B1.1).
81. Irregularity in body outline not controlled in this zone.
82. Terminal configurations optional between the body of the device and the flats on the terminals.
83. Visual or mechanical index is optional if one lead is omitted.
84. The body of the device with exception of the hexagon, thread, and flexible lead extensions lies within the cylinder defined by the dotted outline.
85. Pitch diameter of 1-12 UNF-2A (coated) threads. (ASA Bul. 1-1960)
86. The body of the device with the exception of heat sink and flexible leads lies within the cylinder defined by the dotted outline.
87. Pitch diameter of threads - 1/2-20 UNF2B (ASA Bul. 1-1960).
88. Parallel, twisted or coaxial flexible leads for terminals 1 and 2 are identified by color for specific applications. Coaxial shielded lead has shield as terminal 2.
89. When dimensions less than .180 (4.58mm) are used, clearance in the second fin will be provided.

JEDEC "TO" DRAWING NOTES

90. The use of either a hook, short tab, or tall tab terminal contour is optional. An index point is required when the tall tab terminal contour (identical to the adjacent terminals) option is used.
91. Elongated hole in tab is optional.
92. With the device seated in a .165 (4.20mm) .010 (.25mm) - .000 (.00mm) hole a maximum force of 20 grams on each of the terminals shall cause the flats of the terminals to contact the seating plane.
93. Use of tab extension is optional.
94. Pitch of diameter 5/8-18 UNF-2A (coated) threads (ASA Bul. 1-1960).
95. All terminals.
96. Spacing and angle of the end leads at the point of emergence of body is not controlled.
97. Mechanical index, optional.
98. Orientation of flats not controlled in relation to the leads.
99. Measured from intersection of lead axis and body surface of diameter
100. Dimensions, configurations, and position of leads optional in this zone.
101. Leads shall emerge from the body within the limits of .030 (.76mm) max. above the seating plane and .035 (.88mm) max from the center line.
102. Details of the outline in this zone are optional except that the outline shall not extend beyond the seating plane.
103. An index mark shall be located on the top surface in the quadrant above terminal one.
104. These tolerances are non cumulative.
105. The cross section of each lead having a maximum diameter of .019 (.482 MM) and measured in a gaging plane .054 (1.372 MM) \pm .001 (.025 MM) - .000 (.000MM) below the seating plane lies in a circle having a diameter of .033 (.838 MM) centered at the true position of the lead axis at its point of exit relative to the maximum body diameter shown.
106. Configuration of package optional within zone specified.
107. This dimension applies to leads 1 and 3 only.
108. Maximum radius of .050 in. (1.27 MM) on all body edges and corners.
109. Lead spacing to be measured between .100 in. (2.54 MM) and .125 in. (3.17 MM) from the point of emergence from the body.

D.A.T.A. LEAD CODE IDENTIFICATION GUIDE

LEAD CODE EXPANDER	
◻	— Emitter or Source tied to case
§	— Base or Drain tied to case
∅	— Collector or Gate tied to case

LEAD CODE	LEAD CONFIGURATION			
	1	2	3	4
A	E	B	C	
B	E	C	B	
C	B	E	C	
D	B	C	E	
E	C	E	B	
F	C	B	E	
G	E	B	C	CASE
H	E	B	CASE	C
J	B	E	C	CASE
K	B	E	CASE	C
L	E	C	B	C
M	B	C	CASE	E
N	C	B	E	E
P	E	B	C	C
R	E	B	E	C
S	E	C	E	B
T	B		E	
U	C	B	E	B
V	C	E	B	E
W	E		C	
X	B	C	E	CASE
Y	B	E	C	E
Z	B	E	B	C
CA	E	B1		B2 CASE
CB	B1	E	B2	
CC	E	B1		B2
CD	E	B2	B1	
DA	S	G	D	
DB	S	D	G	
DC	D	G	S	
DD	D	S	G	
DE	G	S	D	
DF	G	D	S	
DG	S	G	D	CASE
DH	S	D	G	CASE
DJ	D	S	G	CASE
DK	D	G	S	CASE

LEAD CODE	LEAD CONFIGURATION			
	1	2	3	4
DM	D	G	<u>SUB</u>	S
DN	<u>S</u>	G	D	<u>SUB</u>
DP	D	G	S	<u>SUB</u>
DQ	<u>S</u>	D	G	
DR	S	G	D	<u>SUB</u>
DS	D	G	SUB	S
DT	D	G	S	SUB
DU	S	G1	D	<u>G2</u>
DV	S	G1	D	<u>G2-SUB</u>
DW	D	S	G	<u>SUB</u>
DX	D	G2	G1	<u>S</u>
DY	S	D	<u>G2</u>	G1
DZ	G	D	<u>SUB</u>	S
EA	S	G2	D	S
EB	D	D	G	G
EC	G1	S	G1	<u>G2</u>
ED	G	S1	D	S2
GA	E	B1	C	B2
GB	C	B1	E	B2
GC	E1	B	C	E2
GD	E1	B	E2	C
GE	C	E1	B	E2
GG	E2	E1	B	C
GH	E2	B	E1	C
GJ	B	E1	C	E2
GK	B1	E	C	B2
GM	B1	C	E	B2
GN	E	B2	B1	C
GP	E1	E2	B	

A—BZ Bipolar
CA—CZ UJT
DA—FZ FET
GA— Multi Element Bipolar

ABBREV.	TERM
E	Emitter
B	Base
C	Collector
S	Source
D	Drain
G	Gate
Sub	Substrate
Case	Case/Shield

SECTION 17

TRANSISTOR

Manufacturer's Local Offices

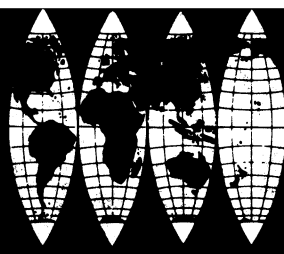
Since this D.A.T.A. BOOK provides only basic technical data for initial selection purposes, this section of Manufacturers' Local Offices will facilitate your requesting complete data sheets and application information from a nearby office.

TFKG – ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT AEG – TELEFUNKEN

	Zip Code	Telephone No.	Telex
Postfach 1042, 7100 Heilbronn, Germany		07131-8821	728746
U. S. A. New Jersey	AEG-Telefunken Corporation 07632	201-568-8570	135497
	360 Sylvan Avenue Englewood Cliffs		

APX – AMPEREX ELECTRONIC CORPORATION

	Zip Code	Telephone No.	TWX
Providence Pike, Slatersville, Rhode Island.....	02876	401-762-9000	710-387-1591
CALIFORNIA..... Palo Alto	Amperex Electronic Corporation 94303	415-327-0461	910-373-1211
	801 East Charleston Road		
ILLINOIS..... Northlake.....	Amperex Electronic Corporation..... 60164	312-261-7877	910-226-1968
	360 East North Avenue	312-261-7878-9	
NEW YORK..... Hicksville	Amperex Electronic Corporation 11802	516-931-6200	516-433-9045
	230 Duffy Avenue		



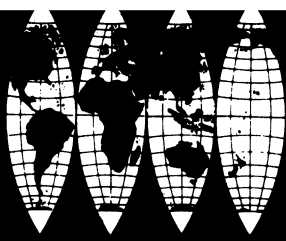
Manufacturers' Local Offices

ATEI – ATES COMPONENTI ELETTRONICI S.p.A.

2 Via Tempesta - 20149, Milan, Italy	Telephone No. 4695651	Telex 31481
ENGLAND..... London, W5..... Ates Electronics Limited	01-998-6171	262401
Mercury House Park Royal		

BNT – BURNS & TOWNE, INC.

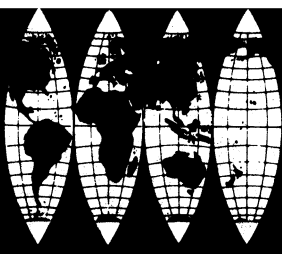
18-36 Granite Street, Haverhill, Massachusetts	Zip Code 01830	Telephone No. 617-373-1501
NATIONAL SALES OFFICE		
NEW YORK..... Hicksville Burns & Towne, Inc.	11801	516-935-0522
550 Old Country Road		
ALABAMA..... Huntsville Space Engineering Sales	35805	205-837-6060
4306 Governors Drive S. W. Suite R		
ARIZONA Scottsdale Vinson Associates, Inc.	85251	602-947-7371
44 E. Indian School Road		
CALIFORNIA Hollywood..... Westaironics, Inc.	90028	213-466-6201
1800 N. Highland Blvd.		
Redwood City..... Carson Electronics Products	94061	415-365-4620
2334 Vera Avenue Post Office Box 1216		
COLORADO..... Englewood..... Vinson Associates, Inc.	80110	303-789-2203
3600 South Lincoln		
CONNECTICUT Great Neck..... Cooper-Simon & Co., Inc.	11021	516-487-1142
(New York) 38 Middle Neck Road		
FLORIDA Orlando Space Engineering Sales, Inc.	32803	305-841-2271
999 Woodcock Road Suite 216		
IDAHO Bellevue..... The Al Smith Company	98004	206-746-6770
(Washington) 405 166th Street, S.E.		
ILLINOIS..... Chicago J. Rinaldi, Inc.	60646	312-763-4848
6319 North Central Avenue		
INDIANA Chicago..... J. Rinaldi, Inc.	60646	312-763-4848
(Illinois) 6319 North Central Avenue		
MARYLAND Rockville Quality Components, Inc.	20851	301-933-1623
Post Office Box 711		



Manufacturers' Local Offices

BNT — BURNS & TOWNE, INC. (Cont'd)

		Zip Code	Telephone No.
18-36 Granite Street, Haverhill, Massachusetts		01830	617-373-1501
MASSACHUSETTSNeedham	Comp-Rep Associates, Inc.....	02192	617-444-2484
	1116 Great Plain Avenue		
MICHIGAN Southfield	Comtel Components, Inc.	48075	313-357-3700
	21250 10½ Mile Road		
MINNESOTAMinneapolis	Charles E. Bohlig Associates	55416	612-922-7011
	3925 Monterey Avenue South		
MISSOURI..... St. Louis	Compar/Midwest	63141	314-542-3399
	11734 Lackland Industrial Drive		
NEW MEXICO Albuquerque.....	Vinson Associates, Inc.	87110	505-298-7442
	Post Office Box 3295-Station D		
NEW YORK..... Great Neck	Cooper-Simon & Co., Inc.	11021	516-487-1142
	38 Middle Neck Road		
	Pittsford.....Taggart/Hart Associates, Inc.....	14534	716-381-3380
	48 Bebedict Drive		
	Post Office Box 304		
	Peekskill.....Milton Ross Associates, Inc.	10566	914-737-7707
	Post Office Box 71		
NORTH CAROLINA ...Greensboro	Space Engineering Sales, Inc.	27407	919-299-0987
	2509 Lake Shore Drive		
OHIO Cleveland	Bridgefield Supply Co.	44118	216-991-3032
	14077 Cedar Road		
OREGON Bellevue	The Al Smith Company	98004	206-746-6770
	(Washington) 405 166th Street, S.E.		
PENNSYLVANIA..... Philadelphia	KVA Sales Company	19111	215-728-5802
	7208 Rising Sun Avenue		
TEXAS Dallas	P. Kreager Company.....	75238	214-348-3521
	9230 Cliffmere Drive		
VIRGINIA Rockville.....	Quality Components	20851	301-933-1623
	(Maryland) Post Office Box 711		
WASHINGTON Seattle	The Al Smith Company.....	98004	206-746-6770
	405 166th Street, S. E. Bellevue		
CANADA.....Ontario	Aerovox Canada Ltd.		416-545-5893
	Post Office Box 106-Station C Hamilton		



Manufacturers' Local Offices

CSI — CARTER SEMICONDUCTOR INC.

374 Bay View Avenue, Amityville, Long Island, New York	Zip Code 11701	Telephone No. 516-598-0660	TWX 510-224-6691 Telex 96-7838
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CNS — CONTINENTAL SEMI-CONDUCTOR INC.

