



Micro Commercial Components



Micro Commercial Components  
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# MMS9018-L MMS9018-H

## NPN Silicon Plastic-Encapsulate Transistor

### Features

- SOT-23 Plastic-Encapsulate Transistors
- Capable of 0.2Watts( $T_{amb}=25^{\circ}C$ ) of Power Dissipation.
- Collector-current 0.05A
- Collector-base Voltage 25V
- Operating and storage junction temperature range:  $-55^{\circ}C$  to  $+150^{\circ}C$
- Marking : J8
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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#### OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu A$ , $I_E=0$ )	25	---	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=0.1mA$ , $I_B=0$ )	18	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\mu A$ , $I_C=0$ )	4.0	---	Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=20Vdc$ , $I_E=0$ )	---	0.1	$\mu A$
$I_{CEO}$	Collector Cutoff Current ( $V_{CE}=15Vdc$ , $I_B=0$ )	---	0.1	$\mu A$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=3.0Vdc$ , $I_C=0$ )	---	0.1	$\mu A$

#### ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ( $I_C=1.0mA$ , $V_{CE}=5.0Vdc$ )	70	190	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=10mA$ , $I_B=1.0mA$ )	---	0.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=100mA$ , $I_B=1.0mA$ )	---	1.4	Vdc

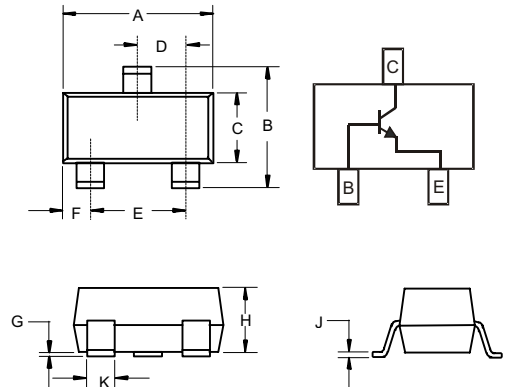
#### SMALL-SIGNAL CHARACTERISTICS

$f_T$	Transistor Frequency ( $I_C=5.0mA$ , $V_{CE}=5.0Vdc$ , $f=400MHz$ )	600	---	MHz
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#### CLASSIFICATION OF $h_{FE}$

Rank	L	H
Range	70~105	105~190

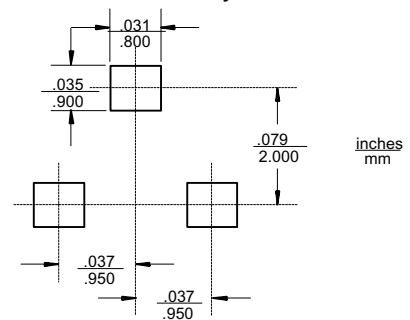
### SOT-23



#### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

#### Suggested Solder Pad Layout





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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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