

# BF257 BF258 BF259

## NPN SILICON ANNULAR TRANSISTORS

... designed for high-voltage DC - VHF video amplifier applications.

- High Collector-Emitter Breakdown Voltage –  
 $BV_{CEO} = 300$  (Min) @  $I_C = 30$  mA dc – BF259
- Low Collector Cutoff Current –  
 $I_{CBO} = 50$  nA dc (Max) @  $V_{CB} = 250$  V dc – BF259
- DC Current Gain –  
 $h_{FE} = 25$  (Min) @  $I_C = 30$  mA dc

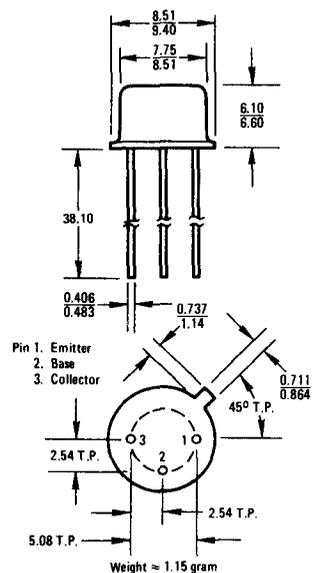
### MAXIMUM RATINGS

Rating	Symbol	BF257	BF258	BF259	Unit
Collector-Emitter Voltage	$V_{CEO}$	160	250	300	Vdc
Collector-Emitter Voltage	$V_{CER}$	160	250	300	Vdc
Collector-Base Voltage	$V_{CB}$	160	250	300	Vdc
Emitter-Base Voltage	$V_{EB}$	← 5.0 →			Vdc
Collector Current – Continuous	$I_C$	← 100 →			mA dc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$	$P_D$	← 5.0 →			Watts
Operating Junction Temperature Range	$T_J$	← +175 →			$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{TH(jc)}$	30	$^\circ\text{C/W}$

## NPN SILICON AMPLIFIER TRANSISTORS



CASE 31 (1)  
TO-5  
All Dimensions in Millimeters

BF257

BF258

BF259

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

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector-Emitter Breakdown Voltage ( $I_C = 30\text{ mA}_{dc}$ , $I_B = 0$ )	BF257	160	—	—	Vdc
	BF258	250	—	—	
	BF259	300	—	—	
Collector-Base Breakdown Voltage ( $I_C = 100\ \mu\text{A}_{dc}$ , $I_E = 0$ )	BF257	160	—	—	Vdc
	BF258	250	—	—	
	BF259	300	—	—	
Emitter-Base Breakdown Voltage ( $I_E = 100\ \mu\text{A}_{dc}$ , $I_C = 0$ )		5.0	—	—	Vdc
Collector Cutoff Current ( $V_{CB} = 100\text{ Vdc}$ , $I_E = 0$ ) ( $V_{CB} = 200\text{ Vdc}$ , $I_E = 0$ ) ( $V_{CB} = 250\text{ Vdc}$ , $I_E = 0$ )	BF257	—	—	50	nAdc
	BF258	—	—	50	
	BF259	—	—	50	
<b>ON CHARACTERISTICS</b>					
DC Current Gain ( $I_C = 30\text{ mA}_{dc}$ , $V_{CE} = 10\text{ Vdc}$ )	$h_{FE}$	25	—	—	—
Collector-Emitter Saturation Voltage ( $I_C = 30\text{ mA}_{dc}$ , $I_B = 6.0\text{ mA}_{dc}$ )	$V_{CE(sat)}$	—	—	1.0	Vdc
<b>DYNAMIC CHARACTERISTICS</b>					
Current-Gain – Bandwidth Product ( $I_C = 30\text{ mA}_{dc}$ , $V_{CE} = 10\text{ Vdc}$ , $f = 100\text{ MHz}$ )	$f_T$	—	110	—	MHz
Reverse Transfer Capacitance ( $V_{CB} = 30\text{ Vdc}$ , $I_E = 0$ , $f = 500\text{ kHz}$ )	$C_{re}$	—	3.5	—	pF
Collector-Base Capacitance ( $V_{CB} = 10\text{ Vdc}$ , $I_E = 0$ , $f = 500\text{ kHz}$ )	$C_{cb}$	—	5.5	—	pF