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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	4 ABS. MAX. RATINGS @25°C (V)	5 BV _{cb0} (V)	6 BV _{ceo} (V)	7 BV _{ebo} (V)	8 I _{cb0} @MAX V _{cb} (A)	9 I _c (A)	TYPICAL h _{FE} PARAMETERS				10 h _{oe} (mhos)	COMMON EMITTER			11 h _{ie} (Ω)	12 h _{re} (Ω)	13 C _{ob} (F)	14 STRUC-TURE	15 DWG # s/a TO200 Ser.	16 C A D E
											BIAS	h _{fe}	h _{oe}	h _{ie}		h _{re}								

\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	
$\%$ - 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} .

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

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

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

\S - 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	M E X P	ABS MAX RATINGS @25°C				MAX. lcbo @MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	STRUC-TURE	DWG Y200 s/a TO200 Ser.	# C O A D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		Vcb (V)	Ic (A)	hfe	COMMON EMITTER							hfe
													hoe (mhos)	hie (Ω)	X.0001					
1	SYL1454	120m	7.0M Δ	#J	25		15	200m	6.0u	.20 ϕ	20m ϕ	110	†							
2	XA702	120m	7.0M	#A	25		20	400m	8.0u	.20 ϕ	20m ϕ	50	†							
3	ZSC181†	120m	10.M	#J	25		20	400m	25u	.30 ϕ	200m	20	Δ †							
4	XA703	120m	13.M	#A	25		20	400m	8.0u	.20 ϕ	20m ϕ	70	†							
5	2SD31	125m		ϕ J	25		10	125m	15u ϕ	1.0 ϕ	2.0m Δ	50	†							
6	2SD32	125m		ϕ J	25		10	125m	15u ϕ	1.0 ϕ	2.0m Δ	90	†							
7	GT1608	125m	4.5M	#S						5.0 ϕ	1.0m			14p						
8	GT1609	125m	5.0M Δ	#S						5.0 ϕ	1.0m			14p						
9	ZSC34†	140m	3.5M Δ	ϕ J		20		250m	3.0u ϕ	0.0	200m	30	†							
10	ZSC35†	140m	4.5M Δ	ϕ J	20			400m	3.0u ϕ	0.0	200m	65	†							
11	ZSC36†	140m	3.5M Δ	ϕ J	20			400m	3.0u ϕ	0.0	200m	100	†							
12	ZSC405†	150m	9.0M Δ	#J	25		15	200m	10u	1.0 ϕ	100m ϕ	60	†							
13	ZSC406†	150m		#J	25		15	200m	10u	1.0 ϕ	100m ϕ	120	†							
14	2SD19	150m		#J	25		10	300m	12u ϕ	1.0 ϕ	20m ϕ	31	†							
15	2SD20	150m		#J	25		10	300m	12u ϕ	1.0 ϕ	20m ϕ	50	†							
16	2SD21	150m		#J	25		10	300m	12u ϕ	1.0 ϕ	20m ϕ	72	†							
17	2SD22	150m		#J	25		10	300m	12u ϕ	1.0 ϕ	20m ϕ	97	†							
18	2SD23	150m		#J	25		10	300m	12u ϕ	1.0 ϕ	20m ϕ	150	†							
