



Micro Commercial Components

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

MPS918

NPN Silicon Amplifier Transistor

Features

- Simplifies Circuit Design
- Reduces Component Count
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Marking: MPS918
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}\text{C}$

Thermal Characteristics

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

Electrical Characteristics @ 25 $^{\circ}\text{C}$ Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
--------	-----------	-----	-----	-------

OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ⁽²⁾ ($I_C=3.0\text{mA}$, $I_E=0$)	15	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_E=1.0\text{mA}$, $I_C=0$)	30	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=10\text{mA}$, $I_C=0$)	3.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=15\text{Vdc}$, $I_E=0$)	---	10	nAdc

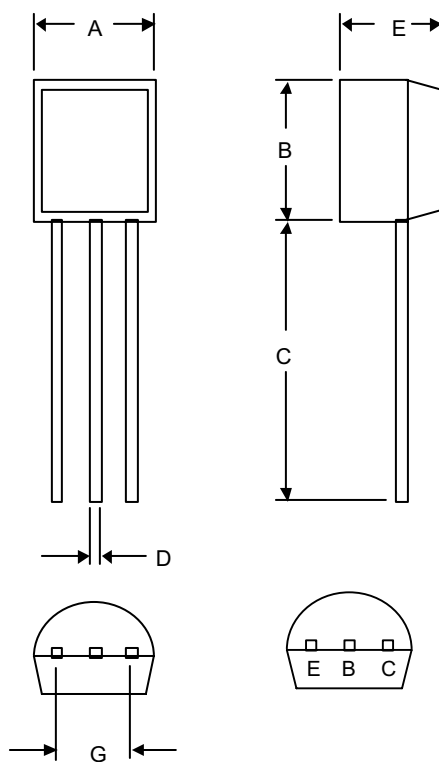
ON CHARACTERISTICS

h_{FE}	DC Current Gain ($V_{CE}=1.0\text{Vdc}$, $I_C=3.0\text{mA}$)	20	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_B=1.0\text{mA}$)	---	0.4	Vdc
$V_{BE(sat)}$	Base-Emitter On Voltage ($I_C=10\text{mA}$, $I_B=1.0\text{mA}$)	---	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%

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	

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

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

Ordering Information

Device	Packing
(Part Number)-AP	Ammo Packing;2Kpcs/AmmoBox
(Part Number)-BP	Bulk;1Kpcs/Bag

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes .
Micro Commercial Components Corp. does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold *Micro Commercial Components Corp.* and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the expresse written approval of Micro Commercial Components Corporation.