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SYMBOLS & CODES EXPLAINED

IN TYPE No. CROSS-INDEX & TECHNICAL SECTIONS

- Δ } Indicators of separate manufacturers producing same type number (non-JEDEC) whose characteristics are not the same.
- \square } This manufacturer-identifying symbol (assigned by D.A.T.A.) is an integral part of the type number (in Type No. Cross Index, Technical Data Sections) to avoid the possibility of confusing the devices of one manufacturer with the devices of others.
- $\%$ } Technical Data Sections)
- RT ... Replacement Type; consult manufacturer.

SYMBOLS & CODES COMMON TO MORE THAN ONE TECHNICAL SECTION

LINE No.

- ∇ - New Type
- \blacklozenge - Revised Specifications
- # - Non-JEDEC Type manufactured outside U.S.A.

TYPE No.

- \dagger - Switching type, also listed in Section 12
- \emptyset - 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.
- \S - Radiation Resistant Devices, also listed in Section 13, Category 13.

STRUCTURE (All Sections)

- A - Alloy Except 6 & 7)
- AN - Annular
- D - Diffused or drift
- DM - Diffused mesa
- E - Epitaxial
- EA - Epitaxial annular
- EM - Epitaxial mesa
- F - Fused
- G - Grown
- GA - Gallium Arsenide
- 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
- \square - Chopper, other uses
- \emptyset - Noise figure 8db or below
- \dagger - Plastic package
- $\%$ - Overlay

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)	3. M E X P (V)	4. ABS. MAX. RATINGS @25°C (V)			5. TYPICAL 'h' PARAMETERS					14. Cob (F)	15. STRUC-TURE	DWG # TO200 Ser.	C O D E	
					BV _{cb0}	BV _{ceo}	BV _{ebo}	IC _{BO} @MAX V _{cb}	V _{cb}	I _e	h _{fe}	hoe					hie
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	

\emptyset - With infinite heat sink
Following symbols indicate temperature at which derating starts:

\dagger - 40°C	\square - 60°C	\S - 100°C
* - 45°C	\S - 70°C	\blacklozenge - Min.
# - 50°C	Δ - 85°C	

\dagger - f_{ae}
 \S - Gain bandwidth product (f_t)
* - Maximum frequency of oscillation
 \emptyset - Figure of merit (frequency for unity power gain)
 Δ - Minimum
 \square - Maximum

\emptyset - With infinite heat sink

* - 50-65°C	A - Ambient
\emptyset - 70-80°C	C - Case
# - 85-100°C	J - Junction
\blacklozenge - 110-125°C	S - Storage
\dagger - 130-135°C	
\S - 140-165°C	
\square - 170-200°C	
∇ - Over 200°C	

\emptyset - I_C Δ - I_B

\emptyset - V_{CE}

\emptyset - At $V_{CB} < \text{Max. } V_{CB}$ (See Mfr. Spec.)
- I_{CEX} \S - Typical
 \S - I_{CES} * - I_{CER}
 \dagger - At Temp. $> 25^\circ\text{C}$ Δ - I_{CEO}
 \blacklozenge - At Temp. 25°C Case

- Pulsed or Peak
 \S - Minimum

- BV_{CEX} or punch-through
 \emptyset - BV_{CES} \square - $BV_{ceo(sus)}$
 \S - BV_{CER} * - Pulsed
 $\$$ - Indicates min. values given for BV_{cb0} , BV_{ceo} , and BV_{ebo} .

b - h parameters are h_{ob} , h_{ib} , h_{rb}
 \square - Maximum

\dagger - h_{FE} Δ - Minimum
- Pulsed \square - Maximum
 \S - h_{FC}
* - Available in selected ranges

\square - Maximum \S - C_{cb} \dagger - C_{re}

$\$$ - Tetrode
- Radiation Resistant Device (Also See Above)

