

## 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.  
 ☐ } 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.
- RT ... Replacement Type; consult manufacturer.

## 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.**

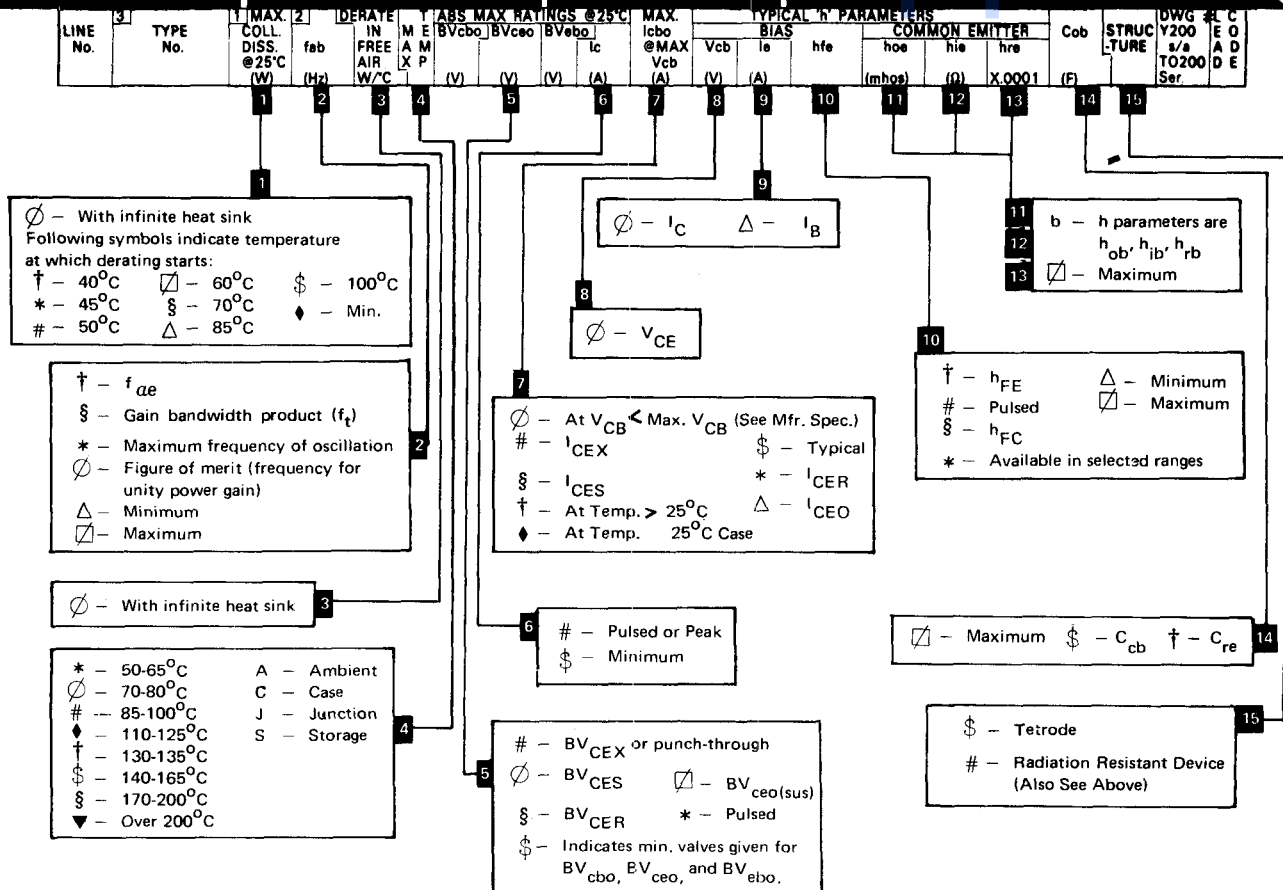
- † – Switching type, also listed in Section 12
- ⊘ – Chopper, also listed in Section 13, Category 10
- \* – These types also included elsewhere with other characteristics. See Type No. Cross Index for alternate line no.
- § – Radiation Resistant Devices, also listed in Section 13, Category 13.

