

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 COMMON SOURCE		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 (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

% - 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 § - 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)	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.)



**SYMBOLS & CODES EXPLAINED**

**SYMBOLS & CODES COMMON TO MORE THAN ONE TECHNICAL SECTION**

**LINE No.**  
 ▼ - New Type  
 ♦ - Revised Specifications  
 # - Non-JEDEC type manufactured outside U.S.A.

**TYPE No.**  
 † - Switching type, also listed in Section 12  
 ∅ - Chopper, also listed in Section 13, Category 10  
 \* - These types also included elsewhere with other characteristics. See Type No. Cross Index for alternate line number.  
 § - 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  
 □ - Chopper, other uses  
 ∅ - Noise figure 8db or below  
 † - Plastic package  
 % - Overlay

**12. SWITCHING TRANSISTORS** \* THESE TYPES ALSO INCLUDED ELSEWHERE WITH OTHER CHARACTERISTICS SEE TYPE NO. CROSS INDEX FOR ADDITIONAL PAGE & LINE NO.

LINE No.	TYPE No.	fab (Hz)	MAX RISE TIME tr (ns)	MAX DELAY TIME td (ns)	MAX STORE TIME ts (ns)	MAX FALL TIME tf (ns)	MAX. P <sub>c</sub> IN FREE AIR @ 25°C (W)	BIAS			MAX. SAT. RES. (Ω)	C <sub>ob</sub> (F)	r <sub>bb</sub> X C <sub>ob</sub> (ns)	STRUCTURE	DESCRIPTION	MAX. TEMP (°C)	DWG. No.	L C O A D E
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

† -  $f \alpha_e$   
 § - Gain bandwidth product ( $f_T$ )  
 \* - Maximum frequency of oscillation  
 ∅ - Figure of merit (frequency for unity power gain)  
 Δ - Minimum □ - Maximum

§ - Charge storage time constant  
 ▼ - Stored base charge - picocoulomb  
 ♦ - Total switching time  
 ∅ -  $T_{on} = t_r + t_d$   
 † - Typical Value

∅ -  $T_{off} = t_s + t_f$   
 † - Typical Value  
 \* -  $T_{on} + T_{off} = t_d + t_r + t_f + t_s$

∅ -  $V_{CE}$   
 ∅ -  $I_C$   
 Δ -  $I_B$   
 † -  $h_{fe}$   
 # - Pulsed  
 Δ - Minimum  
 □ - Maximum  
 \* - Available to selected range narrower than indicated  
 § -  $Y_{fs}$  in millimho (FET's only). Bias values are  $V_{DS}$  &  $I_D$   
 ∅ - With infinite heat sink  
 Following symbols indicate temperature at which derating starts:  
 † - 40°C § - 70°C  
 \* - 45°C ♦ - 100°C or greater  
 # - 50°C ∅ - 80°C  
 □ - 60°C Δ - Pulsed

† -  $r'_{bb}$   
 □ - Maximum  
 § -  $C_{cb}$   
 § -  $C_{iss}$  (FET's only)

§ - Tetrode  
 N - NPN or "N" Channel  
 P - PNP or "P" Channel  
 § - Field Effect Transistor  
 # - Radiation Resistant Device (See above also)

A - Ambient  
 C - Case  
 J - Junction  
 S - Storage

**13. MISCELLANEOUS TRANSISTORS**

LINE No.	TYPE No.	CATEGORY	STRUCTURE	MATERIAL	DWG. No.	L C O A D E	DESCRIPTION
1	2	3	4	5	6	7	8

- 1 - Avalanche Mode
- 2 - Bi-directional
- 3 - Field Effect
- 4 - Hook Collector
- 5 - Complementary Symmetry (PNP & NPN) Matched Pair
- 6 - Matched Pair
- 7 - Phototransistor
- 8 - Tetrode
- 9 - Unijunction: N-N-type emitter (P-type Base) P-P-type emitter (N-type Base)
- 10 - Chopper
- 11 - Unmatched Composite (Dual)
- 12 - Cryogenic
- 13 - Radiation Resistant Devices
- 14 - Pressure Sensitive
- 15 - Transistor chips
- 16 - Darlington
- 17 - Microwave

N - NPN or N Channel  
 P - PNP or P Channel (See above also)

Ge - Germanium  
 Si - Silicon

See "TECHNICAL TERM DEFINITIONS" Section

# 13. MISCELLANEOUS TRANSISTORS

IN ORDER OF (1) CATEGORY & (2) TYPE No.

