

**Micro Commercial Components** 



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# **Features**

- This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300mA
- Lead Free Finish/RoHS Compliant ("P" Suffix designates
   RoHS Compliant See ordering information)
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   Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Marking:MPSA05

## **Maximum Ratings**

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	60	V
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
l <sub>c</sub>	Collector Current, Continuous	500	mA
TJ	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### **Thermal Characteristics**

Symbol	Rating	Мах	Unit
PD	Total Device Dissipation	625	mW
	Derate above 25 <sup>o</sup> C	5.0	mW/°C
RJC	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

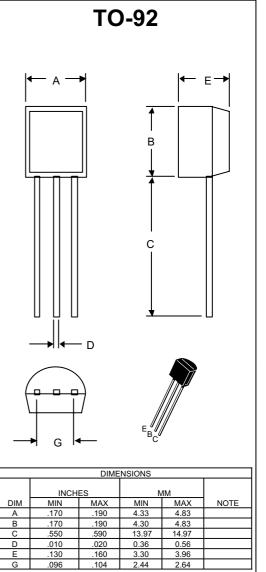
 Symbol
 Parameter
 Min
 Max
 Units

Symbol	raiametei	INITI	IVIAN	Units
<b>OFF CHARA</b>	CTERISTICS			
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage* (l <sub>c</sub> =1.0mAdc, l <sub>B</sub> =0)	60		Vdc
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (ᡶ=100ì Adc, lc=0)	4.0		Vdc
Εο	Collector Cutoff Current (V <sub>CE</sub> =60Vdc, ⊌=0)		0.1	uAdc
І <sub>сво</sub>	Emitter Cutoff Current (V <sub>CB</sub> =60Vdc, <u></u> =0)		0.1	uAdc
ON CHARA	CTERISTICS			
h <sub>FE</sub>	DC Current Gain (V <sub>CE</sub> =1.0Vdc, b=10mAdc) (V <sub>CE</sub> =1.0Vdc, b=100mAdc)	100 100		
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (t=100mAdc, t=10mAdc)		0.25	Vdc
V <sub>BE(on)</sub>	Base-Emitter On Voltage (t=100mAdc, V <sub>CE</sub> =1.0Vdc)		1.2	Vdc
Small Sigr	nal Characteristics			
f <sub>T</sub>	Current Gain Bandwidth Product (I <sub>c</sub> =10mAdc, V <sub>CE</sub> =2.0Vdc, f=100MHz)	100		MHz
* Pulse Tes	t: Pulse Width<300us, Duty Cycle<2.0%			

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MPSA05

# NPN General Purpose Amplifier





## **Ordering Information :**

Device	Packing
Part Number-AP	Ammo Packing: 2Kpcs/Ammo Box
Part Number-BP	Bulk: 100Kpcs/Carton

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