

ALPHANUMERIC INDEX — CROSS-REFERENCE (Continued)

Industry Part Number	Motorola Direct Replacement	Motorola Similar Replacement	Page Number	Industry Part Number	Motorola Direct Replacement	Motorola Similar Replacement	Page Number
2N5664		2N3585	3-20	2N5882	2N5882		3-123
2N5665		2N3585	3-20	2N5883	2N5883		3-127
2N5671		2N6338	3-188	2N5884	2N5884		3-127
2N5672		2N6339	3-188	2N5885	2N5885		3-127
2N5678		2N6378	3-191	2N5886	2N5886		3-127
2N5683	2N5683		3-112	2N5929		2N6338	3-188
2N5683JAN	2N5683JAN		3-112	2N5930		2N6338	3-188
2N5683JTX	2N5683JTX		3-112	2N5931		2N6341	3-188
2N5683JTXV	2N5683JTXV		3-112	2N5932		2N6338	3-188
2N5684	2N5684		3-112	2N5933		2N6338	3-188
2N5684JAN	2N5684JAN		3-112	2N5935		2N6341	3-188
2N5684JTX	2N5684JTX		3-112	2N5936		2N6338	3-188
2N5684JTXV	2N5684JTXV		3-112	2N5937		2N6341	3-188
2N5685	2N5685		3-112	2N5954		2N6318	3-185
2N5685JAN	2N5685JAN		3-112	2N5955		2N6317	3-185
2N5685JTX	2N5685JTX		3-112	2N5956		2N6317	3-185
2N5685JTXV	2N5685JTXV		3-112	2N5970		2N5882	3-123
2N5686	2N5686		3-112	2N5971		2N5882	3-123
2N5686JAN	2N5686JAN		3-112	2N5972		MJ15003	3-713
2N5686JTX	2N5686JTX		3-112	2N5974		MJE2955	3-904
2N5686JTXV	2N5686JTXV		3-112	2N5975		MJE2955	3-904
2N5729		2N5337	3-97	2N5976		MJE2955	3-904
2N5730		2N5339	3-97	2N5977		MJE3055	3-904
2N5733		2N6274	3-168	2N5978		MJE3055	3-904
2N5734		2N6338	3-188	2N5979		MJE3055	3-904
2N5737		2N5878	3-120	2N5980		MJE2955	3-904
2N5738		2N5880	3-123	2N5981		MJE2955	3-904
2N5739		2N5878	3-120	2N5982		2N5988	3-131
2N5740		2N5880	3-123	2N5983		MJE3055	3-904
2N5741		2N5883	3-127	2N5984		MJE3055	3-904
2N5742		2N6029	3-105	2N5985		2N5991	3-131
2N5743		2N5883	3-127	2N5986		2N6498	3-211
2N5744		MJ4502	3-536	2N5987		2N6490	3-207
2N5745	2N5745		3-68	2N5988		2N6491	3-207
2N5745JAN	2N5745JAN		3-68	2N5989	2N5989		3-131
2N5745JTX	2N5745JTX		3-68	2N5990	2N5991		3-131
2N5745JTXV	2N5745JTXV		3-68	2N5991	2N5991		3-131
2N5758	2N5758		3-116	2N6021		TIP32C	3-1073
2N5759		2N3055A	3-9	2N6022		TIP32C	3-1073
2N5760	2N5760		3-116	2N6023		2N6124	3-154
2N5804		2N6306	3-181	2N6024		2N6124	3-154
2N5805		2N6543	3-215	2N6025		2N6125	3-154
2N5838		2N6308	3-181	2N6026		2N6125	3-154
2N5839		2N6308	3-181	2N6029	2N6029		3-105
2N5840		2N6308	3-181	2N6030	2N6030		3-105
2N5867		2N3789	3-56	2N6031	2N6031		3-105
2N5868		2N3790	3-56	2N6032		2N6275	3-168
2N5869		2N3714	3-26	2N6033		2N6277	3-168
2N5870		2N3714	3-26	2N6034	2N6034		3-135
2N5871		2N3789	3-56	2N6035	2N6035		3-135
2N5872		2N3790	3-56	2N6036	2N6036		3-135
2N5873		2N3714	3-26	2N6037	2N6037		3-135
2N5874		2N3714	3-26	2N6038	2N6038		3-135
2N5875	2N5875		3-120	2N6039	2N6039		3-135
2N5876	2N5876		3-120	2N6040	2N6040		3-139
2N5877	2N5877		3-120	2N6041	2N6041		3-139
2N5878	2N5878		3-120	2N6042	2N6042		3-139
2N5879	2N5879		3-123	2N6043	2N6043		3-139
2N5880	2N5880		3-123	2N6044	2N6044		3-139
2N5881	2N5881		3-123	2N6045	2N6045		3-139