LINE No.	2 TYPE No.	1 CATEGORY U STRUC. TURE	M DWG # Y200 s/a TO200 Ser.	L C E O A D E	DESCRIPTION
1	SA2738*	6 N	Si L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-1.5mV max;ΔVBE(1-2)/ΔT-3uV/deg.C
2	SA2739*	6 N	Si L2t		Pt-6W;hFE1/2-90 min;VBE(1-2)-2.5mV max;ΔVBE(1-2)/ΔT-5uV/deg.C
3	SD5010*	6 P-MOS	Si L53		Pt 325mW(each side) at 25°C Case temp;Vfs 1/2 800m min;VGS(1-2) 70mV.
4	SD5011*	6 P-MOS	Si L54		Pt 325mW(each side) at 25°C Case temp;Vfs 1/2 800m min;VGS(1-2) 70mV.
5	SD5012*	6 P-MOS	Si L53		Pt 325mW(each side) at 25°C Case temp;Vfs 1/2 800m min;VGS(1-2) 70mV.
6	SD5013*	6 P-MOS	Si L54		Pt 325mW(each side) at 25°C Case temp;Vfs 1/2 800m min;VGS(1-2) 70mV.
7	SD5014*	6 P-MOS	Si L53		Pt-325mW(each side) at 25°C case temp;Vfs 1/2 .80min;VGS 1/2-200mV max.
8	SD5015*	6 P-MOS	Si L54		Pt-325mW(each side) at 25°C case temp;Vfs 1/2 .80min;VGS 1/2-200mV max.
9	SD5050*	6 N-MOS	Si L53		Pt-325mW(each side) at 25°C case temp;Vfs 1/2 .80min;VGS 1/2-200mV max.
10	SD5051*	6 N-MOS	Si L54		Pt-325mW(each side) at 25°C case temp;Vfs 1/2 .80min;VGS 1/2-200mV max.
11#	SL360	6 NPN	Si L44a		BVCEO 15V;IC-30mA max;Pt-60W;VBE(1-2)-20mV;Cob-6.0pf.
12	SMT100	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-20mV;Cob-6.0pf.
13	SMT101	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-10mV;hFE1/hFE2-80 min.
14	SMT102	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-10mV;hFE1/hFE2-80 min.
15	SMT103	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-5.0mV;hFE1/hFE2-90 min.
16	SMT104	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-5.0mV;hFE1/hFE2-90 min.
17	SMT105	6 P	Si L17a		BVCEO-45V;IC-30mA max;Pt-60W;VBE(1-2)-5.0mV;hFE1/hFE2-90 min.
18	SP8300	6 N-PL	Si L8a		Pc-30W;BVCEO-40V;hFE-30 min;IC-10mA;ICBO-0.25uA max.
19	SP8302	6 N-PL	Si L8a		Pc-50W;BVCEO-100V;hFE-75 min;IC-10mA;ICBO-0.25mA max.
20	SP8303	6 N-PL	Si L8a		Pc-50W;BVCEO-100V;hFE-35 min;IC-10mA;ICBO-0.25mA max.
21	SP8304	6 N-PL	Si L8a		Pc-30W;BVCEO-40V;hFE-30 min;IC-10mA;ICBO-0.25uA max.
22	SP8307	6 P-PL	Si L8a		Pc-30W;BVCEO-20V;hFE-35 min;IC-10mA;ICBO-0.1uA max.
23	SP8309	6 N-PL	Si L8a		Pc-50W;BVCEO-75V;hFE-40 min;IC-150mA;ICBO-0.1uA max.
24	SP8310	6 N-PL	Si L8a		Pc-50W;BVCEO-75V;hFE-100 min;IC-150mA;ICBO-0.1uA max.
25	SP8311	6 N-PL	Si L8a		Pc-50W;BVCEO-120V;hFE-40 min;IC-150mA;ICBO-0.1uA max.