59 Central Avenue, Farmingdale, New York	Zip Code 11735	Telephone No. 516-694-3404	Telex 510-224-6444
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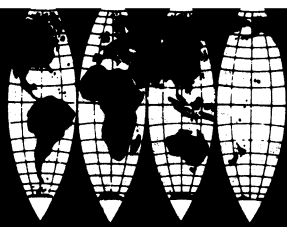
DEL — DELCO RADIO DIVISION General Motors Corporation

700 East Firmin Street, Kokomo, Indiana.....	Zip Code 46901	Telephone No. 317-457-8461 317-459-2175	TWX DLRA 3174525747
ILLINOIS Chicago*	Delco Radio Division 60656	312-775-5411	
	General Motors Corporation 5151 North Harlem Avenue		
NEW JERSEY Union*.....	Delco Radio Division..... 07083	Union 201-687-3770	
	General Motors Corporation Box 1018 Chestnut Station		
		N. Y. C. Area 212-962-6622	

*Office includes field lab and resident engineer for applications assistance

ETC — ELECTRONIC TRANSISTORS CORPORATION

153-13 Northern Boulevard, Flushing, New York	Zip Code 11354	Telephone No. 212-539-6700
CALIFORNIA Van Nuys.....	Tim-Co Sales Company..... 91406	213-873-4940
(Southern)	16024 Sherman Way	
OHIO..... Dayton.....	Lionel S. Fedotin 45405	513-275-9345
	3680 Dorset Drive	



Manufacturers' Local Offices

EMLS – EMIHUS MICROCOMPONENTS LIMITED

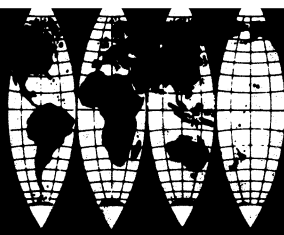
Glenrothes, Fife, Scotland	Telephone No.	TELEX
	Glenrothes 2261	72148
ENGLAND..... Middlesex.....	Emihus Microcomponents Ltd.....	Skyport 9584 23613
	Heathrow House	Skyport 9961
	Bath Road, Cranford	

FSC – FAIRCHILD SEMICONDUCTOR CORPORATION

Division of Fairchild Camera & Instrument Corporation, 313 Fairchild Drive,.....	Zip Code	Telephone No.	TWX
Mountain View, California	94040	415-962-5011	910-379-6435
			Cable Address: Fairsemco

FERB – FERRANTI LIMITED

Gem Mill, Chadderton, Oldham, Lancaster, England	Telephone No.	Telex
	061-624-6661	668038
ENGLAND	London	Ferranti Ltd.....
		Millbank Tower Millbank, London, S. W. 1
U. S. A.	New York.....	Ferranti Electric, Inc.....
		East Bethpage Road
		Plainview, Long Island, New York 11803
CANADA.....	Toronto	Ferranti Electronics.....
		A Div. of Ferranti-Packard Electric Ltd.
		Industry Street, Toronto 15, Ontario
AUSTRALIA	Sydney.....	Noyes Bros. Pty. Ltd.....
		General Post Office Box 1587, Sydney
DENMARK.....	Copenhagen.....	Fredslund Pedersen.....
		Finsensvej 39, Copenhagen F.
FRANCE.....	Paris.....	CERAM.....
		31, Rue du Docteur Finlay Paris 15e
GERMANY	Munich	Neumuller and Co. GmbH.....
		8 Munich 2, Karlstrasse, 55
	Cologne	Anglia Elektrotechnik
		5 Cologne 1
		Apostelnstrasse 1-3
ITALY	Milano	Messrs. Mottola Piazzetta U. Giordano 2
		20122 Milano
SWEDEN	Stockholm	Sonab Development A.B.
		Fack S-171 20 Solna



Manufacturers' Local Offices

GIC – GENERAL INSTRUMENT CORPORATION

	Zip Code	Telephone No.	TWX
Semiconductor Products Group, 600 West John Street, Hicksville, Long Island, New York	11802	516-733-3000	510-221-1866
CALIFORNIA.....Tarzana.....General Instrument Corporation..... 18455 Burbank Boulevard	91356	213-873-6500	910-493-1243
ILLINOISLincolnwood.....General Instrument Corporation	60646	312-774-7800	910-221-3125
7366 North Lincoln			
MASSACHUSETTS.....Westwood.....General Instrument Corporation	02090	617-329-1480	
33 Southwest Park			
NEW YORK.....Hicksville.....General Instrument Corporation	11802	516-733-3333	510-221-1866
(Sales Headquarters) Post Office Box 600			
CANADA.....Toronto.....General Instrument of Canada, Limited.....		416-249-1766	610-365-3415
Ontario 61 Industry Street			

INTERNATIONAL

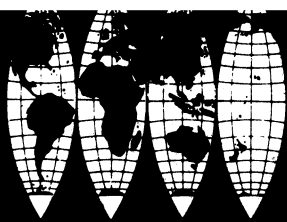
NEW YORK.....Hicksville.....General Instrument	11802	516-733-3322	Cable: Transistor Hicksville, New York
International Corporation 600 West John Street			
ITALYMilan.....General Instrument Europe S.P.A.....	20149	469-7751-2-3 469-7754-5	GINEUR 31454
Piazza Amendola 9			

IDC – INTERNATIONAL DIODE CORPORATION

	Zip Code	Telephone No.
90 Forrest Street, Jersey City, New Jersey	07304	201-432-7151

ITT – ITT SEMICONDUCTORS

	Zip Code	Telephone No.	Telex
3301 Electronics Way, West Palm Beach, Florida	33407	305-842-2411	513410
ENGLANDKent.....STC Semiconductors Ltd.		Footscray 3333	21836
Footscray, Sidcup			
FRANCELevallors, 92.....Intermetall Dep. Semiconductors		270 4200	626 27
de la SPI-ITT 86, rue de President Wilson			
GERMANYFreiburg.....Intermetall Halbleiterwerk.....		5171	72 716
der Deutsche ITT Ind. GmbH Post Office Box 840			
ITALY.....Milano.....ITT-S Filiale Italiana.....		46 96 183/198 /202	32 351
Piazza De Angeli Nr. 7			



Manufacturers' Local Offices

KMC — KMC SEMICONDUCTOR CORPORATION

Parker Road, Long Valley, New Jersey	Zip Code 07853	Telephone No. 201-876-3811	TWX 510-235-3350
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LUCB — JOSEPH LUCAS (ELEC.) LTD.

Mere Green Road, Four Oaks, Sutton Coldfield, Warwickshire, England		Telephone No. 021-308-3501	Telex 338461
GERMANY Koln	Joseph Lucas (Germany) G.m.b.H..... 505 Porz b. Koln Postfach 609	5.50.45	LUCA D 887431
FRANCE Paris	Lucas Service Europe..... Boite Postal 85 96 Boulevard du General Leclerc 92-Nanterre	204-54-65	25906 NANTR.

MEHK — MICROELECTRONICS LTD:

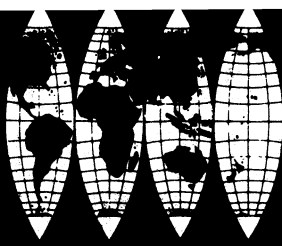
Post Office Box 9477, Kwun Tong, Kowloon, HongKong, B. C. C.....		Telephone No. K-892423	Telex HX3510
ENGLAND Wembley	York House	01-903-2721	934263
Middx.	Empire Way		

MITJ — MITSUBISHI ELECTRIC CORPORATION

Kita-Itami Semiconductors Works, 1 Zugaike, Ojika, Hyogo Ken, Itami-Shi, Japan	Telephone No. ITAMI 0727-82-5131 Cable KITAMELCO ITAMI
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MST — MS TRANSISTOR CORPORATION

East Gate Boulevard, Garden City, New York	Zip Code 11530	Telephone No. 212-478-3134	TWX 510-222-8258
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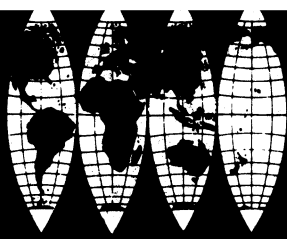
Manufacturers' Local Offices

MULB – MULLARD LIMITED

	Zip Code	Telephone No.	Telex
Mullard House, Torrington Place, London W.C. 1, England		01-580 -6633	264341 Cable Mullelectron London WC1
U. S. A. New York Mullard, Inc.	11735	516-694-8989	961455
100 Finn Court Farmingdale, Long Island			

NSC – NATIONAL SEMICONDUCTOR

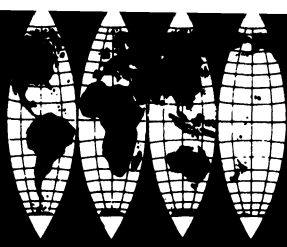
	Zip Code	Telephone No.	TWX
Microcircuits Division, 2900 Semiconductor Drive, Santa Clara, California	95051	408-732-5000	910-339-9240
CALIFORNIA Mountain View National Semiconductor	94040	415-961-4740	910-379-6432
2680 Bayshore Frontage Road Suite 112			
Sherman Oaks National Semiconductor.....	91403	213-783-8272	910-495-1773
Valley Freeway Center Building 15300 Ventura Boulevard Suite 305			
FLORIDA Pompano Beach National Semiconductor	33060	305-942-5850	
1010 East Atlantic Boulevard Suite 12			
ILLINOIS Chicago National Semiconductor	60631	312-613-2660	
8550 West Bryn Mawr Suite 302			
MARYLAND Towson National Semiconductor	21093	301-823-2151	710-232-1848
660 Kenilworth Drive			
MASSACHUSETTS Waltham National Semiconductor	02154	617-891-0510	710-326-7578
391 Totten Pond Road			
NEW JERSEY Fort Lee National Semiconductor.....	07024	201-461-6111	710-991-9795
West Cliffs House 2375 Hudson Terrace			



Manufacturers' Local Offices

NSC — NATIONAL SEMICONDUCTOR (Cont'd)

		Zip Code	Telephone No.	TWX
Microcircuits Division, 2900 Semiconductor Drive, Santa Clara, California.....		95051	408-732-5000	910-339-9240
NEW YORK Rochester	National Semiconductor.....	14624	716-235-1770	
	1190 Brooks Avenue Room 3			
TEXAS Garland	National Semiconductor	75040	214-276-0518	910-860-5097
	925 West Garland Avenue			
INTERNATIONAL				
DENMARK Copenhagen	National Semiconductor.....		0192-5610	Telex 6827 Magnaoe
	Vordengborggade 22 2110 Copenhagen OE			
ENGLAND Broxbourne	National Semiconductor		Hoddesdon 69571	267-204
	The Precinct (Hertfordshire)			
FRANCE Paris	National Semiconductor		736-6625	25956
	63, Route de la Garenne 92, Clamart			
GERMANY 891 Landsberg	National Semiconductor		08191-3573	527-223
	/Lech Lechstrasse 255			
	Munich		220702	
	National Semiconductor			
	Herzog-Rudolfstrasse 3/1 8 Munich 22			
JAPAN Tokyo	Electro-Marketing Corporation.....		359-4521	ELEMART TK4952
	Seiwa Building 3-7-11 Akasaka Minato-ku			
SCOTLAND Cumbernauld	National Semiconductor		25071	778632
	22/24 Napier Place Wardpark North			



Manufacturers' Local Offices

PHIC — PHILIPS ELECTRON DEVICES

Semiconductor Tube and Component Division of Philips Electronics Industries Ltd.
116 Vanderhoof Avenue, Toronto 17, Ontario, Canada.....

Telephone No. Telex
416-425-5161 02-2513

PIR — PIRGO ELECTRONICS

130 Central Avenue, Farmingdale, Long Island, New York

Zip Code Telephone No.
11735 516-694-9880-1
516-694-9882-3

This is an affiliate company to Sprague Electric Company—See location of field offices listed under Sprague Electric Company.

PPC — POWER PHYSICS CORPORATION

Industrial Way West, Post Office Box 626, Eatontown, New Jersey

Zip Code Telephone No.
07724 201-542-1393

CALIFORNIA Newport BeachPower Physics Corporation 92662
301 Marine Avenue
Post Office Box 381

714-675-1881

PTI — POWERTECH INC.

9 Baker Court, Clifton, New Jersey

Zip Code Telephone No. TWX
07011 201-478-6205 710-989-7057

QDC — QUALIDYNE CORPORATION

3699 Tahoe Way, Santa Clara, California

Zip Code Telephone No. TWX
95051 408-738-0120 910-339-9273

SCA — SEMICOA

940 South Ajax Avenue, City of Industry, California

Zip Code Telephone No. TWX
91744 213-965-2496

CALIFORNIA San LeandroWm. Parks Associates94579
(Northern) 15102 Chapel Court

415-357-4240

(Southern)..... Costa Mesa.....Rical Associates 92626
260 Nassau Road

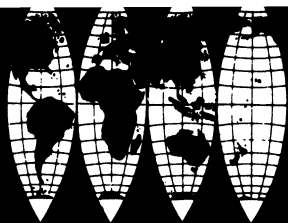
714-557-6543

ILLINOIS..... Chicago.....G. McL. Cole Company 60656
6514 West Higgins Road

312-774-3535 910-221-2929

MASSACHUSETTS.....Lexington.....Contact Sales Company 02173
49 Waltham Street

617-861-1550



Manufacturers' Local Offices

SES — SEMITRONICS CORPORATION

	Zip Code	Telephone No.	TWX
265 Canal Street, New York, New York.....	10013	212-226-5400	710-581-3978
CALIFORNIA Encino David Goldberg Sales Company	91316	213-986-0400	
17046 Burbank Boulevard			
PENNSYLVANIA Philadelphia..... David Linz	19111	215-379-0734	
238 Shelmire Street			
TEXAS Dallas..... Milton Loss	75201	214-368-2758	
7919 Royal Lane			

INTERNATIONAL

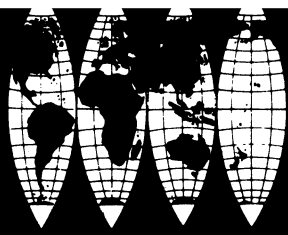
	Zip Code	Telephone No.	Telex
GERMANY 46 Dortmund Semitronics Corporation	0231-528065		HOBAR 822832
26 Bruderweg			