*Consult Motorola if a direct replacement is necessary.

TABLE 5 — PLASTIC TO-220 (continued)

I _C Cont Amps Max	V _{CEO} (sus) Volts Min	Device Type		h _{FE} Min/Max	@ I _C Amp	Resistive Switching			f _T MHz Min	P _D (Case) Watts @ 25°C
		NPN	PNP			t _s μs Max	t _f μs Max	@ I _C Amp		
7	45	BD795	BD796	25 min	3				3	65
	50	2N6290	2N6109	30/150	2.5	0.4 typ	0.15 typ	3	4	40
	60	BD797	BD798	25 min	3				3	65
	70	2N6292	2N6107	30/150	3	0.4 typ	0.15 typ	3	4	40
	80	BD799	BD800	15 min	3				3	65
	100	BD801	BD802	15 min	3				3	65
	150	BU407,D		30 min	1.5		0.75	5	10	60
	200	BU406,D		30 min	1.5		0.75	5	10	60
	375	BU522##		250 min	2.5				7.5	75
	425	BU522A##		250 min	2.5				7.5	75
8	450	BU522B##		250 min	2.5				7.5	75
	40	2N6386##		1k/20k	3				20#	65
	45	BDX53##	BDX54##	750 min	3				4#	60
		BD895##	BD896##	750 min	3				1#	70
		BD895A##	BD896A##	750 min	4				1#	70
	60	2N6043##	2N6040##	1k/10k	4	1.5 typ	1.5 typ	3	4#	75
		BDX53A##	BDX54A##	750 min	3				4#	60
		BD897##	BD898##	750 min	3				1#	70
		BD897A##	BD898A##	750 min	4				1#	70
		TIP100##	TIP105##	1k/20k	3	1.5 typ	1.5 typ	3	4#	80
	80	2N6044##	2N6041##	1k/10k	4	1.5 typ	1.5 typ	3	4#	75
		BDX53B##	BDX54B##	750 min	3				4#	60
		BD899##	BD900##	750 min	3				1#	70
		BD899A##	BD900A##	750 min	4				1#	70
		TIP101##	TIP106##	1k/20k	3	1.5 typ	1.5 typ	3	4#	80
	100	2N6045##	2N6042##	1k/10k	3	1.5 typ	1.5 typ	3	4#	75
		BDX53C##	BDX54C##	750 min	3				4#	60
		BD901##	BD902##	750 min	3				1#	70
	120	TIP102##	TIP107##	1k/20k	3	1.5 typ	1.5 typ	3	4#	80
		BDX53D##	BDX54D##	750 min	3				4#	60
		MJE15028	MJE15029	20 min	4				30	50
	150	MJE15030	MJE15031	20 min	4					50
		BU807##		100 min	5	0.55 typ	0.2 typ	5	30	60
	200	BU806##		100 min	5	0.55 typ	0.2 typ	5		60
	300	MJE13006		5/30	5	3	0.7	5	4	80
		MJE5740##		200 min	4	8 typ	2 typ	6		80
	350		MJE5850	15 min	2	2	0.5	4		80
		MJE5741##		200 min	4	8 typ	2 typ	6		80
	400		MJE5851	15 min	2	2	0.5	4		80
		MJE5742W##		200 min	4	8 typ	2 typ	6		80
		MJE13007		5/30	5	3	0.7	5	4	80
			MJE5852	15 min	2	2	0.5	4		80
		MJE16080		5 min	8	2	0.5	5		80
10	30			6/25	8	2 typ	0.1 typ	5		100
		MJE16106								
	450	MJE16081		5 min	8	2	0.5	5		80
	30		D45H1	20 min	4					50
			D45H2	40 min	4					50
	40	D44E1##		1000 min	5	2 typ	0.5 typ	10		50
10	45	BDX33##	BDX34##	750 min	4				3	70
		BD805	BD806	15 min	4				1.5	90
			D45H4	20 min	4					50
		D44H5	D45H5	40 min	4					50
	60	BDX33A##	BDX34A##	750 min	4				3	70
		BD807	BD808	15 min	4				1.5	90

