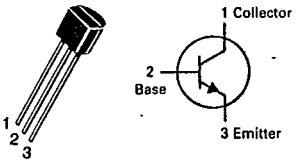
PBF259R, RS

CASE 29-04, STYLE 17
TO-92 (TO-226AA)



HIGH VOLTAGE TRANSISTORS

NPN SILICON

Refer to MPSA92 for graphs.

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MAXIMUM RATINGS

Rating	Symbol	PBF493R,RS	Unit
Collector-Emitter Voltage	V_{CEO}	300	Vdc
Collector-Base Voltage	V_{CBO}	300	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	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 Case	$R_{\theta JC}$	83.3	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JC}$	200	°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 = 3.0 mAdc, I_B = 0)		$V_{(BR)CEO}$	300	—	Vdc
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)		$V_{(BR)CBO}$	300	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CB} = 250 Vdc, I_E = 0)		I_{CBO}	—	50	nAdc
Emitter Cutoff Current (V_{EB} = 3.0 V)		I_{EBO}	—	20	nAdc
Collector Cutoff Current (V_{CE} = 10 V)		I_{CEO}	—	50	nAdc
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 20 mAdc, V_{CE} = 10 Vdc) (I_C = 1.0 mAdc, V_{CE} = 10 Vdc) (I_C = 30 mAdc, V_{CE} = 10 Vdc)	 PBF259RS All Types All Types	h_{FE}	 60 25 25	 — — —	—
Collector-Emitter Saturation Voltage (I_C = 30 mAdc, I_B = 1.5 mAdc) (I_C = 30 mAdc, I_B = 60 mAdc)		$V_{CE(sat)}$	 — —	 0.5 1.0	Vdc
Base-Emitter Saturation Voltage (I_C = 20 mA, I_B = 2.0 mA)		$V_{BE(sat)}$	—	0.9	V
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain Bandwidth Product (I_C = 10 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)		f_T	40	—	MHz
Output Capacitance (V_{CB} = 20 Vdc, I_E = 0, f = 1.0 MHz)		C_{obo}	—	3.0	pF