SHWG — SIEMENS AKTIENGESELLSCHAFT

	Zip Code	Telephone No.	Telex
Balanstrasse 73, 8000 Munich 80, Germany		0811-45901	05-22961
CANADA Montreal Siemens Canada, Limited		514-695-7300	05-26-7300
Post Office Box 7300			
Pointe-Claire P. Q.			
ENGLAND London..... Cole Electronics Limited		01-686-7581	262-346
Lansdowne Road			
Croyden CR9 2HB			
U. S. A. New Jersey Siemens Corporation	08830	201-494-1000	844491
186 Wood Avenue South			TWX
Iselin			710-998-0588

SEN — SENSITRON SEMICONDUCTOR

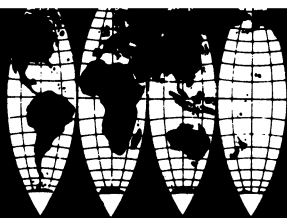
	Zip Code	Telephone No.
221 West Industry Court, Deer Park, New York	11729	516-586-7600



Manufacturers' Local Offices

ESMF — SOCIETE EUROPEENNE DES SEMICONDUCTEURS ET DE MICROELECTRONIQUE

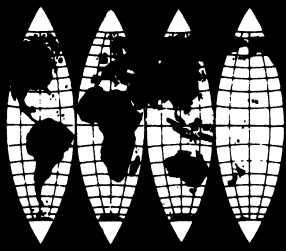
		Telephone No.	Telex
101 Bd Murat, 75-Paris-16E, France		525-75-75	28060
ARGENTINA	Buenos Aires		
	Corte Et Mon		
	San Juan 1 301		
AUSTRALIA	South Melbourne	69.26.29	Pantechna
	Pantechna Pty. Ltd.		
	8-12 Eastern Road		
AUSTRIA	A 1010—Wien	56.15.71	Inland 12 717
	Transalpina Electronica Ltda.		
	Elisabethstrasse 8		
BELGIUM	B1050 Bruxelles 5	49.29.54	23 113
	Thomson S.A.—N.V.		
	Avenue Louise 196A		
BRAZIL	Sao Paulo		Tesalfina Sao Paulo
	Thomson CSF do Brasil		
	Avenue Ibirapuera 2572		
CANADA	Ontario		
	E. G. Lomas Ltd.		
	227 Laurier Avenue		
	Ottawa 4		
CHILE	Santiago		
	Agencias Unidas Ltd.		
	Huerfanos 1078		
	Casella 119D		
DENMARK	Copenhagen ϕ	29.56.22	2771
	EV. Johanssen A/S		
	Scherfigsvej 1		
ENGLAND	London W5	579 18 57	Tesafi 25 659
	Thomson-CSF (U.K.) Ltd.		
	Bilton House		
	Uxbridge Road		
	Ealing		
FINLAND	Helsinki 25	49.01.37	Pierrejoly
	OY Sufrá AB		
	Ruusulankatu 20 A 12		
FRANCE	93-Bagnolet	287.49.99	
	Codirel		
	105, Rue Sadi-Carnot		
	92-Boulogne	604.10.20	
	Les Composants Electroniques		
	160, Route de la Reine		
	29N-Brest	(98) 44.88.00	
	Bellion et Cie		
	40, Quai de l'Quest		
	63-Clermont-	(73) 92.14.77	39.926
	Ferrand		
	Centre Electronique Diffusion		
	Rue Bernard-Brunhes		



Manufacturers' Local Offices

ESMF — SOCIETE EUROPEENNE DES SEMICONDUCTEURS ET DE MICROELECTRONIQUE (Cont'd)

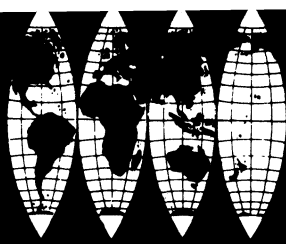
		Telephone No.	Telex
101 Bd Murat, 75—Paris—16e, France		525 75 75	28060
FRANCE			
92-Courbevoie	Cifte	333.37.50	
	50, Rue J. P. Timbaud		
38-Grenoble	Radialex	(76) 87.35.97	
	3, Rue Moyrand		
69-Lyon-6e	Radialex	(78) 24.51.78	30.238
	74, Rue Vendome	(78) 24.12.35	
13-Marseille-6e	Cabus et Raulot	(91) 47.58.10	
	49, Rue de Village		
93-Montreuil	Thomson-C.S.F. Composants Export	287.80.90	20936
sous Bois	128, Rue de Paris		
75-Paris-2e	Cie Continentale Electronique	508.12.42	
	33, Rue Vivienne		
76-Rouen	Elec trotechnique de Normandie	(35) 70.05.75	
	8, Rue de la Croix d'Yonville		
42-Saint-Etienne	Teissier J.J. S.A.	(77) 33 12 34	33 666
	2 Rue Basse des Rives		
59-Seclin	Side	(20) 59 67 72	82 520
	Zone Industrielle		
67-Strasbourg	Selfco	(88) 32 59 33	
	31 Rue du Fosse des Treize		
83-Toulon	Dimel	(94) 92.37.93	
	39, Avenue Marceau		
31-Toulouse	Sodimep	(61) 22.40.12	
	8, Rue Jean-Suau	(61) 22.41.88	
GERMANY			
(East)	Berlin 31		
	Thomson-C.S.F. Buro		
	Emserstrasse 2		
	Ecke Hohenzollerndamm		
(West)	8000 Munchen 25	811.73.10.42	522.916
	Sescosem Halbleiter GmbH		
	Fallstrasse 42		
INDIA			
Bombay 9	N. J. International Corporation		
	65, Ashok Chambers		
	Broach Street		



Manufacturers' Local Offices

ESMF — SOCIETE EUROPEENNE DES SEMICONDUCTEURS ET DE MICROELECTRONIQUE (Cont'd)

			Telephone No.	Telex
101 Bd Murat, 75-Paris-16E, France			525 75 75	28060
ISRAEL	Tel Aviv	Cidev		
		47, Rothschild Boulevard Post Office Box 2024		
ITALY.....	20 125 Milano	Mistral S. p. A.....	68 84 103	Ducati 31. 042
		Via Melchiorre Gioia, 72		
MEXICO	Mexico 6—D.F.....	Thomson-C.S.F. De Mexica.....		
		Hamburgo 108.301		
MOROCCO	Casablanca	Ste De Fabrications Radioelectriques Marocaines	921.23	
		32, Boulevard de La Resistance Palais Mirabeau		
NORWAY	Oslo 4	Feiring AS	21.82.12	6 435, feiring 0
		Sandakervein 46 B Box 4376, Torshov		
PORTUGAL.....	Lisboa.....	Sd. Com. Rualdo		
		Rua S. Jose 15		
SOUTH AFRICA	Dunswart	Allied Electric Pty.	52.43.41	Solidstate Dunswart
		Post Office Box 90		
	Johannesburg	Fuchs Electronics Pty. Ltd.....	836 75 26	J-7634
		191 Eloff Street Extension		
SPAIN	San Juan Despi.....	Componentes Electronicos S.A.	250.91.74	52 077
	(Barcelona)	Poligono Industrial Fontanta Calle H.S/N		
SWEDEN	S17 103 Solna 3.....	Elektroholm AB	82.02.80	1389
		Dalvagen 12 Post Office Box 305		
SWITZERLAND	CH3000 Berne 9.....	Modulator S.A.....	23.77.85	32.431
		Fischerweg 11-13		
THE NETHERLANDS..	La Haye	C.G.E.—Compagnie Generale D'Electricite N.V.	60.88.10	31 045
		Koninginnegracht 64		
	Amsterdam-C	Mijnssen and Co. N. V.....	23 95 43	14 065
		Keizersgracht 369 Post Office Box 123		
U. S. A.	Canoga Park.....	Nucleonic Products Company Inc.	213-887-1010	651 479
	(Calif. 91303)	6660 Variel Avenue		



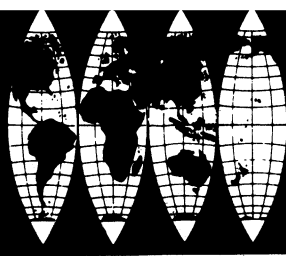
Manufacturers' Local Offices

SGSI – SOCIETA GENERALE SEMICONDUCTORI S.p.A.

		Telephone No.	Telex
Agrate Brianza, Via C. Olivetti, 1		65341/4	31436
ENGLAND	Aylesbury Bucks		
	SGS (United Kingdom) Ltd..... Walton Street	5977	83245
FRANCE	Paris 13e		
	SGS France SA..... 45 Rue Eugene Oudine	336 36 30	25938
GERMANY	809 Wasserburg		
	Inn SGS Deutschland GmbH..... Post Box 1269	2086	525743
ITALY	Milano		
	Societa Generale Semiconduttori Spa	31 57 49	
	Via Colonna, 9		
SWEDEN	19501 Marsta		
	SGS Semiconductor AB..... Postbox	0760/40120	10932
U. S. A.	California		
	Vara dyne Inc..... 1805 Colorado Avenue Santa Monica, California 90404	213-394-0271	910-343-6856

SSI – SOLID STATE DEVICES, INC.

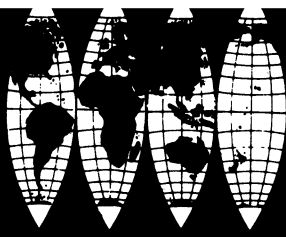
		Zip Code	Telephone No.	TWX
12741 Los Nietos Road, Santa Fe Springs, California		90670	213-698-0529	910-586-1881
ALABAMA	Birmingham			
	Technical Marketing	35209	205-871-5431	
	Post Office Box 5971			
ARIZONA	Phoenix			
	C. G. Associates	85018	602-947-6480	
	Post Office Box 15566			
CALIFORNIA	Mt. View			
	Nor-Cal Associates	94040	415-961-8121	910-379-6497
	2680 Bayshore Frontage Road Suite 404			
	Pasadena			
	William Kath Associates	91105	213-682-1377	
	255 West State Street			
	San Diego			
	Earle & Associates	92111	714-278-5441	
	4433 Convoy Street Suite A			
	Tustin			
	RMS Associates	92680	714-832-0878	
	13652 Fairmont Way			



Manufacturers' Local Offices

SSI — SOLID STATE DEVICES, INC. (Cont'd)

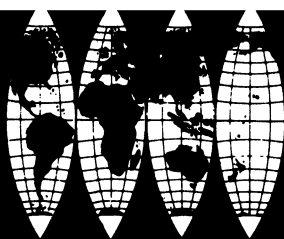
		Zip Code	Telephone No.	TWX	
12741 Los Nietos Road, Santa Fe Springs, California		90670	213-698-0529	910-586-1881	
FLORIDA	Orlando	Technical Marketing	32801	305-843-2500	810-850-0161
		1511 East Robinson			
	Hallandale	Technical Marketing	33009	305-563-8585	
		Post Office Box 127			
	St. Petersburg	Technical Marketing	33733	305-843-2500	
		Post Office Box 12196			
GEORGIA	Marietta	Technical Marketing	30060	404-435-0079	
		Post Office Box 1152			
ILLINOIS	Chicago	Communications Engineers	60645	312-761-0548	910-221-5004
		7106 North Western Avenue			
INDIANA	Fort Wayne	Communications Engineers	46802	219-743-9866	
		418 East Berry Street			
MASSACHUSETTS	Brookline	Technology Products Group	02146	617-731-0858	
		233 Harvard Street			
MINNESOTA	Minneapolis	Murphy Associates, Inc.....	55415	612-333-4511	910-576-3417
		730 Chicago Avenue			
NEW JERSEY	Cherry Hill	J. N. Barrett Associates, Inc.....	08034	609-429-1551	710-896-0881
		140 Barclay Center Route 70		215-627-0149	
	Riverdale	Comp-Tech Sales	07457	201-835-0332	
		Post Office Box 50			
NEW MEXICO	Albuquerque	J. Smith & Associates.....	87108	505-255-2111	
		Suite 1100 First Nat'l Bank .			
		Building E			
		5301 Central N. E.			
NEW YORK	Lynbrook	Comp-Tech Sales	11563	516-593-2628	
		Post Office Box 384			
	Manlius	Arthur L. Perkins Co.	13104	315-682-5005	
		Post Office Box 217			
NORTH CAROLINA	Greensboro	Technical Marketing	27405	919-274-2570	
		Post Office Box 6664			



Manufacturers' Local Offices

SSI – SOLID STATE DEVICES, INC. (Cont'd)

	Zip Code	Telephone No.	TWX
12741 Los Nietos Road, Santa Fe Springs, California	90670	213-698-0529	910-586-1881
OHIO Dayton Communications Engineers	45540	513-434-6871	
4809 Archmore Drive			
WASHINGTON Lynnwood Fred Broom Sales Co.	98036	206-774-6361	
Post Office Box 177 AM			
INTERNATIONAL			
CANADA Montreal Future Electronics Corp.	251	514-735-5775	610-421-3251
6655 Cote Des Neiges Suite 310			
ENGLAND London A. Marshall & Son		01-452-0161/2	Telex 21492 (COINST LDN)
28 Cricklewood Broadway			
FRANCE Billancourt Young Electronics			Telex 20740
117 Rue Daguesseau 92 Boulogne 604 1050			
GERMANY Offenbach Neutron		(0611)85363	
Bieberer Street 251 605			
ISRAEL Tel-Aviv Technical Development Co., Ltd.		31875	
8, Tayassim Road Post Office Box 14145			
PHILLIPINES Rizal D-713 Thermionic Devices & Supply Co.		60-34-85	
Room 306 Tanco Building 40 Shaw Boulevard Mandaluyong			



Manufacturers' Local Offices

SOD – SOLITRON DEVICES, INC.

