

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.	MAX. COLL. DISS. @25°C (W)	DERATE IN FREE AIR W/°C (Hz)	TEMP. RANGING @25°C (V)	ABS. MAX. RATINGS @25°C (V)	MAX. ICBO @MAX Vcb (A)	MAX. ICB @MAX Vcb (A)	BIAS (V)	COMMON EMITTER (A)	COMMON EMITTER (hfe)	COMMON EMITTER (hoe)	COMMON EMITTER (hie)	COMMON EMITTER (hre)	Cob (F)	STRUCTURE	DWG. # TO200 Ser.	PLC (A, D, E)
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\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	
\S - 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
 \S - Indicates min. values given for BV_{cbo} , 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}

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

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		ABS MAX RATINGS @25°C				MAX. lcb0 @MAX Vcb (A)	TYPICAL 'h' PARAMETERS					Cob (F)	STRUC-TURE	DWG Y200 s/a TO200 Ser.	# C E O D E			
			fab (Hz)	IN FREE AIR W/C	MA	ME	lcb0 (V)	lcbce (V)		lcbve (V)	lc (A)	BIAS							COMMON EMITTER		
					AMP	AMP					Vcb (V)	le (A)	hfe	hoe (mhos)					hie (Ω)	hre (X.0001)	
1	T1384	30m	35M		#J	27		5.0m	10u∅	6.0	50m∅	25 s									
2#	25T1	30m	40.MΔ		#J	11	11 s	10m	6.0u	5.0∅	3.0m∅	20 tΔ						R44			
3	T1378	30m	40.M		#J	16		5.0m	10u∅	6.0	50m∅	34 s						R30			
4#	OC614	30m	45M	1.0m	*A	25		5.0m	10u	.50	45m∅	40						R44			
5	2N33	30m	50M		*A	8.5		7.0m	10u	9.0	2.0m∅	20						R87a			
6	2N248	30m	50.M		*A	25		5.0m	10u	6.0	1.0m	40						OV7			
7#	2T201	30m	50M	769u	*J	15		5.0m	8.0u	6.0	1.0m	24	450nb	40	2.0	1.3p	G	OV8			
8#	2T204	30m	60M	769u	*J	15		5.0m	8.0u	6.0	1.0m	49	450nb	40	2.0	1.5p	G				
9#	AF105	30m	55M	1.0m	*J	25		5.0m	8.0u	5.0	45m	40						R87a			
10#	2T205	30m	60M	769u	*J	15		5.0m	8.0u	6.0	1.0m	49	200nb	40	2.0	1.3p	G				
11#	MDS35	30m	80MΔ		*S	20	20 ∅	2.0	5.0∅	6.0	1.0m	40 Δ						TO1			
12#	OC615	30m	80M	1.0m	*J	25		5.0m	6.0u	5.0	45m	40						R87a			
13#	HF100	30m	250M	769u	*J	15		5.0m	15u	10.0	3.0m	8.5									
14#	HF200	30m	320M	1.3m	*J	30		5.0m	15u	10.0	3.0m	40									
15#	V120	30m*	550MΔ		*S	25		5.0m	10u∅	5.0∅	3.0m∅	15 tΔ									
16	T1XM13	30m\$	1.0G\$Δ	1.2m	*A	15	7.0	30	6.0∅	5.0∅	3.0m∅	15 tΔ				1.4p\$	PE∅	X55			
17	T1XM108	30m\$	1.0G\$Δ	1.2m	*S	15	7.0	30	6.0∅	5.0∅	3.0m∅	15 tΔ				1p∅\$	PE∅	u41			
18	T1XM107	30m\$	1.5G\$Δ	1.2m	*S	15	7.0	30	6.0∅	5.0∅	3.0m∅	15 tΔ				1p∅\$	PE∅	u41			
19	2N82	35m\$			*A	20		15m	16u	17.7		30	80u	2.5k							
20	2N1398	35m			*S	20		10m	20u	30		30						R34			
21	2N1399	35m			*S	20		10m	20u	30		30						R34			
22	2N1400	35m			*S	20		10m	20u	30		30						R34			
23	2N1401	35m			*S	20		10m	20u	30		30						R34			
24	2N1401A	35m			*S	20		10m	20u	30		30						R34			
25	2N1402	35m			*S	20		10m	20u	30		30						R34			
26#	2S96	35m			*S	20		10m	20u	30		30									
27#	2S97	35m			*S	20		10m	20u	30		30									
28#	2S98	35m			*S	20		10m	20u	30		30									
29	2N79	35m	780k	3.3m	*A	30		50m	10u∅	6.0∅	1.0m∅	50	20u	1.7k							
30#	2S31	35m	5.0M		*S	12		10m	10u	10		75				9.5					
31#	2S30	35m	10.M		*S	12		10m	10u	10		45 s				9.5					
32	2N267	35m\$	132M∅		*A	35		1.0	10m	16u∅		12∅	2.0m∅			1.7p	A				
33#	AFY34	35m∅	3.5G*	6.3m	*J	40		.30	20m			10 tΔ					EM				
34#	ES3120	36m*	.30M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	16				50p∅	AT	TO5			
35#	ES3121	36m*	.40M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	24				50p∅	AT	TO5			
36#	ES3122	36m*	.60M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	36				50p∅	AT	TO5			
37#	ES3123	36m*	.80M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	51				50p∅	AT	TO5			