## 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                   |               |

2. GERMANIUM PNP | 3. GERMANIUM NPN | 4. SILICON PNP | 5. SILICON NPN-- Low Power Transistors



# 5. SILICON 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 fab (Hz)	DERATE IN FREE AIR W/°C	M E A M X P	ABS MAX RATINGS @25°C				MAX. lcbomax Vcb (A)	TYPICAL 'h' PARAMETERS				COMMON EMITTER			Cob (F)	STRUC-TURE	DWG Y200 s/a TO200	# E A D E
						BVcbo (V)	BVceo (V)	BVebo (V)	lc (A)		Vcb (V)	le (A)	hfe	hoe (mhos)	hie (Ω)	hre X.0001					
1	PMT122	100m	400M	1.7m	5J	50	20	5.0	220m	50u	3.0	10m	2.0 Δ					5p	ME	u6	
2	PMT222	100m	400M	1.7m	5J	50	20	5.0	220m	50u	3.0	10m	2.0 Δ					5p	ME	u6	
3	25C430	100m	420M		5J	25	12	2.0	10m	1.0u	6.0	1.0m	46	6.0u	1.3k	.85		5p	PE	T051	C
4	2N708/TNT	100m	480MΔ	555u	5J	40	15	5.0		25n	1.0	10m	30 1Δ#					6.0p	PL	u17	
5	25C286	100m	600MΔ		5J	20	12	2.0	10m	1.0u	6.0	2.0m	70					1.0p	PE	u23	
6	25C287	100m	600MΔ		5J	20	12	2.0	10m	1.0u	6.0	2.0m	70					1p	PE	u23	C
7	10D556.2.3	100m	600MΔ	1.0m	5J	25	15	3.0		1.0u	1.0	3.0m	20 1Δ					1.7p	PE	u27	
8	PMT0231	100m	750M	1.0m	5J	25	20	3.0		50u	1.0	10m	20 #Δ					5.0p	ME	u7	
9	PMT2161	100m	750M	1.3m	5J	25	20	3.0		50u	1.0	10m	20 #Δ					5.0p	ME	T051	
10	2N709/TNT	100m	800MΔ	556u	5J	15	6.0	4.0		.05u	.50	10m	55 1					3p	PL	u17	
11	2N2369/TNT	100m	800MΔ	556u	5J	40	15	4.5	500m	.40u	1.0	10m	80 1					4p	PE	u17	
12	2N2594/TNT	100m	800MΔ	556u	5J	40	15	4.5	500m	.40u	1.0	10m	80 1					4p	PE	u17	
13	25C271	100m	800MΔ		5J	25	12	3.0	20m	1.0u	6.0	2.0m	70					1p	PE	u23a	C
14	25C288	100m	850MΔ		5J	30	25	2.0	10m	1.0u	6.0	2.0m	70					1p	PE	u23a	C
15	Q2	100m	900MΔ	1.0m	5J	30	25	4.0	10m	100n	6.0	2.0m	40 1Δ					1.8p	E		
16	Q3	100m	900MΔ	1.0m	5J	30	25	4.0	10m	100n	6.0	2.0m	60 1Δ					1.8p	E		
17	Q4	100m	900MΔ	1.0m	5J	30	25	4.0	10m	100n	6.0	2.0m	90 1Δ					1.8p	E		
18	Q5	100m	900MΔ	1.0m	5J	30	25	4.0	10m	100n	6.0	2.0m	135 1Δ					1.8p	E		
19	2N2784/TNT	100m	1.0G	556u	5J	15	6.0	4.0	500m	5n	.50	10m	120 1Δ					3p	PE	u17	
20	25C289	100m	1.1G		5J	25	12	3.0	10m	1.0u	6.0	2.0m	70					1p	PE	u23	C
21	2N3633/TNT	100m	1.3G	556u	5J	15	6.0	4.0	50m	5n	.50	10m	150 1Δ					2.5p	PE	u17	
22	BC155A	105m*	50MΔ	1.3m	5J	5.0	5.0 *	5.0	50m	100n	1.0	500u	85 Δ					PE	u30b		D
23	BC155B	105m*	50MΔ	1.3m	5J	5.0	5.0 *	5.0	50m	100n	1.0	500u	200 Δ					PE	u30b		
24	BC155C	105m*	50MΔ	1.3m	5J	5.0	5.0 *	5.0	50m	100n	1.0	500u	470 Δ					PE	u30b		
25	BFY69	105m*	50MΔ	1.3m	5J	25	15	5.0		100n	1.0	500u	40 Δ *					PE	u30b		D
26	BFY69A	105m*	50MΔ	1.3m	5J	25	15	5.0		100n	1.0	500u	55 Δ *					PE	u30b		D