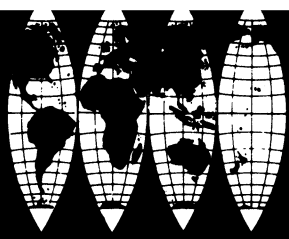
		Zip Code	Telephone No.	TWX	
Corporate Offices, 256 Oak Tree Road, Tappan, New York		10983	914-359-5050	710-576-2654	
CALIFORNIA	Canoga Park	Solitron Devices, Inc.	91303	213-883-3822	910-494-1238
		20944 Sherman Way			
	San Diego	Solitron Devices, Inc.	92123	714-278-8780	910-335-1221
		8808 Balboa Avenue			
FLORIDA	Riviera Beach	Solitron Devices, Inc.	33404	305-848-4311	510-952-6676
		1177 Blue Heron Blvd.			
ILLINOIS	Des Plaines	Solitron Devices, Inc.	60018	312-824-8127	910-233-2634
		2720 Des Plaines Avenue			
MARYLAND	Baltimore	Solitron Devices, Inc.	21218	301-243-0060	
		2530 N. Charles Street			
MASSACHUSETTS	Needham	Solitron Devices Inc.	92192	617-444-1152	710-325-7514
		52 Pickering Street			
TEXAS	Dallas	Solitron Devices, Inc.	75238	214-341-1180	910-861-4296
		10511 Church Street			
INTERNATIONAL					
ENGLAND	Kent	Solidev Ltd.....	(0732) 57541	Telex	
		Tubbs Hill House		95378	
		North Entrance, London Road			
		Sevenoaks			

SONY – SONY CORPORATION

7-35, Kitashinagawa-6, Shinagawa-Ku, Tokyo, Japan

Mail Address: Post Office Box 10
Tokyo Airport Post Office

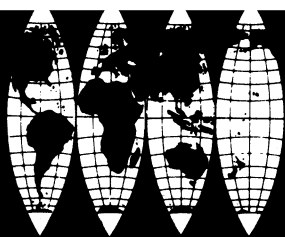
Telephone No. Telex
Tokyo 442-5111 SONYCORP TK2262



Manufacturers' Local Offices

SPR — SPRAGUE ELECTRIC COMPANY

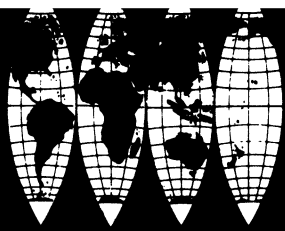
	Zip Code	Telephone No.	Telex
Semiconductor Division, 115 Northeast Cutoff, Worcester, Massachusetts	01606	617-853-5000	920467
ALABAMA Huntsville	Write to St. Ann, Missouri Office..... or call Operator and ask for WX4000	WX 4000 No charge for WX calls	442416
ARIZONAPhoenix.....	Sprague Electric Company85012 Guaranty Bank Building 3550 North Central Avenue	602-279-5435	667384
CALIFORNIASan Francisco	William J. Purdy of California..... 94010 770 Airport Boulevard Burlingame	415-347-7701	
(Northern)			
(Southern).....Los Angeles	Sprague Electric Company 90066 12870 Panama Street	L.A.213-870-0161 677579 S.M.213-391-0611	
(San Diego Cty) San Diego	KCE Corporation 92123 8850 Balboa Avenue	714-278-7640	
COLORADODenver	Sprague Electric Company 80222 1780 South Bellaire Street Suite 102	303-756-3611	45571
CONNECTICUTTrumbull	Sprague Electric Company 06611 Trumbull Park Business Center 935 White Plains Road	203-261-2551	964267
D. C.Washington	Sprague Electric Company..... 20016 3900 Wisconsin Ave., N.W.	203-261-2551	892410
FLORIDAOrlando	Sprague Electric Company 32802 Post Office Box 530	305-831-3636	564456
ILLINOISSchiller Park	Sprague Electric Company60176 9950 W. Lawrence Avenue	312-678-2262	254697
(Northern)			
(Southern)	Sprague Electric Company.....63074 500 Northwest Plaza St. Ann, Missouri	314-291-2500	442416
INDIANAIndianapolis	Sprague Electric Company 46205 2421 Willowbrook Parkway	317-253-4247	27452
MASSACHUSETTSBoston	Sprague Electric Company.....02158 343 Washington Street Newton	617-969-2520	
North Adams	Sprague Electric Company.....02147 Marshall Street	413-664-4411	926415



Manufacturers' Local Offices

SPR — SPRAGUE ELECTRIC COMPANY (Cont'd)

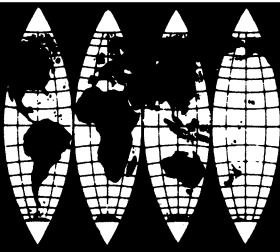
	Zip Code	Telephone No.	Telex
Semiconductor Division, 115 Northeast Cutoff, Worcester, Massachusetts	01606	617-853-5000	920467
 MICHIGAN Jackson Sprague Electric Company	 49203	 517-787-3934	
	515 South West Avenue		
 MINNESOTA Minneapolis H. M. R. Inc.....	 55454	 612-335-7734	
	9 East 22nd Street		
 MISSOURI St. Ann Sprague Electric Company.....	 63074	 314-291-2500	 442416
	500 Northwest Plaza		
 NEW JERSEY Wayne Sprague Electric Company.....	 07470	 201-696-8200	 133409
(Northern)	1479 Route 23		
 (Southern)..... Cherry Hill Sprague Electric Company.....	 08034	 609-667-4444	 834598
	1050 North Kings Highway	215-467-5252(Phila.)	
 NEW MEXICO Albuquerque C. T. Carlberg & Associates.....	 87110	 505-265-1579	
	Post Office Box 3177 Station D		
 NEW YORK New York City Sprague Electric Company	 11746	 516-549-4141	 961378
	60 Broad Hollow Road Melville		
	EastchesterWilliam Rutt, Inc.....	 914-779-4100	
	475 White Plains Road		
	Syracuse Sprague Electric Company	 315-437-7311	
	2002 Teall Avenue		
 NORTH CAROLINA ... Winston Salem Sprague Electric Company.....	 27101	 919-722-5151	 806422
	928 Burke Street		
 OHIO Cleveland Sprague Electric Company.....	 44022	 216-247-6488	
(Northern)	24 North Main Street Chagrin Falls, Ohio		
 (Southern)..... Dayton Sprague Electric Company	 45404	 513-223-9187	 288061
	224 Leo Street In Cincinnati, Call Operator and ask for ENterprise 3-8805 No Charge for Enterprise calls.		
 PENNSYLVANIA(Eastern) Sprague Electric Company	 08034	 215-467-5252(Phila.)	
	1050 North Kings Highway Cherry Hill, New Jersey	609-667-4444(Cherry Hill)	834598
	(Western) Sprague Electric Company.....	 216-247-6488	
	44022 24 North Main Street Chagrin Falls, Ohio		



Manufacturers' Local Offices

SPR — SPRAGUE ELECTRIC COMPANY (Cont'd)

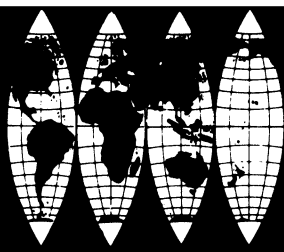
	Zip Code	Telephone No.	Telex
Semiconductor Division, 115 Northeast Cutoff, Worcester, Massachusetts	01606	617-853-5000	920467
TEXAS			
Dallas	Sprague Electric Company.....75080	214-235-1256	732399
	Suite 545 First Bank and Trust Bldg. Richardson, Texas		
WASHINGTON			
Seattle	Sprague Electric Company.....98103	206-632-7761	32367
	4601 Aurora Avenue North		
CANADA			
Toronto	Sprague Electric of Canada, Ltd.....	416-766-6123	0229930
	10 Bertal Road Toronto 15, Ontario		
Montreal.....	Sprague Electric of Canada, Ltd.	514-747-7811	
	860 Decarie Boulevard Ville St. Laurent, Ontreal 9, P.O.		
EUROPE			
England	Sprague Electric (U.K.) Ltd.....	West Drayton 4627	261524
	Sprague House 159 High Street Yiewsley, West Drayton, Middlesex		
France	Sprague France S.A.R.L.	655-19-19	Sprague 25697F
	2 Avenue Aristide Briand 94-Arcueil		
West Germany	Sprague GmbH.....	0611-439407	414008
	Friedberger Anlage 24 6000 Frankfurt am Main		
Italy	Sprague-Creas S.p.A.	40-34-245	32012
	Viale Legioni Romane, 27 20147 Milano		
	Sprague-Creas S.p.A.	83-33-96	
	Via Costantino Maes 82 Int. 2-B Palazzino 00162 Rome		
Switzerland	Sprague World Trade Corporation	(051) 47-01-33	53876
	Farberstrasse 6 8008 Zurich		
FAR EAST			
Hong Kong	Sprague World Trade Corporation	(H)617322	780-3395
	Post Office Box 14289		



Manufacturers' Local Offices

TADI – TADIRAN

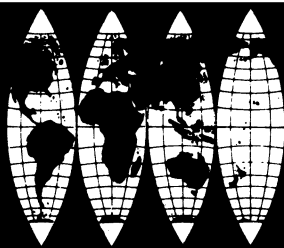
		Telephone No.	Cable
Israel Electronics Industries Limited	3 Derech Hashalom (Post Office Box 648), Tel-Aviv, Israel	254222	TADIRAN Telex 033-537
HOLLAND	The Hague Ingenieursbureau	070-67.83.80	INKOHA
	Koning en Hartman Koperwerf 30		
BELGIUM	Bruxelles Neutron Electronics S. A.	38 61 73	CETEREL
	37, Rue de Florence		
DENMARK	Copenhagen Paul Lovhoj	(01) 39 2112	PAULEMI COPENHAGEN
	Meinungsgade 30		
SWEDEN	Stockholm ALLHBO, Allmanna	22 46 00	ALLHABO
	Handelsaktiebolaget, Stockholm 49 Box 49044 (Alstronnergatan 20)		
GERMANY	1 West Berlin 12 H. J. Stoockle Industrievertrieb	84 25 06	
	Abt. Technik Elektronik Jebenstrasse 1/2		
ITALY	Rome Dr. Ing. Luigi Rebecchini	46 55 74	
	Dr. Marco Calabresi Via XX Settembre 4		
SWITZERLAND	Zurich Metronic - AG	051/41 84 84	METRONIC ZURICH
	CH 8051 Zurich Postfach Dubendorfstrasse 333		
FINLAND	Helsinki KO-MA	57 84 33	TOUR
	Huovitie 3, Helsinki 40 Helsinki 40		
SOUTH AFRICA	Johannesburg Identronics Proprietary Limited	83 49 71/2/3	FORMSHEER JOHANNESBURG
	Manufacturers' Representatives Professional Electronic Components Sheerline House, 24 Weber Street Selby, Johannesburg Post Office Box 7, Jeppestown, Transvaal		



Manufacturers' Local Offices

TES – TELEDYNE SEMICONDUCTOR

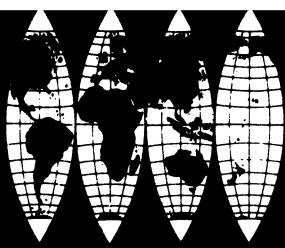
		Zip Code	Telephone No.	TWX
12515 Chadron Avenue, Hawthorne, California.....		90250	213-772-4551	910-325-6217 Telex 65-3422
CALIFORNIA	Anaheim	Teledyne Semiconductor92804	714-635-3171	Telex 65-5433
		910 S. Brookhurst Avenue		
	Mountain View	Teledyne Semiconductor.....94040	415-968-9241	910-478-6494 Telex 34-8416
		1300 Terra Bella Avenue		
	Palo Alto	Teledyne Semiconductor.....94303	415-321-4681	910-373-1750
		800 San Antonio Road		
FLORIDA	Winter Park	Teledyne Semiconductor.....32789	305-647-7813	810-853-0254
		124 E. Morse Blvd.		
ILLINOIS	Des Plaines	Teledyne Semiconductor60018	312-299-6196	910-233-0897
		6600 N. Mannheim Road		
MARYLAND	Lutherville	Teledyne Semiconductor.....21093	301-825-1920	710-232-1855
		1524 York Road		
MASSACHUSETTS	Westwood	Teledyne Semiconductor.....02090	617-326-6600	710-394-6549
		805 W. High Street		
NEW JERSEY	Little Falls	Teledyne Semiconductor06424	201-256-8557	710-988-5719
		19 E. Main Street		
NEW YORK	Liverpool	Teledyne Semiconductor13088	315-622-3413	
		312 Riverglen Road		
	Wappingers Fall	Teledyne Semiconductor.....12590	914-297-4316	510-248-0053
		895 South Road, Suite 7		
OHIO	Dayton	Teledyne Semiconductor.....45439	513-298-7207	810-459-1867
		3481 Office Park Drive		
TEXAS	Dallas	Teledyne Semiconductor75235	214-357-0259	910-861-4409
		6115 Denton Drive		
INTERNATIONAL				
WEST GERMANY	6200 Wiesbaden	Teledyne Semiconductor.....	06121-372820	8414186581
		56 Schone Aussicht No. 56		
HONG KONG	Kowloon	Teledyne Semiconductor	K207764	7803549
		10 Sam Chuk Street, First Floor San Po Kong		



