

SYMBOLS & CODES EXPLAINED

6. "P" Channel

7. "N" Channel — SILICON FIELD EFFECT TRANSISTORS

LINE No.	TYPE No.	1 MAX. DEVICE DISS @ 25°C (W)	2 MAX. Id=0 (V)	3 MAX. Vds (V)	4 ABS. MAX. BVdss (V)	ABS. MAX. RATINGS @ 25°C		7 Max. Idss @ Vgs=0 (A)	8 Max. Igss @ Vgs>Vp (A)	TEST COND.		PARAMETERS @ 25°C COMMON SOURCE		13 Rds (Ω)	14 MAX. Cis (F)	15 DERATE IN FREE AIR W/°C	16 STRUC-TURE	17 DWG # Y200 s/s TO200 Ser.	18 # C A D E
						Id (A)	Ig (A)			Vgs (V)	Vds (V)	gfs (mhos)	Yos (mhos)						

▼ - 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.

† - VGS (Cut Off)  
 △ - VGS (Threshold)  
 % - Typical  
 # - Minimum

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

△ - BV DSO  
 † - BV DSX  
 △ - BV DGO

△ - Typical § - gfg  
 † - Pulsed  
 % - High Frequency (Vfs)  
 □ - YFS

△ - Yis § - Yog  
 † - Not at given test conditions  
 % - Maximum  
 \* - Pulsed

△ - VGD  
 † - VDG  
 ∅ - Id in mA  
 △ - I GDO

△ - Idss @ VGS = 0 and VDS ≈ Vp  
 ∅ - VGS > 0  
 # - Minimum  
 \* - Typical  
 % - Pulsed

% - Maximum  
 △ - Not given at test conditions  
 † - RDS(on) at VDS = 0

# - Ciss (Output Shorted)  
 △ - C dgs  
 † - C gss  
 % - Not given at test conditions  
 \* - Typical  
 □ - C dss  
 ∅ - C dgo § - Cigs

STRUCTURE  
 D - Diffused  
 E - Epitaxial  
 Ge - GermaniumPE  
 PE - Planar Epitaxial  
 PL - Planar  
 # - Junction Type  
 \* - Insulated Gate (MOS Type)  
 § - Matched pair or dual  
 △ - Switching, other uses  
 % - Chopper, Other uses  
 † - Noise figure 8db or below  
 H - Plastic Package  
 § - Hometaxial  
 % - 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	2 MAX. FREE AIR @ 25°C (W)	3 Pcm X M P	ABSOLUTE MAX. RATINGS @ 25°C				9 MAX. Icbo @ 25°C (A)	10 MAX. Vcb (V)	11 BIAS Ic (A)	12 MIN. fce (Hz)	13 MAX. fce (Hz)	14 MAX. SAT. RES. (Ω)	15 tr (s)	16 STRUC-TURE	17 DWG # Y200 s/s TO200 Ser.	18 # C A D E
					Ic (A)	Ib (A)	BVcbo (V)	BVceo (V)										

† - 40°C  
 \* - 45°C  
 # - 50°C  
 □ - 60°C  
 § - 75°C  
 Symbols indicate temperature at which derating starts.

∅ - With infinite heat sink  
 Following symbols indicate temp at which derating starts:  
 † - 40°C  
 \* - 45°C  
 # - 50°C  
 □ - 60°C  
 § - 70°C  
 \$ - 100°C  
 % - Min.

