Micro Commercial Components
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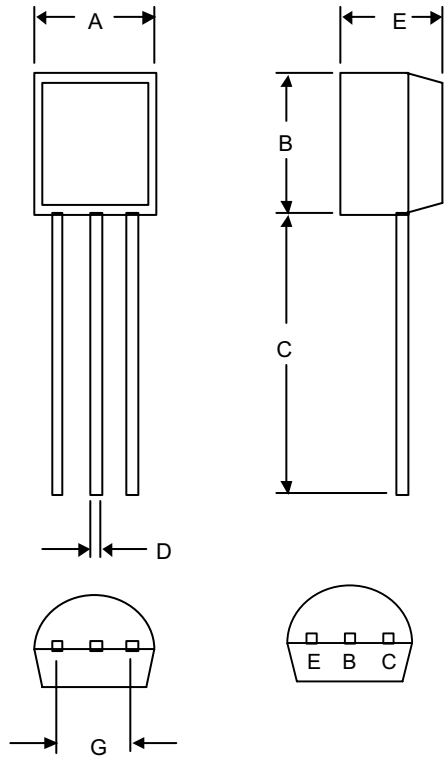
MPS918

NPN Silicon Amplifier Transistor

Features

- Simplifies Circuit Design
- Reduces Component Count
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Marking:MPS918

TO-92



Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	15	V
V_{CBO}	Collector-Base Voltage	30	V
V_{EBO}	Emitter-Base Voltage	3.0	V
I_C	Collector Current, Continuous	50	mA
T_J	Operating Junction Temperature	-55 to +150	^{O}C
T_{STG}	Storage Temperature	-55 to +150	^{O}C

Thermal Characteristics

Symbol	Rating	Max	Unit
P_D	Total Device Dissipation Derate above 25^{O}C	350 2.8	mW mW/^{O}C
P_D	Total Device Dissipation Derate above 25^{O}C	0.85 6.8	W mW/^{O}C
R_{JC}	Thermal Resistance, Junction to Case	147	^{O}C/W
R_{JA}	Thermal Resistance, Junction to Ambient (1)	357	^{O}C/W

Electrical Characteristics @ 25^{O}C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (2) (I_C=3.0mAdc, I_E=0)	15	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=1.0uAdc, I_E=0)	30	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=10uAdc, I_C=0)	3.0	---	Vdc
I_{CBO}	Collector Cutoff Current (V_{CB}=15Vdc, I_E=0)	---	10	nAdc
ON CHARACTERISTICS				
h_{FE}	DC Current Gain (V_{CE}=1.0Vdc, I_C=3.0mAdc)	20	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=10mAdc, I_B=1.0mAdc)	---	0.4	Vdc
$V_{BE(sat)}$	Base-Emitter On Voltage (I_C=10mAdc, I_B=1.0mAdc)	---	1.0	Vdc

(1) RJA is measured with the device soldered into a typical printed circuit board.
(2) Pulse Test: Pulse Width<300us, Duty Cycle<1.0%

DIMENSIONS

DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
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	.010	.104	2.44	2.64	

Symbol	Parameter	Min	Max	Units
SMALL-SIGNAL CHARACTERISTICS				
f_T	Current-Gain–Bandwidth Product[2] (I_C=4.0mAdc, V_{CE}=10Vdc, f=100MHz)	600	---	MHz
C_{obo}	Output Capacitance (V_{CB}=0, I_E=0, f=1.0MHz) (V_{CB}=10Vdc, I_E=0, f=1.0MHz)	--- ---	3.0 1.7	pF
C_{ibp}	Input Capacitance (V_{EB}=0.5Vdc, I_C=0, f=1.0MHz)	---	2.0	pF
h_{fe}	Small-Signal Current Gain (I_C=8.0mAdc, V_{CE}=10Vdc, f=1.0KHz)	20	250	---
NF	Noise Figure (I_C=1.0mAdc, V_{CE}=6.0Vdc, R_S=400OHMS, f=60MHz)	---	6.0	dB

* Pulse Test: Pulse Width<300us, Duty Cycle<1.0%

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