

Small Signal Schottky Diode



FEATURES

- For general purpose applications
- This diode features low turn-on voltage and high breakdown voltage
- This device is protected by a PN junction guarding against excessive voltage, such as electrostatic discharges
- This diode is also available in the DO-35 case with type designation BAT41
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

PARTS TABLE

| PART | ORDERING CODE | INTERNAL CONSTRUCTION | REMARKS |
|------|------------------------|-----------------------|---------------|
| LL41 | LL41-GS18 or LL41-GS08 | Single diode | Tape and reel |

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|-----------------------------------|-----------|-------|------|
| Repetitive peak reverse voltage | | V_{RRM} | 100 | V |
| Forward continuous current ⁽¹⁾ | | I_F | 100 | mA |
| Repetitive peak forward current ⁽¹⁾ | $t_p < 1 \text{ s}, \delta < 0.5$ | I_{FRM} | 350 | mA |
| Surge forward current ⁽¹⁾ | $t_p = 10 \text{ ms}$ | I_{FSM} | 750 | mA |
| Power dissipation ⁽¹⁾ | $T_{amb} = 65^{\circ}\text{C}$ | P_{tot} | 200 | mW |

Note

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

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|----------------|------------|--------------------|--------------------|
| Thermal resistance junction to ambient air | | R_{thJA} | 300 ⁽¹⁾ | K/W |
| Junction temperature | | T_j | 125 | $^{\circ}\text{C}$ |
| Ambient operating temperature range | | T_{amb} | - 65 to + 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 65 to + 150 | $^{\circ}\text{C}$ |

Note

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

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

| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|--|---|------------|------|------|------|---------------|
| Reverse breakdown voltage ⁽¹⁾ | $I_R = 100 \mu\text{A}$ | $V_{(BR)}$ | 100 | 110 | | V |
| Leakage current ⁽¹⁾ | $V_R = 50 \text{ V}, T_j = 25^{\circ}\text{C}$ | I_R | | | 100 | nA |
| | $V_R = 50 \text{ V}, T_j = 100^{\circ}\text{C}$ | I_R | | | 20 | μA |
| Forward voltage ⁽¹⁾ | $I_F = 1 \text{ mA}$ | V_F | | 400 | 450 | mV |
| | $I_F = 200 \text{ mA}$ | V_F | | | 1000 | mV |
| Diode capacitance | $V_R = 1 \text{ V}, f = 1 \text{ MHz}$ | C_D | | 2 | | pF |

Note

⁽¹⁾ Pulse test, $t_p = 300 \mu\text{s}$

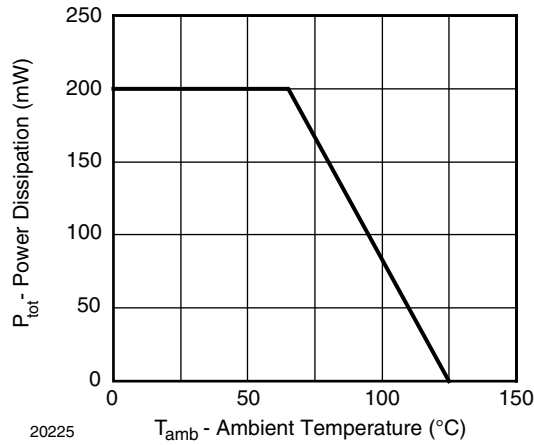
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

