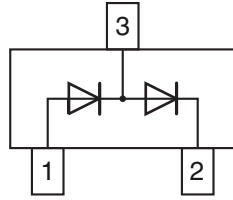


## Small Signal Switching Diode, Dual



### FEATURES

- Silicon epitaxial planar diode
- Fast switching dual diode, especially suited for automatic insertion
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**DESIGN SUPPORT TOOLS** click logo to get started



### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.1 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                    | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS       |
| MMBD7000-G  | MMBD7000-G3-08 or MMBD7000-G3-18 | Dual serial           | M5G          | Tape and reel |

| 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 |  |

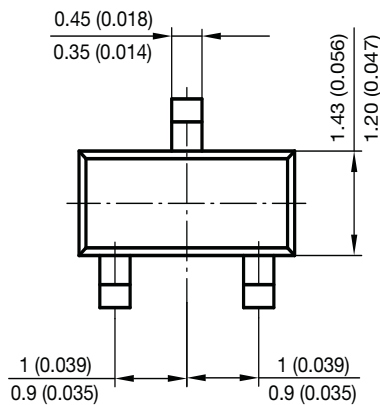
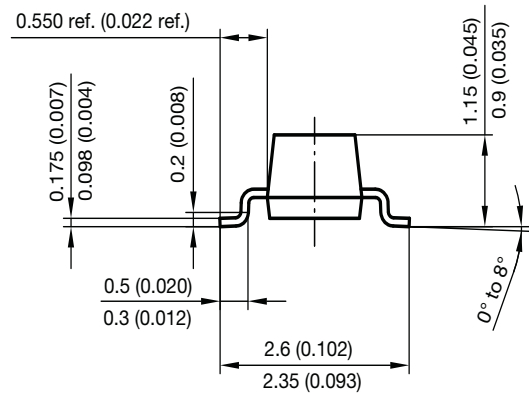
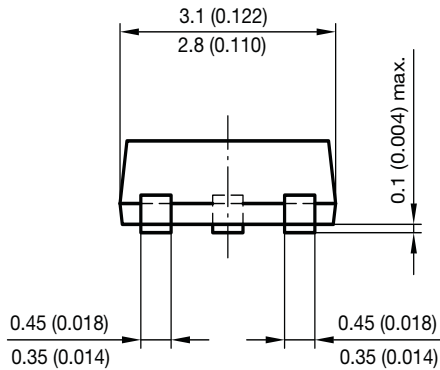
| THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                |                  |             |                    |  |
|--|----------------|------------------|-------------|--------------------|--|
| PARAMETER  | TEST CONDITION | SYMBOL           | 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

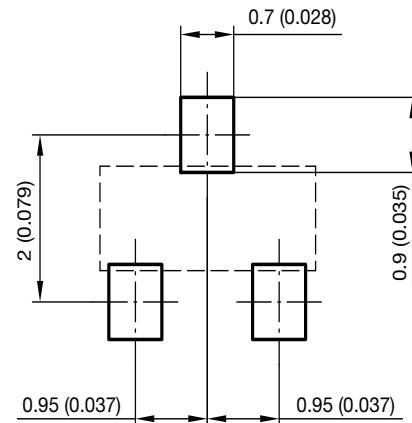
(1) Device on alumina substrate

(2) On FR-5 board

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

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


Foot print recommendation:



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 Rev. 8 - Date: 23.Sept.2009  
 17418



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