27	BC1941	105m*	250MΔ	1.3m	5J	40	25 *	5.0	800m	10u	1.0	150m	20 1Δ#					8.0p	PE	u30b	D
28	2N778	110m		1.2m	5J	30		2.0	100m		10	2.0m	11					1.5p	D	T018	
29	BFS18CA	110m	200M	1.1m	5J	30	20	5.0	30m	100n	10	1.0m	125 1Δ					1.0p	PE	u56a	A
30	BFS19CB	110m	260M	1.1m	5J	30	20	5.0	30m	100n	10	1.0m	225 1Δ					1.0p	PE	u56a	A
31	BF219	120m*	260M	2.7m	5J	40	35	4.0	20m	500n	7.0	1.0m	180					1.1p	PE	T098	B
32	BF220	120m*	260M	2.7m	5J	40	35	4.0	20m	500n	7.0	1.0m	180					1.1p	PE	T098	B
33	25C705	120m	800M		5J	15		3.0	30m	1.0u	6.0	1.0m	80 1					1.1p	PE	R145	D
34	3N26	125m			5J	30			10m									G			
35	3N27	125m			5J	30			10m									G			
36	4D24	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	33 1#	200nb	50	2.0		4.0p	GD	T05	A
37	4D25	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	88 1#	200nb	50	2.0		4.0p	GD	T05	A
38	4D26	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	133 1#	200nb	50	2.0		4.0p	GD	T05	A
39	925	125m			5J	30			10m									1.8p	D		
40	926	125m			5J	30			10m									1.8p	D		
41	D4D24	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	33 1#	200nb	50	2.0		4.0p	GD	T05	A
42	D4D25	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	88 1#	200nb	50	2.0		4.0p	GD	T05	A
43	D4D26	125m		1.2m	5J	15	15	1.0	25m	1.0u	5.0	10m	133 1#	200nb	50	2.0		4.0p	GD	T05	A
44	2S005	125m	30 Δ	1.0m	5J	40		1.0	20m	1.0u	5.0	20	100	200nb	50	2.0		4.0p	GD	T05	A
45	3N32	125m	4.3M		5J	30			10m									1.6p	GD		
46	2N11031	125m	10MΔ	1.0m	5S	45	35	1.0	20m	1.0u	20	1.0m	20 Δ	1.0u	80	20		3.0p		T05	A
47	10T2	125m	10M	1.1m	5J	30			25m			1.0m	31 1								
48	11T2	125m	10M	1.1m	5J	30			25m			1.0m	63 1								
49	12T2	125m	10M	1.1m	5J	30			25m			1.0m	100 1								
50	3N33	125m	12M		5J	40			10m												
51	2S014	125m	20M	1.0m	5J	40		1.0	20m	1.0u	20	1.0m	65	200nb	50	3.0		1.6p	D	R30	
52	NS075	125m	20M	1.0m	5J	45		1.0	20m		20	1.0m	65	200nb	40	2.0		1.2p	ME		
53	ST1694	125m	20M	7.7m	5J	40	20	1.0	20m	2.0u	5.0	10m	40 1Δ					4p		T05	
54	25C157	125m	25M		5J	20		1.0	20m	1.0u	6.0	2.0m	30	200nb	40	3.0		3.0p	ME	T05	
55	NS078	125m	30M	1.0m	5J	45		1.0	20m		20	1.0m	99	200nb	40	3.0		1.2p	ME		
56	25C158	125m	40M		5J	20		1.0	20m	1.0u	6.0	2.0m	40					3.0p	ME	T05	
57	25C159	125m	60M		5J	20		1.0	20m	1.0u	6.0	2.0m	50					3.0p	ME	T05	
58	3N35A	125m	70MΔ	1.0m	5S	30	30	1.0	20m	.40u	20	1.3m	10 Δ					3.0p	ME	T012	
59	25C160	125m	100M		5J	30		1.0	20m	1.0u	6.0	2.0m	60					3.0p	ME	T05	
60	3S002	125m	100M	1.0m	5J	30		1.0	20m	1.0u	20	1.0m	25					1.5p	GD	T012	
61	3S004	125m	150M	1.0m	5J	30		1.0	20m	1.0u	20	1.0m	25					1.5p	GD	T012	

