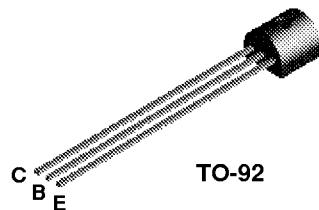
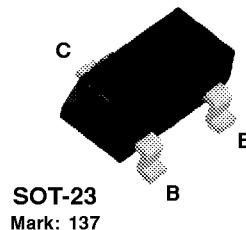


**MPS3702****MMBT3702****PNP General Purpose Amplifier**

This device is designed for use as general purpose amplifiers and switches requiring collector currents to 500mA. Sourced from Process 63. See PN2907A for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	25	V
V_{CBO}	Collector-Base Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_c	Collector Current - Continuous	800	mA
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		MPS3702	*MMBT3702	
P_D	Total Device Dissipation Derate above 25°C	625 5.0	350 2.8	mW mW/°C
R_{JC}	Thermal Resistance, Junction to Case	83.3		°C/W
R_{QA}	Thermal Resistance, Junction to Ambient	200	357	°C/W

* Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

PNP General Purpose Amplifier

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage*	$I_C = 10 \text{ mA}, I_B = 0$	25		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100 \mu\text{A}, I_E = 0$	40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100 \mu\text{A}, I_C = 0$	5.0		V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 20 \text{ V}, I_E = 0$		100	nA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 3.0 \text{ V}, I_C = 0$		100	nA

ON CHARACTERISTICS*

h_{FE}	DC Current Gain	$V_{CE} = 5.0 \text{ V}, I_C = 50 \text{ mA}$	60	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$		0.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 50 \text{ mA}, V_{CE} = 5.0 \text{ V}$	0.6	1.0	V

SMALL SIGNAL CHARACTERISTICS

C_{ob}	Output Capacitance	$V_{CB} = 10 \text{ V}, f = 1.0 \text{ MHz}$		12	pF
f_T	Current Gain - Bandwidth Product	$I_C = 50 \text{ mA}, V_{CE} = 5.0 \text{ V}, f = 20 \text{ MHz}$	100		MHz

*Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$