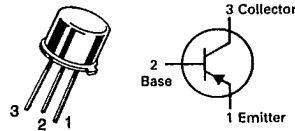


MAXIMUM RATINGS

Rating	Symbol	2N4234	2N4235	2N4236	Unit
Collector-Emitter Voltage	V_{CEO}	40	60	80	Vdc
Collector-Base Voltage	V_{CBO}	40	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	7.0			Vdc
Base Current	I_B	0.2			Vdc
Collector Current — Continuous	I_C	1.0 3.0*			Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 5.7			Watt mW/°C
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	6.0 34			Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	29	°C/W

2N4234
thru
2N4236
**CASE 79-04, STYLE 1
TO-39 (TO-205AD)**

**GENERAL PURPOSE
TRANSISTORS**
PNP SILICON

T-27-21

**Boca
Semiconductor
corp.**

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage(1) ($I_C = 100 \text{ mA}, I_B = 0$)	2N4234 2N4235 2N4236	$V_{CEO(sus)}$	40 60 80	— — —	Vdc
Collector Cutoff Current ($V_{CE} = 30 \text{ Vdc}, I_B = 0$) ($V_{CE} = 40 \text{ Vdc}, I_B = 0$) ($V_{CE} = 60 \text{ Vdc}, I_B = 0$)	2N4234 2N4235 2N4236	I_{CEO}	— — —	1.0 1.0 1.0	mAdc
Collector Cutoff Current ($V_{CE} = 40 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$) ($V_{CE} = 60 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$) ($V_{CE} = 80 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$) ($V_{CE} = 30 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$) ($V_{CE} = 40 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$) ($V_{CE} = 60 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$)	2N4234 2N4235 2N4236 2N4234 2N4235 2N4236	I_{CEX}	— — — — — —	0.1 0.1 0.1 1.0 1.0 1.0	mAdc
Collector Cutoff Current ($V_{CB} = 40 \text{ Vdc}, I_E = 0$) ($V_{CB} = 60 \text{ Vdc}, I_E = 0$) ($V_{CB} = 80 \text{ Vdc}, I_E = 0$)	2N4234 2N4235 2N4236	I_{CBO}	— — —	0.1 0.1 0.1	mAdc
Emitter Cutoff Current ($V_{BE} = 7 \text{ Vdc}, I_C = 0$)		I_{EBO}	—	0.5	mAdc

ON CHARACTERISTICS

DC Current Gain(1) ($I_C = 100 \text{ mA}, V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 250 \text{ mA}, V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 500 \text{ mA}, V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ Vdc}$)		h_{FE}	40 30 20 10	— 150 — —	—
Collector-Emitter Saturation Voltage(1) ($I_C = 1.0 \text{ A}, I_B = 125 \text{ mA}$)		$V_{CE(sat)}$	—	0.6	Vdc
Base-Emitter Saturation Voltage(1) ($I_C = 1.0 \text{ A}, I_B = 100 \text{ mA}$)		$V_{BE(sat)}$	—	1.5	Vdc
Base-Emitter On Voltage ($I_C = 250 \text{ mA}, V_{CE} = 1.0 \text{ Vdc}$)		V_{BE}	—	1.0	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product ($I_C = 100 \text{ mA}, V_{CE} = 10 \text{ Vdc}, f = 1.0 \text{ MHz}$)		f_T	3.0	—	MHz
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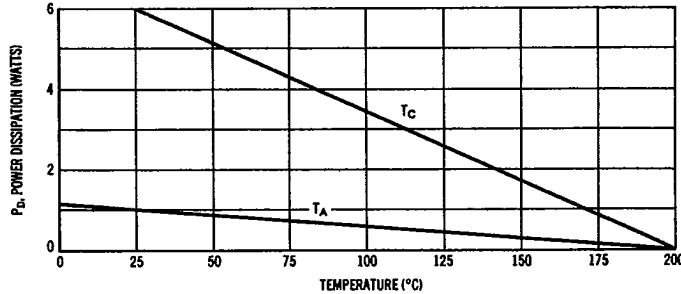
ELECTRICAL CHARACTERISTICS (continued) ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
Output Capacitance ($V_{CB} = 10\text{ Vdc}$, $I_E = 0$, $f = 100\text{ kHz}$)	C_{obo}	—	100	pF
Small-Signal Current Gain ($I_C = 50\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$, $f = 1.0\text{ kHz}$)	h_{fe}	25	—	—

(1) Pulse Test: $PW \leq 300\ \mu\text{s}$, Duty Cycle $\leq 2.0\%$.

