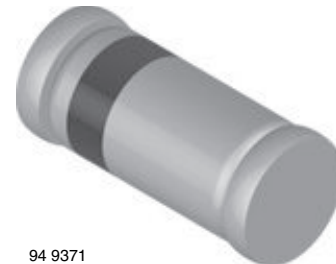


## Small Signal Schottky Diode

### 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
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



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### Applications

- Applications where a very low forward voltage is required

### Mechanical Data

**Case:** MiniMELF SOD-80

**Weight:** approx. 31 mg

**Cathode band color:** black

**Packaging codes/options:**

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

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

### Parts Table

| Part  | Ordering code            | Type Marking | Remarks       |
|-------|--------------------------|--------------|---------------|
| BAS85 | BAS85-GS18 or BAS85-GS08 | -            | 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 |                                        | $I_F$     | 200 <sup>1)</sup> | mA   |
| Peak forward current       |                                        | $I_{FM}$  | 300 <sup>1)</sup> | mA   |
| Surge forward current      | $t_p < 1\text{ s}$                     | $I_{FSM}$ | 600 <sup>1)</sup> | mA   |
| Power dissipation          | $T_{amb} = 65\text{ }^{\circ}\text{C}$ | $P_{tot}$ | 200 <sup>1)</sup> | mW   |

<sup>1)</sup> 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 |                | $R_{thJA}$ | 430 <sup>1)</sup> | K/W                |
| Junction temperature                       |                | $T_j$      | 125               | $^{\circ}\text{C}$ |
| Storage temperature range                  |                | $T_{stg}$  | - 55 to +150      | $^{\circ}\text{C}$ |

<sup>1)</sup> 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    | $\mu\text{A}$ |
| Forward voltage           | Pulse test $t_p < 300\text{ }\mu\text{s}$ ,<br>$I_F = 0.1\text{ mA}$      | $V_F$      |      |      | 240  | mV            |
|                           | Pulse test $t_p < 300\text{ }\mu\text{s}$ , $I_F = 1\text{ mA}$           | $V_F$      |      |      | 320  | mV            |
|                           | Pulse test $t_p < 300\text{ }\mu\text{s}$ ,<br>$I_F = 10\text{ mA}$       | $V_F$      |      |      | 400  | mV            |
|                           | Pulse test $t_p < 300\text{ }\mu\text{s}$ ,<br>$I_F = 30\text{ mA}$       | $V_F$      |      | 500  |      | mV            |
|                           | Pulse test $t_p < 300\text{ }\mu\text{s}$ ,<br>$I_F = 100\text{ mA}$      | $V_F$      |      |      | 800  | mV            |
| Diode capacitance         | $V_R = 1\text{ V}$ , $f = 1\text{ MHz}$                                   | $C_D$      |      |      | 10   | pF            |
| Reverse recovery time     | $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ ,<br>$I_{rr} = 1\text{ mA}$ , | $t_{rr}$   |      |      | 5    | ns            |

