



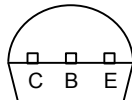
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MPSA12

Features

- This device is designed for applications requiring extremely high current gain at current to 1.0A

Pin Configuration
Bottom View



NPN Darlington Transistor

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
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⁽³⁾

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

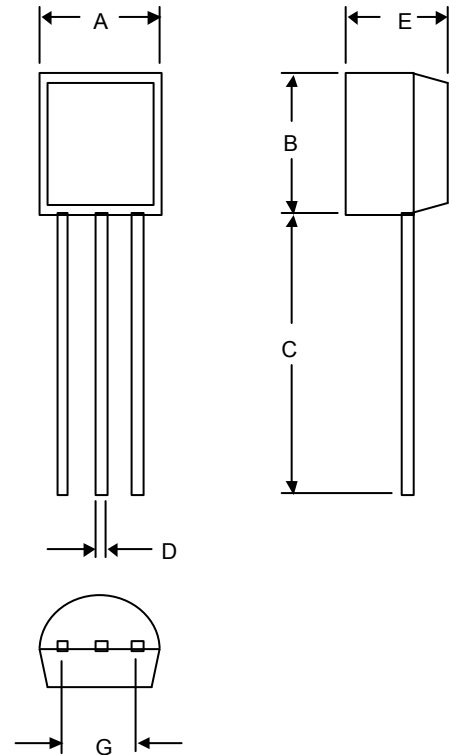
* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

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%

TO-92



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	