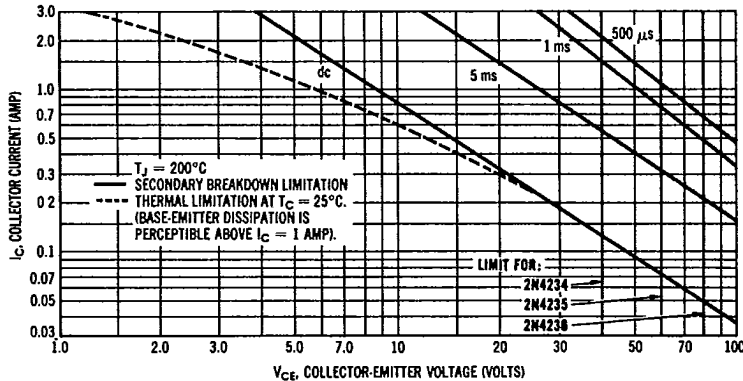
*Indicates Data in addition to JEDEC Requirements.

FIGURE 1 — POWER-TEMPERATURE DERATING CURVE



Safe Area Curves are indicated by Figure 2.
All limits are applicable and must be observed.

FIGURE 2 — ACTIVE-REGION SAFE OPERATING AREAS



The Safe Operating Area Curves indicate $I_C - V_{CE}$ limits below which the device will not enter secondary breakdown. Collector load lines for specific circuits must fall within the applicable Safe Area to avoid causing a catastrophic failure. To insure operation below the maximum T_J , power-temperature derating must be observed for both steady state and pulse power conditions.

LARGE SIGNAL CHARACTERISTICS

FIGURE 3 — TRANSCONDUCTANCE

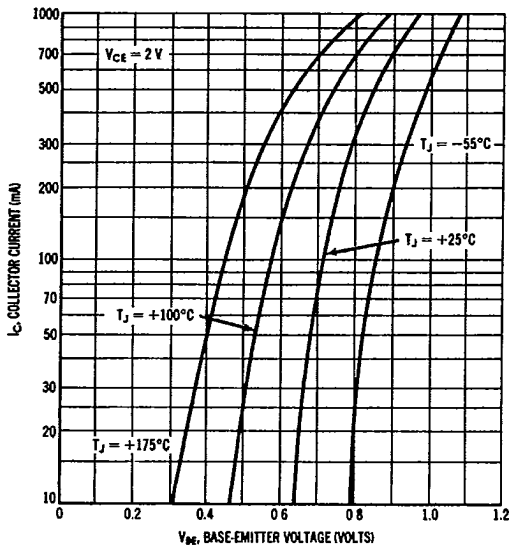
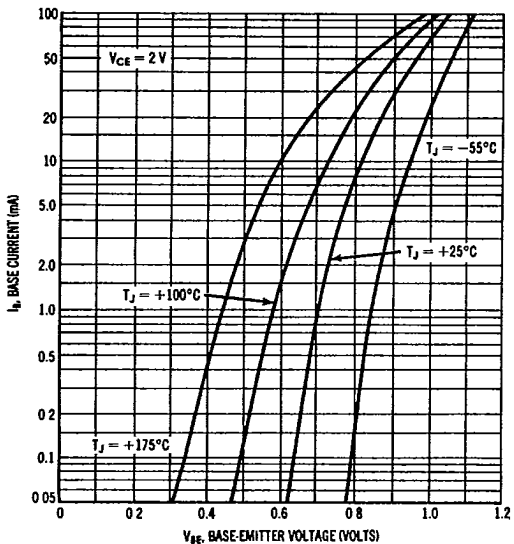


