

MICRO ELECTRONICS

PNP SILICON
HIGH VOLTAGE
TRANSISTORS

BF491, BF492, BF493 are PNP silicon planar transistors designed for high voltage video amplifiers in television receivers requiring high breakdown voltage and low capacitance.



EBC

ABSOLUTE MAXIMUM RATINGS

Collector-Emitter Voltage

V_{CEO}

BF491 200V BF492 250V BF493 300V

Collector-Base Voltage

V_{CBO}

200V 250V 300V

Emitter-Base Voltage

V_{EBO}

6V 8V 8V

Collector Current

I_C

500mA

Total Device Dissipation @ $T_A=25^\circ C$

P_D

625mW

Derate Above $25^\circ C$

1.2mW/ $^\circ C$

Total Device Dissipation @ $T_C=25^\circ C$

P_D

1.5W

Derate Above $25^\circ C$

12mW/ $^\circ C$

Operating & Storage Junction Temperature Range

T_j, T_{stg}

-55 to $150^\circ C$

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

PARAMETER	SYMBOL	BF491		BF492		BF493		UNIT	TEST CONDITION
		MIN	MAX	MIN	MAX	MIN	MAX		
Collector-Base Breakdown Voltage	V_{CBO}	200		250		300		V	$I_C=0.1mA$ $I_E=0$
Collector-Emitter Breakdown Voltage	V_{CEO}^*	200		250		300		V	$I_C=1mA$ $I_B=0$
Emitter-Base Breakdown Voltage	V_{EBO}	6		8		8		V	$I_E=0.1mA$ $I_C=0$
Collector Cutoff Current	I_{CBO}	0.1						μA	$V_{CB}=160V$ $I_E=0$
				0.1		0.1		μA	$V_{CB}=200V$ $I_E=0$
Emitter Cutoff Current	I_{EBO}	0.1						μA	$V_{EB}=4V$ $I_C=0$
				0.1		0.1		μA	$V_{EB}=6V$ $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	2		2		2		V	$I_C=20mA$ $I_B=2I_C$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	2		2		2		V	$I_C=20mA$ $I_B=2I_C$
D.C. Current Gain	H_{FE}	25		25		25			$I_C=1mA$ $V_{CE}=10V$
		40		40		40			$I_C=10mA$ $V_{CE}=10V$
Current Gain-Bandwidth Product	f_T	50		50		50		MHz	$I_C=10mA$ $V_{CE}=20V$
Feedback Capacitance	C_{re}	2		2		2		pF	$V_{CB}=100V$ $I_E=0$ $f=1MHz$

* Pulse Test : Pulse Width $\leq 300\mu S$, Duty Cycle $\leq 2\%$.



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