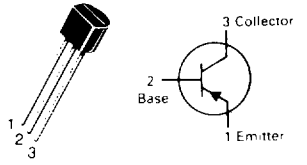
BF491 thru BF493

CASE 29-04, STYLE 1
TO-92 (TO-226AA)



HIGH VOLTAGE TRANSISTORS

PNP SILICON

Refer to MPSA92 for graphs.

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MAXIMUM RATINGS

Rating	Symbol	BF491	BF492	BF493	Unit
Collector-Emitter Voltage	V_{CEO}	−200	−250	−300	Vdc
Collector-Base Voltage	V_{CBO}	−200	−250	−300	Vdc
Emitter-Base Voltage	V_{EBO}		−6.0		Vdc
Collector Current — Continuous	I_C		−500		mAdc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D		625 5.0		mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D		1.5 12		Watt 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 Ambient	$R_{\theta JA}$	200	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	°C/W

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (1) (I_C = −1.0 mAdc, I_B = 0)	BF491 BF492 BF493	$V_{(BR)CEO}$	 −200 −250 −300	 — — —	Vdc
Collector-Base Breakdown Voltage (I_C = −100 μAdc, I_E = 0)	BF491 BF492 BF493	$V_{(BR)CBO}$	 −200 −250 −300	 — — —	Vdc
Emitter-Base Breakdown Voltage (I_E = −100 μAdc, I_C = 0)	BF491 BF492 BF493	$V_{(BR)EBO}$	 −6.0 −6.0 −6.0	 — — —	Vdc
Collector Cutoff Current (V_{CB} = −160 Vdc, I_E = 0) (V_{CB} = −200 Vdc, I_E = 0) (V_{CB} = −200 Vdc, I_E = 0)	 BF491 BF492 BF493	I_{CBO}	 — — —	 −0.1 −0.1 −0.1	μAdc
Emitter Cutoff Current (V_{EB} = −4.0 Vdc, I_C = 0) (V_{EB} = −6.0 Vdc, I_C = 0) (V_{EB} = −6.0 Vdc, I_C = 0)	 BF491 BF492 BF493	I_{EBO}	 — — —	 −0.1 −0.1 −0.1	μAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = −1.0 mAdc, V_{CE} = −10 Vdc) (I_C = −10 mAdc, V_{CE} = 10 Vdc)	 All Types All Types	h_{FE}	 25 40	 — —	—
Collector-Emitter Saturation Voltage (I_C = −20 mAdc, I_B = −2.0 mAdc)		$V_{CE(sat)}$	—	−2.0	Vdc
Base-Emitter Saturation Voltage (I_C = −20 mA, I_B = −2.0 mA)		$V_{BE(sat)}$	—	−2.0	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product (I_C = −10 mAdc, V_{CE} = −20 Vdc, f = 20 MHz)		f_T	50	—	MHz
Common Emitter Feedback Capacitance (V_{CB} = −100 Vdc, I_E = 0, f = 1.0 MHz)		C_{re}	—	1.6	pF

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