# SYMBOLS & CODES EXPLAINED

## IN TYPE No. CROSS-INDEX & TECHNICAL SECTIONS

- $\Delta$  } 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.  
 RT ... Replacement Type; consult manufacturer.

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

### LINE No.

- $\nabla$  - New Type  
 $\blacklozenge$  - Revised Specifications  
 $\#$  - Non-JEDEC Type manufactured outside U.S.A.

### TYPE No.

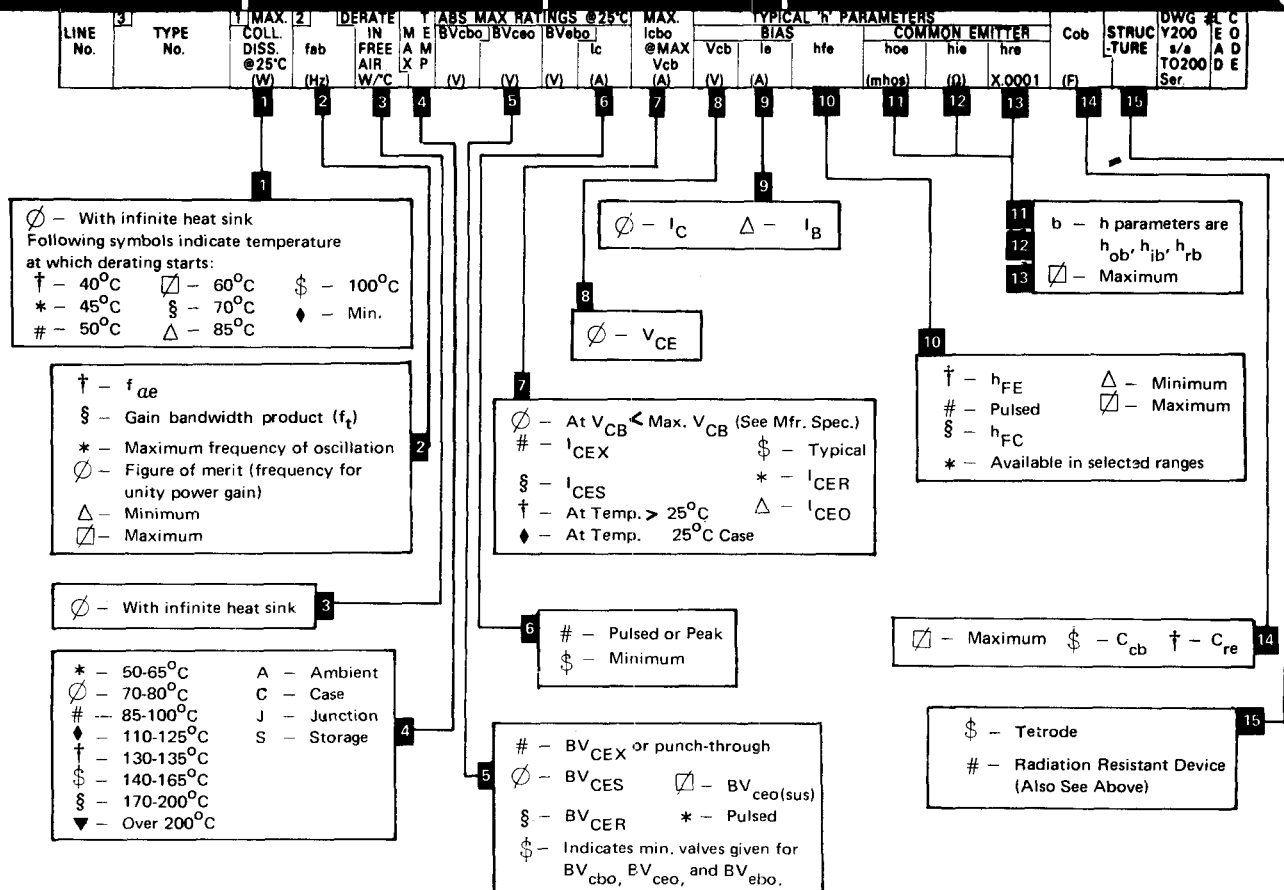
- $\dagger$  - Switching type, also listed in Section 12  
 $\oslash$  - Chopper, also listed in Section 13, Category 10  
 $*$  - These types also included elsewhere with other characteristics. See Type No. Cross Index for alternate line no.  
 $\S$  - Radiation Resistant Devices, also listed in Section 13, Category 13.

