



# Small Signal Switching Diode, High Voltage



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode, especially suited for applications requiring high voltage capability
- AEC-Q101 qualified
- 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)

### MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 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       |
| GSD2004W-G  | GSD2004W-G3-08 or GSD2004W-G3-18 | Single diode          | B7           | Tape and reel |

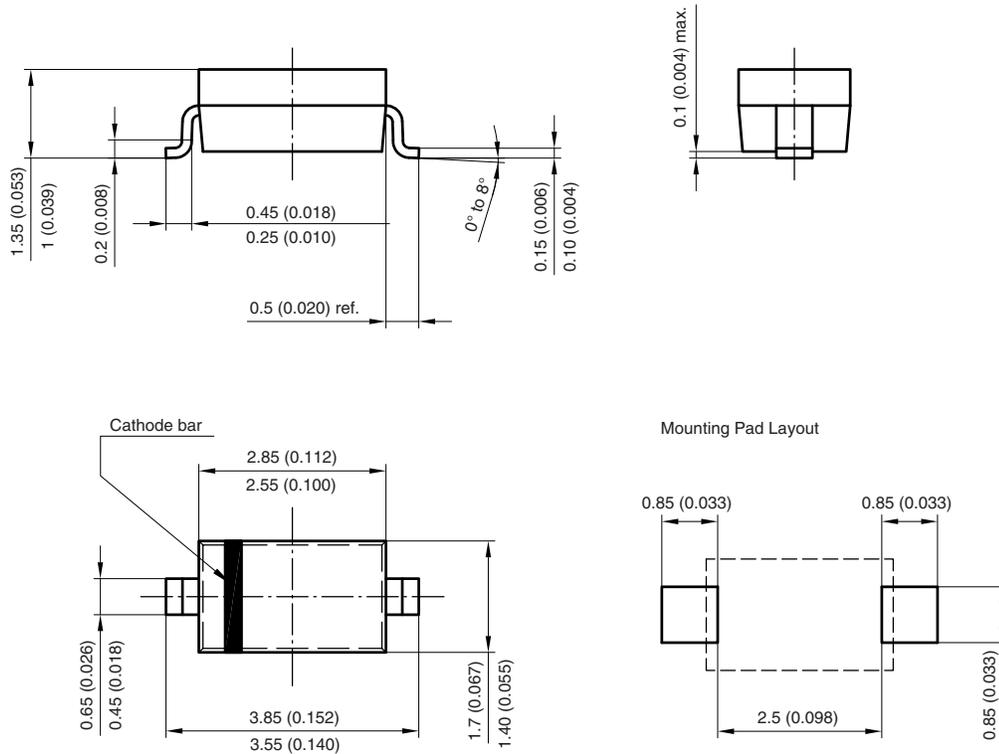
| ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                       |                  |       |      |
|---------------------------------------------------------------------------------|-----------------------|------------------|-------|------|
| PARAMETER                                                                       | TEST CONDITION        | SYMBOL           | VALUE | UNIT |
| Continuous reverse voltage                                                      |                       | V <sub>R</sub>   | 240   | V    |
| Repetitive peak reverse voltage                                                 |                       | V <sub>RRM</sub> | 300   | V    |
| Forward current (continuous)                                                    |                       | I <sub>F</sub>   | 225   | mA   |
| Repetitive peak forward current                                                 |                       | I <sub>FRM</sub> | 625   | mA   |
| Non-repetitive peak forward current                                             | t <sub>p</sub> = 1 μs | I <sub>FSM</sub> | 4     | A    |
|                                                                                 | t <sub>p</sub> = 1 s  | I <sub>FSM</sub> | 1     | A    |
| Power dissipation <sup>(1)</sup>                                                |                       | P <sub>tot</sub> | 350   | mW   |

| THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                   |               |      |
|--------------------------------------------------------------------------------|----------------|-------------------|---------------|------|
| PARAMETER                                                                      | TEST CONDITION | SYMBOL            | VALUE         | UNIT |
| Typical thermal resistance junction to ambient air <sup>(1)</sup>              |                | R <sub>thJA</sub> | 357           | K/W  |
| Junction temperature                                                           |                | T <sub>j</sub>    | 150           | °C   |
| Storage temperature range                                                      |                | T <sub>stg</sub>  | - 65 to + 150 | °C   |
| Operating temperature range                                                    |                | T <sub>op</sub>   | - 55 to + 150 | °C   |

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.

| <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                                                                                | $I_R = 100\text{ }\mu\text{A}$                                         | $V_{(BR)}$ | 300  |      |      | V             |
| Leakage current                                                                                          | $V_R = 240\text{ V}$                                                   | $I_R$      |      |      | 100  | nA            |
|                                                                                                          | $V_R = 240\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$                | $I_R$      |      |      | 100  | $\mu\text{A}$ |
| Forward voltage                                                                                          | $I_F = 20\text{ mA}$                                                   | $V_F$      |      | 0.83 | 0.87 | V             |
|                                                                                                          | $I_F = 100\text{ mA}$                                                  | $V_F$      |      |      | 1    | V             |
| Diode capacitance                                                                                        | $V_F = V_R = 0, f = 1\text{ MHz}$                                      | $C_D$      |      |      | 5    | pF            |
| Reverse recovery time                                                                                    | $I_F = I_R = 30\text{ mA}, I_R = 3\text{ mA}, R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 50   | ns            |

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-123**


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