



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 ($I_C=100\mu A$, $I_E=0$)	20	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=15V$, $I_E=0$)	---	100	nAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=10V$, $I_C=0$)	---	100	nAdc
I_{CES}	Emitter Cutoff Current ($V_{CB}=15V$, $I_C=0$)	---	100	nAdc

ON CHARACTERISTICS⁽¹⁾

h_{FE}	DC Current Gain ($V_{CE}=5.0V$, $I_C=10mA$)	20000	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=10mA$, $I_B=0.01mA$)	---	1.0	Vdc
$V_{BE(on)}$	Base-Emitter On Voltage ($I_C=10mA$, $V_{CE}=5.0V$)	---	1.4	Vdc

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

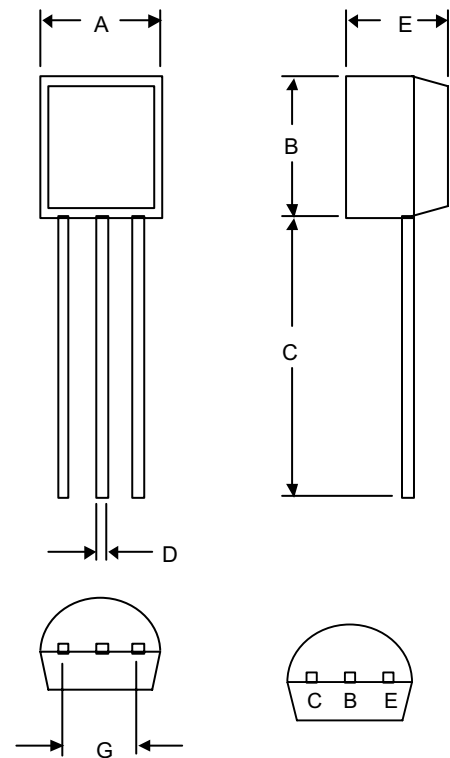
Notes: 1. These ratings are based on a maximum junction temperature of 150 degrees C.

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



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	

Ordering Information

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

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