

**MPSA10**

NPN Amplifier Transistor

T-29-23

• $V_{CEO} \dots 40 \text{ V (Min)}$ **PACKAGE**
MPSA10

TO-92

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature -55°C to 150°C
 Operating Junction Temperature 150°C

Power Dissipation (Notes 2 & 3)

Total Dissipation at
 25°C Ambient Temperature 0.625 W
 25°C Case Temperature 1.0 W

Voltages & Currents

V_{CEO} Collector to Emitter Voltage 40 V
 (Note 4)
 V_{EBO} Emitter to Base Voltage 4.0 V
 I_C Collector Current (Peak) 100 mA

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
BV_{CEO}	Collector to Emitter Breakdown Voltage	40		V	$I_C = 1.0 \text{ mA}$, $I_B = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	4.0		V	$I_E = 100 \mu\text{A}$, $I_C = 0$
I_{CBO}	Collector Cutoff Current		100	nA	$V_{CB} = 30 \text{ V}$, $I_E = 0$
h_{FE}	DC Current Gain (Note 5)	40	400		$I_C = 5.0 \mu\text{A}$, $V_{CE} = 10 \text{ V}$
f_T	Current Gain Bandwidth Product	125		MHz	$I_C = 5.0 \text{ mA}$, $V_{CE} = 10 \text{ V}$, $f = 100 \text{ MHz}$
C_{obo}	Output Capacitance		4.0	pF	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 100 \text{ MHz}$

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- These ratings give a maximum junction temperature of 150°C and junction-to-case thermal resistance of 125°C/W (derating factor of $8.0 \text{ mW}/^{\circ}\text{C}$); junction-to-ambient thermal resistance of 200°C/W (derating factor of $5.0 \text{ mW}/^{\circ}\text{C}$).
- Rating refers to a high current point where collector to emitter voltage is lowest.
- Pulse conditions: length = $300 \mu\text{s}$; duty cycle = 1%.
- For product family characteristic curves, refer to Curve Set T144.