FIGURE 4 — INPUT ADMITTANCE



"OFF" REGION CHARACTERISTICS

FIGURE 5 — TRANSCONDUCTANCE

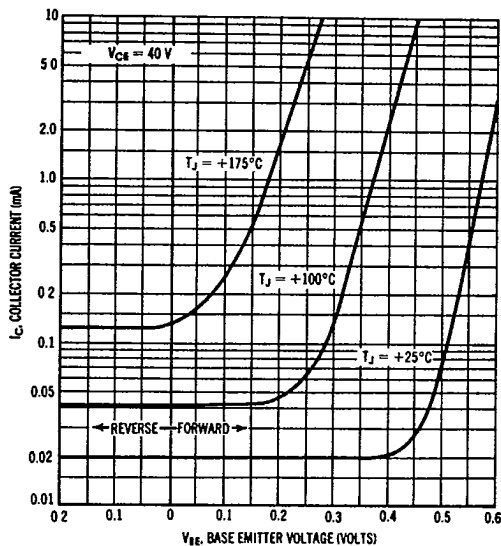
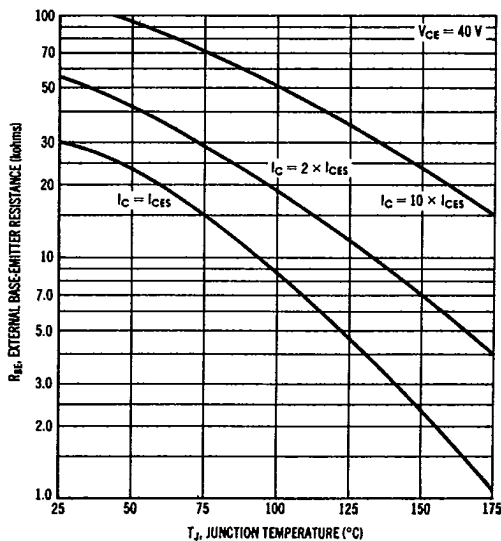
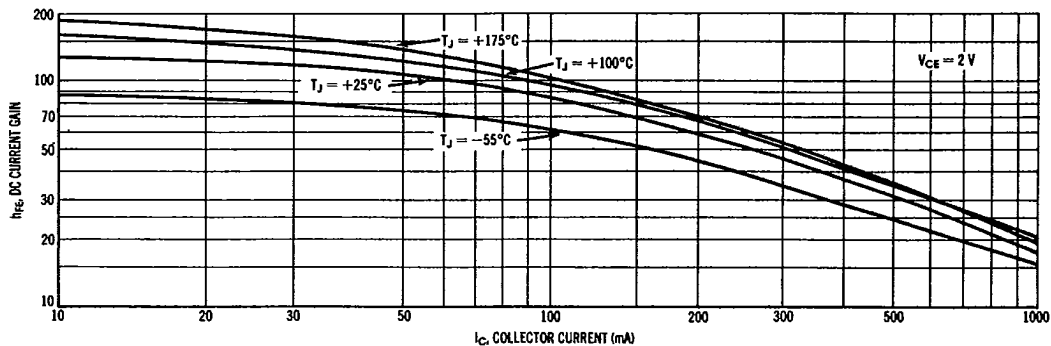


FIGURE 6 — EFFECTS OF BASE-EMITTER RESISTANCE



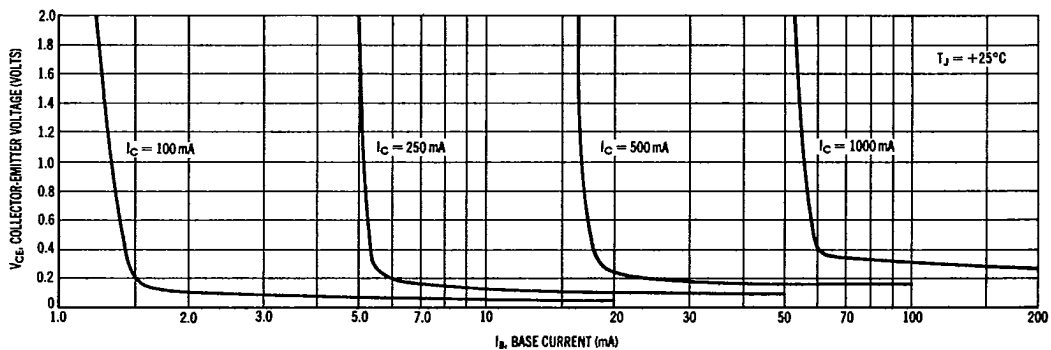
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FIGURE 7 — CURRENT GAIN