26	SP10801	6 N-DPL	Si TO89		hFE1/hFE2-0.8minΔ VBE1-VBE2-1.6mV max;NF-4.0db max
27	SP10810	6 P-DPE	Si TO89		hFE1/hFE2-0.8minΔ VBE1-VBE2-4.0mV max;hFE-35min at 10mA-1.0V
28	SU2074*	6 N	Si L21		Pt-300mW; gm 1/2-95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-10uV/deg.C
29	SU2075*	6 N	Si L21		Pt-300mW; gm 1/2-95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-15uV/deg.C
30	SU2076*	6 N	Si L21		Pt-250mW; gm 1/2-95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-10uV/deg.C
31	SU2077*	6 N	Si L21		Pt-250mW; gm 1/2-95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-25uV/deg.C
32	SU2078*	6 N	Si L21		Pt-250mW; gm 1/2-95min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-35uV/deg.C
33	SU2079*	6 N	Si L21		Pt-250mW; gm 1/2-95 min;VGS(1-2)-15mV max;ΔVGS(1-2)/ΔT-60uV/deg.C
34#	TA-M93	6 NPN	Si TO5		Dual 2N930;10% hFE match;5.0mV VBE match;hFE at 10uA-50 min.
35	U205*	6 N	Si TO71		Pt-30W;IG(1-2)-5.0nA max;VGS(1-2)-5.0mV max;gfs 1/2-95 min.
36	U206*	6 N	Si TO71		Pt-30W;IG(1-2)-5.0nA max;VGS(1-2)-10mV max;gfs 1/2-95 min.
37	U207*	6 N	Si TO71		Pt-30W;IG(1-2)-5.0nA max;VGS(1-2)-15mV max;gfs 1/2-95 min.
38	UD1000	6 P-PE	Si L38		Pt(Both Sides)-200mW;BVCEO-50V;Vo(1-2)-100uV max;IB and IC-20mA.
39	UD2000	6 P-PE	Si L2n		Pt-400mW;BVCEO-50V;VBE1/2-5mV max;hFE1/2-90 min;ΔVBE1-2-10uV/degC
40	JAN1N4378	7 NΔ	Si X69		Pt-50mW;ID-1.0nAmax;IL-9.0mAmax;tr-1.5uSmax;VCE-50V;VEC-8V.
41	2N318	7 P-A	Ge		Pc-50mW; VCE-12V max; Sens-25uA/ft can;fab-750kc.
42	2N577	7 P	Ge		Pt-25mW; IC-10mA; Idark-300uA; Photosens-30A/lumen.
43	800	7 N-G	Ge		Max. Coil Dist. 65mW; BVCE 20V; IC 5.0mA; Max. Temp. 75 deg.C.
44#	BPX30	7 NΔ	Si X8	AØ	Pt-500mW;ICE(D)-1.0uA max;Sens-100mA/mW/cm²;tr-3.0uSec;tf-3.0uSec.
45#	BPX59	7 NΔ	Si X8k	AØ	Darlington;Pt 200mW;Ic 5.0mA at EA 100;tr 200us;tf 150us;Max spectral Sens 780nm.
46#	BPY62	7 N-PE	Si X8a	As	Pt-20W;IC-1.0mA min;at B-1000 lux;Sens-1.0uM;VCE-15V.
47#	BPY66	7 N-DPL	Si X52		ID-1.0uA max;IL-80mA min;BVCEO-5.0V min.
48	CLR2090	7 N-PEΔ	Si L3k		Darlington;Pd 250mW;BVCEO 40V min;IL 600uA min at 20uW/cm sq;tr 100us;tf 150us.
49	CLR2191	7 N-PEΔ	Si L3k		Darlington;Pd 250mW;BVCEO 40V min;IL 4.0mA min at 20uW/cm sq;tr 100us;tf 150us.
50	CLT4160	7 N-PEΔ	Si u85a		Pd 50mW;BVCEO 50V;BVCEO 5.0V, IL 3.0mA max;ID 10nA max;tr 1.5us typ;tf 1.5us typ.
51	CLT4170	7 N-PEΔ	Si u85a		Pd 50mW;BVCEO 40V;BVCEO 5.0V, IL 5.0mA max;ID 10nA max;tr 1.5us typ;tf 1.5us typ.
