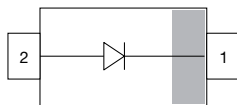


Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3_A - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE
GRADE
Available



RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4 mg

Packaging codes / options:

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

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

PARTS TABLE

| PART | ORDERING CODE | AEC-Q101 QUALIFIED | TYPE MARKING | CIRCUIT CONFIGURATION | TAPED UNITS PER REEL | MINIMUM ORDER QUANTITY |
|-----------|--------------------|--------------------|--------------|-----------------------|-----------------------------------|------------------------|
| GSD2004WS | GSD2004WS-E3-08 | No | 6B | Single | 3 000 (8 mm tape on 7" reel) | 15 000 |
| | GSD2004WS-HE3_A-08 | Yes | | | | |
| | GSD2004WS-E3-18 | No | | | 10 000 (8 mm tape on 13" reel) | 10 000 |
| | GSD2004WS-HE3_A-18 | Yes | | | | |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|--|-----------|-------|------|
| Continuous reverse voltage | | V_R | 240 | V |
| Repetitive peak reverse voltage | | V_{RRM} | 300 | V |
| DC Forward current ⁽¹⁾ | | I_F | 250 | mA |
| Repetitive peak forward current ⁽¹⁾ | $f \geq 50 \text{ Hz}, \theta = 180^{\circ}$ | I_{FRM} | 625 | mA |
| Surge forward current | $t_p < 1 \mu\text{s}$ | I_{FSM} | 4 | A |
| Power dissipation ⁽¹⁾ | | | 200 | mW |

Note

⁽¹⁾ Infinite heatsink

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|-------------------------------------|--------------------|------------|-------------|--------------------|
| Thermal resistance junction to lead | Infinite heat sink | R_{thJL} | 625 | 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 | $^{\circ}\text{C}$ |

| 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 |

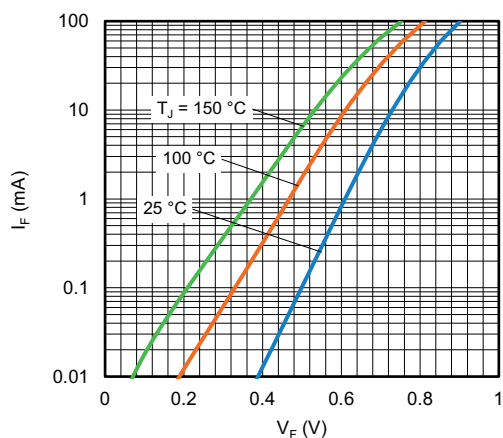
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