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 ABS MAX RATINGS @25°C (V)	M A X P	E BVcbo (V)	Ic (A)	lcb0 @MAX Vcb (V)	TYPICAL 'h' PARAMETERS						Cob (F)	STRUC-TURE	DWG # Y200 s/a TO200 Ser.	# C A O D E	
									BIAS			COMMON EMITTER							
									Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre (X.0001)					
1	2N100	25m	5.0M	5.0	*A	25	5.0m	2.0u	6.0	1.0m	24	38	2.1p	G	R14				
2#	2SC75	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R14				
3#	2SC76	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R14				
4#	2SC77	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R14				
5#	2SC175	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R17				
6#	2SC176	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R17				
7#	2SC177	30m	10M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	24	38	2.1p	G	R17				
8#	2SC73	30m	20M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	41	35	2.0p	G	R14				
9#	2SC78	30m	20M	5.0	ØJ	15	5.0m	2.0u	6.0	1.0m	49	33	1.5p	G	R14				
10#	2SC173	30m	20M	5.0	ØJ	15	5.0m	8.0u	6.0	1.0m	41	35	2.0p	G	R17				
11#	2SC178	30m	20M	5.0	ØJ	15	5.0m	2.0u	6.0	1.0m	49	33	1.5p	G	R17				
12#	3N22	30m	24M	5.0	#J	15	2.0	1.0u	6.0	1.0m	50	20u	2.0p	G					
13	3N36	30m	50M	500u	#J	7.0	2.0	20m	5.0	1.5m	9.0	1.2m	1.1k	220	2.0p	TO12			
14	3N37	30m	90M	500u	#J	7.0	2.0	20m	5.0	1.5m	13	1.4m	85	180	1.5p	TO12			
15#	2T53	40m	2.0M	2.0m	*	25	5.0m	120u	4.5	1.0m				5.0p	G				
16#	2T54	40m	1.5M	2.0m	*	25	5.0m	120u	4.5	1.0m				5.0p	G				
17#	2T52	40m	2.5M	2.0m	*	25	5.0m	100u	4.5	1.0m				5.0p	G				
18#	2T51	40m	4.0M	2.0m	*	25	5.0m	100u	4.5	1.0m				5.0p	G				
19#	2T55	50m	1.2m	1.2m	*J	25	1.0m	12u	6.0	1.0m	19			1.0p	G				
20#	2T56	50m	1.2m	1.2m	*J	25	1.0m	12u	6.0	1.0m	19			1.0p	G				
21#	2T57	50m	1.2m	1.2m	*J	25	1.0m	12u	6.0	1.0m	19			1.0p	G				
22#	2T58	50m	1.2m	1.2m	*J	25	1.0m	12u	6.0	1.0m	19			1.0p	G				
23#	TF72	50m	.50M	2.5m	*A	60	2.5m	5.0m	4.5	1.0m	99	30u	2.0k	6.0	1.0p	G			
24#	3604	50m	800k	2.0m	*A	40	5.0	5.0m	4.5	1.0m	13	850	5.0	30p	G				
25#	3607	50m	80M	2.0m	*A	40	5.0	5.0m	4.5	1.0m	32	850	5.0	30p	G				
26#	2N97A	50m	1.0M	2.0m	#	40	5.0	1.0m	4.5	1.0m	13			19p	G				