### STRUCTURE

(All Sections Except 6 & 7)

- A - Alloy  
 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  
 $\Delta$  - Switching, other uses  
 $\square$  - Chopper, other uses  
 $\oslash$  - Noise figure 8db or below  
 $\dagger$  - Plastic package  
 $\%$  - Overlay

## 2. GERMANIUM PNP 3. GERMANIUM NPN 4. SILICON PNP 5. SILICON NPN--Low Power Transistors



# 5. SILICON 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 (Hz)	T M E A M P X P	ABS. MAX RATINGS @25°C				MAX. Icbo @ MAX Vcb (A)	TYPICAL 'h' PARAMETERS						Cob (F)	STRUC-TURE	DWG # Y200 s/a TO200 Ser.	# E O A D E	
					BVcbo (V)	BVceo (V)	BVebo (V)	Ic (A)		BIAS Vcb (V)	le (A)	hfe	COMMON EMITTER hoe (mhos)	hie (Ω)	hre (X.0001)					
1	1MT697	150m	100M	833u	\$J	60	40	5.0	200m	1.0u	10	150m	75	12.0	2.2k	3.6	25p	ME PLTΔ	T051	
2	2N1613/51	150m	130M	833u	\$J	75	50	7.0		0.1u	10	150m	80	12.0	2.2k	3.6	25p	PLTΔ	T051	
3	2N1613/TPT	150m	130M	833u	\$J	75	50	7.0		0.1u	10	150m	80	12.0	2.2k	3.6	25p	PLTΔ	X31	
4#	2SC621T	150m	150M	1.2m	\$J	25	15	4.0	100m	1.0u	6.0	10m	75	15.0	2.5k	4.0	2.5p	PE	R126	A
5#	2SC621A1	150m	150M	1.2m	\$J	30	25	4.0	100m	1.0u	6.0	10m	75	15.0	2.5k	4.0	2.5p	PE	R107c	
6#	2SC622	150m	150M	1.2m	\$J	25	15	4.0	100m	1.0u	6.0	10m	75	15.0	2.5k	4.0	2.5p	PE	R126	
7#	2SC912T	150m	150M	1.2m	\$J	30	25	4.0	100m	1.0u	6.0	10m	90	15.0	2.5k	.35	2.5p	PE	R126	A
8#	BFS29P	150m	150M	1.2m	\$	45	45	5.0	200m	20n	15	100m	40				5.0p	PE	u17c	E
9#	BFS30P	150m	150M	1.2m	\$	45	45	5.0	200m	20n	15	100m	40				5.0p	PE	u17c	E
10#	BFS31P	150m	150M	1.2m	\$	45	30	5.0	200m	20n	15	100m	40				5.0p	PE	u17c	E
11	MT104	150m	150M	1.0m	\$J	60		5.0		1.0u	10	150m	40				20p	PE	u15	
12	NS6207T	150m	150MΔ	1.2m	\$J	45		5.0		200n	1.0	150m	30				8.0p	PE	X16	
13	NS6212	150m	150MΔ	1.2m	\$A	150	150	6.0		50n	10	10m	50				10p	PE	X16	
