

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 & Vds>Vp (A)	8 MAX. Igss @ Vgs>Vp & Vds=0 (A)	TEST COND.		PARAMETERS @ 25°C		13 Rds (Ω)	14 MAX. Cis (F)	DERATE IN FREE AIR W/°C	15 MAX. TEMP (°C)	STRUCTURE	DWG. Y200 s/s TO200 Ser.	# C A D E
						Id (A)	Ig (A)			Vgs (V)	Vds (V)	gfs (mhos)	Yos							

▼ - 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 given test conditions  
 % - Maximum  
 \* - Pulsed

△ - VGD  
 † - VDG

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

∅ - ID in mA

△ - I GDO

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

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

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)	BIAS Ic (A)	11 MIN. fce (Hz)	12 MAX. fce (Hz)	13 fce (Hz)	14 MAX. SAT. RES. (Ω)	tr (s)	STRUCTURE	DWG. Y200 s/s TO200 Ser.	# C A D E
					Ic (A)	Ib (A)	BVcbo (V)	BVceo (V)											

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

∅ - With infinite heat sink  
 Following symbols indicate temp at which derating starts:  
 † - 40°C    □ - 60°C    ◆ - 80°C  
 \* - 45°C    § - 70°C    ∇ - Pulsed  
 # - 50°C    § - 100°C    % - Min.

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

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

∅ - At VCB < Max. VCB (see mfr. spec.)  
 # - ICEX    \* - Icer    △ - ICeO  
 § - ICES    ◆ - At Temp. 25°C Case  
 § - Typical    † - At Temp. > 25°C

