

6367254 MOTOROLA SC (XSTRS/R F)

96D 80609 D

MOTOROLA SEMICONDUCTOR TECHNICAL DATA

T-33-17
**BD526
BD528
BD530**

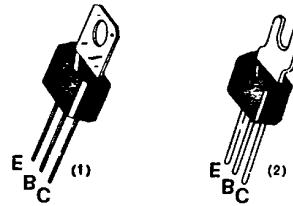
PNP SILICON ANNULAR AMPLIFIER TRANSISTORS

... designed for general-purpose, high-voltage amplifier and driver applications.

- High Collector-Emitter Breakdown Voltage —
 $V_{CEO} = 60 \text{ Vdc (Min) @ } I_C = 1.0 \text{ mAdc — BD526}$
 $80 \text{ Vdc (Min) @ } I_C = 1.0 \text{ mAdc — BD528}$
 $100 \text{ Vdc (Min) @ } I_C = 1.0 \text{ mAdc — BD530}$
- High Power Dissipation — $P_D = 10 \text{ W @ } T_C = 25^\circ\text{C}$
- Complements to NPN BD525, BD527, BD529

PNP SILICON AMPLIFIER TRANSISTORS

60 - 80 - 100 VOLTS
10 WATTS



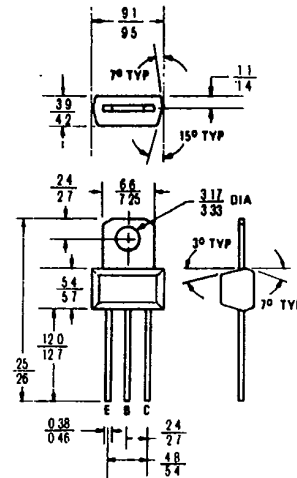
(1) Standard package: BD526, 528, 530
 (2) Tab formed for flat mounting: BD526-1, 528-1, 530-1
 Also available with leads formed to TO-5 configuration: BD526-5, 528-5, 530-5

MAXIMUM RATINGS

Rating	Symbol	BD526	BD528	BD530	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	100	Vdc
Collector-Base Voltage	V_{CB}	60	80	100	Vdc
Emitter-Base Voltage	V_{EB}	4.0			Vdc
Collector Current - Continuous	I_C	2.0			Acdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0	8.0		Watt mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	10	80		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}	125	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	θ_{JA}	125	$^\circ\text{C/W}$



All dimensions in millimeters
 Collector connected to tab

CASE 152



6367254 MOTOROLA SC (XSTRS/R F)

96D 80610 D

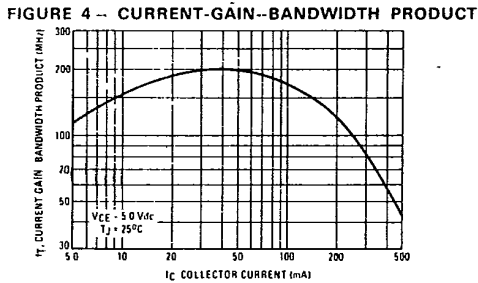
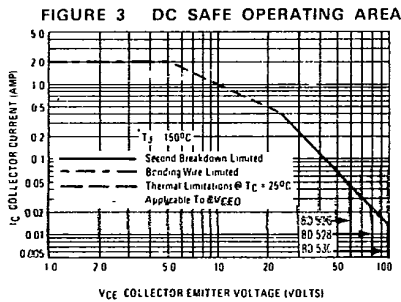
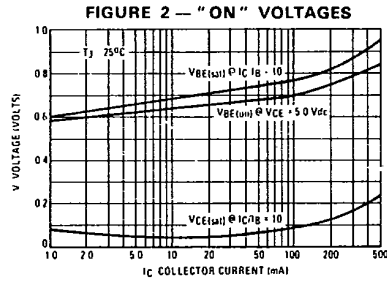
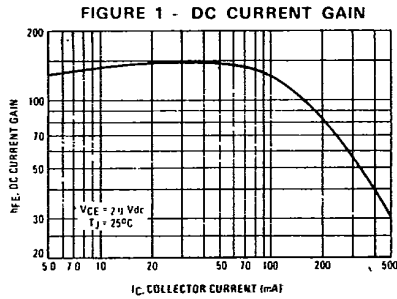
BD526, BD528, BD530

T-33-17

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I _C = 1.0 mAdc, I _B = 0)	BD526 BD528 BD530	BV _{CEO}	60 80 100	— — —	Vdc
Emitter-Base Breakdown Voltage (I _E = 100 μAdc, I _C = 0)		BV _{EBO}	4.0	—	Vdc
Collector Cutoff Current (V _{CB} = 40 Vdc, I _E = 0) (V _{CB} = 60 Vdc, I _E = 0) (V _{CB} = 80 Vdc, I _E = 0)	BD526 BD528 BD530	I _{CBO}	— — —	— — —	nAdc
ON CHARACTERISTICS					
DC Current Gain (1) (I _C = 50 mAdc, V _{CE} = 2.0 Vdc) (I _C = 250 mAdc, V _{CE} = 2.0 Vdc)		h _{FE}	60 30	153 98	—
Collector-Emitter Saturation Voltage(1) (I _C = 250 mAdc, I _B = 10 mAdc) (I _C = 250 mAdc, I _B = 25 mAdc)		V _{CE(sat)}	—	0.22 0.15	0.5 —
Base-Emitter On Voltage (1) (I _C = 250 mAdc, V _{CE} = 5.0 Vdc)		V _{BE(on)}	—	0.78	1.0
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain-Bandwidth Product (I _C = 200 mAdc, V _{CE} = 5.0 Vdc, f = 100 MHz)		f _T	50	100	—
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 100 kHz)		C _{ob}	—	10	15

(1) Pulse Test. Pulse Width ≥ 300 μs, Duty Cycle ≤ 2.0%



There are two limitations on the power handling ability of a transistor junction temperature and secondary 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 3 is based on T_J(pk) = 150°C; T_C is variable depending on conditions. At high case temperatures, thermal limitations will reduce the power that can be handled to values less than the limitations imposed by secondary breakdown.