27#	3609	50m	1.8M	2.0m	*A	40	5.0	5.0m	4.5	1.0m	32	3.0k	10	20	G				
28	2N98A	50m	2.5M	2.0m	#	40	5.0	1.0m	4.5	1.0m	49			14p	G				
29	GA53270	50m	3.4M	1.4m	#A	30	20	5.0m	4.5	1.0m	49	280nb	27	1.8	42p	G			
30	3N23	50m	4.0M	3.0M	ØA	30	5.0m	1.0u	4.5	1.0m	49			5.0p	A				
31	2N127	50m	5.0M	1.4m	ØJ	10	5.0	8.0m	6.0	5.0m	100 Δ†	200nb	59	10p	A	OV9			
32#	2SC60	50m	5.0MΔ	588u	#J	20	20	20m	6.0	1.0m	50			25p	A	TO1			
33	3N23A	50m	6.0M	3.0M	ØA	30	5.0m	1.0u	6.0	1.0m				4.0p	A				
34	3N23B	50m	8.0M	3.0M	ØA	30	5.0m	1.0u	6.0	1.0m				3.0p	A				
35#	2T76	50m	10M	1.0m	ØJ	15	5.0m	8.0u	6.0	1.0m	19	130nb	38	170m	1.5p	G			
36	3N23C	50m	10M	3.0M	ØA	30	5.0m	1.0u	6.0	1.0m				2.0p	A				
37#	2T71	50m	20M	1.2m	*J	25	1.0m	12u	6.0	1.0m	49			1.0p	G				
38#	2T72	50m	20M	1.2m	*J	25	1.0m	12u	6.0	1.0m	32			1.0p	G				
39#	2T73	50m	20M	1.0m	ØJ	15	5.0m	8.0u	6.0	1.0m	49	130nb	38	170m	1.4p	G			
40	3N31	50m	20M	1.0m	#J	7.0	20	25u	22	2.0m				3.1p	A				
41#	3T203	50m	20M	1.0m	#J	30	5.0m	10u	22	2.0m					A				
42#	2T78	50m	30M	1.0m	ØJ	15	5.0m	2.0u	6.0	1.0m	45	130nb	38	170m	4.2p	G			
43	3N29	50m	40M	3.0M	#J	7.0	20	25u	22	2.0m					A				
44#	3T202	50m	40M	3.0M	#J	30	5.0m	10u	22	2.0m					A				
45#	3T201	50m	60M	3.0M	#J	25	5.0m	10u	22	2.0m					A				
46	3N30	50m	80M	3.0M	#J	7.0	10	20m	6.0	1.0m				5.0p	A				
47	4JD381	50m	100M	6.0M	#J	18	10	20m	6.0	1.0m				2.0p	A				
48#	2SC11	55m	6.0M	1.3m	ØJ	18	12	24m	9.0u	1.0m				12p	A	TO1			
49	2N148	65m	1.3m	1.3m	Ø	16	5.0m	200n	12	500u	35	35	1.0p	G					
50	2N148A	65m	1.3m	1.3m	Ø	16	5.0m	200n	12	500u	35	35	1.0p	G					
51	2N149	65m	1.3m	1.3m	Ø	16	5.0m	3.0u	12	500u	38	38	3.0p	G					
52	2N149A	65m	1.3m	1.3m	Ø	16	5.0m	200n	12	500u	38	38	1.0p	G					
53	2N150	65m	1.3m	1.3m	Ø	16	5.0m	200n	12	500u	41	41	1.0p	G					
54	2N150A	65m	1.3m	1.3m	Ø	16	5.0m	200n	12	500u	41	41	1.0p	G					
55#	2SC13	65m	3.5MΔ	1.1m	ØJ	18	12	40m	13u	1.0u	50	24m	50	10p	A	TO9			
56	2N313	65m	5.0M	1.1m	#J	15	20	50u	5.0	1.0m	25			2.4p	G				
57	2N314	65m	8.0M	1.1m	#J	15	20	50u	5.0	1.0m	25			2.4p	G				
58#	2SC14	65m	15M	1.3m	ØJ	18	18	40m	9.0u	1.0u	48	24m	48	10p	A	TO5			
59	2N824†	70m	12M	1.2m	#J	25	24	100m	5.0u	.25u	20	40 Δ	40	12p	FA	u9			