Manufacturers' Local Offices

TII – TEXAS INSTRUMENTS INCORPORATED

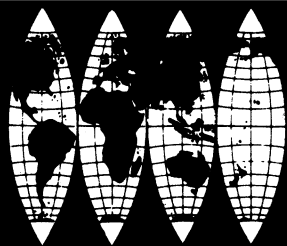
	Zip Code	Telephone No.	
Components Group, 13500 North Central Expressway, Post Office Box 5012, Dallas, Texas	75222	214-238-2011	
ALABAMA Huntsville	Texas Instruments..... 35801	205-881-4061	
	Sahara Office Park Building Suite 111, 3313 Memorial Parkway, S. W.		
ARIZONA Phoenix	Texas Instruments..... 85012	602-279-5531	
	3550 N. Central Ave. Suite 1702		
CALIFORNIA	Hollywood	Texas Instruments 90028	213-466-7251
		1800 North Argyle Avenue	
	Inglewood	Texas Instruments..... 90301	213-673-3943
		5005 West Century Boulevard Suite 208	
	Palo Alto	Texas Instruments 94306	415-326-6770
		230 California Avenue Suite 201	
	Santa Ana	Texas Instruments 92701	714-547-6506
		1505 East 17th Street Suite 201	
	San Diego	Texas Instruments..... 92117	714-279-2622
		5252 Balboa Avenue Suite 805	
COLORADO	Denver	Texas Instruments 80222	303-758-2151
		2186 South Holly Street Suite 205	
CONNECTICUT	Woodbridge	Texas Instruments..... 06525	203-389-4521
		300 Amity Road	



Manufacturers' Local Offices

TII – TEXAS INSTRUMENTS INCORPORATED (Cont'd)

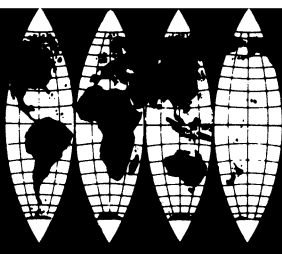
		Zip Code	Telephone No.	
Components Group, 13500 North Central Expressway,		75222	214-238-2011	
Post Office Box 5012, Dallas, Texas				
FLORIDA	Fort Lauderdale	Texas Instruments	33311	305-566-3294
		601 West Oakland Park Blvd.		
	Orlando	Texas Instruments	32801	305-644-3535
		Orlando Executive Park		
		5400 Diplomat Circle		
		Diplomat Building		
		Suite 252		
	St. Petersburg	Texas Instruments	33704	813-898-0807
		3530 First Avenue North		
ILLINOIS	Chicago	Texas Instruments	60646	312-286-1000
		Executive Towers		
		Suite 205		
		5901 North Cicero Avenue		
MASSACHUSETTS	Waltham	Texas Instruments.....	02154	617-891-8450
		60 Hickory Drive		
MICHIGAN	Southfield	Texas Instruments.....	48075	313-352-5720
		Suite 706 West		
		Northland Towers Bldg.		
		15565 Northland Drive		
MINNESOTA	Edina	Texas Instruments	55435	612-941-4384
		7615 Metro Blvd.		
		Suite 202, A. I. C. Bldg.		
NEW JERSEY	Springfield	Texas Instruments.....	07081	201-376-9400
		25 U. S. Highway No. 22		
		Post Office Box 366		
NEW YORK	Endicott	Texas Instruments	13760	607-785-9987
		112 Nanticoke Avenue		
		Post Office Box 618		
	Fishkill	Texas Instruments.....	12524	914-896-6793
		167 Main Street		
	New Hyde Park	Texas Instruments	11040	516-488-2200
		4 Nevada Drive		
	Syracuse	Texas Instruments	13206	315-463-9291
		6563 Ridings Road		



Manufacturers' Local Offices

TII – TEXAS INSTRUMENTS INCORPORATED (Cont'd)

		Zip Code	Telephone No.
Components Group, 13500 North Central Expressway,		75222	214-238-2011
Post Office Box 5012, Dallas, Texas			
OHIO	Cleveland	Texas Instruments	44122 216-464-1192
		23811 Chagrin Boulevard	
		Suite 100	
	Dayton	Texas Instruments	45439 513-298-7513
		Paul Welch Building	
		Suite 205	
		3300 South Dixie Drive	
PENNSYLVANIA	Jenkintown	Texas Instruments.....	19046 215-885-3454
		Benjamin Fox Pavilion	
		Suite 424	
		Foxcroft Square	
TEXAS	Dallas	Texas Instruments	75222 214-238-6771
		MS-366 SRO Department	
		2620 Nova Drive,	
		Post Office Box 5012	
		Mail Station 366	
		Texas Instruments	75222 214-238-2616
		MS-288 TIEG Department	
		Post Office Box 5012	
		Mail Station 288	
	Houston	Texas Instruments	77006 713-526-3268
		3609 Buffalo Speedway	
WASHINGTON	Seattle	Texas Instruments.....	98108 206-762-4240
		5801 Sixth Avenue South	
WASHINGTON	D. C	Texas Instruments	20009 202-234-9320
		1875 Connecticut Avenue, N. W.	
		Suite 913	
CANADA	Ontario	Texas Instruments	416-889-7373
		280 Centre Street West	
		Richmond Hills	
	Ontario	Texas Instruments.....	613-825-3716
		5F Caesar Avenue	
	Quebec	Texas Instruments.....	514-631-6010
		723 Halpern, Dorval	



Manufacturers' Local Offices

TAGS – TRANSISTOR AG

Hohlstrasse 610, Zurich, Switzerland	Zip Code 8048	Telephone No. 62 5611	Telex 53809
--	-------------------------	---------------------------------	-----------------------

UNI – UNITRODE CORPORATION

580 Pleasant Street, Watertown, Massachusetts	Zip Code 02172	Telephone No. 617-926-0404	TWX 710-327-1296
CALIFORNIA Sherman Oaks Unitrode Corporation.....	91403	213-783-1301	910-495-1769
15300 Ventura Blvd. Suite 410			
NEW YORK Union, N.J. Unitrode Corporation	07083	201-687-0500	
420 Chestnut Street Suite 20			
OHIO West Carrollton Unitrode Corporation.....	45449	513-435-9580	
2612 Prelude Path			

WESY – WESTINGHOUSE ELECTRIC CORPORATION

Semiconductor Division, Youngwood, Pennsylvania.....	Zip Code 15697	Telephone No. 412-925-7272
CALIFORNIA Los Angeles	Westinghouse Electric Corporation	90017
	600 St. Paul Avenue	213-482-9660
..... Sunnyvale	Westinghouse Electric Corporation.....	94088
	Building 73 Handy Avenue	408-735-2191
FLORIDA Orlando.....	Westinghouse Electric Corporation	32184
	1010 Executive Center Drive	305-841-3421
ILLINOIS Chicago.....	Westinghouse Electric Corporation.....	60606
	10 South Riverside Plaza	312-461-7200
MASSACHUSETTS Boston.....	Westinghouse Electric Corporation	02199
	800 Boylston Street	617-542-0600
MINNESOTA Minneapolis	Westinghouse Electric Corporation	55416
	3501 South Highway 100	612-927-6551
NEW YORK Mineola.....	Westinghouse Electric Corporation	11501
	1501 Franklin Avenue	516-248-9810
OHIO Cleveland	Westinghouse Electric Corporation	44113
	55 Public Square	216-579-2174
..... Dayton.....	Westinghouse Electric Corporation	45404
	1306 Farr Drive	513-461-3720

SECTION 18

SEMICONDUCTOR MOUNTING HARDWARE AVAILABILITY

Manufacturer's Capability Grid

Company Name & Address	FSCM No.	Free Convection Dissipators	Forced Convection Dissipators	Thermal Connector Dissipator	Sockets	ASSOCIATED HARDWARE
Aavid Engineering Inc. 43 Porter Street Melrose, Massachusetts 02176		X		X		
Accel Industrial Heat Sink Corp. 3040 N. San Gabriel Blvd. So. San Gabriel, California 91777	26701	X				
Admiral Plastics Corp. 3462 San Fernando Road Los Angeles, California 90065						Conversion Pads
Alpha Components Corp. 4087 Glencoe Avenue Venice, California 90291		X		X		
Amaton Electronic Hardware Co., Inc. 81 Rockdale Avenue New Rochelle, New York 10802				X		
AMP Inc. Box 3608 Harrisburg, Pennsylvania 17105						Mounting Hardware Lead Sockets Mounting Tools
Astrodyne Inc. 207 Cambridge Street Burlington, Massachusetts 01083	28023	X	X	X		Mounting Hardware
Atlee Corp. 2 Lowell Avenue Winchester, Massachusetts 01890	99378			X		
Augat Inc. 33 Perry Avenue Attleboro, Massachusetts 02703	91506	X		X	X	Insulator Pads Lead Sockets Mounting Tools
Barnes Corporation 24 N. Lansdowne Avenue Lansdowne, Pennsylvania 19050	99779				X	Mounting Hardware Lead Sockets
The Birtcher Corporation Industrial Division 745 Monterey Pass Road Post Office Box D Monterey Park, California 91754	07387	X		X		
Brush Beryllium Co. Metal and Oxide Division Elmore, Ohio 43416						Insulator Pads

Manufacturers shown in bold print have local offices which are included in Section 19 of this D.A.T.A.BOOK

SECTION 18

SEMICONDUCTOR MOUNTING HARDWARE AVAILABILITY

Manufacturer's Capability Grid

Company Name & Address	FSCM No.	Free Convection Dissipators	Forced Convection Dissipators	Thermal Connector Dissipator	Sockets	ASSOCIATED HARDWARE
Cambion; Cambridge Thermonic Corp. 445 Concord Avenue Cambridge, Massachusetts 02138					X	Mounting Tools
Chemlac Products Inc. 8 Fellowship Road Cherry Hill, New Jersey 08034					X	
Cinch-Monadnock Div. of United-Carr, Inc. 530 Main Street Fort Lee, New Jersey 07024					X	Insulator Pads
Carl Cordover and Co. 104 Liberty Avenue Mineola, New York 11501		X				
Daburn Electronics & Cable Co. 2360 Hoffman Street Bronx, New York 10458				X		Insulator Pads
Daedalus Co. 1338 S. Atlantic Blvd. Los Angeles, California 90022		X		X		
Data Device Corp. 100 Tec Street Hicksville, New York 11801					X	
Delbert Blinn Co. P. O. Box 2007 Pomona, California 91766	08289	X		X		Hardware Kits Mounting Hardware Insulator and Conversion Pads
Delco Radio Division General Motors Corp. 700 E. Firmin Street Komomo, Indiana 46901	16758	X				Hardware Kits Insulator Pads
Eby, Hugh H., Co. Division of Redm. Corp. 4701 Germantown Avenue Philadelphia, Pennsylvania 19144	72825				X	

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SECTION 18

SEMICONDUCTOR MOUNTING HARDWARE AVAILABILITY

Manufacturer's Capability Grid

Company Name & Address	FSCM No.	Free Convection Dissipators	Forced Convection Dissipators	Thermal Connector Dissipator	Sockets	ASSOCIATED HARDWARE
Elco Corporation Maryland Rd. & Computer Avenue Willow Grove, Pennsylvania 19090	91662				X	
Electronic Molding Corp. 44 Church Street Pawtucket, Rhode Island 02860	17117				X	
Fabri-Tek Inc. National Connector Division 9210 Science-Center Drive Minneapolis, Minnesota 55428					X	
General Electric Co. Silicone Products Division Waterford, New York 12188						Thermal Joint and Potting Compound
Globe Plastics 1342 So. Signal Drive Pomona, California 91766						Conversion Pads
Grayhill, Inc. 561 Hillgrove Avenue LaGrange, Illinois 60525	81073				X	
IFE Division of Plastic Molding & Engineering Co. 25 Tripps Lane E. Providence, Rhode Island 02914					X	
Industrial Electronic Hardware Corp. 109 Prince Street New York, New York 10012	97913				X	Mounting Hardware
International Electronic Research Corp. 135 W. Magnolia Blvd. Burbank, California 91502	98978	X	X	X		Mounting Hardware
Loranger Manufacturing Corporation Post Office Box 948 Warren, Pennsylvania	11535				X	Mounting Hardware
MacDonald and Co. 213 South Brand Blvd. Glendale, California 91204	13102					Mounting Tools

