

## 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 available
- 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### DESIGN SUPPORT TOOLS

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### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 10.3 mg

**Packaging codes / options:**

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

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

| <b>PARTS TABLE</b> |  |                       |              |               |
|--------------------|--|-----------------------|--------------|---------------|
| PART               | ORDERING CODE  | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS       |
| GSD2004W           | GSD2004W-E3-08 or GSD2004W-E3-18<br>GSD2004W-HE3-08 or GSD2004W-HE3-18 | Single                | B6           | Tape and reel |

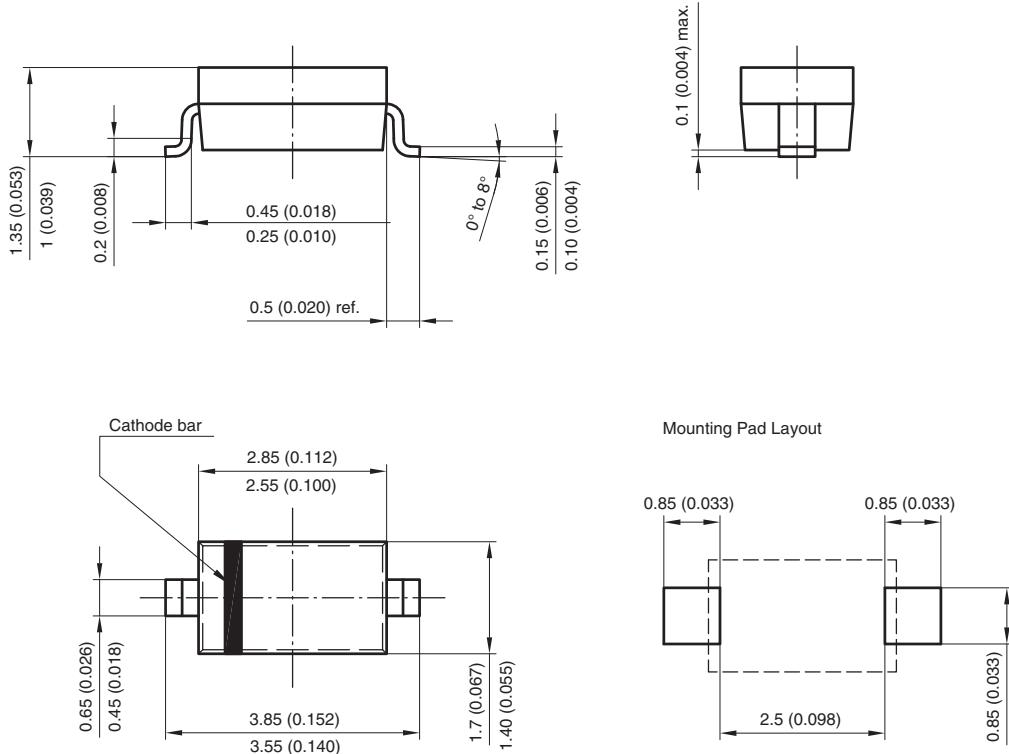
| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{amb} = 25 \text{ }^{\circ}\text{C}$ , unless otherwise specified) |                       |           |       |      |
|---|-----------------------|-----------|-------|------|
| PARAMETER   | TEST CONDITION        | SYMBOL    | VALUE | UNIT |
| Continuous reverse voltage  |                       | $V_R$     | 240   | V    |
| Repetitive peak reverse voltage   |                       | $V_{RRM}$ | 300   | V    |
| Forward current (continuous)  |                       | $I_F$     | 225   | mA   |
| Repetitive peak forward current   |                       | $I_{FRM}$ | 625   | mA   |
| Non-repetitive peak forward current   | $t_p = 1 \mu\text{s}$ | $I_{FSM}$ | 4     | A    |
|   | $t_p = 1 \text{ s}$   | $I_{FSM}$ | 1     | A    |
| Power dissipation (1)   |                       | $P_{tot}$ | 350   | mW   |

| <b>THERMAL CHARACTERISTICS</b> ( $T_{amb} = 25 \text{ }^{\circ}\text{C}$ , unless otherwise specified) |                |            |             |                    |
|--|----------------|------------|-------------|--------------------|
| PARAMETER  | TEST CONDITION | SYMBOL     | VALUE       | UNIT               |
| Typical thermal resistance junction to ambient air (1)   |                | $R_{thJA}$ | 357         | K/W                |
| Junction temperature   |                | $T_j$      | 150         | $^{\circ}\text{C}$ |
| Storage temperature range  |                | $T_{stg}$  | -65 to +150 | $^{\circ}\text{C}$ |
| Operating temperature range  |                | $T_{op}$   | -55 to +150 | $^{\circ}\text{C}$ |

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

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

| PARAMETER                 | TEST CONDITION                                    | SYMBOL     | MIN. | TYP. | MAX. | UNIT    |
|---------------------------|---|------------|------|------|------|---------|
| Reverse breakdown voltage | $I_R = 100 \mu A$                                 | $V_{(BR)}$ | 300  |      |      | V       |
| Leakage current           | $V_R = 240 V$                                     | $I_R$      |      |      | 100  | nA      |
|                           | $V_R = 240 V, T_j = 150^\circ C$                  | $I_R$      |      |      | 100  | $\mu A$ |
| Forward voltage           | $I_F = 100 mA$                                    | $V_F$      |      |      | 1    | V       |
|                           | $I_F = 20 mA$                                     | $V_F$      |      | 0.83 | 0.87 | V       |
| Diode capacitance         | $V_F = V_R = 0, f = 1 MHz$                        | $C_D$      |      |      | 5    | pF      |
| Reverse recovery time     | $I_F = I_R = 30 mA, i_R = 3 mA, R_L = 100 \Omega$ | $t_{rr}$   |      |      | 50   | ns      |

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


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