52	EIP	7 P	Ge		Idk-10uA; Ilt-10mA; Sens-300uA/1m.
53	EP120	7 PΔ	Si R110c	DB	Pt 250mW;Sin 400nA/mW/cm sq;IG(DARK) 30pA max;Icss(DARK) 500pA max;Vp 10V max.
54	EP121	7 PΔ	Si R110c	DB	Pt 250mW;Sin 400nA/mW/cm sq;IG(DARK) 30pA max;Icss(DARK) 500pA max;Vp 1.5V max.
55	EP122	7 PΔ	Si R110c	DB	Pt 250mW;Sin 400nA/mW/cm sq;IG(DARK) 30pA max;Icss(DARK) 500pA max;Vp 4.0V max.
56	EP123	7 PΔ	Si R110c	DB	Pt 250mW;Sin 400nA/mW/cm sq;IG(DARK) 30pA max;Icss(DARK) 500pA max;Vp 10V max.
57#	ES3501	7 P-A	Ge R71		Pc-36mW at 45 deg. C;BVCEO-10V; Ic-10mA max;Photosens-20uA/ft.
58#	ES3511	7 P-A	Ge R88		Pc-50mW; BVCEO-25V; IC-20mA max; Photosens-1.0uA/Lux
59	FF400*	7 N-EΔ	Si TO72	DH	IG(Light)-15nA/FC min;ID(Light)-30uA/FC typ;tr-30ns;tf-50ns.
60	FPM100	7 N-PL	Si X52		Pt-75mW max;ID-1.0uA max;IL-80mA max;BVCEO-5.0V min.
61	FPN100	7 N-PL	Si		Phototrans;Pd-75mW;ID-1.0uA max;IL-80mA min.
62	FPO100	7 N-PL	Si X52a		Pt-75mW max;ID-1.0uA max;IL-80mA max.
63	FPT100	7 N-PLΔ	Si R124	A	Pt-100mWmax;ID-101nAmax;IC-25mA;tr-3.0uSec.
64	FSP5	7 N-PL	Si X8		Pc-50W max; BVCEO-100V; Photo-Sens-1.0uA/ft min.
65	GS100	7 N-PLΔ	Si u54		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
66	GS102	7 N-PLΔ	Si u54		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
67	GS170	7 N-PLΔ	Si u54		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
68	GS172	7 N-PLΔ	Si u54		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
69	GS300	7 N-PLΔ	Si X90a		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
70	GS302	7 N-PLΔ	Si X90a		Pt-50mW;IL-1.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
71	GS370	7 N-PLΔ	Si X90a		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
72	GS372	7 N-PLΔ	Si X90a		Pt-50mW;IL-1.0mA min;ID-20nA;VCE (SAT)-30V;tr-7.0us max;tf-40us max.
73	GS600L	7 N-PLΔ	Si X29		Pt-25W; IL-30mA; ID-10nA; VCE-10V max; Sens-75uA/ft
74	GS601	7 N-PLΔ	Si X29		Pt-25W; IL-20mA; ID-20nA; VCE-5.0V max; Sens-50uA/ft
75	GS611	7 N-PLΔ	Si X29		Pt-25W; IL-3.0mA;ID-(12V)-1.0nA;VCE-12V max;Sens-7.5uA/ft
76	GS614	7 N-PLΔ	Si X29		Pt-150mW;IL-5.0mA min;ID-1.0nA;VCE (SAT)-30V;tr-1.5us max;tf-2.0us max.
77	GS680	7 N-PLΔ	Si X29		Pt-25W; IL-40mA; ID-10nA; VCE-5.0V max; Sens-100uA/ft
78	HFA4202	7 N	Si X40		BVCEO-25V; fae-120Kc; Cob-9.0pf; hFE-400 typ.