Manufacturers shown in bold print have local offices which are included in Section 19 of this D.A.T.A.BOOK

SECTION 18

SEMICONDUCTOR MOUNTING HARDWARE AVAILABILITY**Manufacturer's Capability Grid**

Company Name & Address	FSCM No.	Free Convection Dissipators	Forced Convection Dissipators	Thermal Connector Dissipator	Sockets	ASSOCIATED HARDWARE
Mauratron Inc. 13333 N. Central Expwy. Dallas, Texas 75231				X		
Modular Devices Inc. 1265 West 135th Street Gardenia, California 90247		X				
Precision Bipbraze Tor 14715 Arminta Street Van Nuys, California 91402	15957	X	X	X		Custom Precision Molding
Reliance Mica Co., Inc. 341 39th Street Brooklyn, New York 11232	08530					Insulator Pads
Risk, George Industries 672 15th Avenue Columbus, Nebraska 68601	24229	X		X		Insulator Pads Joint Compound
Robinson-Nugent Inc. 802 East 8th Street New Albany, Indiana 47150	06776				X	Conversion Pads Mounting Tools
Robison Electronics Inc. 2134 West Rosecrans Avenue Gardenia, California 90249						Conversion Pads
Ross, The Milton, Co. 511 Second Street Pike South Hampton, Pennsylvania 18966	07047				X	Lead Sockets
Space Products Inc. 6631 Sarnia Avenue Long Beach, California 90805	10012					Conversion Pads
The Staver Company, Inc. 41 No. Saxon Avenue Bay Shore, New York 11706	04232	X		X		Insulator Pads
Stauffer-Walker Silicone Corp. Silicone Division 299 Park Avenue New York, New York 10017						Thermal Joint Compound
Thermalloy Company 8719 Diplomacy Row Dallas, Texas 75247	13103	X	X	X		Insulator Pads

Manufacturers shown in bold print have local offices which are included in Section 19 of this D.A.T.A.BOOK

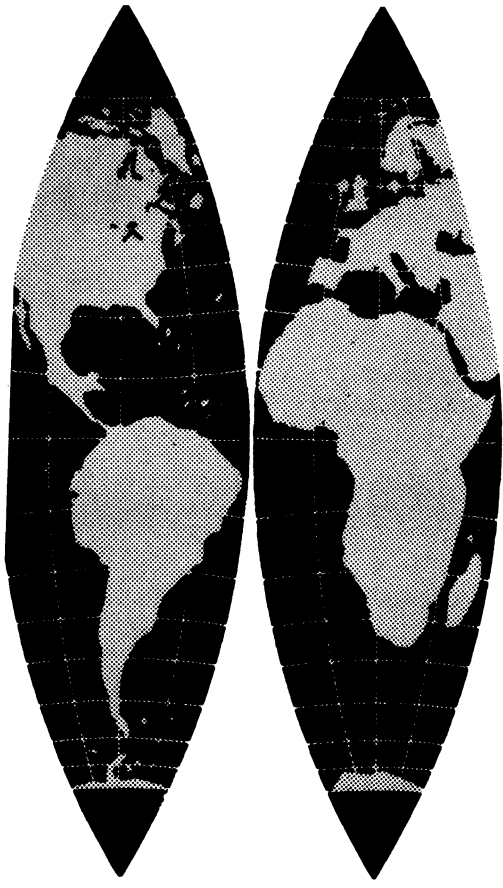
SECTION 18

SEMICONDUCTOR MOUNTING HARDWARE AVAILABILITY

Manufacturer's Capability Grid

Company Name & Address	FSCM No.	Free Convection Dissipators	Forced Convection Dissipators	Thermal Connector Dissipator	Sockets	ASSOCIATED HARDWARE
UID Electronics Corp. 4105 Pembroke Road Hollywood, Florida 33021	22753				X	
U. S. Terminals Inc. 7502 Camargo Road Cincinnati, Ohio 45243					X	
Vector Electronic Co., Inc. Flower and Grandview Glendale, California 91201	82893				X	Mounting Tools
Wakefield Engineering Teal & Audubon Roads Wakefield, Massachusetts 01880	05820	X	X	X		Mounting Hardware Insulator Pads Thermal Adhesives and Joint Compounds. Mounting Tools
Waldom Electronics Inc. 4633 West 53rd Street Chicago, Illinois 60632	92219				X	
Waterbury Pressed Metal Co. 407 Brookside Road Waterbury, Connecticut 06720				X		

Manufacturers shown in bold print have local offices which are included in Section 19 of this D.A.T.A.BOOK



SECTION 19

MOUNTING HARDWARE

Manufacturer's Local Offices

Since mounting hardware is so closely related to the use of solid-state devices, this section of Mounting Hardware Manufacturers Local Offices will provide you with nearby sources of product information.

DELBERT BLINN COMPANY, INC.

Post Office Box 2007, 1678 East Mission Boulevard, Pomona, California	Zip Code 91756	Telephone No. 714-623-1257
---	-------------------	-------------------------------

LORANGER MANUFACTURING COMPANY

Post Office Box 948, Warren, Pennsylvania	Zip Code 16365	Telephone No. 814-723-8600		
ARIZONA..... Scottsdale	Allen Associates	85251	602-946-4903	
	120 East 6th Avenue			
CALIFORNIA..... Long Beach	Scranton Engineering Inc.....	90815	213-421-8951	
	2750 Bellflower Boulevard Suite 212			
	San Jose	Reyko Sales Company.....	95126	408-246-1556
		2136 The Alameda		
COLORADO	IMSCO	85251	602-946-2447	
UTAH	8650 East Montebello Scottsdale, Arizona			
TEXAS..... Dallas	T. M. Curtis Company, Inc.	75206	214-361-1666	
	5635 Yale Boulevard			

NOTES

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SECTION 20 MANUFACTURERS CODES, NAMES & ADDRESSES



GPL MFR. DESIG.	FSCM No.	DATA MFRS. CODE	
			- AKER - A/S Akers Electronics, Forskningsvn, 1, Horten, Norway
			ANOA - Anodeon Semiconductor Division, Electronics Park, Hamilton Street, Huntingdale, Victoria, Australia
CDGW-73445			- APX - Amperex Electronic Corp., Semiconductor and Receiving Tube Division, Slatersville, Rhode Island 02876
CCYS -			- ASC - American Semiconductor Corp., 4 North Hickory Avenue, Arlington Heights, Illinois 60004
			ATEI - (ATES) Componenti Elettronici S.p.A., Via Tempesta 2, Milano, Italy
			BELI - Bharat Electronics Limited, Jalahalli PO, Bangalore.13, South India
			BNT - Burns & Towne Inc., 18-36 Granite Street, Haverhill, Massachusetts 01830
- 12549			- CDLF - Compagnie Industrielle Francaise Des Tubes Electroniques, 50 Rue J. P. Timbaud, Courbevoise 92, France
			CNS - Continental Semi-Conductor Inc., 59 Central Avenue, East Farmingdale, New York 11735
CCZX - 12498			- CRY - Crystalsonics Division, Teledyne Inc., 147 Sherman Street, Cambridge, Massachusetts 02140
			CSI ★ Carter Semiconductor, Inc., 374 Bay View Avenue, Amityville, Long Island, New York 11701
CGM - 16758			- DEL - Delco Radio Division, General Motors Corporation, Kokomo, Indiana 46901
			DETM - Delsa-Toshiba, S.A., Calzada Aurora No. 303, Cuautitlan, Edo de Mexico
CCZL - 12954			- DIC - Dickson Electronics Corporation, Post Office Box 1390, Scottsdale, Arizona 85252
			ECD - Unisem Corporation, Trevoze, Pennsylvania 19047
			EMLS - Emihus Microcomponents Limited, Glenrothes, Fife, Scotland
			ESMF - Societe Europeenne De Semiconducteurs, Et De Microelectronique, 101 Boulevard Murat, Paris 16e, France
- 12045			- ETC - Electronic Transistors Corporation, 153-13 Northern Boulevard, Flushing, New York 11354
- 26611			- FCAJ - Fujitsu Ltd., No. 1015 Kamikodanaka, Kawasaki, Japan
- 12264			- FERB - Ferranti Ltd., Gem Mill, Chadderton, Oldham, Lancs., England
CFJ - 07263			- FSC - Fairchild Semiconductor Corporation, 440 Middlefield Road, Mountain View, California 94041
CG - 03508			- GESY - General Electric Co., Semicon. Prod. Dept., Electronic Comp. Div., Northern Concourse Bldg., Northern Lights, N. Syracuse, N.Y. 13212
CAKK - 14936			- GIC - General Instrument Corporation, Post Office Box 600, Hicksville, New York 11802
			GSI - General Sensors, Inc., Post Office Box 231, Athens, Texas 75751
- 92645			HITJ - Hitachi, Ltd., Electronic Device & Lightning Apparatus Div., Nippon Building No. 8, 2-chome, Ontemachi, Chiyoda-ku, Tokyo, Japan
			HSC - Helios Semiconductor, 11762 Western Avenue, Post Office Box 293, Stanton, California 90680
			IDC - International Diode Corporation, 90 Forrest Street, Jersey City, New Jersey 07304
- 17884			- INTG - Intermetall, Halbleiterwerk der, Deutsche ITT Industries GmbH, 78 Frieberg im Breisgau, Hans-Bunte Strabe 19, Germany
CCUX - 08225			- ITC - Industro Transistor Corporation, 35-10 36th Avenue, Long Island City, New York 11106
CIT - 15238			- ITT - ITT Semiconductors, 3301 Electronics Way, West Palm Beach, Florida 33407
- 20754			- KMC - KMC Semiconductor Corporation, Parker Road, R.D. 2, Long Valley, New Jersey 07853
COBS - 14805			- KSC - KSC Semiconductor Corporation, KSC Way (Katrina Road), Chelmsford, Massachusetts 01824
- 18822			- LTTF - Lignes Telegraphiques and Telephoniques, Conflans-Sainte-Honorine (Seine Et Oise), France
			LUCB - Joseph Lucas (ELEC.) Ltd., Mere Green Works, Mere Green Road, Four Oaks, Sutton Coldfield, Warwickshire, England
- 01619			- MATJ - Matsushita Electronics Corp.; Saiwaicho 1-1 Takatsuki, Osaka, Japan
			MEHK - Micro Electronics Ltd., Kwun Tong, Hong Kong
			MINA - Miniwatt, Div. of Philips Electrical Pty. Ltd., 20 Herbert Street, Artarmon, N.S.W., Australia
			MISI - Mistral S.p.A., Via Melchiorre Gioia, 72, 20125 Milano, Italy
- 90144			- MITJ - Mitsubishi Electric Corporation, 2-12 Marunouchi, Chiyoda-ku, Tokyo, Japan
CGG - 04713			- MOTA - Motorola Semiconductor Products, 5005 East McDowell Road, Phoenix, Arizona 85008
- 24433			- MST - MS Transistor Corporation, East Gate Boulevard, Garden City, New York 11530
CCWV - 92726			- MULB - Mullard Limited, Mullard House, Torrington Place, London W.C. 1, England
- 94091			NECJ - Nippon Electric Co., Ltd., 1753 Shimonumabe, Kawasaki City, Japan
			NJS - New Jersey Semiconductor Products, Inc., 20 Commerce Street, Springfield, New Jersey 07081
- 08257			- NPC - Nucleonic Products Co., Inc., Nucleonic Components Devices Division, 6660 Variel Avenue, Canoga Park, California 91303
CCXP - 12040			- NSC - National Semiconductor Corporation, Post Office Box 443, Danbury, Connecticut 06810
			NTLB - Newmarket Transistors Ltd., Exning Road, New Market, Cambridge, England
- 36204			- PHIC - Philips Electron Devices, Ltd., 116 Vanderhoof Avenue, Toronto 17, Ontario, Canada

★ New Manufacturers

Manufacturers shown in bold print have local offices which are included in Section 17