60	2N817†	75m	1.2m	1.2m	#S	30	15	25	400m	10u	1.0u	20	20 Δ	20p	A	u8			
61	2N818†	75m	1.2m	1.2m	#S	30	15	25	400m	10u	1.0u	20	20 Δ	20p	A	u9			
62	2N819†	75m	1.2m	1.2m	#S	30	20	25	400m	10u	1.0u	30	30 Δ	20p	A	u8			
63	2N820†	75m	1.2m	1.2m	#S	30	20	25	400m	10u	1.0u	30	30 Δ	20p	A	u9			
64	2N821†	75m	1.2m	1.2m	#S	30	25	25	400m	10u	1.0u	40	40 Δ	20p	A	u8			
65	2N822†	75m	1.2m	1.2m	#S	30	25	25	400m	10u	1.0u	40	40 Δ	20p	A	u9			
66#	TF71	75m	.40M	3.0m	*A	60	2.5m	200u	5.0	1.0m	24	10u	800	2.5	20p	G	A		
67	CK261	75m	1.2m	1.3m	#J	35	12	20	100m	10u	6.0u	1.0m	54	36u	3.6k	7.0	FA	u8	
68	CK262	75m	1.2m	1.3m	#J	35	12	20	100m	10u	6.0u	1.0m	54	36u	3.6k	7.0	FA	u8	
69	2N823	75m	4.0MΔ	1.2m	#S	25	12	12	100m	5.0u	.25u	20	40 Δ	20p	A	u8			
70	2N1288	75m	60M	1.2m	#J	15	5.0	50m	5.0u	1.0m	100			3.0p	A	TO39			
71	2N1289	75m	60M	1.2m	#S	20	15	50m	70u	1.0u	10m	70		3.0p	A	TO39			
72#	2SD44	80m	2.2m	2.0m	ØJ	25	12	50m	14u	6.0	1.0m	85	30u	2.5k	5.0	25p	A	TO1	
73#	2T63	80m	2.0m	2.0m	*	25	25	50m	10u	6.0	1.0m	32			A				
74#	2T67	80m	2.0m	2.0m	*	25	25	20m	10u	6.0	1.0m	13			A				
75	SYL1326	80m	2.0m	2.0m	ØJ	20	20	200m	10u	.30u	200m	20			30p	A			
76#	2T64	80m	1.0M	1.5m	ØJ	25	25	50m	15u	1.0u	100			250nb	28	1.2	30p	A	
77#	2SD35	83m	1.6m	1.6m	ØJ	20	10	60m	10u	1.0u	250uΔ	108	108	108	A	R18			
78#	2SD36	83m	1.6m	1.6m	ØJ	20	10	60m	10u	1.0u	250uΔ	220	220	220	A	R18			
79	2N648	100m	1.7m	1.7m	#S	25	25	12	100m	14u	1.5u	30m	50	40p	A	TO40			
80#	2T65	100m	2.0m	2.0m	ØJ	25	25	50m	15u	6.0	1.0m	45		30p	A				
81#	2T66	100m	2.0m	2.0m	ØJ	25	25	50m	15u	6.0	1.0m	25		30p	A				
82#	TF70	100m	.25M	2.5m	*A	60	2.5m	150u	5.0	1.0m	10			40	G				
83#	ASY53	100m	500kΔ	2.0m	ØJ	20	10	15	250m	10u	0.0	5.0m	15	5.0u	400	1.0	15	A	R47a
84	2N205	100m	1.6M	1.5m	#J	36	12	100m	4.0u	5.0	1.0m	25			A				
85#	2T69	100m	1.0M	2.0m	#J	25	10	100m	10u	1.0u	10m	50	250nb	28	1.2	30p	A		
86	2N204	100m	1.2M	1.5m	#J	36	12	100m	4.0u	5.0	1.0m	80		40	A				
87	GT792	100m	4.8M	2.0m	#S	20	100m	6.0u	5.0	5.0m	37	Δ			A	TO9			
88	2N1779	100m	5.0M	1.2m	#J	25	15	100m	10u	.75u	100m	40		15p	A	u1			
89	2N1781	100m	6.0M	1.3m	#J	25	12	100m	20u	.25u	20m	60		15p	A	u1			
90#	ASY81	100																	