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

† - At Temp. 25°C Case  
 § - Minimum

∅ - IE  
 # - Pulsed  
 § - Minimum

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

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

▼ - Typical Value # - Pulsed

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

# 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. Id (A)		MAX. Idss @ Vgs=0 & Vds=0 (A)		MAX. Igss @ Vgs>Vp & Vds=0 (A)		TEST COND (V)		COMMON SOURCE (gfs)		r(DS) on (Ω)	MAX. Cis (F)	DERATE IN FREE AIR W/°C	MAX TEMP (°C)	STRUCTURE	DWG # Y200 /s/a TO200 Ser.	# C O A D E		
			Id=0 (V)	Vds (V)	Vdss (V)	BVdss (V)	Id (A)	Ig (A)	Idss (A)	Igss (A)	Vgs (V)	Vds (V)	MIN (mhos)	MAX (mhos)	Yos (mhos)										
1	MEM519				30	40																			
2#	ML111B		6.5†	4.0	40	40												1.6k	3.0p†	4.0m	125S	Δ*	R115b		
3#	ML131B		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	2.0m	125S	Δ*	L75b		
4#	ML132A		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	4.0m	125S	Δ*	L53a		
5#	ML132B		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	4.0m	125S	Δ*	L53b		
6#	MT131B		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	2.0m	125S	Δ*	L75b		
7#	MT132A		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	4.0m	125S	Δ*	L53a		
8#	MT132B		2.4†	2.4*	20	20	20m							1.0‡	3.2	1.6mΔ		330 †	3.0p	4.0m	125S	Δ*	L53b		
9	UC41	10m†	2.5	2.4*	30	30	30Δ			300uΔ	10p		0.0	20	100u				2.5p	2.0m	200J	E	TO72	DG	
10	UC43	10m	2.5	2.0	30	30				300u	10p								5.0p#	2.0m	200S	PE	u23	DB	
11	2N3697	18m†	1.8	2.0	30	30	60m	50m		60mΔ	10n		0.0	20	50m	1.0m	6.0u%		5.0p#	2.0m	200S	PE	TO72	DG	
12	UC40	30m†	5.0	2.0	30	30	30Δ			1.0mΔ	10p		0.0	20	150u				2.5p	2.0m	200J	E	TO72	DG	
13	UC42	30m	5.0	2.0	30	30				1.0m	10p								5.0p#	2.0m	200J	PE	u23	DB	
14	2N3113	50m	4.0	5.0	30	30	10m	10m		180uΔ	50p		0.0	5.0	50u		120u		2.0p#	200S	PE	TO18	DA		
15	2N3610	100m	7.0Δ	*	20	20				600u	20p							2.5k%	15m	200S	PE	TO72	DP		
16	2SJ11	100m	5.0	10	20	20				10m	900u	1.0n	0.0	10	100uΔ	600uΔ			2.0p*	150	150	PE	TO17		
17	2SJ12	100m	5.0	10	20	20				10m	.90m	1.0n	0.0	10	1.0mΔ	.6mΔ			2.0p*	150	150	PE	TO17		
18#	3SJ11†	100m	6.5Δ	*	30	30	10m			100n			10	10	300u			1.0k†	5.0p#*	1.0m	150S	PE	TO72	DU	
19	MEM300	100m	5.5Δ	10*	75	75	20m	100u	500p									750	3.5p#	660u	200S	Δ*	TO72	DM	
20	MEM301	100m	6.0Δ	10*	60	60	20m	100u	1.0n									1.0k	4.5p#	660u	200S	Δ*	TO72	DM	
21	MEM302	100m	6.0Δ	10*	40	40	20m	100u	1.0n									1.2k	5.0p#	660u	200S	Δ*	TO72	DM	
22	T1XM12	100m	3.5†	8.0Δ	20	20				25m	10u		5.0‡	8.0	5.0m	1.7m	50n		9.0p#	1.3m	125S	Ge	R110b	DB	
23	2N3695	112m†	4.5	20	30	30	3.7m	50m	3.7mΔ	100u			0.0	20	1.0m				5.0p#	2.0m	200S	Δ*	TO72	DG	
24	SD5010*	112m	5.5†	*	30	25	25m	100u	5.0 †	1.0n			10	10	500u			250 Δ	1.1p†*	1.1m	125J	Δ*	L53		
25	SD5011*	112m	5.5†	*	30	40	25m	100u	5.0 †	3.0p			10	10	500u			250 Δ	1.1p†*	1.1m	125J	Δ*	L54		
26	SD5012*	112m	4.5†	*	65	50	25m	100u	5.0 †	1.0n			10	10	1.2m			400 Δ	1.1p†*	1.1m	125J	Δ*	L53		
