



## MPS3702

### Features

- This device is designed for use as general purpose amplifiers and switches requiring collector currents to 500mA
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

### Maximum Ratings\*

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>EBO</sub>	Emitter-Base Voltage	5.0	V
I <sub>C</sub>	Collector Current, Continuous	800	mA
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### Thermal Characteristics

Symbol	Rating	Max	Unit
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
R <sub>JC</sub>	Thermal Resistance, Junction to Case	83.3	°C/W
R <sub>JA</sub>	Thermal Resistance, Junction to Ambient	200	°C/W

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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#### OFF CHARACTERISTICS

V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage* (I <sub>C</sub> =10mA, I <sub>B</sub> =0)	25	---	Vdc
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =100mA, I <sub>E</sub> =0)	40	---	Vdc
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>E</sub> =100mA, I <sub>C</sub> =0)	5.0	---	Vdc
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =20Vdc, I <sub>E</sub> =0)	---	100	nAdc
I <sub>EBO</sub>	Base Cutoff Current (V <sub>EB</sub> =3.0Vdc, I <sub>C</sub> =0)	---	100	nAdc

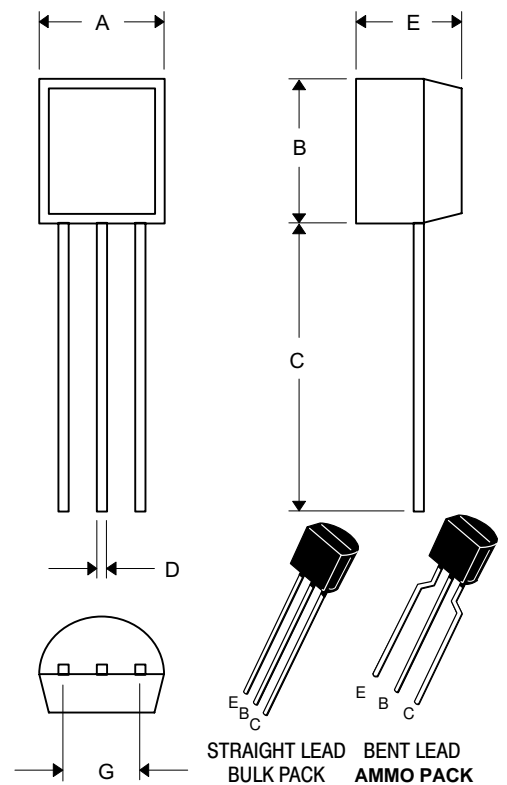
\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

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.

## PNP General Purpose Amplifier

### TO-92



#### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	Bent Lead

\* For ammo packing detailed specification, click here to visit our website of product packaging for details.

# MPS3702



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Symbol	Parameter	Min	Max	Units
<b>ON CHARACTERISTICS</b>				
$h_{FE}$	DC Current Gain ( $V_{CE}=5.0Vdc, I_C=50mA$ )	60	300	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=50mA, I_B=5.0mA$ )	---	0.25	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=50mA, V_{CE}=5.0Vdc$ )	0.6	1.0	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
$C_{OB}$	Output Capacitance ( $V_{CB}=10Vdc, f=1.0MHz$ )	---	12	pF
$f_T$	Current Gain-Bandwidth Product ( $I_C=50mA, V_{CE}=5.0Vdc, f=20MHz$ )	100	---	MHz



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### Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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