\* - 50-65°C  
 ∅ - 70-80°C  
 # - 85-100°C  
 † - 110-125°C  
 ‡ - 130-135°C  
 § - 140-165°C  
 \$ - 170-200°C  
 ▼ - Over 200°C

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

∅ - At VCB < Max. VCB (see mfr. spec.)  
 # - IC EX  
 § - IC ES  
 \$ - Typical  
 \* - Icer  
 △ - IC EO  
 ◆ - At Temp. 25°C Case  
 † - At Temp. > 25°C

# - BV CEX or punch-through  
 ∅ - BV CES  
 § - BV CER  
 \* - Pulsed  
 □ - BV ceo(SUS)  
 \$ - Minimum

† - At Temp. 25°C Case  
 \$ - Minimum  
 ∅ - IE  
 # - Pulsed  
 \$ - Minimum

† - hfe  
 # - Pulsed  
 ∅ - Typical  
 \* - Available to selected range narrower than indicated

□ - Maximum  
 ∅ - td + tr = Ton  
 § - ts  
 # - tf  
 † - ts + tf = Toff  
 \* - Ton + Toff

▼ - Typical Value # - Pulsed

# - Rated max. operating frequency  
 † - fcb  
 § - Gain bandwidth product (fr)  
 \* - 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.)