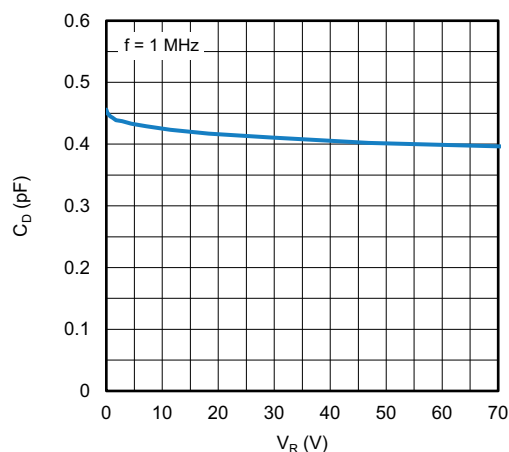


Fig. 3 - Typical Capacitance vs. Reverse Voltage

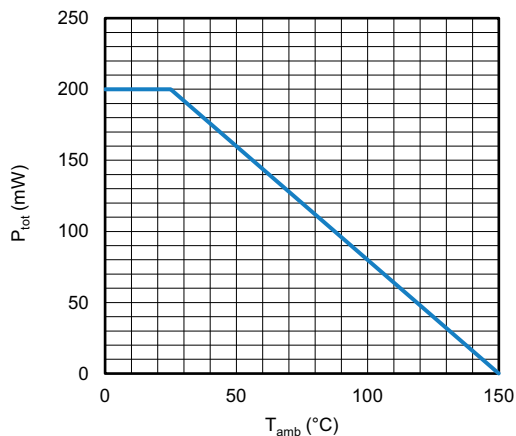


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

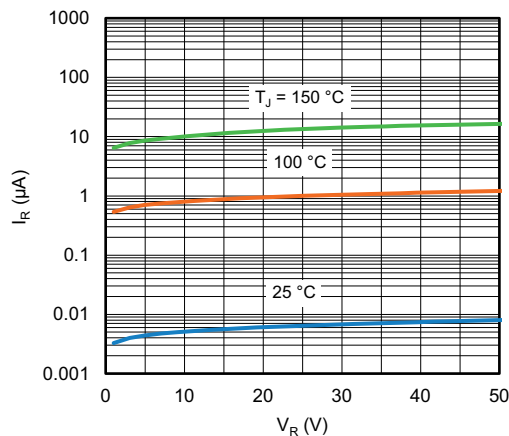
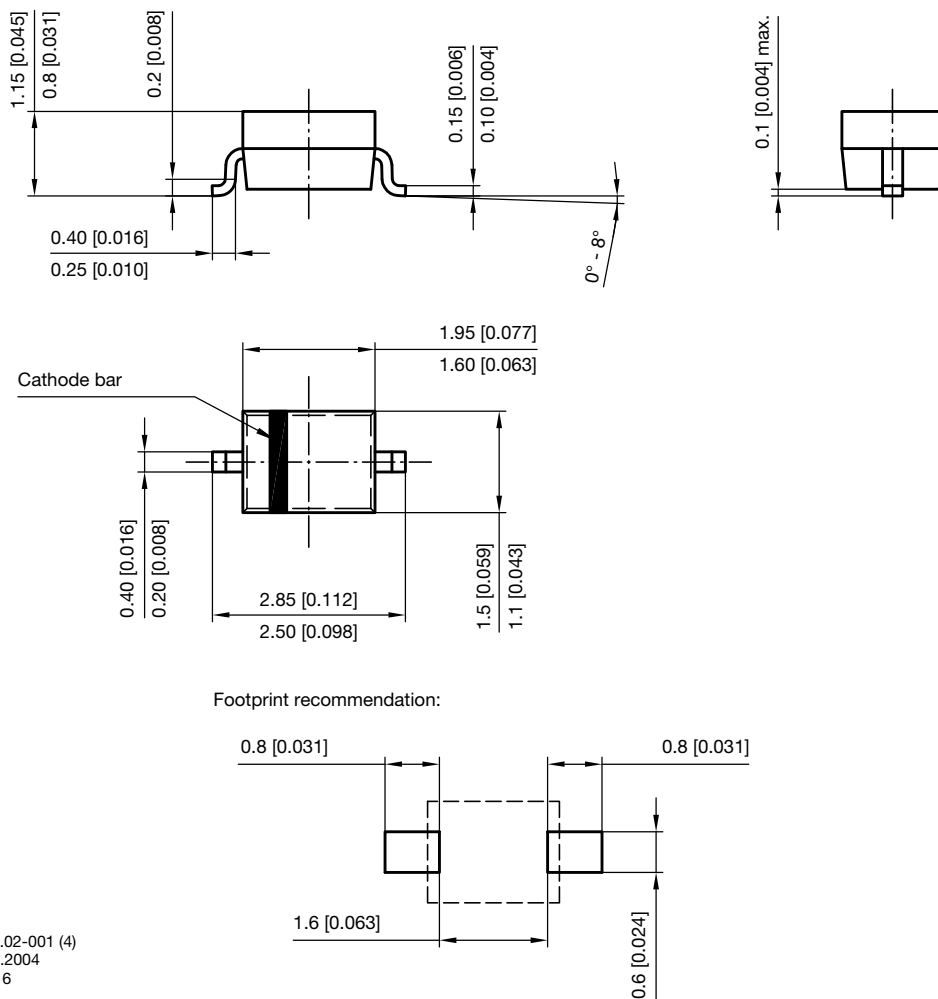


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



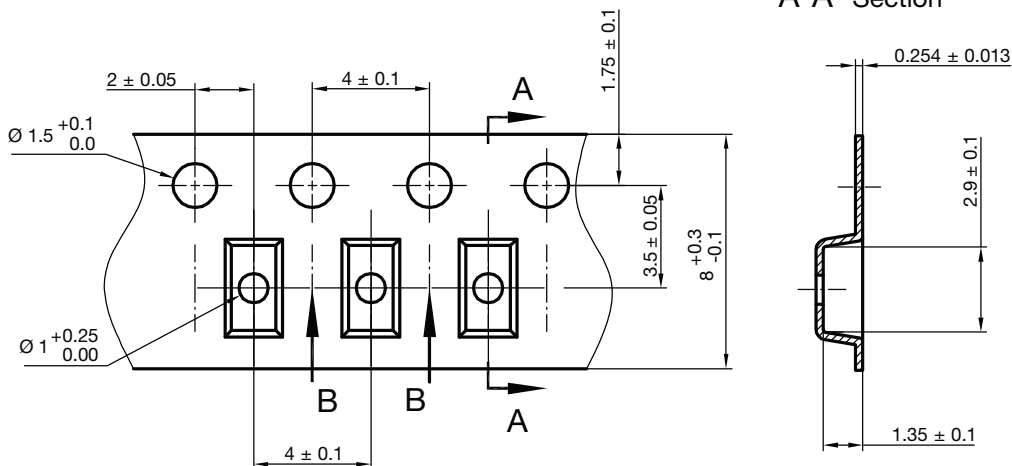
PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



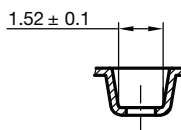
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CARRIER TAPE SOD-323

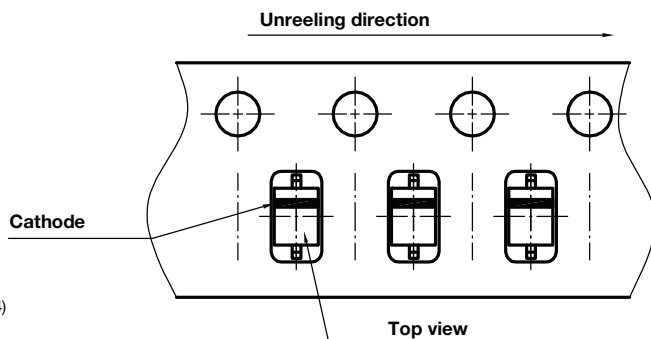


B-B Section



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ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)
Created - Date: 09. Feb. 2010
22772



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