RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

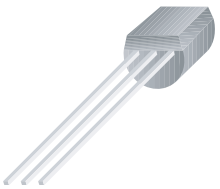
BF491 THRU BF493

PNP SILICON PLANAR EPITAXIAL HIGH VOLTAGE VIDEO TRANSISTORS

High Voltage Video Amplifier

Darlington Transistor

* Power Dissipation: P_D=625mW



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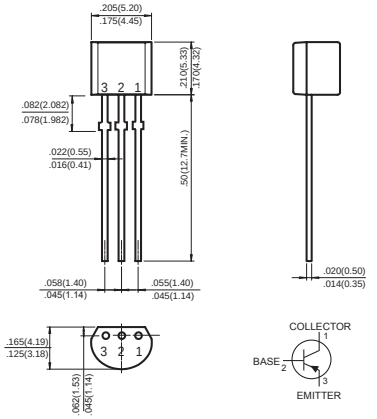

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Absolute Maximum Ratings T_A=25 °C unless otherwise noted

DESCRIPTION	SYMBOL	BF491	BF492	BF493	UNITS
Collector-Emitter Voltage	V_{CEO}	200	250	300	Volts
Collector Base Voltage	V_{CBO}	200	250	300	Volts
Emitter Base Voltage	V_{EBO}	6	8	8	Volts
Collector Current Continuous	I_C	500			mAmps
Total Device Dissipation @ Ta=25ºC Derate Above 25ºC	P_D	625 1.2			mW mW/°C
Total Device Dissipation @ Tc=25ºC Derate Above 25ºC	P_D	1500 12			mW mW/°C
Operating And Storage Junction Temperature Range	Tj, T_{STG}	-55 to + 150			ºC

ELECTRICAL CHARACTERISTICS T_A=25 °C unless otherwise noted

DESCRIPTION	Test Condition	SYMBOL	BF491	BF492	BF493	UNITS
Collector-Base Breakdown Voltage	I_C=0.1mA,I_E=0	BV_{CBO}	>200	>250	>300	Volts
Collector-Emitter Breakdown Voltage	I_C=1mA,I_B=0	BV_{CEO}*	>200	>250	>300	Volts
Emitter-Base Breakdown Voltage	I_E=100uA,I_C=0	BV_{EBO}	>6.0	>8.0	>8.0	Volts
Collector Cutoff Current	V_{CB}=160V,I_E=0 V_{CB}=200V,I_E=0	I_{CBO}	<0.1	<0.1	<0.1	uA
Emitter Cutoff Current	V_{EB}=4.0V,I_C=0 V_{EB}=6.0V,I_C=0	I_{EBO}	<0.1	<0.1	<0.1	uA
DC Current Gain	I_C=1mA,V_{CE}=10V I_C=10mA,V_{CE}=10V	h_{FE}	>25 >40	>25 >40	>25 >40	
Collector-Emitter Saturation Voltage	I_C=20mA,I_B=2mA	$V_{CE(sat)}$	<2	<2	<2	Volts
Base-Emitter Saturation Voltage	I_C=20mA,I_B=2mA	$V_{BE(sat)}$	<2	<2	<2	Volts

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ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BF491	BF492	BF493	UNITS
Current Gain-Bandwidth Product	f_T	I_C=10mA, V_{CE}=20V, f=20MHz	>50	>50	>50	MHz
Feedback Capacitance	C_{re}	V_{CB}=100V, f=1MHz, I_E=0	<2	<2	<2	pF

*Pulse Condition: = Width ≤ 300us, Duty Cycle ≤ 2.0%.