# 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	ABSOLUTE MAX. RATINGS @ 25°C					MAX. hFE			MIN	MAX	fae (Hz)	MAX. SAT. RES. (Ω)	tr (s)	STRUC-TURE	Y200 s/a TO200 Ser.	DWG #	C O D E	
						Ic (A)	Ib (A)	BVcbo (V)	BVebo (V)	BVceo (V)	Icbo @ MAX 25°C (A)	Vcb (V)	Vbc (V)										Ic (A)
1	153-241	1.3	200	∅	∅	∅	7.5	3.0	265	25	240	10m#	4.00	1.5	15		866m	3.0u∅	DM	MT58			
2	153-261	1.3	200	∅	∅	∅	7.5	3.0	285	25	260	10m#	4.00	1.5	15		866m	3.0u∅	DM	MT58			
3	153-281	1.3	200	∅	∅	∅	7.5	3.0	305	25	280	10m#	4.00	1.5	15		866m	3.0u∅	DM	MT58			
4	153-301	1.3	200	∅	∅	∅	7.5	3.0	325	25	300	10m#	4.00	1.5	15		866m	3.0u∅	DM	MT58			
5	154-241	1.3	200	∅	∅	∅	7.5	3.0	265	25	240	10m#	4.00	1.5	25		833m	3.0u∅	DM	MT58			
6	154-261	1.3	200	∅	∅	∅	7.5	3.0	285	25	260	10m#	4.00	1.5	25		833m	3.0u∅	DM	MT58			
7	154-281	1.3	200	∅	∅	∅	7.5	3.0	305	25	280	10m#	4.00	1.5	25		833m	3.0u∅	DM	MT58			
8	154-301	1.3	200	∅	∅	∅	7.5	3.0	325	25	300	10m#	4.00	1.5	25		833m	3.0u∅	DM	MT58			
9	DTS1031	1.3	125	∅	∅	∅	15	5.0	80	5.0	60	250uΔ	1.50	5.0	20	55	4.0M\$Δ	180m	550n	DM	TO3	C∅	
10	DTS1041	1.3	125	∅	∅	∅	15	5.0	80	5.0	60	250uΔ	1.50	5.0	20	120	4.0M\$Δ	150m	550n	DM	TO3	C∅	
11	DTS1051	1.3	125	∅	∅	∅	15	5.0	100	5.0	80	250uΔ	1.50	5.0	20	55	4.0M\$Δ	180m	550n	DM	TO3	C∅	
12	DTS1061	1.3	125	∅	∅	∅	15	5.0	110	5.0	90	250uΔ	1.50	5.0	20	55	4.0M\$Δ	180m	550n	DM	TO3	C∅	
13	DTS1071	1.3	125	∅	∅	∅	15	5.0	120	5.0	100	250uΔ	1.50	5.0	20	55	4.0M\$Δ	180m	550n	DM	TO3	C∅	
14	DTS108	1.3	125	∅	∅	∅	15	5.0	100	5.0	100	250uΔ	1.50	5.0	20	120	4.0M\$Δ	150m	550n	DM	TO3	C∅	
15	DTS3704	1.3	∅	∅	∅	∅	2.0	.50	200	5.0	200	∅	5.00	.50	20	80	115k	1.6			TO41		
16	DTS3704A	1.3	∅	∅	∅	∅	2.0	.50	300	5.0	300	∅	5.00	.50	20	80	115k	1.6			TO41		
17	DTS3704B	1.3	∅	∅	∅	∅	2.0	.50	400	5.0	335	∅	5.00	.50	20	80	115k	1.6			TO41		
18	DTS3705	1.3	∅	∅	∅	∅	3.5		200	5.0	200	.50m	1.0	25	75	110k	.80				TO3		
19	DTS3705A	1.3	∅	∅	∅	∅	3.5		300	5.0	300	.50m	1.0	25	75	110k	.80				TO3		
20	DTS3705B	1.3	∅	∅	∅	∅	3.5		400	5.0	400	.50m	1.0	25	75	110k	.80				TO3		
21	SDT2101	1.3	∅	∅	∅	∅	#J 150		10	5.0	10		150	40	∅		450k\$				MT41		
22	SDT2110	1.3	∅	∅	∅	∅	#J 150		10	5.0	10		150	40	∅		450k\$				MT41a		
23	SDT2111	1.3	∅	∅	∅	∅	#J 175		10	5.0	10		175	40	∅		450k\$				MT41a		
24	SDT2112	1.3	∅	∅	∅	∅	#J 200		10	5.0	10		200	40	∅		450k\$				MT41a		
25	SDT2150	1.3	∅	∅	∅	∅	#J 150		10	5.0	10		150	40	∅		450k\$				R121		
26	SDT2151	1.3	∅	∅	∅	∅	#J 175		10	5.0	10		175	40	∅		450k\$				R121		
27	SDT2152	1.3	∅	∅	∅	∅	#J 200		10	5.0	10		200	40	∅		450k\$				R121		
28	2N1016B/M	1.4 *	150	∅	∅	∅	7.5	5.0	100	25	100	1.0m	4.00	5.0	10	35	30k	500m	6.0u∅	FΔ	MT1		
29	2N1016C/M	1.4 *	150	∅	∅	∅	7.5	5.0	150	25	150	1.0m	4.00	5.0	10	35	30k	500m	6.0u∅	FΔ	MT1		
30	2N25841	1.4 *	150	∅	∅	∅	5.0	1.0	600	5.0	600	5.0m#	5.00	5.0	10	40	30kΔ	140m	6.0u∅		TO36	C∅	
31	2N25851	1.4 *	150	∅	∅	∅	5.0	1.0	600	5.0	600	5.0m#	5.00	5.0	25	65	30kΔ	1.0	6.0u∅		TO36	C∅	
32	151-241	1.4	100	∅	∅	∅	6.0	3.0	265	25	240	10m#	4.00	1.5	22	∅	870m	7.0u∅	F	MT1			
33	151-261	1.4	100	∅	∅	∅	6.0	3.0	285	25	260	10m#	4.00	1.5	22	∅	870m	7.0u∅	F	MT1			
