



MPS3702

PNP General Purpose Amplifier

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

Maximum Ratings*

Symbol	Rating	Rating	Unit
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	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Thermal Characteristics

Symbol	Rating	Max	Unit
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
R_{JC}	Thermal Resistance, Junction to Case	83.3	°C/W
R_{JA}	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

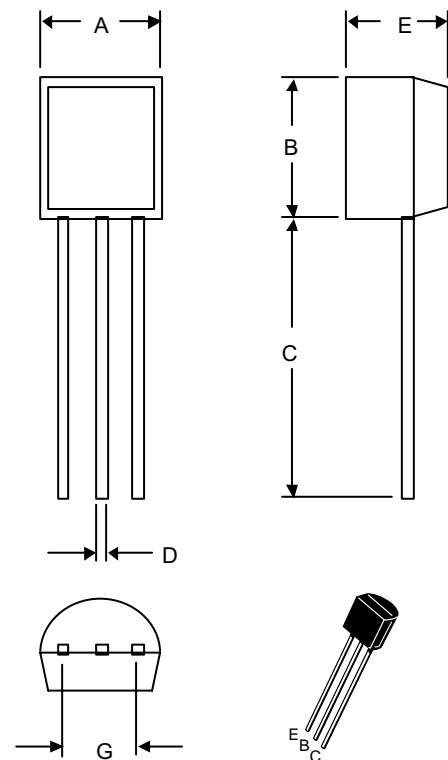
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=10mA$, $I_E=0$)	25	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu A$, $I_E=0$)	40	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu A$, $I_C=0$)	5.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=20Vdc$,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

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DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.170	.190	4.33	4.83	
B	.170	.190	4.30	4.83	
C	.550	.590	13.97	14.97	
D	.010	.020	0.36	0.56	
E	.130	.160	3.30	3.96	
G	.096	.104	2.44	2.64	

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Symbol	Parameter	Min	Max	Units
ON CHARACTERISTICS				
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
SMALL-SIGNAL CHARACTERISTICS				
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: 2Kpcs/Ammo Box
Part Number-BP	Bulk: 100Kpcs/Carton

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