



MMBT918W

VHF/UHF NPN SILICON TRANSISTOR

VOLTAGE 15 Volts **POWER** 225 mWatts

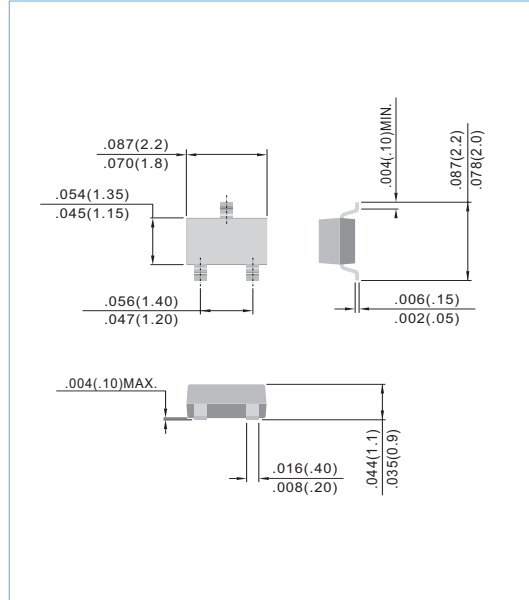
SOT-323 Unit: inch (mm)

FEATURES

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

MECHANICAL DATA

- Case: SOT-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5 mg
- 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 |

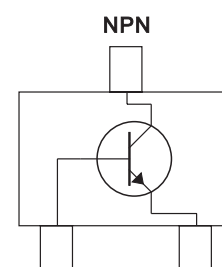


Fig.34

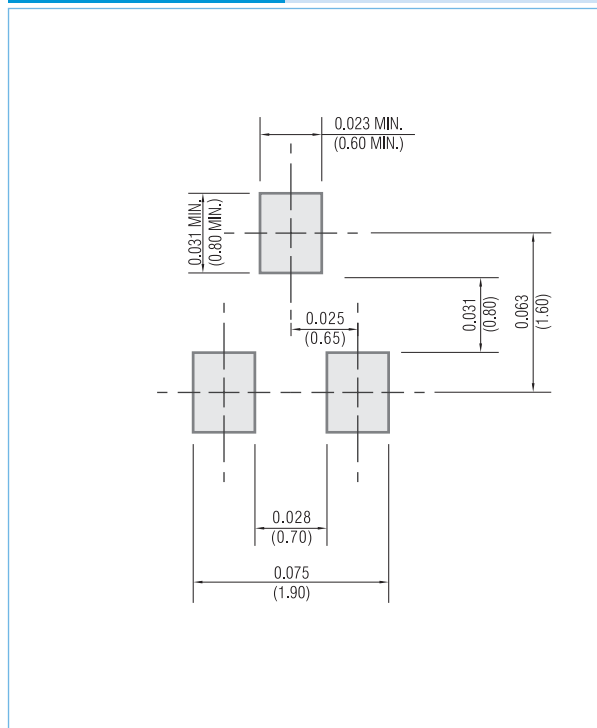


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MOUNTING PAD LAYOUT

SOT-323

Unit: inch (mm)



ORDER INFORMATION

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

LEGAL STATEMENT

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