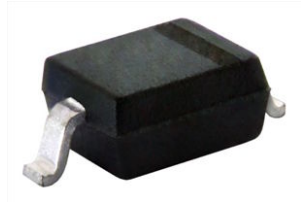


Small Signal Switching Diode, High Voltage



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


RoHS
COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started


MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes / options:

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

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

| PARTS TABLE | | | | |
|-------------|--------------------------------------|-----------------------|--------------|---------------|
| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS |
| GSD2004WS | GSD2004WS-E3-08 or GSD2004WS-E3-18 | Single | B6 | Tape and reel |
| | GSD2004WS-HE3-08 or GSD2004WS-HE3-18 | | | |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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 |
| Peak repetitive forward current | | I_{FRM} | 625 | mA |
| Non-repetitive peak forward current | $t_p = 1\text{ }\mu\text{s}$ | I_{FSM} | 4 | A |
| | $t_p = 1\text{ s}$ | I_{FSM} | 1 | A |
| Power dissipation ⁽¹⁾ | | P_{tot} | 200 | mW |

| 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 ⁽¹⁾ | | R_{thJA} | 650 | 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
⁽¹⁾ Valid provided that electrodes are kept at ambient temperature



| 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} | 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 | μA |
| 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 |

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

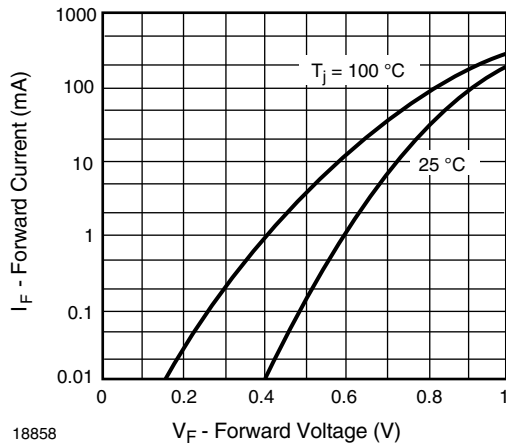


Fig. 1 - Forward Current vs. Forward Voltage

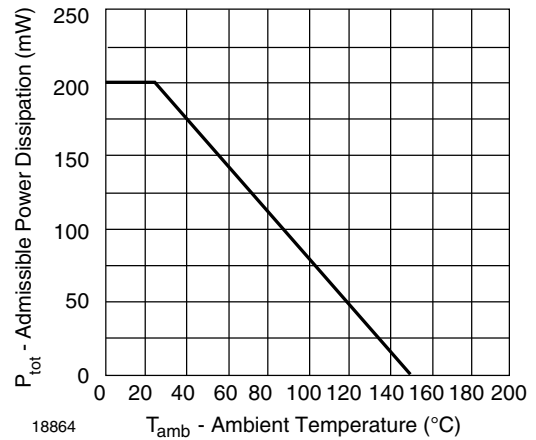


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

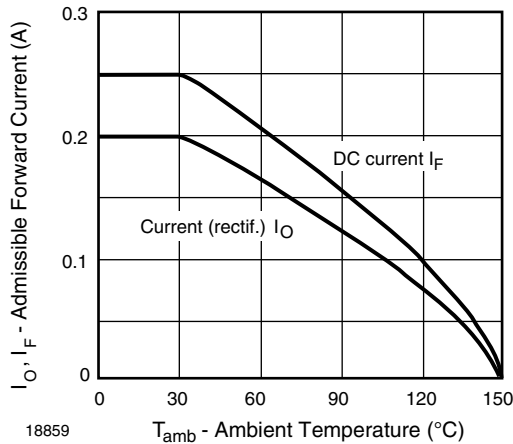


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

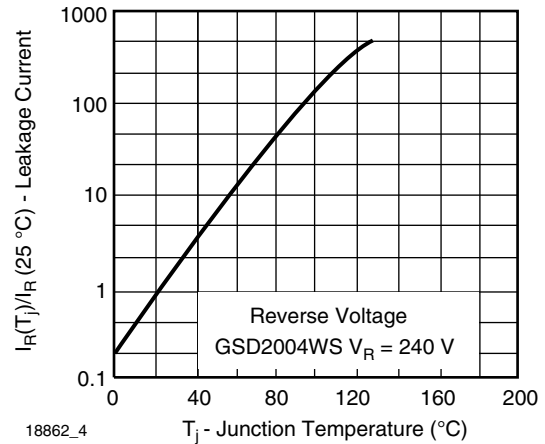


Fig. 4 - Leakage Current vs. Junction Temperature

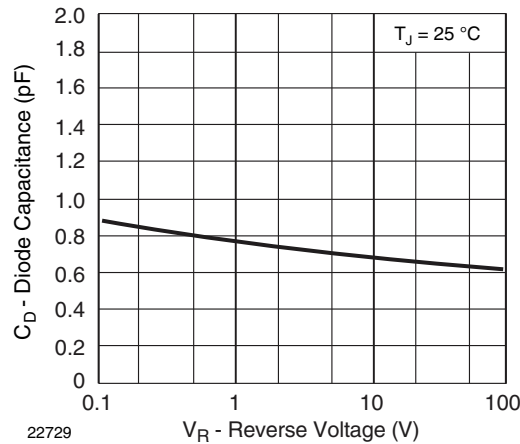
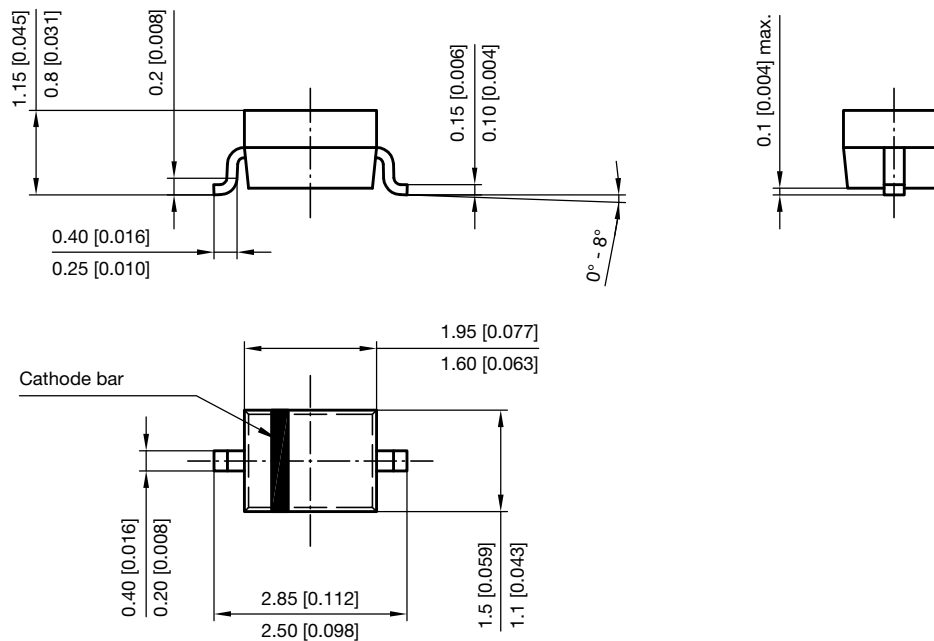
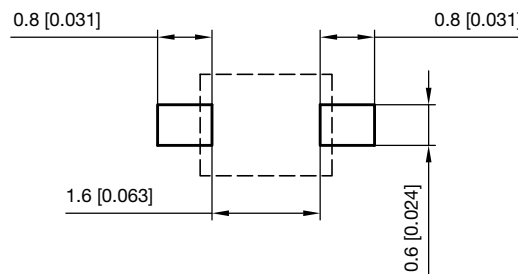


Fig. 5 - Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-323**



Footprint recommendation:



Document no.: S8-V-3910.02-001 (4)
 Created - Date: 24.August.2004
 Rev. 6 - Date: 23.Sept.2016
 17443



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