



# MMBT918

## VHF/UHF NPN SILICON TRANSISTOR

**VOLTAGE** 15 Volts **POWER** 225 mWatts

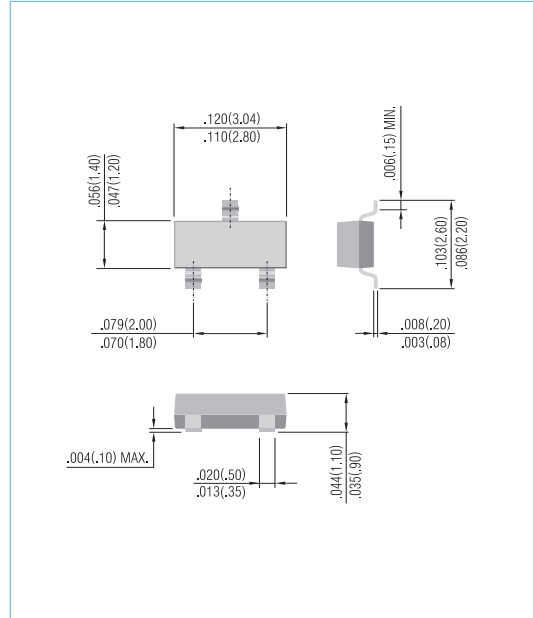
**SOT-23** Unit: inch ( mm )

### FEATURES

- NPN silicon
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.008 gram
- Marking: R1B



### ABSOLUTE RATINGS

PARAMETER	Symbol	Value	Units
Collector - Emitter Voltage	$V_{CEO}$	15	V
Collector - Base Voltage	$V_{CBO}$	30	V
Emitter - Base Voltage	$V_{EBO}$	3.0	V
Collector Current - Continuous	$I_C$	50	mA

### THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Total Device Dissipation (Note1) $T_A=25^{\circ}C$ Derate above $25^{\circ}C$	$P_D$	225 1.8	mW mW/ $^{\circ}C$
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction and Storage Temperature	$T_J, T_{STG}$	-55 to 150	$^{\circ}C$

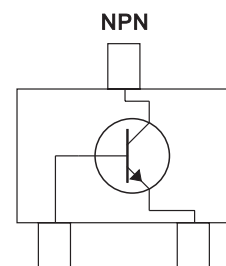
Note 1: FR.4 = 70 x 60 x 1mm.



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## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	MIN.	MAX.	Units
OFF CHARACTERISTICS					
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=3.0mA, I_B=0$	15	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1.0\mu A, I_E=0$	30	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	3.0	-	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=15V, I_E=0$	-	50	nA
ON CHARACTERISTICS					
DC Current Gain	$h_{FE}$	$I_C=3.0mA, V_{CE}=1.0V$	20	-	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10mA, I_B=1.0mA$	-	0.4	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=10mA, I_B=1.0mA$	-	1.0	V
SMALL-SIGNAL CHARACTERISTICS					
Current Gain Bandwidth Product	$f_T$	$I_C=4.0mA, V_{CE}=10V, f=100MHz$	600	-	MHz
Output Capacitance	$C_{obo}$	$V_{CB}=0V, I_E=0, f=1.0MHz$ $V_{CB}=10V, I_E=0, f=1.0MHz$	-	3.0 1.7	pF
Input Capacitance	$C_{ibo}$	$V_{EB}=0.5V, I_C=0, f=1.0MHz$	-	2.0	pF

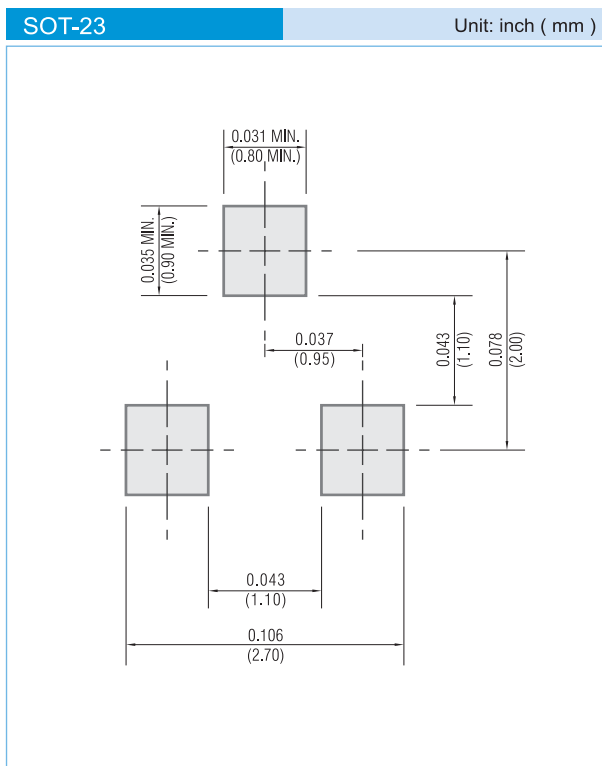


**Fig.34**



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## MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

### LEGAL STATEMENT

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