

**MAXIMUM RATINGS**

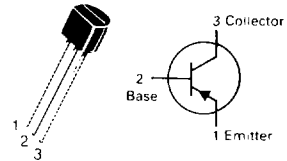
Rating	Symbol	MPSA92	MPSA93	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	-300	-200	Vdc
Collector-Base Voltage	V <sub>CBO</sub>	-300	-200	Vdc
Emitter-Base Voltage	V <sub>EBO</sub>	-5.0		Vdc
Collector Current — Continuous	I <sub>C</sub>	-500		mAdc
Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	625 5.0		mW mW/°C
Total Device Dissipation @ T <sub>C</sub> = 25°C Derate above 25°C	P <sub>D</sub>	1.5 12		Watts mW/°C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150		°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	200	°C/W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	83.3	°C/W

**MPSA92★  
MPSA93**

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



**HIGH VOLTAGE  
TRANSISTORS**

**PNP SILICON**  
★ This is a Motorola  
designated preferred device.

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted.)**

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage(1) (I <sub>C</sub> = -1.0 mAdc, I <sub>B</sub> = 0)	V <sub>(BR)CEO</sub>	-300 -200	—	Vdc
Collector-Base Breakdown Voltage (I <sub>C</sub> = -100 μAdc, I <sub>E</sub> = 0)	V <sub>(BR)CBO</sub>	-300 -200	—	Vdc
Emitter-Base Breakdown Voltage (I <sub>E</sub> = -100 μAdc, I <sub>C</sub> = 0)	V <sub>(BR)EBO</sub>	-5.0	—	Vdc
Collector Cutoff Current (V <sub>CB</sub> = -200 Vdc, I <sub>E</sub> = 0) (V <sub>CB</sub> = -160 Vdc, I <sub>E</sub> = 0)	I <sub>CBO</sub>	—	-0.25 -0.25	μAdc
Emitter Cutoff Current (V <sub>EB</sub> = -3.0 Vdc, I <sub>C</sub> = 0)	I <sub>EBO</sub>	—	-0.1	μAdc
<b>ON CHARACTERISTICS(1)</b>				
DC Current Gain (I <sub>C</sub> = -1.0 mAdc, V <sub>CE</sub> = -10 Vdc) (I <sub>C</sub> = -10 mAdc, V <sub>CE</sub> = -10 Vdc) (I <sub>C</sub> = -30 mAdc, V <sub>CE</sub> = -10 Vdc)	h <sub>FE</sub>	25 40	—	—
Collector-Emitter Saturation Voltage (I <sub>C</sub> = -20 mAdc, I <sub>B</sub> = -2.0 mAdc)	V <sub>CE(sat)</sub>	—	-0.5 -0.4	Vdc
Base-Emitter Saturation Voltage (I <sub>C</sub> = -20 mAdc, I <sub>B</sub> = -2.0 mAdc)	V <sub>BE(sat)</sub>	—	-0.9	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
Current-Gain — Bandwidth Product (I <sub>C</sub> = -10 mAdc, V <sub>CE</sub> = -20 Vdc, f = 100 MHz)	f <sub>T</sub>	50	—	MHz
Collector-Base Capacitance (V <sub>CB</sub> = -20 Vdc, I <sub>E</sub> = 0, f = 1.0 MHz)	C <sub>cb</sub>	—	6.0 8.0	pF

# MPSA92, MPSA93

FIGURE 1 - DC CURRENT GAIN

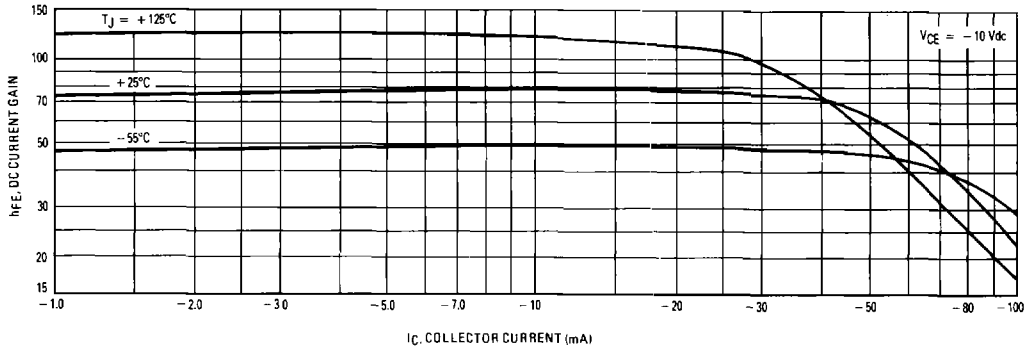


FIGURE 2 - CAPACITANCES

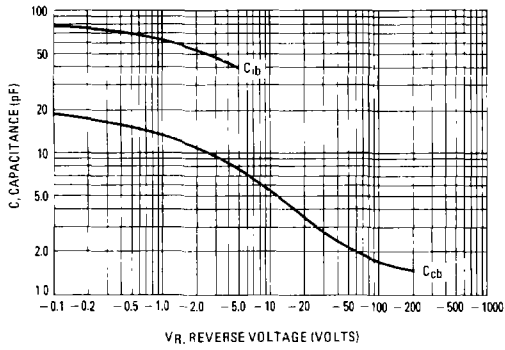


FIGURE 3 - CURRENT-GAIN-BANDWIDTH PRODUCT

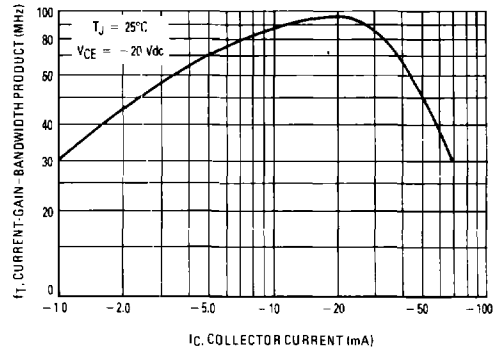


FIGURE 4 - "ON" VOLTAGES

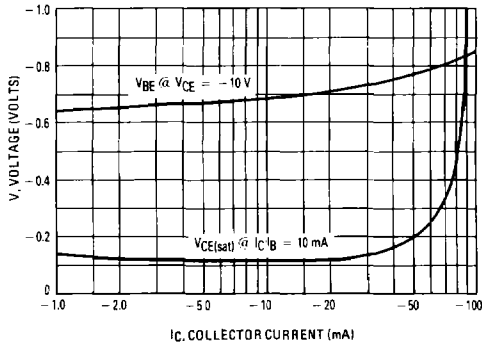


FIGURE 5 - ACTIVE-REGION SAFE OPERATING AREA

