



Micro Commercial Components

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MPSA12

Features

- This device is designed for applications requiring extremely high current gain at current to 1.0A
- ≠ Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- ≠ Marking:MPSA12
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

Maximum Ratings*

Symbol	Rating	Rating	Unit
V _{CEO}	Collector-Emitter Voltage	20	V
V _{CBO}	Collector-Base Voltage	20	V
V _{EBO}	Emitter-Base Voltage	10	V
I _C	Collector Current, Continuous	1.2	A
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)CES}	Collector-Emitter Breakdown Voltage (I _C =100uAdc, I _E =0)	20	---	Vdc
I _{CBO}	Collector Cutoff Current (V _{CB} =15Vdc, I _E =0)	---	100	nAdc
I _{EBO}	Emitter Cutoff Current (V _{EB} =10Vdc, I _C =0)	---	100	nAdc
I _{CES}	Emitter Cutoff Current (V _{CB} =15Vdc, I _C =0)	---	100	nAdc

ON CHARACTERISTICS⁽¹⁾

h _{FE}	DC Current Gain (V _{CE} =5.0Vdc, I _C =10mAdc)	20000	---	---
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _C =10mAdc, I _E =0.01mAdc)	---	1.0	Vdc
V _{BE(on)}	Base-Emitter On Voltage (I _C =10mAdc, V _{CE} =5.0Vdc)	---	1.4	Vdc

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

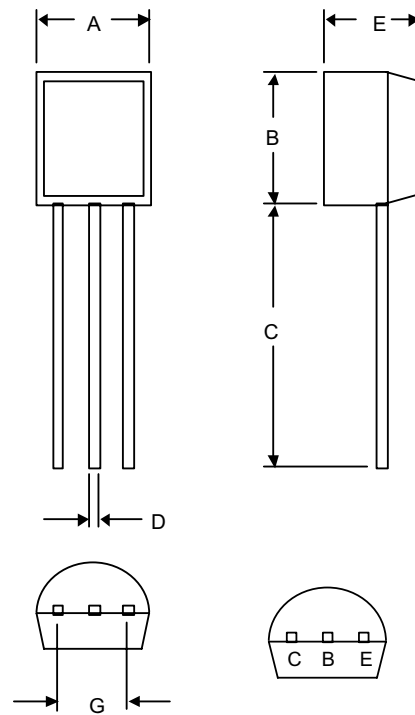
Notes: 1. These ratings are based on a maximum junction temperature of 150 degrees C.

2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

3. Pulse Test: Pulse Width<300us, Duty Cycle<2.0%

NPN Darlington Transistor

TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
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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Ordering Information

Device	Packing
(Part Number)-AP	Tape&Reel;2Kpcs/Box
(Part Number)-BP	Bulk;1Kpcs/Bag

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