

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

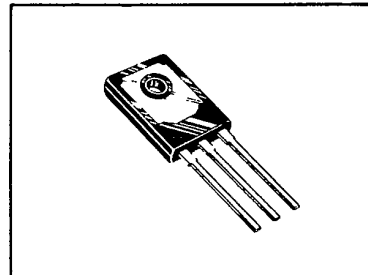
10 AMPERE  
POWER TRANSISTOR

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



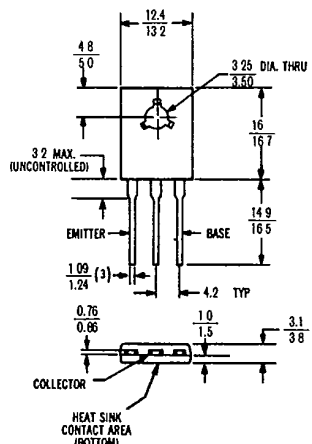
THERMAL CHARACTERISTICS

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, $I_C = 0$ ) ( $V_{CB} = 70$ 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  $\leq 2.0\%$ .



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



6367254 MOTOROLA SC (XSTRS/R F)

96D 80570 D

BD206, BD208

T-33-21

FIGURE 1 — ACTIVE REGION DC SAFE OPERATING AREA

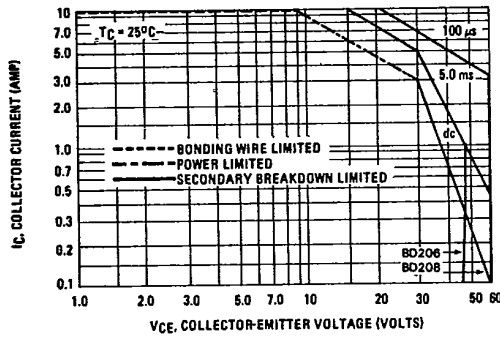


FIGURE 2 — POWER-TEMPERATURE DERATING CURVE

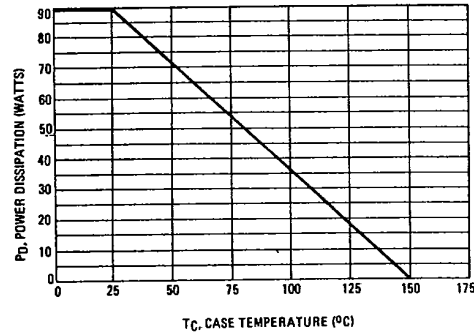


FIGURE 3 — "ON" VOLTAGES

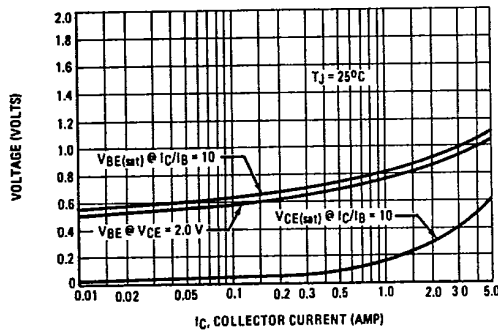


FIGURE 4 — CURRENT GAIN

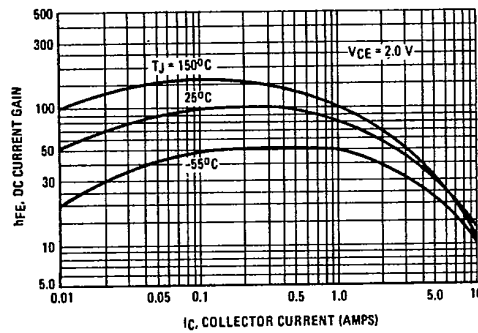


FIGURE 5 — THERMAL RESPONSE

