

6367254 MOTOROLA SC (XSTRS/R F)

96D 80569 D7-33-21

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

**BD206**  
**BD208**

PLASTIC HIGH POWER  
SILICON PNP TRANSISTOR

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

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

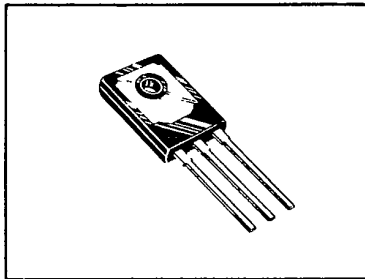
10 AMPERE  
POWER TRANSISTOR

PNP SILICON

45, 60 VOLTS  
90 WATTS

MAXIMUM RATINGS

Rating	Symbol	Type	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	BD 206 BD 208	45 60	Vdc
Collector-Base Voltage	$V_{CBO}$	BD 206 BD 208	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 Derate above 25°C	$P_D$		90 720	Watts mW/°C
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$		-55 to +150	°C



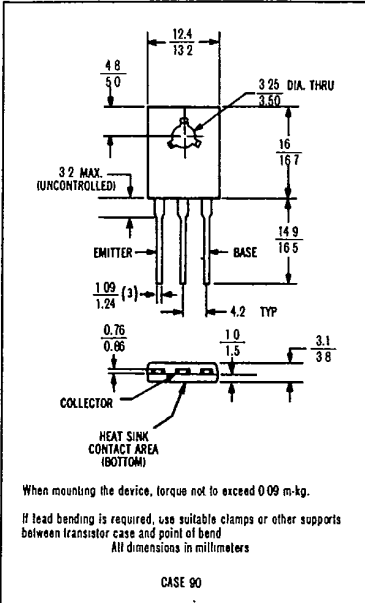
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$\theta_{JC}$	1.39	°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, $I_B = 0$ )	$BV_{CEO}$	BD 206 BD 208	45 60	—	Vdc
Collector Cutoff Current ( $V_{CB} = 55$ Vdc, $I_E = 0$ ) ( $V_{CB} = 70$ Vdc, $I_E = 0$ )	$I_{CBO}$	BD 206 BD 208	—	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  $\leq 300$   $\mu$ s. Duty Cycle  $\leq 2.0\%$ .



6367254 MOTOROLA SC (XSTRS/R F)

96D 80570 D

BD206, BD208

T-33-21

FIGURE 1 — ACTIVE REGION DC SAFE OPERATING AREA

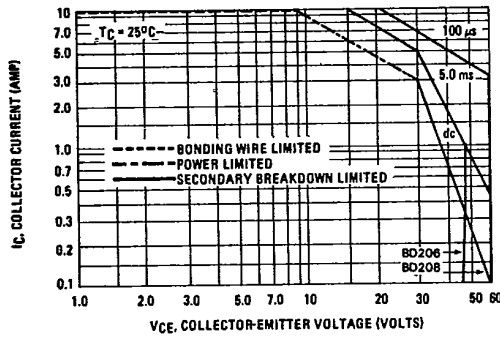


FIGURE 2 — POWER-TEMPERATURE DERATING CURVE

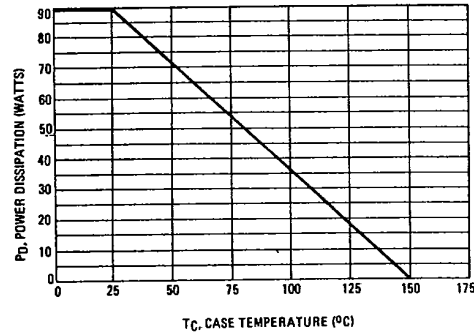


FIGURE 3 — "ON" VOLTAGES

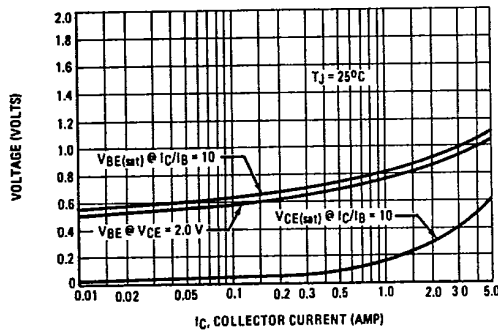


FIGURE 4 — CURRENT GAIN

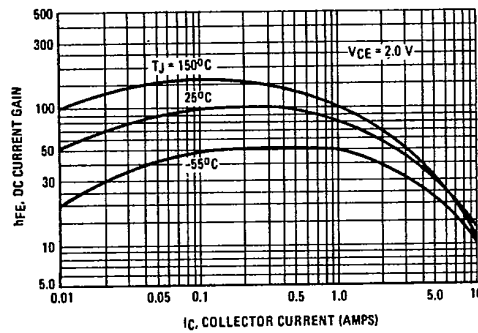


FIGURE 5 — THERMAL RESPONSE

