

Small Signal Schottky Diode



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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

FEATURES

- For general purpose applications
- This diode features low turn-on voltage
- The devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- This diode is also available in a DO-35 case with type designation BAT85
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

APPLICATIONS

- Applications where a very low forward voltage is required

PARTS TABLE

| PART | ORDERING CODE | CIRCUIT CONFIGURATION | REMARKS |
|-------|--------------------------|-----------------------|---------------|
| BAS85 | BAS85-GS18 or BAS85-GS08 | Single | Tape and reel |

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|--|-----------|-------|------|
| Continuous reverse voltage | | V_R | 30 | V |
| Forward continuous current ⁽¹⁾ | | I_F | 200 | mA |
| Peak forward current ⁽¹⁾ | | I_{FM} | 300 | mA |
| Surge forward current ⁽¹⁾ | $t_p < 1\text{ s}$ | I_{FSM} | 600 | mA |
| Power dissipation ⁽¹⁾ | $T_{amb} = 65\text{ }^{\circ}\text{C}$ | P_{tot} | 200 | mW |

Note

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

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|----------------|------------|-------------|--------------------|
| Thermal resistance junction to ambient air ⁽¹⁾ | | R_{thJA} | 430 | K/W |
| Junction temperature | | T_J | 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -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 | $I_R = 10\text{ }\mu\text{A}$ (pulsed) | $V_{(BR)}$ | 30 | | | V |
| Leakage current | $V_R = 25\text{ V}$ | I_R | | 0.2 | 2 | μA |
| Forward voltage | Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 0.1\text{ mA}$ | V_F | | | 240 | mV |
| | Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 1\text{ mA}$ | V_F | | | 320 | mV |
| | Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 10\text{ mA}$ | V_F | | | 400 | mV |
| | Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 30\text{ mA}$ | V_F | | 500 | | mV |
| | Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 100\text{ mA}$ | V_F | | | 800 | mV |
| Diode capacitance | $V_R = 1\text{ V}$, $f = 1\text{ MHz}$ | C_D | | | 10 | pF |
| Reverse recovery time | $I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $I_R = 1\text{ mA}$ | t_{rr} | | | 5 | ns |

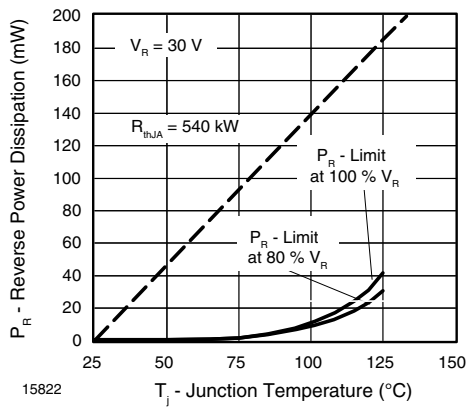
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

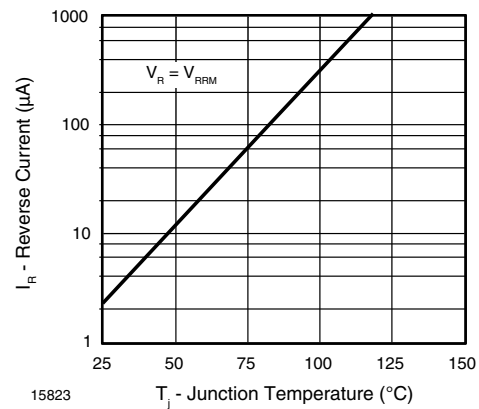


Fig. 3 - Reverse Current vs. Junction Temperature

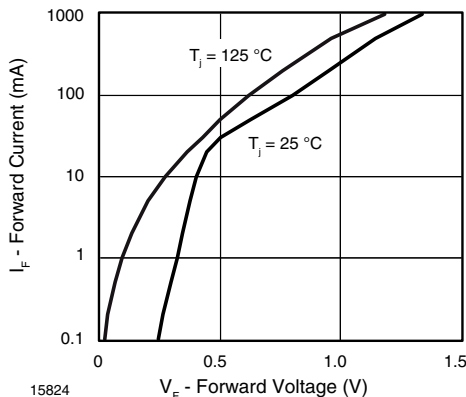


Fig. 2 - Forward Current vs. Forward Voltage

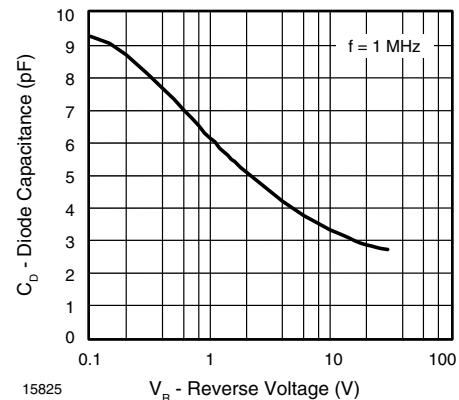
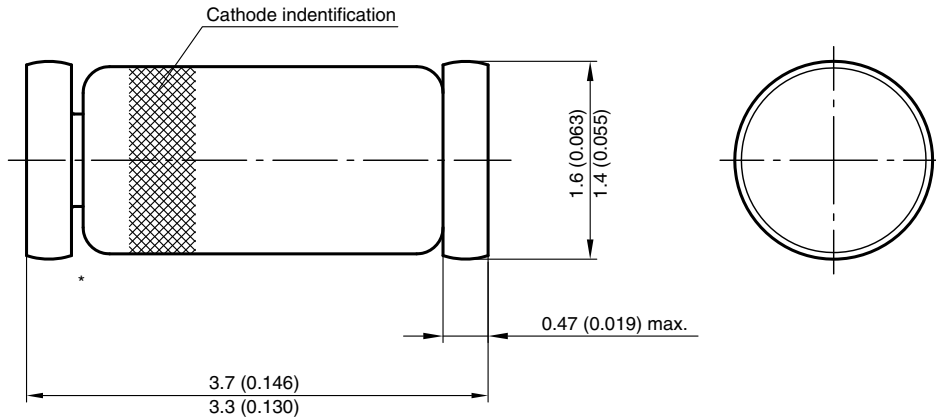


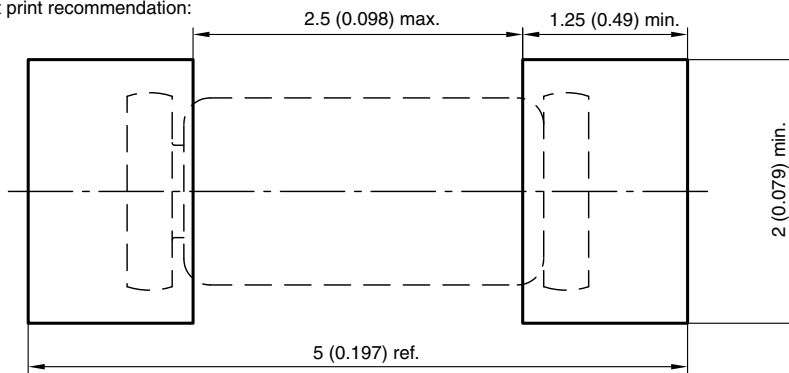
Fig. 4 - Diode Capacitance vs. Reverse Voltage

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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