### Typical Characteristics

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

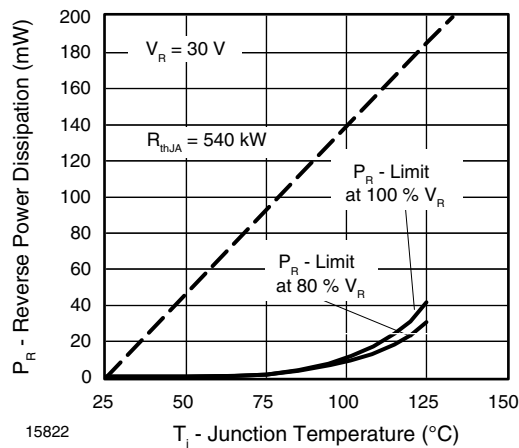


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

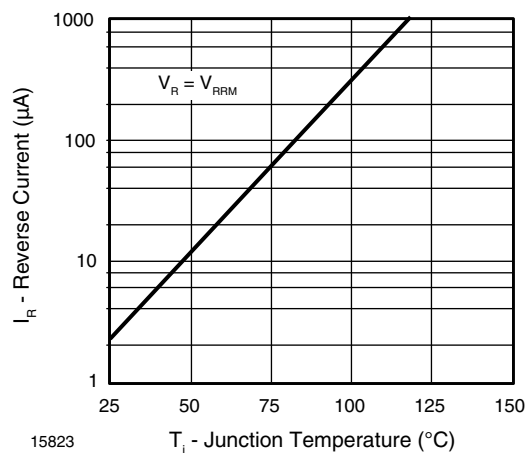


Figure 2. Reverse Current vs. Junction Temperature

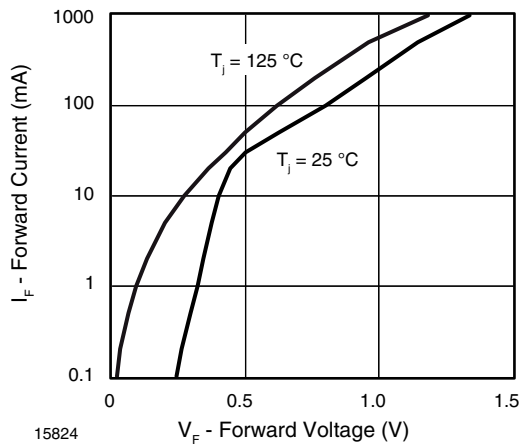


Figure 3. Forward Current vs. Forward Voltage

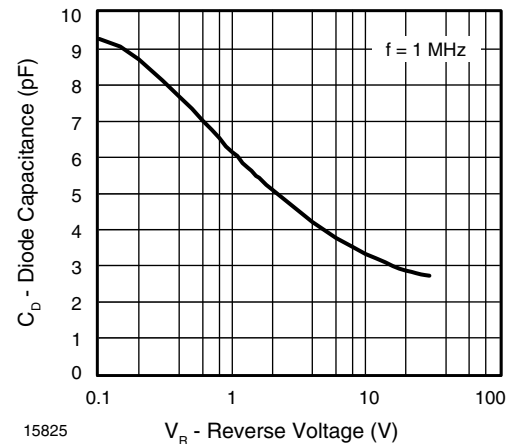
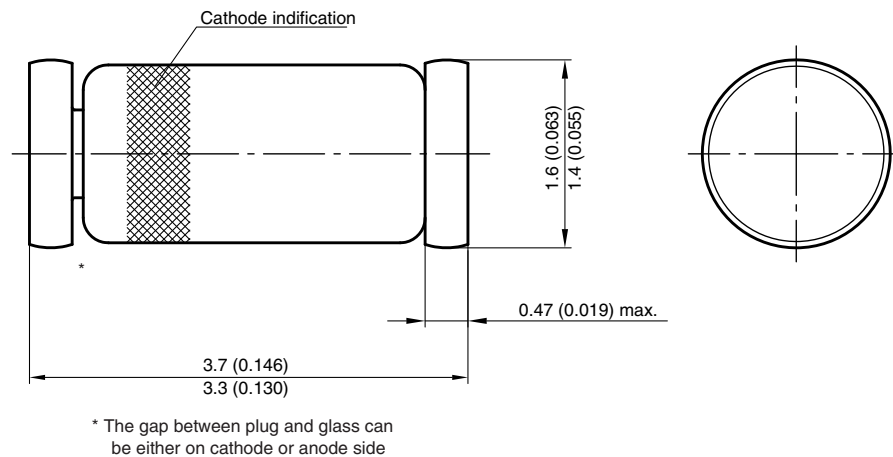
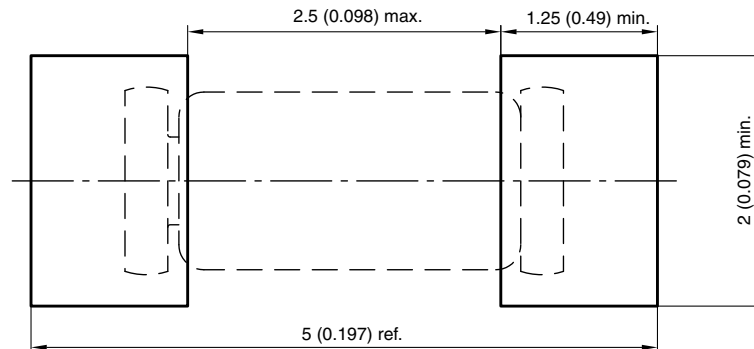


Figure 4. Diode Capacitance vs. Reverse Voltage

## Package Dimensions in millimeters (inches): MiniMELF SOD-80



Foot print recommendation:



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Rev. 8 - Date: 07.June.2006  
96 12070



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