19	GT229	150m		#S	12			200m	20u	5.0 ϕ	1.0m	20	†	500nb	30					
20	NKT774	150m		#J	15			300m	15u ϕ	1.5	200m	25	Δ							
21	SYL1380†	150m		ϕ J	25			200m	32u											
22	SYL1468	150m		#J	25			200m	10u	.75 ϕ	200m ϕ	60	†							
23	SYL1591	150m		ϕ J				200m		.40 ϕ	1.0m Δ	25	†		30p					
24	SYL1617	150m		#J	15			100m	5.0u	.50 ϕ	1.0m Δ	110	†							
25	SYL1750	150m		#J	40			100m		6.0 ϕ	1.0m ϕ	70	†							
26	JAN2N2426	150m	25k†	#J	40			100m	20u	6.0 ϕ	1.0m ϕ	125	∇	50u ∇	2.4k		TO5			
27	GT949	150m	700k Δ	#S	30			200m	25u	3.5 ϕ	1.0m Δ	30	†	500nb	3.2		TO5			
28	2N35/5	150m	800k	ϕ J	40			100m	50u	6.0 ϕ	1.0m ϕ	75	†	30u	2.5k	6.0	TO5			
29	NKT751	150m	1.5M	#J	15			200m	50u	1.5 ϕ	50m ϕ	30	Δ				R65			
30	NKT752	150m	1.5M	#J	15			100m	50u	4.5 ϕ	1.0m ϕ	30	Δ				R65			
31	AF192	150m	2.0M Δ	#J	20			100m									TO18			
32	NKT701	150m	2.0M	#J	25			100m		1.0 ϕ	50m ϕ	100	†				R65			
33	NKT703	150m	2.0M	#J	25			200m	50u	1.5 ϕ	50m ϕ	50	Δ				R65			
34	NKT717	150m	2.0M	ϕ J	45			150m	15u ϕ	1.5 ϕ	50m ϕ	40	Δ				TO1			
35	2SD11	150m	2.5M	ϕ J	25			300m	10u	1.0 ϕ	20m ϕ	70	†				TO5			
36	204A	150m	2.5M	ϕ S	60			50m				29	†							
37	2SD104	150m	2.8M	ϕ J	20			400m		.50 ϕ	100m ϕ	60	Δ				TO1			
38	2SD105	150m	2.8M	ϕ J	20			400m		.50 ϕ	100m ϕ	35	Δ				TO1			
39	2SD75	150m	4.0M	#J	25			100m	14u	6.0 ϕ	1.0m	40	†	15.u	1.2k	3.0	TO1			
40	2SD75A	150m	4.0M	#J	45			100m	25u	6.0 ϕ	1.0m	40	†	15.u	1.2k	3.0	TO1			
41	GT904	150m	4.0M	#S	20			200m	25u	.20 ϕ	1.0m Δ	30	†	500nb			TO5			
42	GT948	150m	4.0M Δ	#S	20			200m	20u	3.5 ϕ	1.0m Δ	30	†	500nb			TO5			
43	2G339A	150m	5.0M Δ	#J	10			300m	10u	1.0	50m	150	†				TO5			
44	GT167	150m	5.0M Δ	#S	25			100m	25u	1.0 ϕ	8.0m	25	†	500nb	28	3.0	TO5			
45	SFT184	150m	5.0M Δ	#J	15		15	100m	5.0u	6.0 ϕ	1.0m ϕ	60	Δ				TO5			
46	SFT259	150m	5.0M Δ	#J	20		15	250m	5.0u	0.0	50m ϕ	20	Δ				TO5			
47	TK33C	150m	5.0M	ϕ J	30		12	20		4.5 ϕ	1.0m ϕ	40	†				R47a			
48	SFT260	150m	9.0M Δ	#J	20		15	20		0.0	50m ϕ	25	Δ				TO5			
49	ZSC71	150m	1.0M	ϕ J	18		ϕ	12	200m	7.0u ϕ	.50 ϕ	100m ϕ	100	†				TO5		
50	SYL1327	150m	10.M Δ	#J	25			15	200m	10u	1.0 ϕ	50m ϕ	40	†				TO5		
51	SFT261	150m	13.M Δ	#J	20		15	20		5.0u	50m ϕ	30	Δ				TO5			
