

Vishay Semiconductors

Small Signal Fast Switching Diode



DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

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 mm tape), 15K/box

FEATURES

- Silicon epitaxial planar diode
- · Fast switching diodes
- 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





ROHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

| PARTS TABLE | | | | | |
|-------------|----------------------------------|-----------------------|--------------|---------------|--|
| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS | |
| 1N4448WS-G | 1N4448WS-G3-08 or 1N4448WS-G3-18 | Single | AJ | Tape and reel | |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|--|------------------------------------|--------------------|-------|------|--|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT | |
| Reverse voltage | | V_R | 75 | V | |
| Repetitive peak reverse voltage | | V_{RRM} | 100 | V | |
| Average rectified current half wave rectification with resistive load ⁽¹⁾ | f≥50 Hz | I _{F(AV)} | 150 | mA | |
| Surge forward current | t < 1 s and T _i = 25 °C | I _{FSM} | 350 | mA | |
| Power dissipation (1) | | P _{tot} | 200 | mW | |

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|--|----------------|-------------------|-------------|------|--|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT | |
| Thermal resistance junction to ambient air (1) | | R _{thJA} | 650 | K/W | |
| Junction temperature | | T _j | 150 | °C | |
| Storage temperature range | | T _{stg} | -65 to +150 | °C | |
| Operating temperature range | | Top | -55 to +150 | °C | |

Note

(1) Valid provided that electrodes are kept at ambient temperature

| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | |
|--|---|-----------------|-------|------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | I _F = 100 mA | V _F | | | 1 | V |
| | $I_F = 5 \text{ mA}$ | V_{F} | 0.620 | | 0.720 | V |
| | V _R = 20 V | I _R | | | 25 | nA |
| Leakage current | V _R = 75 V | I _R | | | 5 | μΑ |
| | V _R = 20 V, T _j = 150 °C | I _R | | | 50 | μΑ |
| Diode capacitance | $V_F = V_R = 0 V$ | C_D | | | 4 | pF |
| Reverse recovery time | $I_F = 10 \text{ mA}, i_R = 1 \text{ mA}, V_R = 6 \text{ V},$ $R_L = 100 \Omega$ | t _{rr} | | | 4 | ns |

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TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

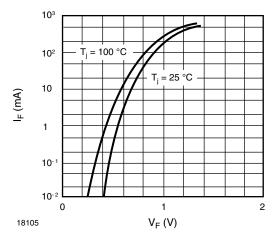


Fig. 1 - Forward Characteristics

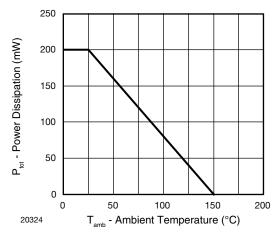


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

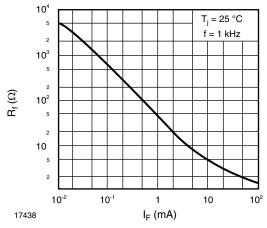


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

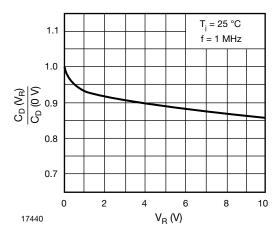


Fig. 4 - Relative Capacitance vs. Reverse Voltage

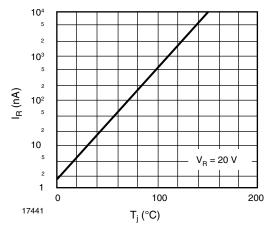


Fig. 5 - Leakage Current vs. Junction Temperature

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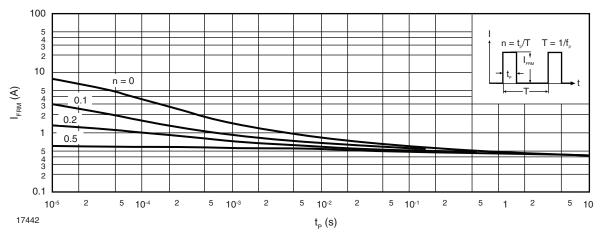
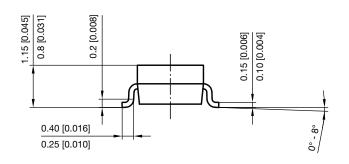
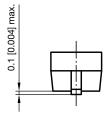
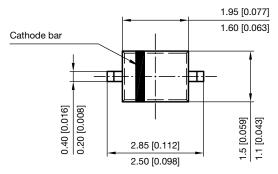


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

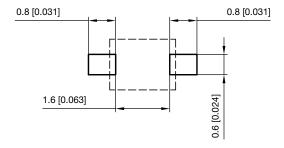
PACKAGE DIMENSIONS in millimeters (inches): SOD-323







Footprint recommendation:



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