

6367254 MOTOROLA SC (XSTRS/R F)

96D 80567 D T-33-13

MOTOROLA **SEMICONDUCTOR** **TECHNICAL DATA**

BD205
BD207

PLASTIC HIGH POWER SILICON NPN TRANSISTOR

... designed for use in high power audio amplifiers utilizing complementary or quasi complementary circuits.

- DC Current Gain— $h_{FE} = 30$ (Min) @ $I_C = 2.0$ Adc
- BD 205, 207 are complementary with BD 206, 208

10 AMPERE POWER TRANSISTOR

NPN SILICON

 45, 60 VOLTS
 90 WATTS

MAXIMUM RATINGS

Rating	Symbol	Type	Value	Unit
Collector-Emitter Voltage	V_{CEO}	BD 205 BD 207	45 60	Vdc
Collector-Base Voltage	V_{CBO}	BD 205 BD 207	55 70	Vdc
Emitter-Base Voltage	V_{EBO}		5	Vdc
Collector Current	I_C		10.0	Adc
Base Current	I_B		6.0	Adc
Total Device Dissipation $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D		90 720	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}		-55 to +150	$^\circ\text{C}$

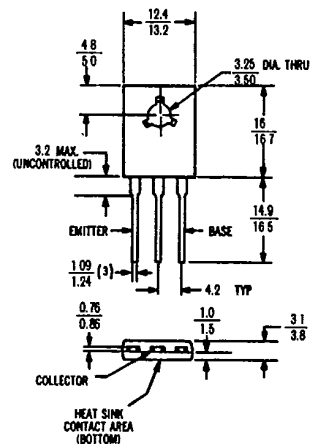
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.39	$^\circ\text{C/W}$

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

Characteristic	Symbol	Type	Min	Max	Unit
Collector-Emitter Sustaining Voltage* ($I_C = 0.2$ Adc, $I_E = 0$)	BV_{CEO}^*	BD 205 BD 207	45 60	—	Vdc
Collector Cutoff Current ($V_{CB} = 65$ Vdc, $I_E = 0$) ($V_{CB} = 70$ Vdc, $I_E = 0$)	I_{CBO}	BD 205 BD 207	— —	1.0 1.0	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0$ Vdc, $I_C = 0$)	I_{EBO}		—	2.0	mAdc
DC current Gain ($I_C = 2$ A, $V_{CE} = 2$ V) ($I_C = 4$ A, $V_{CE} = 2$ V)	h_{FE}^*		30 15	—	
Collector-Emitter Saturation Voltage* ($I_C = 4$ Adc, $I_B = 0.4$ Adc)	$V_{CE(sat)}^*$		—	1.1	Vdc
Base-Emitter On Voltage* ($I_C = 4$ Adc, $V_{CE} = 2.0$ Vdc)	$V_{BE(on)}^*$		—	1.6	Vdc
Current-Gain-Bandwidth Product ($I_C = 1.0$ Adc, $V_{CE} = 10$ Vdc, $f = 1.0$ MHz)	f_T		1.5	—	MHz

* Pulse Test: Pulse Width ≤ 300 μs , Duty Cycle $\leq 2.0\%$.



When mounting the device, torque not to exceed 0.09 m.kg.

If lead bending is required, use suitable clamps or other supports between transistor case and point of bend.
All dimensions in millimeters

CASE 90

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BD205, BD207

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FIGURE 1 — ACTIVE REGION DC
SAFE OPERATING AREA

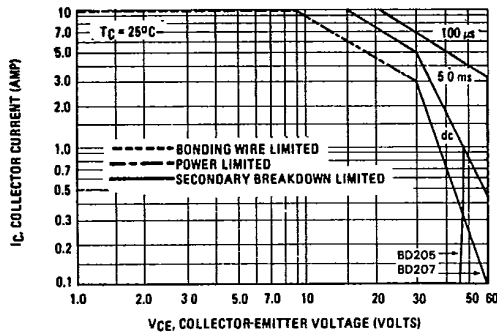


FIGURE 2 — POWER-TEMPERATURE
DERATING CURVE

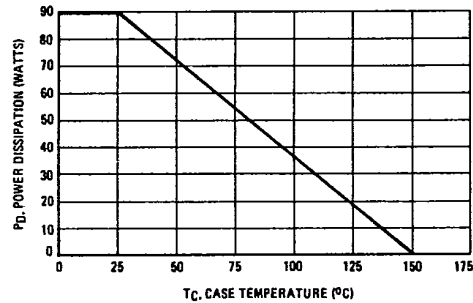


FIGURE 3 — "ON" VOLTAGES

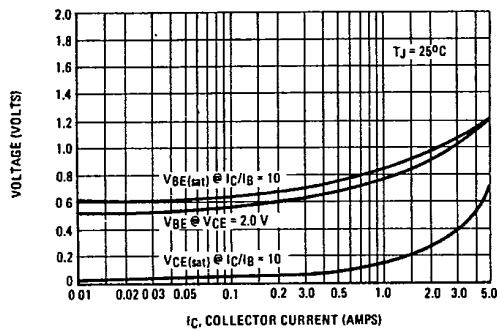


FIGURE 4 — CURRENT GAIN

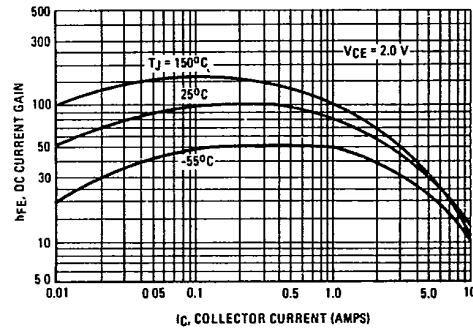


FIGURE 5 — THERMAL RESPONSE