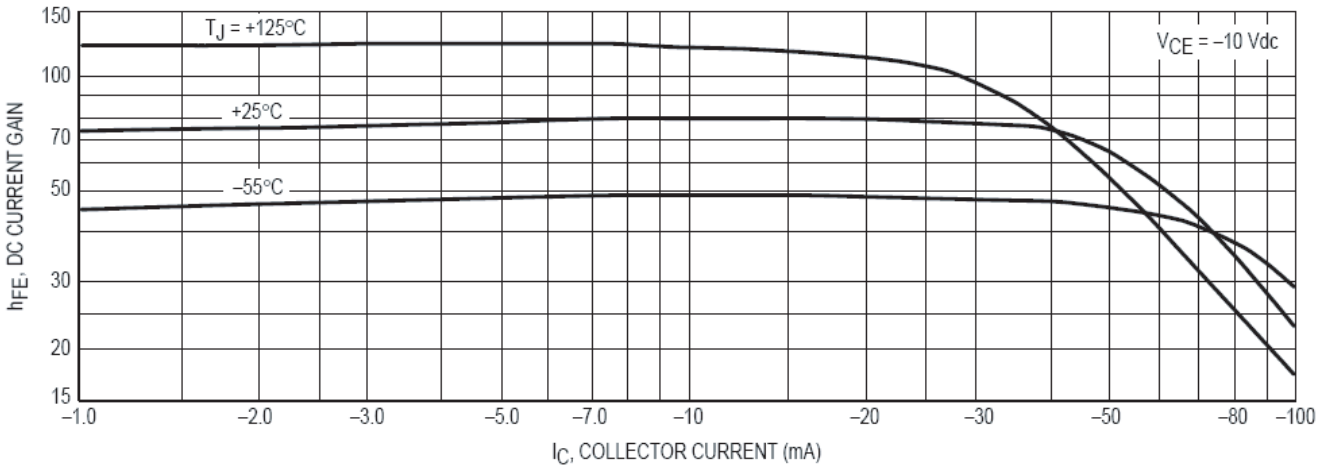

Figure 1. DC Current Gain

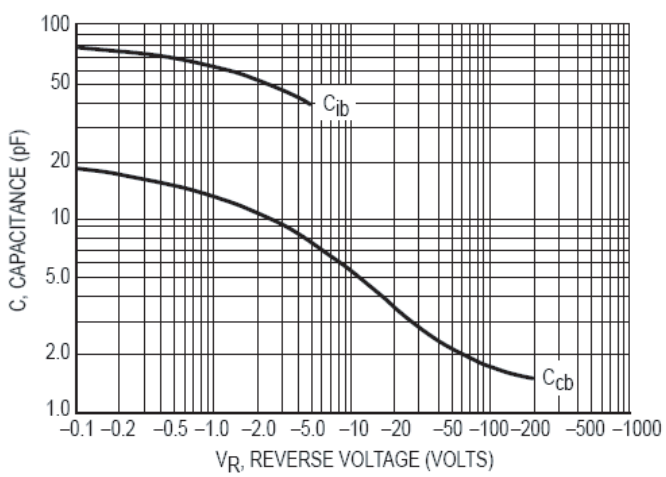

Figure 2. Capacitances

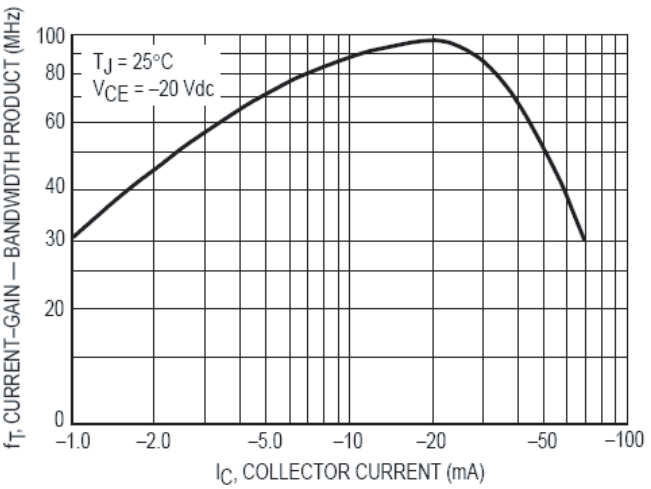

Figure 3. Current–Gain — Bandwidth Product

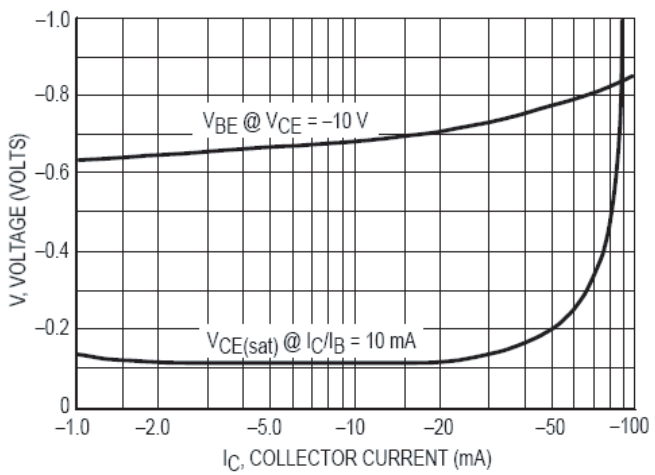

Figure 4. "On" Voltages

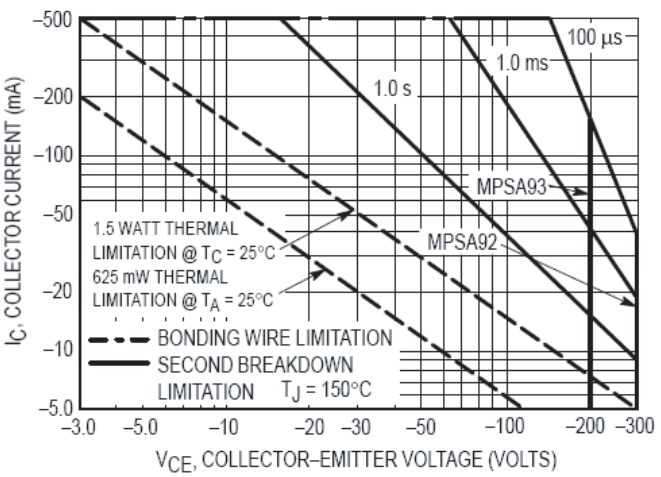

Figure 5. Active Region — Safe Operating Area

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