BF257
BF258
BF259

CASE 79, STYLE 1
TO-39 (TO-205AD)

HIGH VOLTAGE TRANSISTOR

NPN SILICON

4

MAXIMUM RATINGS

Rating	Symbol	BF 257	BF 258	BF 259	Unit
Collector-Emitter Voltage	V_{CEO}	160	250	300	Vdc
Collector-Emitter Voltage	V_{CER}	160	250	300	Vdc
Collector-Base Voltage	V_{CBO}	160	250	300	Vdc
Emitter-Base Voltage	V_{EBO}	5.0			Vdc
Collector Current – Continuous	I_C	0.1			Adc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	0.8 4.57			Watt mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	5.0 28.6			Watt mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	35	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage (I_C = 30 mAdc, I_B = 0)	BF257 BF258 BF259	$V_{(BR)CEO}$	 160 250 300	 — — —	 — — —	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	BF257 BF258 BF259	$V_{(BR)CBO}$	 160 250 300	 — — —	 — — —	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	—	Vdc
Collector Cutoff Current (V_{CB} = 100 Vdc, I_E = 0) (V_{CB} = 200 Vdc, I_E = 0) (V_{CB} = 250 Vdc, I_E = 0)	 BF257 BF258 BF259	I_{CBO}	 — — —	 1 1 1	 50 50 50	nAdc
ON CHARACTERISTICS						
DC Current Gain (I_C = 30 mAdc, V_{CE} = 10 Vdc)		h_{FE}	25	80	—	—
Collector-Emitter Saturation Voltage (I_C = 30 mAdc, I_B = 6.0 mAdc)		$V_{CE(sat)}$	—	0.1	1.0	Vdc
DYNAMIC CHARACTERISTICS						
Current Gain Bandwidth Product (I_C = 30 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)		f_T	—	110	—	MHz
Reverse Transfer Capacitance (V_{CB} = 30 Vdc, I_E = 0, f = 500 kHz)		C_{re}	—	3.5	—	pF
Collector-Base Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 500 kHz)		C_{cb}	—	5.5	—	pF