h_{FE} @ 1 MHz, ## Darlington

(continued)

TABLE 12 — POWER DARLINGTONS (continued)

I _C Cont Amps Max	V _{CEO} (sus) Volts Min	Device Type		h _{FE} Min/Max	@ I _C Amp	Resistive Switching			h _{FE} @ 1 MHz Min	P _D (Case) Watts @ 25°C	Case JEDEC/MOT
		NPN	PNP			t _s μs Max	t _f μs Max	@ I _C Amp			
8	80	MJ1001	MJ901	1k min	3					90	TO-204/1
		TIP101	TIP106	1k/20k	3	1.5 typ	1.5 typ	3	4	80	TO-220/221A
		2N6044	2N6041	1k/10k	4	1.5 typ	1.5 typ	3	4	75	TO-220/221A
		2N6301	2N6299	750k/18k	4	1.5 typ	1.5 typ	4	4	75	TO-213A/80
		2N6056	2N6054	750k/18k	4	1.5 typ	1.5 typ	4	4	100	TO-204A/1
		MJE6044	MJE6041	1k/20k	4	1.5 typ	1.5 typ	4	2	75	TO-225AB/90
	100	BDX53C	BDX54C	750 min	3				4	60	TO-220/221A
		BD901	BD902	750 min	3				1	70	TO-220/221A
		MJE6045		1k/20k	4	1.5 typ	1.5 typ	4	2	75	TO-225AB/90
		MJD122	MJD127	1k/12k	4	1.5 typ	2 typ	4	4	20	TO-252/369A-04
		MJF102	MJF107	3k min	3	1.5 typ	1.5 typ	3	4	35	—/221C-02
		TIP102	TIP107	1k/20k	3	1.5 typ	1.5 typ	3	4	80	TO-220/221A
		2N6045	2N6042	1k/10k	4	1.5 typ	1.5 typ	3	4	75	TO-220/221A
	120	BDX53D	BDX54D	750 min	3				4	60	TO-220/221A
	150	BU807●		100 min	5	0.55 typ	0.2 typ	5		60	TO-220/221A
	200	BU806●		100 min	5	0.55 typ	0.2 typ	5		60	TO-220/221A
	300	MJE5740		200/400	4	8 typ	2 typ	6		80	TO-220/221A
	350	MJE5741		200/400	4	8 typ	2 typ	6		80	TO-220/221A
	400	MJE5742		200/400	4	8 typ	2 typ	6		80	TO-220/221A
	500	BUT50P●		30 min	2	0.75 typ	0.1 typ	5		100	TO-218/340D
	1400*	MJ10011		20 min	4			1	4	80	TO-204/1
10	40	2N6383	2N6648	1k/20k	5				20	100	TO-204/1
		D44E1		1000 min	5	2 typ	0.5 typ	10		50	TO-220/221A
	45	BDX33	BDX34	750 min	4				3	70	TO-220/221A
	60	BDV65	BDV64	1k min	5					125	TO-218/340D
		BDX33A	BDX34A	750 min	4				3	70	TO-220/221A
		MJ3000	MJ2500	1k min	5					150	TO-204/1
		2N6387	2N6667	1k/20k	5				20	65	TO-220/221A
		2N6384		1k/20k	5				20	100	TO-204/1
		D44E2		1000 min	5	2 typ	0.5 typ	10		50	TO-220/221A
		TIP140	TIP145	500 min	10	2.5 typ	2.5 typ	5	4	125	TO-218/340
	80	2N6388	2N6668	1k/20k	5				20	65	TO-220/221A
		2N6385		1k/20k	5				20	100	TO-204/1
		BDV65A	BDV64A	1k min	5					125	TO-218/340D
		BDX33B	BDX34B	750 min	3				3	70	TO-220/221A
		D44E3		1000 min	5	2 typ	0.5 typ	10		50	TO-220/221A
		MJD44E3		1k min	5	2 typ	0.5 typ	10		20	TO-252/369A-04
		TIP141	TIP146	500 min	10	2.5 typ	2.5 typ	5	4	125	TO-218/340
	100	BDV65B	BDV64B	1k min	5					125	TO-218/340D
		BDX33C	BDX34C	750 min	3				3	70	TO-220/221A
		TIP142	TIP147	500 min	10	2.5 typ	2.5 typ	5	4	125	TO-218/340
	120	BDV65C	BDV64C	1k min	5				3	125	TO-218/340D
		BDX33D	BDX34D	750 min	3					70	TO-220/221A
	200	BU323P		150 min	6	15	15	6		125	TO-218/340D
	250	BU323AP		150 min	6	15	15	6		125	TO-218/340D
	350	BU323		150 min	6	7.5 typ	5.2 typ	6		175	TO-204/1
		MJ10002		30/300	5	2.5	1	5	10	150	TO-204/1
		MJ10006●		30/300	5	1.5	0.5	5	10	150	TO-204/1
	400	BU323A		150 min	6	7.5 typ	5.2 typ	6		175	TO-204/1
		MJH10012		100/2k	6	15	15	6		118	TO-218/340
		MJ10007●		30/300	5	1.5	0.5	5	10	150	TO-204/1