79	ME510	7 N-PE	Si TO18		BVCEO-10V; Photosens-2.0uA/ft min. at VCE-5.0V, IB-0.0
80	MRD100*	7 NANΔ	Si u43	B	Pd-50mW;BVCEO-80V;BVCEO-40V;ICEO(dark)-100nAmax;Sens.Rad.CEO-100nA/mW/sq.cm.
81	MRD200	7 N-AN	Si X83		Pt-05W;ICEO(dark)-25nA;BVCEO-50V;Sens-2.0uA/lum/ft.sq. min.
82	MRD210	7 N	Si X83a		BVCEO-50V;ICEO-25nA at 25deg C;SICE-4uA/lum/ft-2min;LS-8um typ.
83	MRD250	7 N	Si X83a		BVCEO-50V;ICEO-25nA at 25deg C;SICE-8uA/lum/ft-2min;LS-8um typ.
84	OCP71	7 P	Ge R9		Pt-50mW; BVCEO-25V; IC-20mA; Sens-30A/lm
85#	OS13	7 P	Ge X1		Pc-15mW max; BVCEO-30; Ic-2mA max.
86#	OS15	7 N	Si X1		Pc-30mW max;BVCEO-30Vmax;Ic-200uA max; Photo-Sens-1uA/500 Lumen.
87#	OS16	7 N	Si X1		Pc-30mW max;BVCEO-30Vmax;Ic-200uA max; Photo-Sens-4uA/500 Lumen.
88#	OS17	7 N	Si X1		Pc-30mW max;BVCEO-30Vmax;Ic-200uA max; Photo-Sens-7uA/500 Lumen.
89	PD3L	7 P	Ge		Pc-10W max; BVCEO-50V; IC-5.0mA max.
90	PDB	7 P	Ge		Pc-20mW max; BVCEO-50V; IC-5.0mA max.
91	PFN3066*	7 N-E	Si TO18	DB	IGSS(light) 3.0nA/ft;ID(light) 2.0uA/ft.
92	PFN3069*	7 N-E	Si TO18	DB	IGSS(light) 8.0nA/ft;ID(light) 14uA/ft.
93	PFN3458*	7 N-E	Si TO18	DB	IGSS(light) 10nA/ft;ID(light) 35uA/ft.
94#	PH244N*	7 N-PEΔ	Si X8f	DBØ	Pd 300mW; IGSS(light) 15nA/FC;ID(light) 100uA/FC.
95	TIL58	7 NPLΔ	Si X69a		Pd-50mW;ID-25nAmax;IL-1.0mAmin;tr-2.0uSec;BVceo-50V;BVceo-8.0V;tf-15uSec
96	TIL78	7 N	Si		Pc-50mW max; fab-200Mc; Ic-2.0mA max.
97	3N25	8 PGD	Ge		Pc-125W;Rsat-300 ohms;res-20 ohms min;Coep-3.0pf
98	3N35A	8 N	Si TO12		Pc-15W max; BVCEO-18V; IC-30mA max.
99	3N56	8 N-Δ	Si TO5		Pc-15W max; BVCEO-18V; IC-30mA max.
100	3N57	8 N-Δ	Si TO5		Pc-125mW;BVCEO-30V;Ic-10mA; Gain 18 db ICBO-2uA
101#	3S001	8 N-D	Si		Pc-125W max; fab-100Mc; BVCEO-30V; Ic-10mA max.
102#	3S002	8 N-GD	Si TO12		Pc-125mW;BVCEO-30V;Ic-10mA; Gain 20 db ICBO-2uA
103#	3S003	8 N-D	Si		Pc-125W max; fab-150Mc; BVCEO-30V; Ic-10mA max.
104#	3S004	8 N-GD S	Si TO1	2	Pc-2.5mW; fab-200Mc; BVCEO-15V; Ic-2.0mA max.
105	GTA3	8 P	Ge		Pc-45W max;VE-60V max;ISR-62 max;RBBO-6.8k Ω max.
106	JAN2N489	9 P-N	Si R33		Pc-45W max;VE-60V max;ISR-62 max;RBBO-6.8k Ω max.
107	JAN2N490	9 P-N	Si R33		Pc-45W max;VE-60V max;ISR-62 max;RBBO-6.8k Ω max.
108	JAN2N491	9 P-N	Si R33		Pc-45W max;VE-60V max;ISR-68 max;RBBO-6.8k Ω max.
109	JAN2N492	9 P-N	Si R33		Pc-45W max;VE-60V max;ISR-68 max;RBBO-6.8k Ω max.
110	JAN2N493	9 P-N	Si R33		Pc-45W max;VE-60V max;ISR-75 max;RBBO-6.8k Ω max.