14	2N1711/51	150m	160M	833u	\$J	75	50	7.0		0.1u	10	150m	130	23.0	4.4k	7.3	25p	PLΔ	T051	
15	2N1711/TPT	150m	160M	833u	\$J	75	50	7.0		0.1u	10	150m	130	23.0	4.4k	7.3	25p	PLΔ	X31	
16#	L4	150m	180M	1.5m	\$J	50	40	5.0	100m	100n	6.0	1.0m	90				5.5p	PE		
17#	L5	150m	180M	1.5m	\$J	50	40	5.0	100m	100n	6.0	1.0m	135				5.5p	PE		
18#	L6	150m	180M	1.5m	\$J	50	40	5.0	100m	100n	6.0	1.0m	200				5.5p	PE		
19#	L7	150m	180M	1.5m	\$J	50	40	5.0	100m	100n	6.0	1.0m	300				5.5p	PE		
20#	M3	150m	180M	1.5m	\$J	50	40	5.0	100m	100n	6.0	1.0m	60					PL	u56b	A
21#	BFY37L	150m	200MΔ	1.0m	\$J	25	20	5.0	100m	100n	10	10m	35				2.3p	PE	T018	
22#	D6	150m	200M	1.5m	\$J	30	25	5.0	30m	50n	3.0	500u	200					PE		
23#	D7	150m	200M	1.5m	\$J	30	25	5.0	30m	50n	3.0	500u	300					PE		
24#	D8	150m	200M	1.5m	\$J	30	25	5.0	30m	50n	3.0	500u	450					PE		
25	NS6203	150m	200MΔ	1.2m	\$J	30	30	5.0		0.2u	10	10m	100				8p	PE	X16	
26	2N3131T	150m	250MΔ	1.1m	\$J	40	15	5.0	100m	25n	1.0	10m	30				4.0p	PE	X16	
27#	BCW60A1	150m*	250M	1.2m	\$J		32	5.0	100m	20n	5.0	2.0m	200	18	2.7k	1.5	4.5p	PE	u56a	A
28#	BCW60B1	150m*	250M	1.2m	\$J		32	5.0	100m	20n	5.0	2.0m	260	24	3.6	2.0	4.5p	PE	u56a	A
29#	BCW60C1	150m*	250M	1.2m	\$J		32	5.0	100m	20n	5.0	2.0m	330	30	4.5	2.0	4.5p	PE	u56a	A
30#	BCW60D1	150m*	250M	1.2m	\$J		32	5.0	100m	20n	5.0	2.0m	520	50	7.4	3.0	4.5p	PE	u56a	A
31#	F1	150m	250M	1.5m	\$J	50	25	5.0	50m	100n	3.0	500u	30				2.5p	PE		
32#	F2	150m	250M	1.5m	\$J	50	25	5.0	50m	100n	3.0	500u	40				2.5p	PE		
33#	F3	150m	250M	1.5m	\$J	50	25	5.0	50m	100n	3.0	500u	60				2.5p	PE		
34#	F4	150m	250M	1.5m	\$J	50	25	5.0	50m	100n	3.0	500u	90				2.5p	PE		
35#	F5	150m	250M	1.5m	\$J	50	25	5.0	50m	100n	3.0	500u	135				2.5p	PE		
36#	2SC100T	150m	300MΔ		\$J	40	15	5.0	200m	25n	1.0	10m	30				6.0p	PE	u23	C
37#	2SC405T	150m	300M		\$J	15		3.5	50m	3.0u	30	10m	40				5.0p	ME	T018	