SECTION 20 MANUFACTURERS CODES, NAMES & ADDRESSES



QPL MFR. DESIG.	FSCM No.	DATA MFRS. CODE	
CDGW-08967		PHIN	- N. V. Philips Gloeilampenfabrieken, Bldg. BF., Eindhoven, Netherland
		PIR	- Pirgo Electronics Inc., 130 Central Avenue, Farmingdale, Long Island, New York 11735
		PPC	- Power Physics Corporation, Industrial Way West, Post Office Box 626, Eatontown, New Jersey 07724
		PTI	- PowerTech, Inc., 9 Baker Court, Clifton, New Jersey 07011
		QDC	- Qualidyne Corporation, 3699 Tahoe Way, Santa Clara, California 95051
		RADF	- La Radiotechnique, Div. Tubes Electroniques, 130 Ave. Ledru-Rollin, 75 Paris XI, France
CRP - 07933		RAYN	- Raytheon Company, Semiconductor Division, 350 Ellis Street, Mountain View, California 94040
CRC - 02735		RCA	- RCA Corporation, Electronic Components, Commercial Engrg. Activity, Harrison, New Jersey 07029
		ROSG	- Dr. Ing. Rudolph Rost, Ubbenstrasse 21, Hanover 1, Germany
		SAKJ	- Sanken Electric Co., Ltd., 1-22-8 Nishi-Ikebukuro, Toshima-ku, Tokyo, Japan
		SCA	- Semicoa, 940 South Ajax Avenue, City of Industry, California 91744
		SELB	- Plessey Microelectronics, Cheney Manor, Swindon, Wiltshire, England
CQN - 21873		SEN	- Sensitron Semiconductor, 221 West Industry Court, Deer Park, New York 11729
		SES	- Semitronics Corporation, 265 Canal Street, New York, New York 10013
		SGSI	- Societa Generale Semiconduttori S.p.A. SGS, Via C. Olivetti 1, Agrate, Milano, Italy
		SHEJ	- Shindengen Electric Mfg. Co. Ltd., 4, 2-chome, Ohtemachi, Chiyoda-ku, Tokyo, Japan
- 92346		SHWG	- Siemens Aktiengesellschaft, Semiconductor Division, Balanstrasse 73, 8000 Munich 8, West Germany
CCSX - 07256		SIL	- Silicon Transistor Corporation, East Gate Boulevard, Garden City, New York 11530
CDBN - 17856		SIX	- Siliconix Incorporated, 1140 West Evelyn Avenue, Sunnyvale, California 94086
		SLCB	- Semitron Limited, Cricklade, Wiltshire, England
CDCD - 13327		SOD	- Solitron Devices, Inc., 1177 Blue Heron Boulevard, Riviera Beach, Florida 33304
		SODI	★ Solitron Devices, Inc. 8808 Balboa Avenue, San Diego, California 92123
- 16402		SOIF	- Societe Industrielle De Laisons Electriques, 122 Rue Nollet, Paris XVII, France
- 18175		SONY	- SONY Corporation, Atsugi Plant, 14-1 Asahi-sho 4, Atsugi-shi, Kanagawa-Ken, 243 Japan
		SPC	- Solid Power Corporation, 440 Eastern Parkway, Farmingdale, New York 11735
CSF - 56289		SPR	- Sprague Electric Company, North Adams, Massachusetts 01247
- 11911		SSE	- Solid State Electronics Co., 15321 Rayen Street, Sepulveda, California 91343
- 30043		SSI	- Solid State Devices, Inc., 12741 Los Nietos Road, Santa Fe, California 90670
CDAM - 08732		SSP	- Solid State Products - See Unirode (UNI)
		SSS	- Solid State Scientific Inc., Montgomeryville Industrial Center, Montgomeryville, Pennsylvania 18936
		STCB	- Standard Telephones & Cables, Footscray, Sidcup, Kent, England
		STL	- Stow Laboratories, Inc., Kane Industrial Drive, Hudson, Massachusetts 01749
		TADI	- Tadiran, Israel Electronics Industries Ltd., 3, Derech Hashalom (P.O. Box 648), Tel-Aviv, Israel
		TAGS	- Transistor AG, Hohlstrasse 610, 8048 Zurich, Switzerland
CCAB - 03877		TEC	- Transistron Electronic Corporation, 168 Albion Street, Wakefield, Massachusetts 01880
		TEK	- Trans-Tek Manufacturing Company, 4405 South Clinton Avenue, South Plainfield, New Jersey 07080
		TES	★ Teledyne Semiconductor, 12515 Chadron Avenue, Hawthorne, California 90250
		TFKG	- Allgemeine Elektrizitates-Gesellschaft AEG Telefunken, 71 Heilbronn (Neckar), Postfach 1042, West Germany
CGO - 02195		TII	- Texas Instruments Inc., Components Group, Mail Station 84, P. O. Box 5012, Dallas, Texas 75222
		TIIB	- Texas Instruments Ltd., Manton Lane, Bedford, England
		TIIF	- Texas Instruments France, 8050 Freising, Haggarty Strasse, Germany
- 18657		TOSJ	- Tokyo Shibaura Electric Co., 1 Komukaitoshiba Cho, Kawasaki, Japan
CCNL - 02181		TRW	- TRW Semiconductors, Inc., 14520 Aviation Blvd., Lawndale, California 90260
		TSAJ	- Tokyo Sanyo Electric Co., Ltd., Semiconductor Division, Oizumi-machi, Orangun Gumma, Japan
CDAS -		UNI	- Unirode Cororation, 580 Pleasant Street, Watertown, Massachusetts 02712
-17895		VALG	- Valvo GmbH, Burchardstrasse 19, Hamburg 1, Germany
CAY - 05277		WESY	- Westinghouse Electric Corporation, Semiconductor Dept., Youngwood, Pennsylvania 15697

★ New Manufacturers

Manufacturers shown in bold print have local offices which are included in Section 17

NOTES

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SYMBOLS & CODES COMMON TO MORE THAN ONE SECTION

LINE No.
 ▼ - New Type
 ◆ - Revised Specifications
 # - Non-JEDEC Type manufactured outside U.S.A.

LEAD CODE
 See Lead Code Identification Guide at end of Section 15.

FOLLOWING TYPE No. (ALL SECTIONS EXCEPT 12)
 Δ } Each symbol (assigned by D.A.T.A.) indicates an individual manufacturer of a type number when two or three manufacturers inadvertently assigned the same non-JEDEC type number to non-identical types.
 □ }
 % }
 † - Switching type, also listed in Section 12
 ∅ - Chopper, also listed in Section 13, Category 10
 * - These types also included elsewhere with other characteristics. See Type No. Cross Index for alternate line no.
 § - Radiation Resistant Devices, also listed in Section 13, Category 13.

STRUCTURE (All Sections Except 6 & 7)	
A	- Alloy
AN	- Annular
D	- Diffused or drift
DM	- Diffused mesa
E	- Epitaxial
EA	- Epitaxial annular
EM	- Epitaxial mesa
F	- Fused
G	- Grown
H	- Hometaxial
MA	- Mico alloy
MD	- Micro alloy diffused
ME	- Mesa
MOS	- Metal oxide silicon
PA	- Precision alloy
PC	- Point contact
PD	- Precision alloy diffused
PE	- Planar epitaxial
PL	- Planar
S	- Surface barrier
*	- Matched pair
Δ	- Switching, other uses
□	- Chopper, other uses
∅	- Noise figure 8db or below
†	- Plastic package

2. GERMANIUM PNP | 3. GERMANIUM NPN | 4. SILICON PNP | 5. SILICON NPN --- Low Power Transistors

LINE No.	TYPE No.	1 MAX. COLL. DISS. @25°C (W)	2 DERATE IN FREE AIR W/°C (Hz)	M E A M X P	ABS. MAX. RATINGS @25°C			MAX. I _{cb} @MAX V _{cb} (A)	TYPICAL 'h' PARAMETERS			COMMON EMITTER			C _{ob} (F)	DESCRIPTION	LEAD CODE
					BV _{cb} (V)	BV _{ceo} (V)	BV _{ebo} (V)		I _c (A)	V _{cb} (V)	I _e (A)	h _{fe}	h _{oe} (mhos)	h _{ie} (Ω)			
1																	

∅ - With infinite heat sink
 Following symbols indicate temperature at which derating starts:
 † - 40°C □ - 60°C § - 100°C
 * - 45°C § - 70°C
 # - 50°C Δ - 85°C

† - f_{αe}
 § - Gain bandwidth product (f_T)
 * - Maximum frequency of oscillation
 ∅ - Figure of merit (frequency for unity power gain)
 Δ - Minimum
 □ - Maximum

∅ - With infinite heat sink

* - 50-65°C A - Ambient
 ∅ - 70-80°C C - Case
 # - 85-100°C J - Junction
 ◆ - 110-125°C S - Storage
 † - 130-135°C
 § - 140-165°C
 § - 170-200°C
 ▼ - Over 200°C

∅ - I_c Δ - I_B
 ∅ - V_{CE}
 ∅ - At V_{CB} < Max. V_{CB} (See Mfr. Spec.)
 # - I_{C EX} * - I_{C ER}
 § - I_{C ES} Δ - I_{C EO}
 † - At Temp. > 25°C
 ◆ - At Temp. 25°C Case

- Pulsed or Peak

- BV_{C EX} or punch-through
 ∅ - BV_{C ES} □ - BV_{ceo(sus)}
 § - BV_{C ER} * - Pulsed

11 b - h parameters are h_{ob}, h_{ib}, h_{rb}
 12 □ - Maximum
 13 □ - Maximum

† - h_{FE} Δ - Minimum
 # - Pulsed □ - Maximum
 § - h_{FC}
 * - Available in selected ranges

□ - Maximum § - C_{cb} † - C_{re}

§ - Tetrode

- Radiation Resistant Device (Also See Above)

6. "P" Channel 7. "N" Channel — SILICON FIELD EFFECT TRANSISTORS

LINE No.	TYPE No.	1. MAX. DEVICE DISS @25°C (W)	MAX. V _p (V)	ABS. MAX. RATINGS @25°C	MAX. RATINGS @25°C		MAX. I _{gss} (A)	TEST COND. V _{gs} (V)	V _{ds} (V)	PARAMETERS @25°C		MAX. C _{is} (F)	DERATE IN FREE AIR W/°C	DESCRIPTION	L C O A D E
					BV _{dss} (V)	BV _{gss} (V)				I _d (A)	I _g (A)				

▼ - Matched Type, also listed in Section 13, Category 6
 ◆ - Phototransistor, also listed in Section 13, Category 7 (See Above Also)

△ - With infinite heat sink
 † - Above 25°C; For additional information, consult manufacturer.

† - V_{GS}(Cut Off)
 △ - V_{GST}(Threshold)
 % - Typical

△ - Depletion Mode, Type A
 \$ - Depletion-Enhancement Mode, Type B
 * - Enhancement Mode, Type C

△ - BV_{DSO}
 † - BV_{DSX}

△ - BV_{DGO}

△ - Typical
 † - Pulsed
 % - High Frequency (y_{fs})

△ - Y_{is}
 † - Not at given test conditions
 % - Maximum
 * - Pulsed

△ - V_{GD}
 † - V_{DG}

% - Maximum
 △ - Not given at test conditions
 † - R_{DS(on)} at V_{DS} = 0

∅ - I_D in mA

△ - I_{GDO}

△ - I_{DSS} @ V_{GS} = 0 and V_{DS} ≈ V_p
 ∅ - V_{GS} > 0
 # - Minimum
 * - Typical
 % - Pulsed

- C_{iss} (Output Shorted)
 △ - C_{dgs}
 † - C_{gss}
 % - Not given at test conditions
 * - Typical
 □ - C_{dss}
 ∅ - C_{dgo}

STRUCTURE
 D - Diffused
 E - Epitaxial
 Ge - GermaniumPE
 PE - Planar Epitaxial
 PL - Planar
 # - Junction Type
 * - Insulated Gate (MOS Type)
 - Matched Pair
 - Switching, other uses
 - Chopper, Other uses
 - Noise figure 8db or below
 - Plastic Package
 - Homotaxial
 - Tetrode
 - Insulated Gate (MNOS Type)

A-Ambient J-Junction
 C-Case S-Storage

□ - Phototransistor Device
 △ - Tetrode Device
 % - Composite Type

8. GERMANIUM PNP 9. GERMANIUM NPN 10. SILICON PNP 11. SILICON NPN — High Power Transistors

LINE No.	TYPE No.	1. MIN. DERATE J to C (W/°C)	MAX. FREE AIR @ 25°C (W)	Pc (W)	M T X P	ABSOLUTE MAX. RATINGS @25°C			MAX. I _{cb0} @ MAX V _{cbj} (A)	BIAS h _{fe}		f _{ae} (Hz)	MAX. SAT. RES. (Ω)	tr (s)	DESCRIPTION	L C O A D E
						I _c (A)	I _b (A)	BV _{cb0} (V)		BV _{eb0} (V)	BV _{ce0} (V)					

† - 40°C
 * - 45°C
 # - 50°C
 □ - 60°C
 § - 75°C
 § - 80°C
 \$ - 100°C
 ∅ - Free Air
 ▼ - Typical Value
 △ - > 100°C
 Symbols indicate temperature at which derating starts.

∅ - With infinite heat sink
 Following symbols indicate temperature at which derating starts:
 † - 40°C
 * - 45°C
 # - 50°C
 □ - 60°C
 § - 70°C
 \$ - 80°C
 § - 70°C
 \$ - 100°C
 △ - Pulsed

* - 50-65°C
 ∅ - 70-80°C
 # - 85-100°C
 † - 110-125°C
 ‡ - 130-135°C
 § - 140-165°C
 § - 170-200°C
 ▼ - Over 200°C
 A - Ambient
 C - Case
 J - Junction
 S - Storage

∅ - I_E
 # - Pulsed or Peak
 † - At temperature 25°C Case

∅ - V_{ce}
 ∅ - At V_{CB} < Max. V_{CB} (see mfr. spec.)
 # - I_{CEX}
 § - I_{CES}
 * - I_{cer}
 † - At Temp. 25°C Case
 ‡ - At Temp. > 25°C

- BV_{CEX} or punch-through
 ∅ - BV_{CES}
 § - BV_{CER}
 * - Pulsed
 □ - BV_{ceo}(SUS)

△ - I_E
 ∅ - I_B

† - At Temp. 25°C Case

∅ - I_E
 # - Pulsed

† - h_{fe}
 # - Pulsed
 ∅ - Typical
 * - Available to selected range narrower than indicated

□ - Maximum
 ∅ - t_d + t_r = T_{on}
 § - t_s
 # - t_f
 † - t_s + t_f = T_{off}

▼ - Typical Value # - Pulsed

† - f_{αb}
 § - Gain bandwidth product (f_T)
 * - Maximum frequency of oscillation
 ∅ - Figure of merit (frequency for unity power gain)
 △ - Minimum □ - Maximum

\$ - Tetrode
 # - Radiation Resistant Device (Also see top of reverse side of card.)