● Darlington with speed-up diode.

(continued)

MOTOROLA SEMICONDUCTOR TECHNICAL DATA

2N6040 thru 2N6042 PNP
2N6043 thru 2N6045 NPN
MJE6040 thru MJE6041 PNP
MJE6043 thru MJE6045 NPN

PLASTIC MEDIUM-POWER COMPLEMENTARY SILICON TRANSISTORS

... designed for general-purpose amplifier and low-speed switching applications.

- High DC Current Gain —
 $h_{FE} = 2500$ (Typ) @ $I_C = 4.0$ Adc
- Collector-Emitter Sustaining Voltage — @ 100 mAdc
 $V_{CEO(sus)} = 60$ Vdc (Min) — 2N6040, 2N6043
 $= 80$ Vdc (Min) — 2N6041, 2N6044
 $= 100$ Vdc (Min) — 2N6042, 2N6045
- Low Collector-Emitter Saturation Voltage — (1)
 $V_{CE(sat)} = 2.0$ Vdc (Max) @ $I_C = 4.0$ Adc — 2N6040, 41, 2N6043, 44
 $= 2.0$ Vdc (Max) @ $I_C = 3.0$ Adc — 2N6042, 2N6045
- Monolithic Construction with Built-In Base-Emitter Shunt Resistors

(1) Applies to corresponding in-house part numbers also.