38	2N706/TPT	150m	320MΔ	833u	\$J	25	20	3.0		0.5u	1.0	10m	20				6p	D	X31	
39	2N706A/TPT	150m	320MΔ	833u	\$J	25	15	5.0		0.5u	1.0	10m	20				6p	D	X31	
40#	2SC739	150m	350M	1.5m	\$J	25	12	4.0	20m	1.0u	6.0	1.0m	60				1.5p	PE	T092	D
41	2N2218/TPT	150m	400M	833u	\$J	60	30	5.0		0.1u	10	150m	80				4.0p	PE	X31	
42	2N2219/TPT	150m	400M	833u	\$J	60	30	5.0		0.1u	10	150m	150				4.0p	PE	X31	
43#	2SC659	150m	400M	1.2m	\$J	25	12	4.0	20m	1.0u	6.0	1.0m	60				1.5p	PE	R126	
44	A466	150m	400M	1.0m	\$J	40	30	4.0	25m	10u	10	4.0m	60				1.3p	PL	T072	J
45#	B2T	150m	400M	1.0m	\$J						5.0	1.0	40				6.0p	PE		
46#	B3T	150m	400M	1.0m	\$J						5.0	1.0	60				6.0p	PE		
47#	B4T	150m	400M	1.0m	\$J						5.0	1.0	90				6.0p	PE		
48#	BF207	150m	400M	1.0m	\$J	40	30	4.0	25m	10u	10	4.0m	80				1.5p	PL	T072	G
49#	BSV53P	150m	400M	1.2m	\$						1.0	10m	40				4.0p	PE	u17c	E
50#	BSV54P	150m	400M	1.2m	\$						1.0	10m	20				4.0p	PE	u17c	E
51	MT106	150m	400M	1.0m	\$J	25		5.0		10u	1.0	10m	40				4.5p	PE	u15	
52	MT107	150m	400M	1.0m	\$J	40		5.0		25n	1.0	10m	30				6.0p	PE	u15	
53	NPC167	150m	400M	1.0m	\$S	40	30	4.0	25m	0.1u	10	4.0m	57				1.3p	PL	T072	J
54	NS6213	150m	400M	1.1m	\$J	25	15	4.0	100m	50u	0.1	5.0m	20					PE	X16	
55#	2SC921	150m	450MΔ		\$J	25	12	4.0	10m	100n	3.0	500u	65				1.5p	PE	u23a	C
56	2N708/TPT	150m	480MΔ	833u	\$J	40	15	5.0		0.2u	1.0	10m	30				6p	PL	X31	
57#	2SC1035	150m	500M		\$J	30	15	3.0	20m	1.0u	6.0	1.0m	70				1.0p	PL	T0104	
58#	2SC1036	150m	500M		\$J	30	15	3.0	20m	1.0u	6.0	1.0m	70				1.0p	PL	T0104	
59	MT102	150m	500M	1.0m	\$J	40	15	5.0		25n	1.0	10m	50				6.0p	PE	u15	
60#	2SC658	150m	550M	1.2m	\$J	25	12	4.0	20m	1.0u	6.0	1.0m	60				1.5p	PE	R126	
61#	2SC660	150m	600M	1.4m	\$J	25	12	3.0	20m	100n	10	3.0m	60				1.0p	PL	R107c	
62#	2SC661	150m	600M	1.4m	\$J	25	12	3.0	20m	100n	10	3.0m	60				1.0p			