FAIRCHILD
A Schlumberger Company

MPSA10

T-29-23

NPN Amplifier Transistor

- V_{CEO} ... 40 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 (Note 4) 40 V
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 mA, I_B = 0
BV_{EBO}	Emitter to Base Breakdown Voltage	4.0		V	I_E = 100 μA, I_C = 0
I_{CBO}	Collector Cutoff Current		100	nA	V_{CB} = 30 V, I_E = 0
h_{FE}	DC Current Gain (Note 5)	40	400		I_C = 5.0 μA, V_{CE} = 10 V
f_T	Current Gain Bandwidth Product	125		MHz	I_C = 5.0 mA, V_{CE} = 10 V, f = 100 MHz
C_{obo}	Output Capacitance		4.0	pF	V_{CB} = 10 V, I_E = 0, f = 100 MHz

NOTES:
1. These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. 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 mW/° C); junction-to-ambient thermal resistance of 200° C/W (derating factor of 5.0 mW/° C).
4. Rating refers to a high current point where collector to emitter voltage is lowest.
5. Pulse conditions: length = 300 μs; duty cycle = 1%.
6. For product family characteristic curves, refer to Curve Set T144.