*MAXIMUM RATINGS

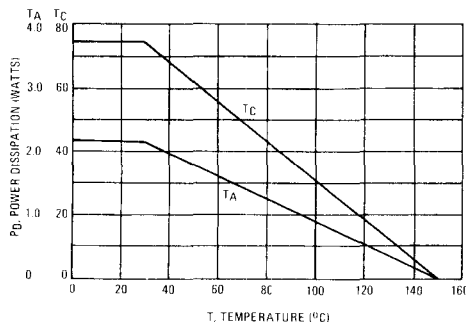
Rating	Symbol	2N6040 2N6043 MJE6040	2N6041 2N6044 MJE6041	2N6042 2N6045 MJE6045	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	100	Vdc
Collector-Base Voltage	V_{CB}	60	80	100	Vdc
Emitter-Base Voltage	V_{EB}	5.0			Vdc
Collector Current — Continuous	I_C	8.0			Adc
Peak		16			
Base Current	I_B	120			mAdc
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	P_D	75			Watts
Derate above 25°C		0.60			W/ $^\circ\text{C}$
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	2.2			Watts
Derate above 25°C		0.0175			W/ $^\circ\text{C}$
Operating and Storage Junction, Temperature Range	T_J, T_{stg}	-65 to +150			$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.67	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	θ_{JA}	57	$^\circ\text{C/W}$

*Indicates JEDEC Registered Data

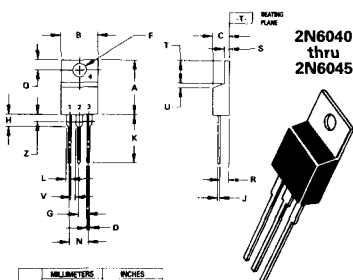
FIGURE 1 — POWER DERATING



DARLINGTON 8 AMPERE

COMPLEMENTARY SILICON POWER TRANSISTORS

60-80-100 VOLTS
75 WATTS



DIM	MIN	MAX	MIN	MAX
A	14.40	15.75	0.570	0.620
B	9.80	10.20	0.386	0.400
C	4.07	4.82	0.160	0.190
D	0.84	0.88	0.033	0.035
E	2.41	2.72	0.095	0.107
F	2.42	2.66	0.095	0.105
G	2.86	3.04	0.113	0.120
H	4.65	5.02	0.183	0.198
I	1.35	1.38	0.053	0.055
J	1.27	1.27	0.050	0.050
K	12.70	14.27	0.500	0.562
L	1.35	1.38	0.053	0.055
M	4.65	5.02	0.183	0.198
N	2.54	3.04	0.100	0.120
O	2.54	2.70	0.100	0.107
P	1.35	1.38	0.053	0.055
Q	1.35	1.38	0.053	0.055
R	1.35	1.38	0.053	0.055
S	1.35	1.38	0.053	0.055
T	1.35	1.38	0.053	0.055
U	1.35	1.38	0.053	0.055
V	1.35	1.38	0.053	0.055
W	1.35	1.38	0.053	0.055
X	1.35	1.38	0.053	0.055
Y	1.35	1.38	0.053	0.055
Z	1.35	1.38	0.053	0.055

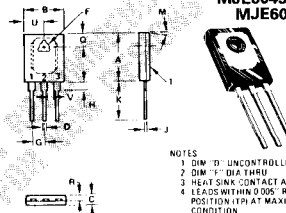
STYLE 1
PIN 1 BASE
2 COLLECTOR
3 EMITTER
4 COLLECTOR

NOTES:
1. DIMENSION NG AND TOLERANCING PER ANSI Y14.5M, 1987.
2. CONTROLLING DIMENSION: INCH.
3. DIM Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

CASE 221A-04
TO-220AB

3

MJE6040, MJE6041 and MJE6043 thru MJE6045



NOTES:
1. DIM D: UNCONTROLLED IN ZONE H.
2. DIM F: DIA THRU
3. HEAT SINK CONTACT AREA (BOTTOM)
4. LEADS WITHIN 0.005" RAD OF TRUE POSITION (FPM) AT MAXIMUM MATERIAL CONDITION