52	ZSC72	150m	1.4M	ϕ J	18		ϕ	12	200m	7.0u ϕ	.50 ϕ	100m ϕ	100	†				TO5		
53	SFT298†	150m	15.M	ϕ J	30			20	500m	10u	.45 ϕ	350m ϕ	35	Δ	50u ∇	3.2k ∇		TO5		
54	2N2426	150m	25M Δ	#S	40		25	20		6.0 ϕ	1.0m ϕ	35	Δ	50u ∇	3.2k ∇		TO5			
55	2N2699†	150m	300M Δ	#J	15		8.0	4.0	100m	3.0u ϕ	.30 ϕ	10m ϕ	40	Δ	3.5p ∇	4.0p ∇		TO18		
56	2N955†	150m	1.0G Δ	#J	12		11	2.0	100m	5.0u ϕ	.50 ϕ	30m ϕ	60	†	ME			TO18		
57	2N955A†	150m	1.0G Δ	#J	12			2.0	150m	5.0u	.50 ϕ	30m ϕ	50	†	ME			TO18		
58	2N647/22	180m		#J	25		25	12	50m	14u	1.0 ϕ	50m ϕ	70	†				TO22		
59	2N649/22	180m		#J	20		18	2.5	50m	14u ϕ	1.0 ϕ	50m ϕ	65	†				TO22		
60	2N1102/5	180m	150k	#J	40			100m	50u	1.5	35m ϕ	40	†				TO5			
61	2T85	200m	1.0M	*J	25			200m	15u	1.0	20m	57	†	270nb	28	1.1	TO5			
62	NKT753	200m	1.0M	#J	10			300m	40u	1.5	200m	90	†				TO1			
63	ASY88†	200m*	2.0M Δ	#J	16		12	500m	100u	0.0	10m ϕ	120	∇	100p ∇			TO1			
64	ASY88†	200m*	2.0M Δ	#J	26		16	500m	100u	0.0	10m ϕ	120	∇	100p ∇			TO1			
65	AC157†	200m*	2.5M Δ	#J	26		16	6.0	500m	100u	1.0 ϕ	125m ϕ	80	†				TO1		
66	AC168†	200m*	2.5M Δ	#J	32		20	6.0	500m	100u	1.0 ϕ	125m ϕ	80	†				TO1		
67	ASY87†	200m*	4.0M Δ	#J	16		12	500m	100u	0.0	10m ϕ	295	∇	100p ∇				TO1		
68	ASY89†	200m*	4.0M Δ	#J	26		16	12	500m	100u	0.0	10m ϕ	295	∇	100p ∇			TO1		
69	AC186	215m		#J	30		18	* 10	700m	35u ϕ	2.0 ϕ	150m ϕ	60	Δ	#			R48a		
70	AC141H	220m	3.0M	#J	50			10	1.2	14u ϕ		400m	80	†				TO1		
71	2SD100	250m		#J	32		32	§ 12	400m		1.0 ϕ	150m ϕ	75	†				RO10		
72	2SD101	250m		ϕ J	80		80	§ 6.0	600m	50u ϕ	1.0 ϕ	150m ϕ	70	†				R93		
73	2SD127	250m		#J	23		20	§	500m	20u ϕ	1.0 ϕ	200m ϕ	82	†				TO1		
74	2SD127A	250m		#J	23		20	§	500m	20u ϕ	1.0 ϕ	500m ϕ	46	†# Δ				TO1		
75	2SD128	250m		#J	32		30	§	500m	20u ϕ	1.0 ϕ	20m ϕ	82	†				TO1		
76	2SD193	250m		ϕ J	35			12	400m	500u	1.0 ϕ	150m ϕ	100	†				TO9		
77	2SD100A	250m	1.5M	#J	45		45	§ 12	400m	40u ϕ	1.0 ϕ	150m ϕ	75	†				R10		
78	2N1173	250m	6.0M	#J	35			35	200m	10u ϕ	10 ϕ	500u ϕ	80	†	190nb	56	7.0	TO29		
79	AC141H-K	260m	3.0M	#J	50			10	1.2	14u ϕ		400m	80	†				TO1		
80	2N1585	300m	4.0M	#J	25			2.0	100m	100u	10 ϕ	10m ϕ	20	†	ME	1.8p		TO5		
81	2N2568	1.0 ϕ	596M Δ	#S	32		15	1.0	100m	5.0u ϕ	5.0 ϕ	40m ϕ	10	Δ	3.0p ∇			MT54		