34	151-281	1.4	100	∅	∅	∅	6.0	3.0	305	25	280	10m#	4.00	1.5	22	∅	870m	7.0u∅	F	MT1	A		
35	152-241	1.4	100	∅	∅	∅	6.0	3.0	265	25	240	10m#	4.00	1.5	37	∅	830m	7.0u∅	F	MT1			
36	152-261	1.4	100	∅	∅	∅	6.0	3.0	285	25	260	10m#	4.00	1.5	37	∅	830m	7.0u∅	F	MT1	A		
37	152-281	1.4	100	∅	∅	∅	6.0	3.0	305	25	280	10m#	4.00	1.5	37	∅	830m	7.0u∅	F	MT1	A		
38	1776-04401	1.4 \$	150	∅	∅	∅	75	#↑	15	40	7.01	40	2.0m#	3.00	40	15	#	20M\$Δ	25m	500n∅	EM	TO63	A
39	1776-04601	1.4 \$	150	∅	∅	∅	75	#↑	15	40	7.01	40	2.0m#	3.00	60	15	#	20M\$Δ	25m	600n∅	EM	TO63	A
40	1776-18601	1.4 \$	150	∅	∅	∅	75	#	15	#	180	7.0	180	∅	60	15	#	20M\$Δ	25m	600n∅	EM	TO63	A
41	AMF227	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	2.0	10		20k	750m		ME	MT1		
42	AMF227A	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	2.0	10		20k	750m		ME	MT1		
43	AMF227B	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	2.0	10		20k	750m		ME	MT1		
44	AMF227C	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	2.0	10		20k	750m		ME	MT1		
45	AMF228	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	5.0	10		20k	500m		ME	MT1		
46	AMF228A	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	5.0	10		20k	500m		ME	MT1		
47	AMF228B	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	5.0	10		20k	500m		ME	MT1		
48	AMF228C	1.4 *	150	∅	∅	∅	7.5	#	50	30	50	30	4.00	5.0	10		20k	500m		ME	MT1		
49	AMF229	1.4 *	150	∅	∅	∅	4.0		30	50	30	∅	4.00	1.0	10		20k	1.0		ME	MT1		
50	AMF229A	1.4 *	150	∅	∅	∅	4.0		60	50	60	∅	4.00	1.0	10		20k	1.0		ME	MT1		
51	AMF229B	1.4 *	150	∅	∅	∅	4.0		100	50	100	∅	4.00	1.0	10		20k	1.0		ME	MT1		
52	AMF229C	1.4 *	150	∅	∅	∅	4.0		150	50	150	∅	4.00	1.0	10		20k	1.0		ME	MT1		
53	BSC1015	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	30	#	4.00	2.0	10		20k	750m		DM	MT1		
54	BSC1015A	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	60	#	4.00	2.0	10		20k	750m		DM	MT1		
55	BSC1015B	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	100	#	4.00	2.0	10		20k	750m		DM	MT1		
56	BSC1016	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	30	#	4.00	5.0	10		20k	500m		DM	MT1		
57	BSC1016A	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	60	#	4.00	5.0	10		20k	500m		DM	MT1		
58	BSC1016B	1.4 *	150	∅	∅	∅	7.5	5.0	10	10	100	#	4.00	5.0	10		20k	500m		DM	MT1		
59	SDT2205	1.4	121	∅	∅	∅	50	10	10	5.0	5.0	5.0m	1.00	50	40	#	120	∅	450k	3.0m	A	MT23	
60	SDT2305	1.4	121	∅	∅	∅	50	10	10	5.0	5.0	5.0m	1.00	50	40	#	120	∅	450k	3.0m	A	TO36	C∅
61	SEC1477	1.4	∅	∅	∅	∅	∅	∅	50	9.0	50	∅	5.0	5.0	2.0		2.0				MT1		
62	SEC1478	1.4	∅	∅	∅	∅	∅	∅	100	9.0	100	∅	5.0	5.0	2.0		2.0				MT1		
63	SEC1479	1.4	∅	∅	∅	∅	∅	∅	50	9.0	50	∅	5.0	5.0	2.0		2.0				MT1		
64	SEC1480	1.4	∅	∅	∅	∅	∅	∅	100	9.0	100	∅	5.0	5.0	2.0		2.0				MT1		
65	STC1015	1.4	150	∅	∅	∅	7.5	5.0	30	10	30	10m	4.00	2.0	10		2.5Mt	750m	900n	D	MT1		
66	STC1015A	1.4	150	∅	∅	∅	7.5	5.0	60	10	60	10m	4.00	2.0	10		2.5Mt	750m	900n	D	MT1		
67	STC1015B	1.4	150	∅	∅	∅	7.5	5.0	100	10	100	10m	4.00	2.0	10		2.5Mt	750m	900n	D	MT1		
68	STC1015C	1.4	150	∅	∅	∅	7.5	5.0	150	10	150	10m	4.00	2.0	10		2.5Mt	750m	900n	D	MT1		
69	STC1015D	1.4	150	∅	∅	∅	7.5	5.0	200	10	200	10m	4.00	2.0	10		2						