STYLE 2
PIN 1 EMITTER
2 COLLECTOR
3 BASE

DIM	MIN	MAX	MIN	MAX
A	16.13	16.38	0.635	0.645
B	12.51	12.83	0.493	0.505
C	3.18	3.43	0.125	0.135
D	1.08	1.24	0.043	0.049
E	3.51	3.76	0.138	0.148
F	4.22	4.50	0.166	0.178
G	2.51	2.92	0.100	0.115
H	0.813	0.864	0.032	0.034
I	15.11	15.38	0.595	0.605
J	8.75	9.14	0.344	0.359
K	4.70	4.95	0.185	0.195
L	1.91	2.16	0.075	0.085
M	5.20	6.48	0.205	0.255
N	2.03	2.03	0.080	0.080

CASE 90-05
TO-225AB TYPE
(TO-127 TYPE)

2N6040 thru 2N6042 PNP **2N6043 thru 2N6045 NPN** **MJE6040 thru MJE6041 PNP** **MJE6043 thru MJE6045 NPN**

***ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage ($I_C = 100\text{ mAdc}$, $I_B = 0$)	$V_{CE(sus)}$	60 80 100	— — —	Vdc
Collector Cutoff Current ($V_{CE} = 60\text{ Vdc}$, $I_B = 0$) ($V_{CE} = 80\text{ Vdc}$, $I_B = 0$) ($V_{CE} = 100\text{ Vdc}$, $I_B = 0$)	I_{CEO}	— — —	20 20 20	μA
Collector Cutoff Current ($V_{CE} = 60\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$) ($V_{CE} = 80\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$) ($V_{CE} = 100\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$) ($V_{CE} = 60\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_C = 150^\circ\text{C}$) ($V_{CE} = 80\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_C = 150^\circ\text{C}$) ($V_{CE} = 100\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_C = 150^\circ\text{C}$)	I_{CEX}	— — — — — —	20 20 20 200 200 200	μA
Collector Cutoff Current ($V_{CB} = 60\text{ Vdc}$, $I_E = 0$) ($V_{CB} = 80\text{ Vdc}$, $I_E = 0$) ($V_{CB} = 100\text{ Vdc}$, $I_E = 0$)	I_{CBO}	— — —	20 20 20	μA
Emitter Cutoff Current ($V_{BE} = 5.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	—	2.0	mAdc
ON CHARACTERISTICS				
DC Current Gain ($I_C = 4.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$) ($I_C = 3.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$) ($I_C = 8.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$) All Types	h_{FE}	1000 1000 100	20,000 20,000	—
Collector-Emitter Saturation Voltage ($I_C = 4.0\text{ Adc}$, $I_B = 16\text{ mAdc}$) ($I_C = 3.0\text{ Adc}$, $I_B = 12\text{ mAdc}$) ($I_C = 8.0\text{ Adc}$, $I_B = 80\text{ mAdc}$) All Types	$V_{CE(sat)}$	— — —	2.0 2.0 4.0	Vdc
Base-Emitter Saturation Voltage ($I_C = 8.0\text{ Adc}$, $I_B = 80\text{ mAdc}$)	$V_{BE(sat)}$	—	4.5	Vdc
Base-Emitter On Voltage ($I_C = 4.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$)	$V_{BE(on)}$	—	2.8	Vdc
DYNAMIC CHARACTERISTICS				
Small-Signal Current Gain ($I_C = 3.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$, $f = 1.0\text{ MHz}$)	$ h_{fe} $	4.0	—	—
Output Capacitance ($V_{CB} = 10\text{ Vdc}$, $I_E = 0$, $f = 0.1\text{ MHz}$)	C_{ob}	—	300 200	pF
Small-Signal Current Gain ($I_C = 3.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$, $f = 1.0\text{ kHz}$)	h_{fe}	300	—	—

*Indicates JEDEC Registered Data.

