

Vishay Semiconductors

Small Signal Schottky Diode



DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.0 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

 These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges





COMPLIANT HALOGEN FREE

GREEN

• Base P/N-G3 - green, commercial grade

• For general purpose applications

AEC-Q101 qualified available

(part number on request)

 Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

| PARTS TABLE | | | | | | |
|-------------|--------------------------------|-----------------------|--------------|---------------|--|--|
| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS | | |
| BAT42WS-G | BAT42WS-G3-08 or BAT42WS-G3-18 | Single | LC | Tone and real | | |
| BAT43WS-G | BAT43WS-G3-08 or BAT43WS-G3-18 | Single | LD | Tape and reel | | |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|--|------------------------------------|------------------|-----|------|--|
| PARAMETER | TEST CONDITION | SYMBOL VALUE | | UNIT | |
| Repetitive peak reverse voltage | | V_{RRM} | 30 | V | |
| Forward continuous current (1) | | I _F | 200 | mA | |
| Repetitive peak forward current (1) | $t_p < 1 \text{ s}, \delta < 0.5$ | I _{FRM} | 500 | mA | |
| Surge forward current (1) | t _p < 10 ms | I _{FSM} | 4 | А | |
| Power dissipation (1) | | P _{tot} | 150 | mW | |

Note

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

| 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 | | Tj | 125 | °C | |
| Operating temperature range | | T _{op} | -55 to +125 | °C | |
| Storage temperature range | | Teta | -55 to +150 | °C | |

Note

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



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| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | | |
|--|---|-----------|-------------------|------|------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | $I_R = 100 \mu A \text{ (pulsed)}$ | | V _(BR) | 30 | | | V |
| Leakage current (1) | V _R = 25 V | | I _R | | | 0.5 | μΑ |
| Leakage Current (1) | $V_R = 25 \text{ V}, T_j = 100 ^{\circ}\text{C}$ | | I _R | | | 100 | μΑ |
| | I _F = 200 mA | | V _F | | | 1000 | mV |
| | I _F = 10 mA | BAT42WS-G | V _F | | | 400 | mV |
| Forward voltage (1) | I _F = 50 mA | BAT42WS-G | V_{F} | | | 650 | mV |
| | I _F = 2 mA | BAT43WS-G | V_{F} | 260 | | 330 | mV |
| | I _F = 15 mA | BAT43WS-G | V _F | | | 450 | mV |
| Diode capacitance | V _R = 1 V, f = 1 MHz | | C _D | | 7 | | pF |
| Reverse recovery time | $I_F = 10 \text{ mA}, I_R = 100 \text{ mA}, I_R = 1 \text{ mA}, R_L = 100 \Omega$ | | t _{rr} | | | 5 | ns |

Note

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

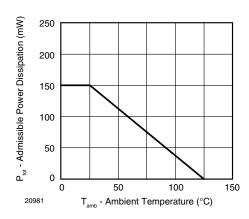


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

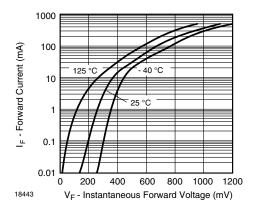


Fig. 2 - Typical Forward Characteristics

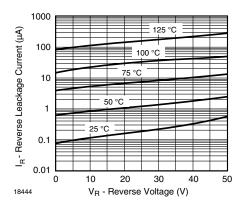


Fig. 3 - Typical Reverse Characteristics

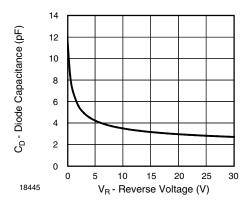


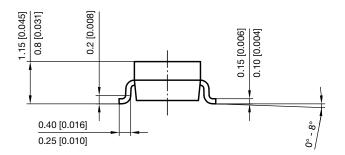
Fig. 4 - Typical Capacitance vs. Reverse Voltage

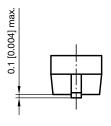
⁽¹⁾ Pulse test; $t_p \le 300 \mu s$, $t_p/T < 0.02$

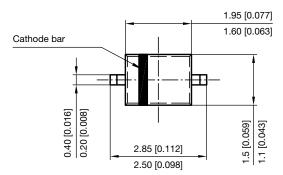


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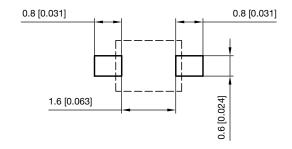
PACKAGE DIMENSIONS in millimeters (inches): SOD-323







Footprint recommendation:



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