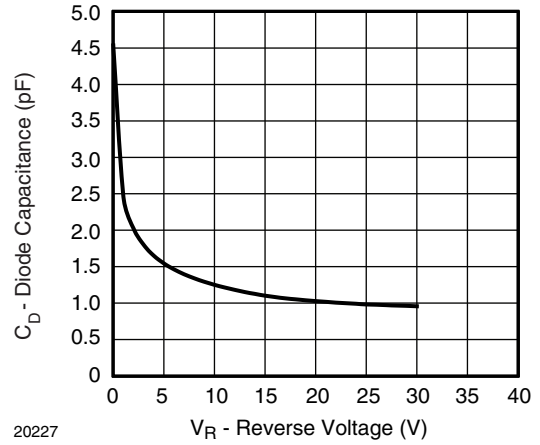


Fig. 4 - Typical Capacitance vs. Reverse Voltage

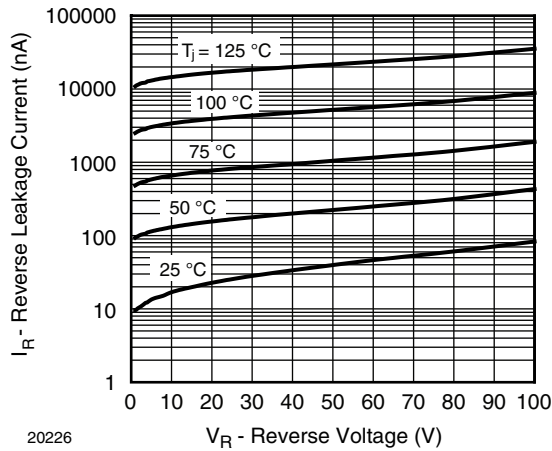


Fig. 2 - Typical Reverse Characteristics

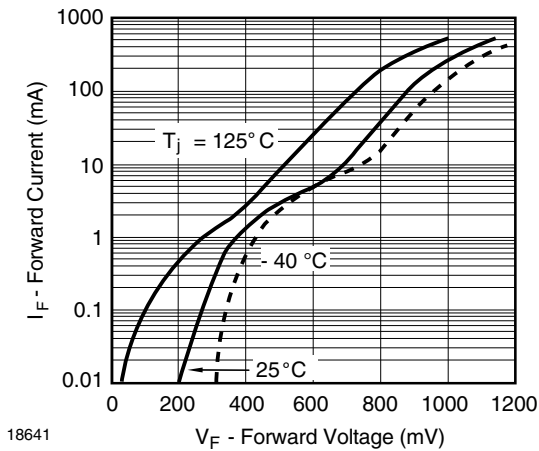
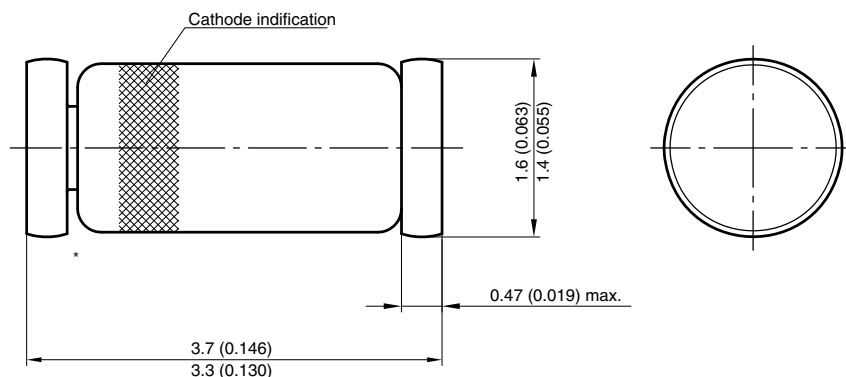
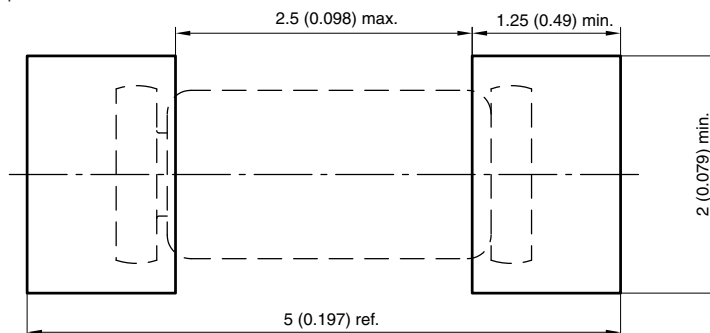


Fig. 3 - Typical Forward Characteristics

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF SOD-80**


* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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