FIGURE 2 — SWITCHING TIMES TEST CIRCUIT

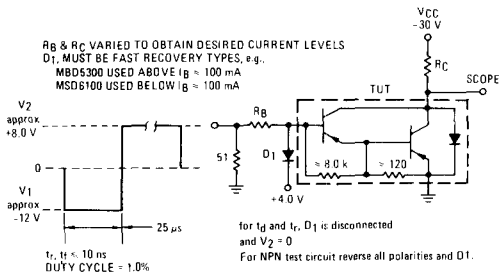
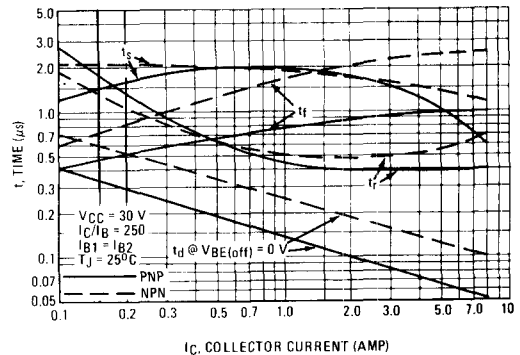


FIGURE 3 — SWITCHING TIMES



2N6040 thru 2N6042 PNP
2N6043 thru 2N6045 NPN
MJE6040 thru MJE6041 PNP
MJE6043 thru MJE6045 NPN

FIGURE 4 – THERMAL RESPONSE

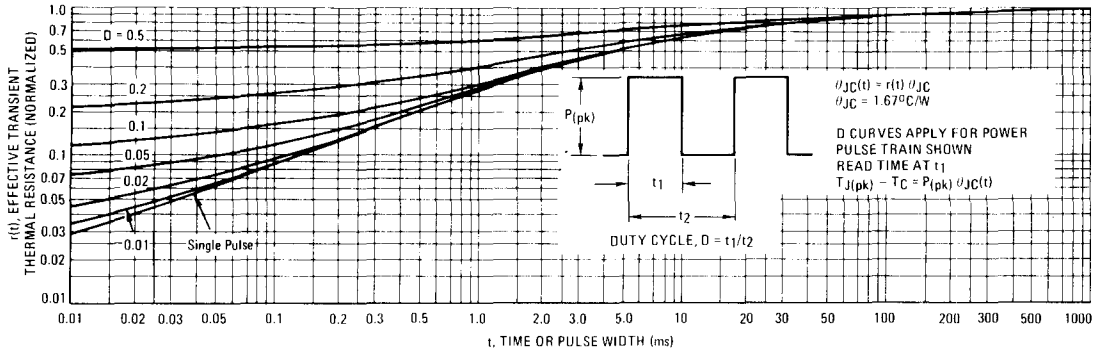
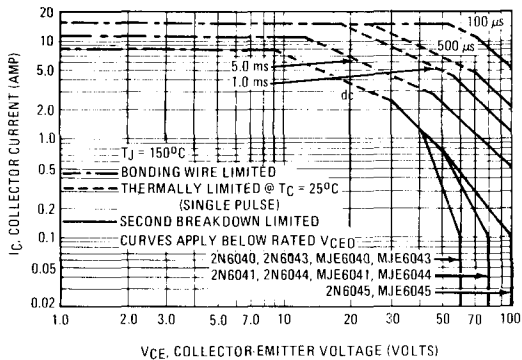


FIGURE 5 – ACTIVE-REGION SAFE OPERATING AREA



There are two limitations on the power handling ability of a transistor: average junction temperature and second breakdown. Safe operating area curves indicate $I_C - V_{CE}$ limits of the transistor that must be observed for reliable operation; i.e., the transistor must not be subjected to greater dissipation than the curves indicate.

The data of Figure 5 is based on $T_{J(pk)} = 150^\circ\text{C}$; T_C is variable depending on conditions. Second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(pk)} < 150^\circ\text{C}$. $T_{J(pk)}$ may be calculated from the data in Figure 4. At high case temperatures, thermal limitations will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