27	SD5013*	112m	4.5†	*	65	65	25m	100u	5.0 †	3.0p			10	10	1.2m			400 Δ	1.1p†*	1.1m	125J	Δ*	L54		
28	SD5014*	112m	6.0†	*	100	50	25m	100u	5.0 †	1.0n			10	10	500u			850 Δ	1.1p†*	1.1m	125J	Δ*	L53		
29	SD5015*	112m	6.0†	*	100	80	25m	100u	5.0 †	3.0p			15	15	500u			850 Δ	1.1p†*	1.1m	125J	Δ*	L54		
30	VI1010	112m	6.0Δ	*	50	40	25m	100u	1.0n				10	10	500u%				1.1p†	1.1m	125J	Δ*	L53		
31	2N3377	150m	5.0	5.0	30	30	100m	50m	6m%Δ	43.0n			0.0	10	80m	2.3m†		1.5k†	2.0pΔ	1.0m	200S	Δ*	u22		
32	2N3379	150m	5.0	5.0	30	30	100m	50m	6m%Δ	43.0n			0.0	10	1.5m	2.3m†		.75k†	2.0pΔ	1.0m	200S	Δ*	u22		
33	2N3381	150m	9.5	5.0	30	30	100m	50m	20m%Δ	43.0n			0.0	10	1.5m	3m†		.60k†	2.0pΔ	1.0m	200S	Δ*	u22		
34	2N3383	150m	5.0	5.0	30	30	100m	50m	30m%	15n			0.0	10	4.5m	13m†		.30k†	5.0pΔ	1.0m	200S	Δ*	u22		
35	2N3385	150m	5.0	5.0	30	30	100m	50m	30m%	15n			0.0	10	7.5m	13m†		.18k†	5.0pΔ	1.0m	200S	Δ*	u22		
36	2N3387	150m	9.5	5.0	30	30	100m	50m	50m%Δ	15n			0.0	10	7.5m	15m†		.15k†	7.0pΔ	1.0m	200S	Δ*	u22		
37	K1501	150m	7.0Δ	10	15	50	35m						10	10	1.0m	2.0mΔ		300	1.0pΔ	1.75J	Δ*	TO72	DR		
38	K1502	150m	7.0Δ	10	15	50	35m						10	10	1.0m	2.0mΔ		300	1.0pΔ	1.75J	Δ*	TO72	DR		
39	K1504	150m	7.0Δ	10	15	50	35m						10	10	800u	2.0mΔ		700	1.0pΔ	1.75J	Δ*	TO72	DR		
40	T1XM301	150m			20	20		10m	25m	6.0p			5.0‡	8.0	6.5m	20m	20u		500	8.0p	2.0m	125J	GeE	TO72	DG
41	UC140	180m†	4.0	20	30	30	30Δ			6.0mΔ	10p		0.0	20	2.2m					200J	200S	PE	TO72	DG	
42	2N3882	200m	3.0Δ		40	25				1.0m					1.0mΔ						200J	Δ*	TO72	DK	
43	MT01	200m	6.2Δ	*	30	25				20n			1.0‡		650u	890uΔ		200	6.9p†	2.0m	125J	Δ*	L25		
44#	MT101B	200m	6.5Δ	6.5*	25	25				20nΔ			1.0‡	6.5	650u	850uΔ		470 Δ	6.9p†	2.0m	125C	Δ*	R115	DR	
45#	MT102B	200m	6.5Δ	6.5*	25	25				20nΔ			1.0‡	6.5	650u	850uΔ		470 Δ	6.9p†	4.0m	125C	Δ*	L54a		
46#	RN1020	200m	3.0Δ	15*	25	25				25n	100p		1.0‡	15	1.0m	2.4m		600	3.0p†	125J	Δ*	R38s			
47	RN1030	200m	3.0Δ	15*	25	25				1.5n	100p		5.0	50	5.0			600	4.0p†	125J	Δ*	R38s			
48	RN1030A	200m	2.2Δ	5.0*	24	24				1.0n	100p		5.0	50	5.0			450	3.0p†	125J	Δ*	R38s			
49	RN3020	200m	3.0Δ	15*	25	25				50n	100p		1.0‡	15	1.0m	2.4m		600	4.0p†	125J	Δ*	R38af			
50	RN3020R	200m	3.0Δ	15*	25	25				50n	100p		1.0‡	15	1.0m	2.4m		600	4.0p†	125J	Δ*	R38y			
51	RN3030	200m	3.0Δ	5.0*	15	15				5.0n	100p		5.0	50	5.0			650	4.0p†	125J	Δ*	R38af			
52	RN3030R	200m	3.0Δ	5.0*	15	15				5.0n	100p		5.0	50	5.0			650	4.0p†	125J	Δ*	R38y			
53#	SFF103	200m	5.0Δ	*	25	25	50						5.0‡	15	1.0			150	3.0 Δ*	2.0m	125J	Δ*	TO72	DJ	
54#	SFF121	200m	5.0Δ	*	20	25	20						5.0‡	15	800m			600	5.0mΔ	2.0m	125J	Δ*	TO72	DJ	
55	VF28	200m	10†	10Δ	20	20		50m	30mΔ	10n			0.0	10	2.0m	8.0m	100u	700 †	20p#	2.0m	125J	Δ*	R124b		
56	2N5505V	250m	4.0†	10	30	30		200u	7.0m	25n			0.0	10	1.0m	3.5m	60u%		16p#	2.0m	150S	#	L21		
57	2N5506V	250m	4.0†	10	30	30		200u	7.0m	25n			0.0	10	1.0m	3.5m	60u%		16p#	2.0m	150S	#	L21		
58	2N5507V	250m	4.0†	10	30	30		200u	7.0m	25n			0.0	10	1.0m										