SATURATION REGION CHARACTERISTICS

FIGURE 8 — COLLECTOR SATURATION REGION



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FIGURE 9 — "ON" VOLTAGES

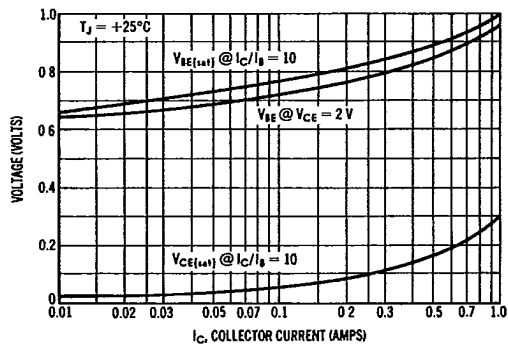


FIGURE 10 — TEMPERATURE COEFFICIENTS

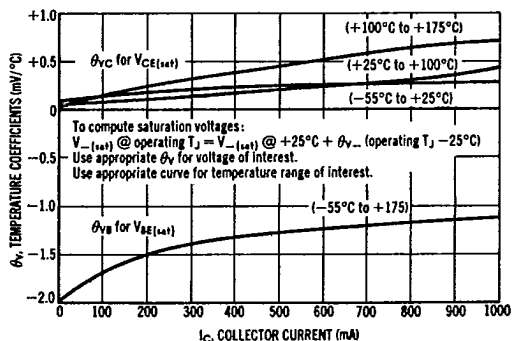


FIGURE 11 — TURN-ON TIME

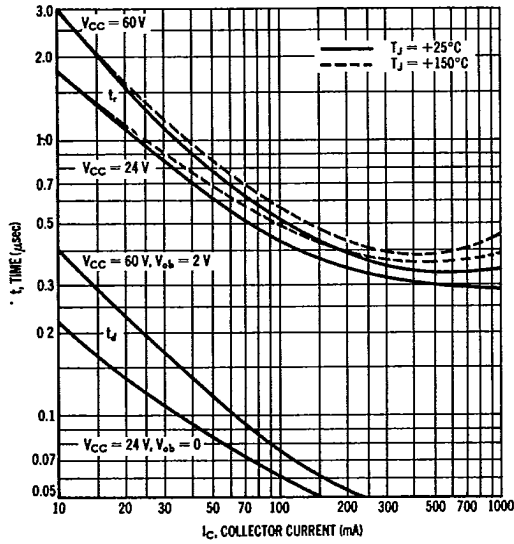
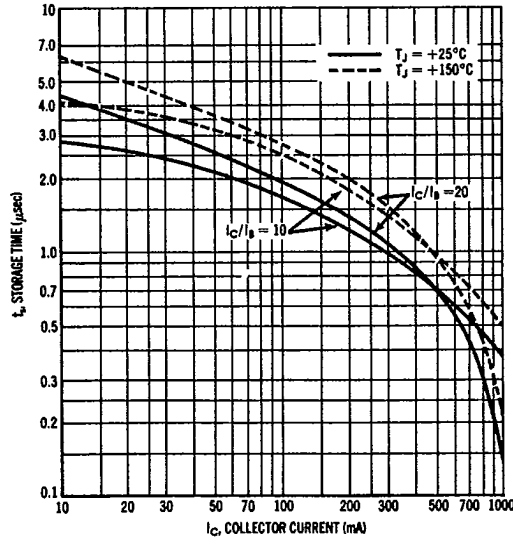


FIGURE 12 — STORAGE TIME



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FIGURE 13 — CAPACITANCE

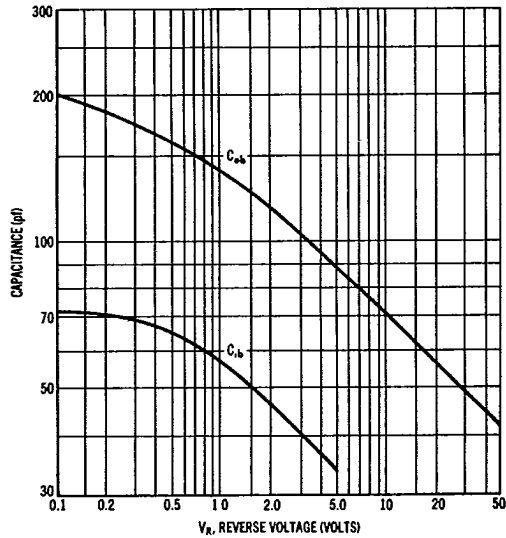


FIGURE 14 — FALL TIME

