

Micro Commercial Components

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MPS918

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	
$V_{\sf CBO}$	Collector-Base Voltage	30	V	
V_{EBO}	Emitter-Base Voltage	3.0	V	
lc	Collector Current, Continuous	50	mA	
T_J	Operating Junction Temperature	-55 to +150	°C	
Tstg	Storage Temperature -55 to +150		οС	

Thermal Characteristics

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

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter

OFF CHARACTERISTICS				
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage (2) (b=3.0mAdc, b=0) 15			
V _{(BR)CBO}	Collector-Base Breakdown Voltage (b=1.0uAdc, l=0)	30		Vdc
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (\frac{1}{2}=10uAdc, I_C=0)			Vdc
Сво	Collector Cutoff Current (V _{CB} =15Vdc, ξ =0)		10	nAdc

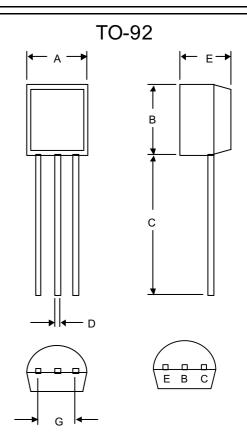
ON CHARACTERISTICS

Symbol

h _{FE}	DC Current Gain (V _{CE} =1.0Vdc, I _C =3.0mAdc)	20		
V _{CE(sat)}	Collector-Emitter Saturation Voltage (b=10mAdc, b=1.0mAdc)		0.4	Vdc
$V_{BE(sat)}$	Base-Emitter On Voltage (b=10mAdc, 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%

NPN Silicon Amplifier Transistor



DIMENSIONS					
		5,,,,,			
	INCHES	INCHES MM			
DIM	MIN	MAX	MIN	MAX	NOTE
Α	.170	.190	4.33	4.83	
В	.170	.190	4.30	4.83	
С	.550	.590	13.97	14.97	
D	.010	.020	0.36	0.56	
Е	.130	.160	3.30	3.96	
G	.096	.104	2.44	2.64	

Min Max Units



Symbol	Parameter	Min	Max	Units
SMALL-S	IGNAL CHARACTERISTICS			
f _T	Current-Gain–Bandwidth Product ⁽²⁾ $(I_c=4.0\text{mAdc}, V_{CE}=10\text{Vdc}, f=100\text{MHz})$	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,		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%



Ordering Information

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

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