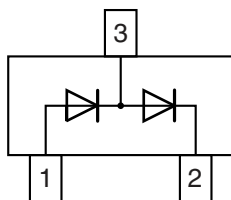


Small Signal Switching Diode, Dual



FEATURES

- Silicon epitaxial planar diode
- Fast switching dual diode, especially suited for automatic insertion
- AEC-Q101 qualified
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE

| PART | ORDERING CODE | INTERNAL CONSTRUCTION | TYPE MARKING | REMARKS |
|----------|------------------------------------|-----------------------|--------------|---------------|
| MMBD7000 | MMBD7000-E3-08 or MMBD7000-E3-18 | Dual diodes serial | M5C | Tape and reel |
| | MMBD7000-HE3-08 or MMBD7000-HE3-18 | | | |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|---|-----------|-------|------|
| Reverse voltage | | V_R | 100 | V |
| Forward current (continuous) | | I_F | 200 | mA |
| Non-repetitive peak forward current | $t = 1\text{ s}$ | I_{FSM} | 500 | mA |
| Power dissipation on FR-5 board | | P_{tot} | 225 | mW |
| | Derate above $25\text{ }^{\circ}\text{C}$ | P_{tot} | 1.8 | mW/K |
| Total device dissipation on alumina substrate | | P_{tot} | 300 | mW |
| | Derate above $25\text{ }^{\circ}\text{C}$ | P_{tot} | 2.4 | mW/K |

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

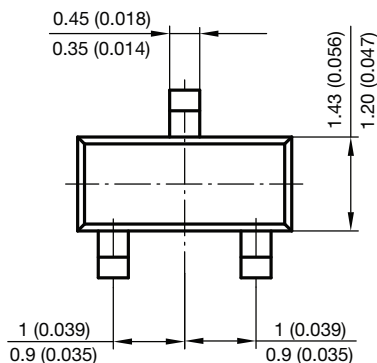
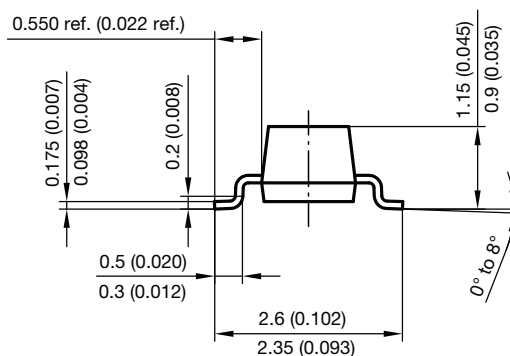
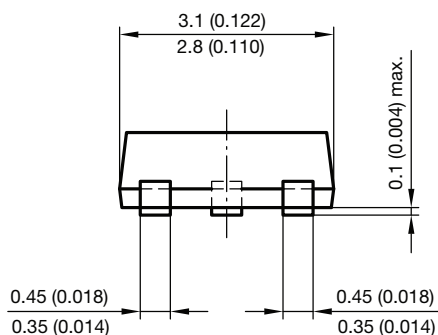
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|----------------|------------------|---------------|--------------------|
| Typical thermal resistance, junction to ambient air | | $R_{thJA}^{(1)}$ | 417 | K/W |
| | | $R_{thJA}^{(2)}$ | 556 | K/W |
| Maximum junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 55 to + 150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | - 55 to + 150 | $^{\circ}\text{C}$ |

Notes

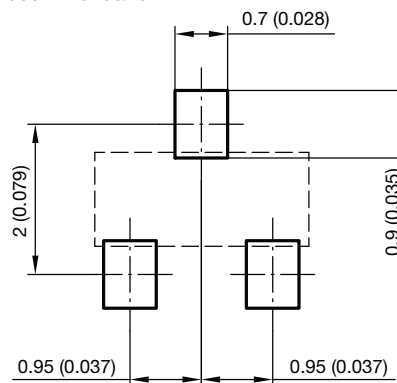
(1) Device on alumina substrate

(2) On FR-5 board

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|--|------------|------|------|------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | $I_R = 100\text{ }\mu\text{A}$ | $V_{(BR)}$ | | | | V |
| Leakage current | $V_R = 50\text{ V}$ | I_R | | | 1000 | nA |
| | $V_R = 100\text{ V}$ | I_R | | | 3 | μA |
| | $V_R = 50\text{ V}, T_J = 125\text{ }^{\circ}\text{C}$ | I_R | | | 100 | μA |
| Forward voltage | $I_F = 1\text{ mA}$ | V_F | 0.55 | | 0.70 | V |
| | $I_F = 10\text{ mA}$ | V_F | 0.67 | | 0.82 | V |
| | $I_F = 100\text{ mA}$ | V_F | 0.75 | | 1.10 | V |
| Diode capacitance | $V_R = 0, f = 1\text{ MHz}$ | C_D | | | 1.5 | pF |
| Reverse recovery time | $I_F = I_R = 10\text{ mA}, I_R = 1\text{ mA}, R_L = 100\text{ }\Omega$ | t_{rr} | | | 4 | ns |

PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**


Foot print recommendation:





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