38#	ES3124	36m*	1.0M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	75				50p∅	AT	TO5			
39#	ES3125	36m*	1.5M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	110				50p∅	AT	TO5			
40#	ES3126	36m*	2.0M	1.8m	*J	30	15	10m	6.0∅	5.0	1.0m∅	160				50p∅	AT	TO5			
41#	2SB23	40m			*J	15		5.0	10m	10u	6.0∅	1.0m					A	TO1			
42#	2SB24	40m			*J	15		5.0	10m	10u	6.0∅	1.0m					A	R89			
43#	2SB91	40m		769u	*J	18		12	5.0m	14u	6.0	1.0m	70	200nb	30	2.5		TO2			
44#	2SB97	40m		769u	*J	18		12	5.0m	14u	6.0	1.0m	70				A∅	TO2			
45	CK891	40m†			*A	12		50m	5.5u	1.5	50m	160					FA∅	u11			
46	CK892	40m†			*A	12		50m	5.5u	1.5	50m	160					FA∅	u11			
47#	AC164	40m	10k	833u	*J	10	10	.50	30m	2.0∅	50∅	200u	40 Δ				AT	u20			
48#	2SB90	40m	1.0M	3.0m	*J	25		.12	50m	14u	6.0	1.0m	150	200nb	30	2.5		TO2			
49#	2SB321	40m	6.0M	769u	*J	12		.12	50m	4.0∅	1.5	500u	100	20u	4.0k	6.0	12p	A∅	R88		
50#	2SB322	40m	6.0M	769u	*J	12		.12	50m	4.0∅	1.5	500u	50	19u	3.0k	5.0	12p	A	R88		
51#	2SB323	40m	6.0M	769u	*J	12		.12	50m	4.0∅	1.5	500u	100	20u	4.0k	6.0	12p	A	R88		
52#	2SB302	40m	12.M		*J	10		5.0	2.0m	6.0	6.0	1.0m	80	27u	4.5k	4.0	10p	A	TO1		
53	JAN2N300	40m	85M*Δ	1.1m	*S	7.0	4.5	5.0	20m	3.0∅	3.0	500u	10 Δ	5.0u∅	90 ∅		4.0p∅	∅	TO24		
54	2N623	40m	90.M	1.0m	*J	30		1.0	10u	6.0∅	2.0m∅	35				3.5p	∅				
55	T19051	40m	120M\$	667u	*S	12		2.0	50m	100u	5.0∅	10m∅	50				5p∅	MA	TO9		
56#	2SA260	40m	200M\$		*J	20	10 ∅	4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
57#	2SA261	40m	400M\$		*J	20		4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
58#	2SA262	40m	400M\$		*J	20		4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
59#	2SA263	40m	400M\$		*J	20		4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
60#	2SA264	40m	600M\$		*J	20		4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
61#	2SA265	40m	600M\$		*J	20		4.0	5.0m	15u	6.0∅	2.0m∅	10				1.5p	ME	TO17		
62	T1XM104	40m	1.4G\$Δ	2.6m	*S	12	10	.30	20m	6.0∅	9.0∅	2.0m∅	10 tΔ				1.0p\$∅	PL∅	X60		
63#	2SA448	40m	1.6G\$		*J	15		5.0	50m	10u∅	3.0∅	3.0m∅	40 t				3p∅	PL	TO17		
64	T1XM103	40m	1.8G\$Δ	2.6m	*S	12	10	.30	20m	6.0∅	9.0∅	2.0m∅	10 tΔ				1.0p\$∅	PL∅	X60		
65	T1XM105	40mΔ	2.2G\$Δ	2.6m	*S	12	10	.30	20m	6.0∅	9.0∅	2.0m∅	10 tΔ				1p∅	PE∅	u26		
66	T1XM106	40mΔ	2.2G\$Δ	2.6m	*S	12	10	.30	20m	6.0∅	9.0∅	2.0m∅	10 tΔ				1p∅	PE∅	u41		
67#	OC330	45m	800k	1.5m	*J	15		35m	35m	5.0∅	1.0m	24	25u	1.0k	6.0			A	R39		
68#	OC360	45m	800k	1.5m	*J	15		35m	35m	5.0∅	1.0m	70	30u	1.2k	7.5			A	R39		
69#	OC340	45m	1.1M	1.5m	*J	15		35m	35m	5.0∅	1.0m	70	45u	1.8k	11			A	R39		
70#	OC350	45m	2.0M	1.5m	*J	15	8.0	35m	35m	5.0∅	1.0m	150	50u	4.5k	13			A	R39		
71	2N38A	50m			*A	20		8.0m	12u∅	3.0	50m∅	18									
72	2N41	50m			*A	25		15m	10u∅			40 s									
73	2N46	50m			*A	25	15	15m	10u∅	6.0∅	1.0m	40									
74	2N62	50m			*A	35		20m	10u∅												
75	2N81	50m\$			*A	20		15m	16u	6.0∅	1.0mΔ	20 Δ	80u	2.5k		50p	A	TO24			
76#	2SB184	50m		833u	*J	12	2.5	20m	20u	2.0∅	5.0m∅	100						PA	TO2		
77#	2SB349	50m			*A	20		20u	20u	1.5∅	10m∅	150						A	TO1		
78	1032	50m			*A	25		40m	10u∅			12									
79	1033	50m			*A	25		40m	10u∅			24									
80	1034	50m			*A	25		40m	10u∅			41									
81	1035	50m			*A	25		40m	10u∅			61									
82	1036	50m			*A	25		40m	10u∅			86									
83	1320	50m			*A	25		40m	10u∅			12									
84	1330	50m			*A	25		40m	10u∅			24									
85	1340	50m			*A	25		40m	10u∅			41									
86	1350	50m			*A	25		40m	10u∅			61									
87																					