SYMBOLS & CODES COMMON TO MORE THAN ONE SECTION

LINE No.
 ▼ - New Type
 ◆ - Revised Specifications
 # - Non-JEDEC type manufactured outside U.S.A.

LEAD CODE
 See Lead Code Identification Guide at end of Section 15.

FOLLOWING TYPE No. (ALL SECTIONS EXCEPT 12)
 Δ } Each symbol (assigned by D.A.T.A.) indicates an individual manufacturer of a type number when two or three manufacturers inadvertently assigned the same non-JEDEC type number to non-identical types.
 □ }
 % }
 † - Switching type, also listed in Section 12
 ∅ - Chopper, also listed in Section 13, Category 10
 * - These types also included elsewhere with other characteristics. See Type No. Cross Index for alternate line number.
 § - Radiation Resistant Devices, also listed in Section 13, Category 13.

STRUCTURE (All Sections Except 6 & 7)

A	- Alloy
AN	- Annular
D	- Diffused or drift
DM	- Diffused mesa
E	- Epitaxial
EA	- Epitaxial annular
EM	- Epitaxial mesa
F	- Fused
G	- Grown
H	- Hometaxial
MA	- Mico alloy
MD	- Micro alloy diffused
ME	- Mesa
MOS	- Metal oxide silicon
PA	- Precision alloy
PC	- Point contact
PD	- Precision alloy diffused
PE	- Planar epitaxial
PL	- Planar
S	- Surface barrier
*	- Matched pair
Δ	- Switching, other uses
□	- Chopper, other uses
∅	- Noise figure 8db or below
†	- Plastic package

12. SWITCHING TRANSISTORS

* THESE TYPES ALSO INCLUDED ELSEWHERE WITH OTHER CHARACTERISTICS
 SEE TYPE NO. CROSS INDEX FOR ALTERNATE LINE NO.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (s)	MAX DELAY TIME td (s)	MAX STORE TIME ts (s)	MAX FALL TIME tf (s)	MAX. Pc IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	Cob (F)	r'bb X Cob (s)	STRUCTURE		MAX. TEMP (°C)	DWG. No.	L C E O A D E
								Vcb (V)	Ic (A)	hfe				P-PNP	NPN			

† - $f \alpha_e$
 § - Gain bandwidth product (f_T)
 * - Maximum frequency of oscillation
 ∅ - Figure of merit (frequency for unity power gain)
 Δ - Minimum □ - Maximum

§ - Charge storage time constant
 ▼ - Stored base charge - picocoulomb
 ◆ - Total switching time
 ∅ - $T_{ON} = t_r + t_d$
 † - Typical Value

∅ - $T_{OFF} = t_s + t_f$
 † - Typical Value
 * - $T_{on} + T_{off} = t_d + t_r + t_f + t_s$

∅ - V_{CE}
 ∅ - I_c
 Δ - I_B
 † - h_{fe}
 # - Pulsed
 Δ - Minimum
 □ - Maximum
 * - Available to selected range narrower than indicated
 § - Y_{fs} in millimho (FET's only). Bias values are V_{DS} & I_D
 ∅ - With infinite heat sink
 Following symbols indicate temperature at which derating starts:
 † - 40°C § - 70°C
 * - 45°C § - 100°C
 # - 50°C ◆ - 80°C
 □ - 60°C Δ - Pulsed

Ge - Germanium
 Si - Silicon
 § - Tetrode
 N - NPN or "N" Channel
 P - PNP or "P" Channel
 § - Field Effect Transistor
 # - Radiation Resistant Device (See above also)

A - Ambient
 C - Case
 J - Junction
 S - Storage

13. MISCELLANEOUS TRANSISTORS

LINE No.	TYPE No.	CATEGORY	M A T	DWG. No.	L C E O A D E	DESCRIPTION

1 - Avalanche Mode
 2 - Bi-directional
 4 - Hook Collector
 5 - Complementary Symmetry (PNP & NPN) Matched Pair
 6 - Matched Pair
 7 - Phototransistor
 9 - Unijunction
 N-N-type emitter
 P-P-type emitter
 10 - Chopper
 11 - Composite
 12 - Cryogenic
 13 - Radiation Resistant Devices
 14 - Pressure Sensitive
 16 - Darlington

Ge - Germanium
 Si - Silicon

N - NPN or N Channel
 P - PNP or P Channel
 (See above also)

See "TECHNICAL TERM DEFINITIONS" Section on back of last Interpreter Card.

TECHNICAL TERM DEFINITIONS

B — Illumination intensity

V_{CBO} — Breakdown voltage, collector-to-base; emitter open-circuit.

$V_{(BR)CBO}$

V_{CEO} — Breakdown voltage, collector-to-emitter; base open-circuit.

$V_{(BR)CEO}$

V_{CER} — Breakdown voltage, collector-to-emitter; with specified base-to-emitter resistance.

$V_{(BR)CER}$

V_{CES} — Breakdown voltage, collector-to-emitter; with base short-circuit to emitter.

$V_{(BR)CES}$

V_{CEX} — Breakdown voltage, collector - to - emitter; with specified circuit between base and emitter.

$V_{(BR)CEX}$

V_{DGO} — Breakdown voltage, drain-to-gate; source open circuit (FET).

$V_{(BR)DGO}$

V_{DSX} — Breakdown voltage, drain-to-source; with specified circuit between gate and source (FET).

$V_{(BR)DSX}$

V_{EBO} — Breakdown voltage, emitter-to-base; collector open-circuit.

$V_{(BR)EBO}$

V_{GD} — Breakdown voltage, gate-to-drain (FET).

$V_{(BR)GD}$

V_{GDS} — Breakdown voltage, gate-to-drain; with source short-circuit to drain (FET).

$V_{(BR)GDS}$

V_{GSS} — Breakdown voltage, gate-to-source, with drain short-circuit to source (FET).

$V_{(BR)GSS}$

C_{ob} — Output capacitance with input AC open-circuit, common base.

C_{iss} — Small-signal, short-circuit input capacitance, common source (FET).

C_{rss} — Magnitude of small - signal, short - circuit reverse transfer capacitance, common source (FET).

f_{α_b} — Small signal short-circuit forward current transfer ratio cut off frequency, common base (alpha cut off frequency).

f_{hfb}

f_{α_e} — Small signal short-circuit forward current transfer ratio cut off frequency, common emitter (beta cut off frequency).

f_{hfe}

f_t — Extrapolated unity gain frequency (gain bandwidth product). Product of the common-emitter current transfer ratio and the frequency of measurement at a frequency where the current gain is decreasing at the rate of 6 db per octave. This frequency is also known as the Transition Frequency.

g_{fs} — Common source forward transconductance (FET)

h_{FE} — DC forward current transfer ratio, common emitter.

MATCHED PAIRS

- a. For all matching parameter ratios one (1) is always the smaller of the two (2) value of the parameter.
- b. For differential values, if one (1) is always the smaller of the two (2) value, the differential is a negative number.

NOTE:

h_{FE1}/h_{FE2} — DC current gain ratio.

$|V_{BE1} - V_{BE2}|$ — Base-emitter differential voltage.

$\Delta V_{BE1} - V_{BE2}/\Delta T$ — Base - emitter differential voltage change due to a change in temperature.

I_{DSS1}/I_{DSS2} — Zero gate voltage - drain current ratio.

g_{m1}/g_{m2} — Transconductance ratio.

h_{fe} — Small signal forward current transfer ratio, common emitter.

h_{ib} — Small signal value of the short-circuit input impedance, common base.

h_{ie} — Small signal value of the short-circuit input impedance, common emitter.

h_{ob} — Small signal value of the open-circuit output admittance, common base.

h_{oe} — Small signal value of the open-circuit output admittance, common emitter.

h_{rb} — Small signal value of the open-circuit reverse voltage transfer ratio, common base.

h_{re} — Small signal value of the open-circuit reverse voltage transfer ratio, common emitter.

I_B — Base current, DC.

$I_{B(Sat)}$ — Base saturation current.

$I_{B2(mod)}$ — Interbase modulated current (UJT).

I_C — Collector current, DC.

$I_{C(Sat)}$ — Collector saturation current.

I_{CBO} — Collector cutoff current, DC, emitter open-circuit.

I_{CES} — Collector cutoff current, DC, with base shorted to emitter.

I_{CEX} — Collector cutoff current, DC, with specified circuit between base and emitter.

I_D — Drain current, DC (FET).

$I_{D(on)}$ — "On" drain current (FET).

I_{DSS} — Drain current at zero gate voltage (FET).

I_E — Emitter current, DC.

I_{EB2O} — Emitter reverse current, base-one open-circuit, DC (UJT).

I_G — Gate current, DC (FET).

I_{GSS} — Gate source reverse current at zero drain-to-source voltage (FET).

I_{off} — Offset current, DC (FET).

I_P — Peak point emitter current (UJT).

I_V — Valley point emitter current (UJT).

n — Intrinsic standoff ratio (UJT).

NF — Noise factor or noise figure.

λ_s — Wave length of maximum sensitivity

P_c — Collector power dissipation.

$|V_{GS1} - V_{GS2}|$ — Gate-source differential voltage.

$\Delta V_{GS1} - V_{GS2}/\Delta T$ — Gate - source differential voltage change due to a change in temperature.

FOR DOUBLE EMITTER CHOPPER DEVICES

V_{E1BO} or V_{E2BO} — Emitter-to-base voltage, DC, collector open.

V_{E1CO} or V_{E2CO} — Emitter-to-collector voltage, DC, base open.

V_{E1E2} or V_{E2E1} — Emitter one - emitter two offset voltage.

I_{E1E2O} — Emitter cutoff current.

P_D — Power Dissipation

P_T — Total power dissipation.

R_{BBO} — Interbase resistance, with emitter open circuit.

$r_{ds(on)}$ — Drain-to-source bulk resistance (FET).

t_d — Delay time.

t_f — Fall time.

t_{off} — Turn-off time = $t_s + t_f$

t_{on} — Turn-on time = $t_d + t_r$

t_r — Rise time.

t_s — Storage time.

S_{RCE} — Collector-emitter radiation sensitivity

S_{ICE} — Collector-emitter illumination sensitivity

V_{BE} — Base-to-emitter voltage, DC.

V_{B2E} — Base-two-to-emitter voltage, DC (UJT).

V_{B2B1} — Interbase voltage, DC (UJT).

$V_{BE(Sat)}$ — Base-to-emitter saturation voltage.

V_{CB} — Collector-to-base voltage, DC.

V_{CBO} — Collector-to-base voltage, DC, emitter open

V_{CE} — Collector-to-emitter voltage, DC.

$V_{CE(Sat)}$ — Collector-to-emitter saturation voltage.

V_{CEO} — Collector-to-emitter voltage, DC, base open

V_{DS} — Drain-to-source voltage (FET).

V_{EB1} — Emitter-to-base one voltage, DC (UJT).

V_{EBO} — Emitter-to-base voltage, DC, collector open

$V_{EB1(Sat)}$ — Emitter saturation voltage (UJT).

V_{GS} — Gate-to-source voltage, DC (FET).

$V_{GS(off)}$ — Gate-to-source cutoff voltage (FET).

$V_{GS(th)}$ — Gate-to-source threshold voltage (FET).

V_{OB1} — Base-one peak pulse voltage (UJT).

V_{off} — Offset voltage.

V_P — Peak point emitter voltage (UJT).

V_P — Drain-to-source pinch-off voltage (FET).

V_V — Valley point emitter voltage (UJT).

Y_{FE} — DC forward transmittance with output short circuit, common emitter.

Y_{fe} — Magnitude of small signal, short - circuit forward transadmittance, common source (FET).

Y_{os} — Magnitude of small signal, short - circuit output admittance, common source (FET).

CHOPPERS

$V_{(off)}$ — Emitter offset voltage.

$I_{(off)}$ — Emitter offset current.

$h_{FE (inv)}$ — DC current gain, inverted connection.

R_d — Inverted dynamic saturation resistance

$r_{s(on)}$ — "On" series resistance.

DOUBLE COLLECTOR DEVICES

V_{C1C2} — Collector one - collector two voltage.



**TO USE THE NEW GRAPHICALLY
DESIGNED SYMBOL/CODE CARDS:**

- 1. SELECT** the card with the corresponding section number in which the device appears.
- 2. LOCATE** the appropriate technical heading within the section.
- 3. USE** the Symbol/Codes as presented with graphic clarity under the column headings.

**TRANSISTOR
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