

BF179A **BF179B** **BF179C**

NPN SILICON ANNULAR TRANSISTORS

... designed for high-frequency applications in color difference signal power stages of color television.

- High Collector-Emitter Breakdown Voltage –
 $BV_{CE} = 250 \text{ Vdc (Min) @ } I_C = 4.0 \text{ mAdc} - \text{BF179C}$
- Low Collector-Base Time Constant –
 $r_{bb'} C_{b'c} = 100 \text{ ps (Max) @ } I_C = 10 \text{ mAdc}$
- Low Collector Cutoff Current –
 $I_{CBO} = 200 \text{ nAdc (Max) @ } V_{CB} = 160 \text{ Vdc}$

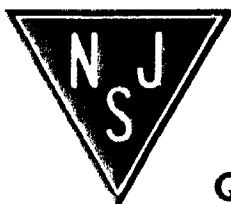
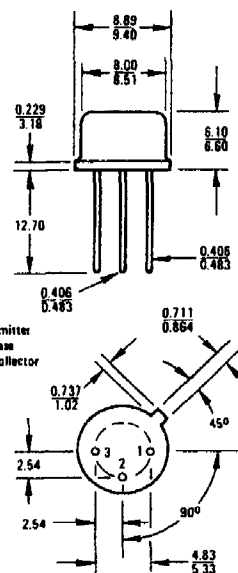
MAXIMUM RATINGS

Rating	Symbol	BF179A	BF179B	BF179C	Unit
Collector-Emitter Voltage ($R_{BE} = 1.0 \text{ k ohm}$)	V_{CE}	180	220	250	Vdc
Collector-Emitter Voltage	V_{CES}	180	220	250	Vdc
Emitter-Base Voltage	V_{EB}	5.0			Vdc
Collector Current – Continuous	I_C	50			mAdc
Base Current	I_B	10			mAdc
Total Device Dissipation @ $T_A = 85^\circ\text{C}$	P_D	0.6			Watts
Operating Junction Temperature Range	T_J	200			$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +200			$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{THJcase}$	45	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	R_{THJamb}	220	$^\circ\text{C/W}$

NPN SILICON HIGH-FREQUENCY TRANSISTORS



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Quality Semi-Conductors

BF179A

BF179B

BF179C

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage ($I_C = 4.0\text{ mAdc}$, $R_B = 1.0\text{ k ohm}$, $R_E = 100\text{ ohms}$)	BV_{CEr}	160 220 250	— — —	— — —	Vdc
Emitter-Base Breakdown Voltage ($I_E = 100\text{ }\mu\text{Adc}$, $I_C = 0$)	BV_{EB0}	5.0	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 160\text{ Vdc}$, $I_E = 0$)	I_{CBO}	—	—	200	nAdc
ON CHARACTERISTICS					
DC Current Gain ($I_C = 15\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$)	h_{FE}	20	—	—	—
High Frequency Collector-Emitter Saturation Voltage ($I_C = 20\text{ mAdc}$, $R_L = 10\text{ k ohms}$, $f = 0.5\text{ MHz}$, $T_J = 150^\circ\text{C}$)	$V_{CE(sat)HF}$	—	20	—	Vdc
DYNAMIC CHARACTERISTICS					
Current-Gain-Bandwidth Product ($I_C = 10\text{ mAdc}$, $V_{CE} = 20\text{ Vdc}$, $f = 500\text{ KHz}$)	f_T	100	150	—	MHz
Short-Circuit Reverse Capacitance ($V_{CE} = 20\text{ Vdc}$, $I_C = 1.0\text{ mAdc}$, $f = 1.0\text{ MHz}$)	C_{re}	—	1.3	3.5	pF
Collector-Base Time Constant ($I_C = 10\text{ mAdc}$, $V_{CB} = 20\text{ Vdc}$, $f = 2.5\text{ MHz}$)	$\tau_{bb'}C_{b'c}$	—	—	100	ps