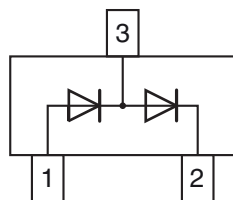
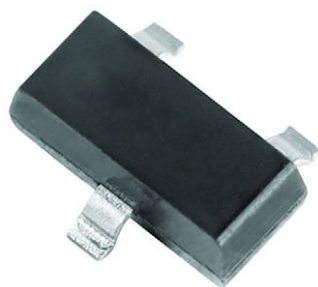




## Small Signal Switching Diode, Dual



## 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)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

**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 ( $T_{amb} = 25^{\circ}\text{C}$ , 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 $25^{\circ}\text{C}$ | $P_{tot}$ | 1.8   | mW/K |
| Total device dissipation on alumina substrate |                                   | $P_{tot}$ | 300   | mW   |
|                                               | Derate above $25^{\circ}\text{C}$ | $P_{tot}$ | 2.4   | mW/K |

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

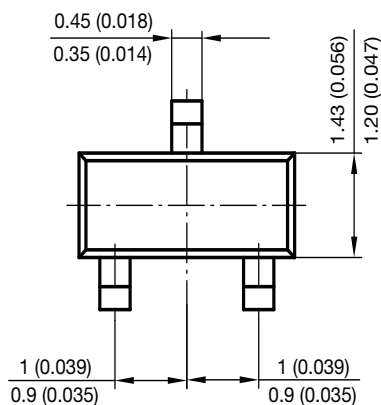
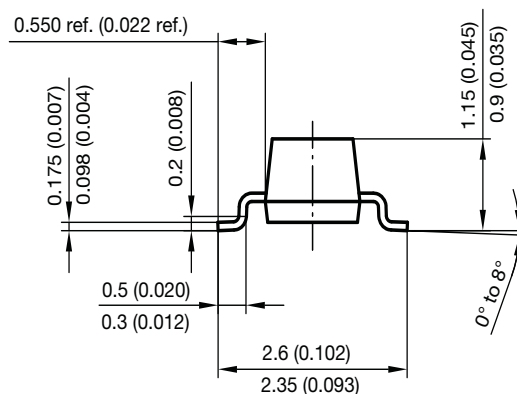
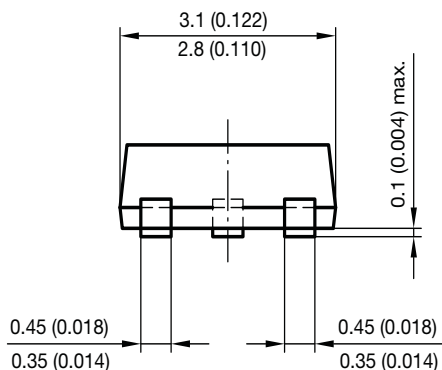
| PARAMETER                                           | TEST CONDITION | SYMBOL           | VALUE       | UNIT               |
|-----------------------------------------------------|----------------|------------------|-------------|--------------------|
| Typical thermal resistance, junction to ambient 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

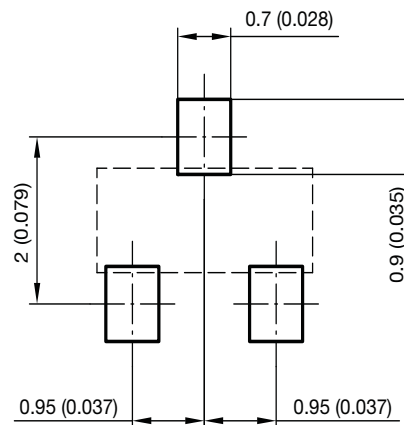
(1) Device on alumina substrate

(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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17418



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