FIGURE 6 – SMALL-SIGNAL CURRENT GAIN

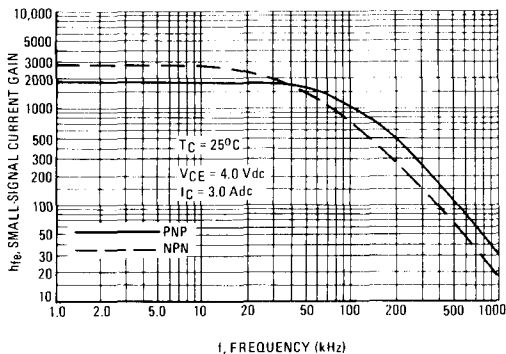
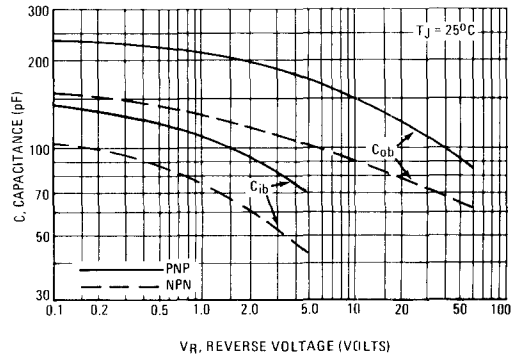


FIGURE 7 – CAPACITANCE



2N6040 thru 2N6042 PNP
2N6043 thru 2N6045 NPN
MJE6040 thru MJE6041 PNP
MJE6043 thru MJE6045 NPN

PNP
2N6040, 2N6041, 2N6042
MJE6040, MJE6041

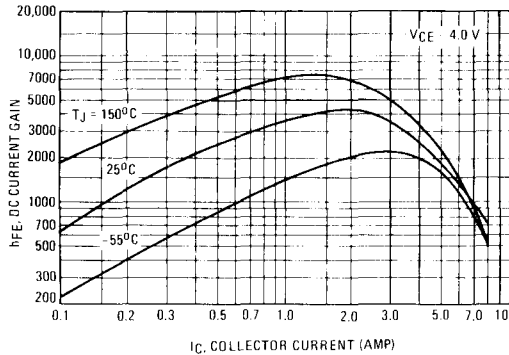


FIGURE 8 — DC CURRENT GAIN

NPN
2N6043, 2N6044, 2N6045
MJE6043, MJE6044, MJE6045

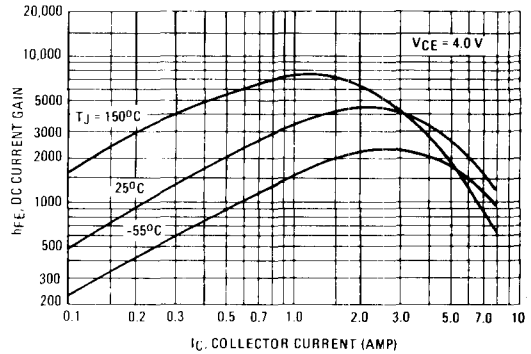


FIGURE 9 — COLLECTOR SATURATION REGION

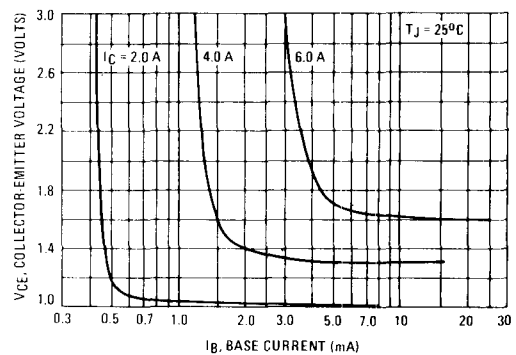
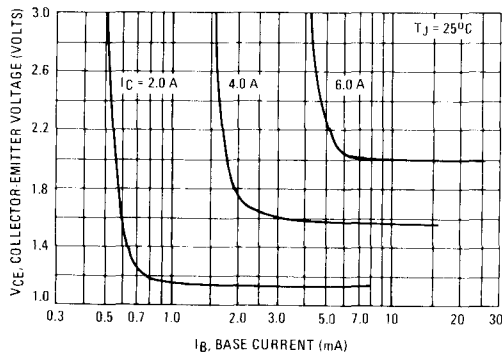


FIGURE 10 — "ON" VOLTAGES

