

## Small Signal Schottky Diode



### 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 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](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### 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 <sup>(1)</sup>      |                                   | $I_F$     | 100   | mA   |
| Repetitive peak forward current <sup>(1)</sup> | $t_p < 1 \text{ s}, \delta < 0.5$ | $I_{FRM}$ | 350   | mA   |
| Surge forward current <sup>(1)</sup>           | $t_p = 10 \text{ ms}$             | $I_{FSM}$ | 750   | mA   |
| Power dissipation <sup>(1)</sup>               | $T_{amb} = 65^{\circ}\text{C}$    | $P_{tot}$ | 200   | mW   |

#### Note

<sup>(1)</sup> 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 <sup>(1)</sup> | 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

<sup>(1)</sup> 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 <sup>(1)</sup> | $I_R = 100 \mu\text{A}$                         | $V_{(BR)}$ | 100  | 110  |      | V             |
| Leakage current <sup>(1)</sup>           | $V_R = 50 \text{ V}, T_j = 25^{\circ}\text{C}$  | $I_R$      |      |      | 100  | nA            |
|                                          | $V_R = 50 \text{ V}, T_j = 100^{\circ}\text{C}$ | $I_R$      |      |      | 20   | $\mu\text{A}$ |
| Forward voltage <sup>(1)</sup>           | $I_F = 1 \text{ mA}$                            | $V_F$      |      | 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

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

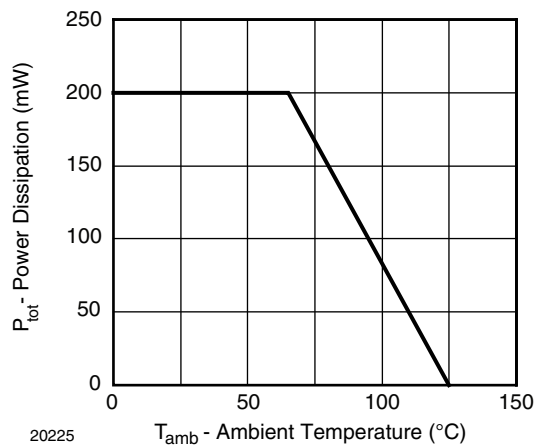
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

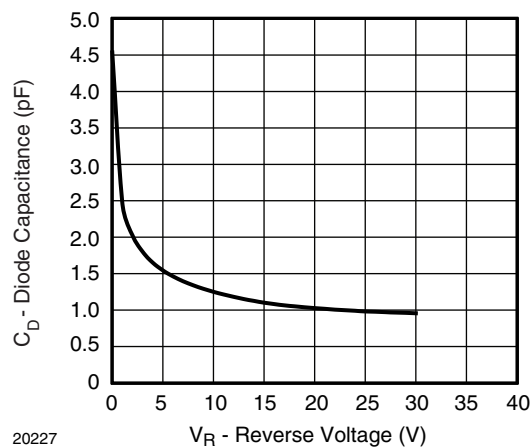


Fig. 4 - Typical Capacitance vs. Reverse Voltage

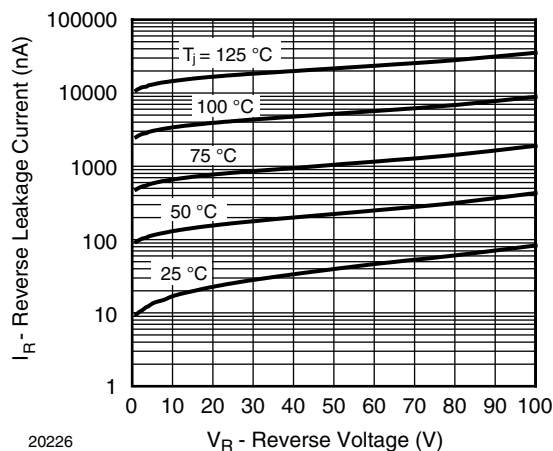


Fig. 2 - Typical Reverse Characteristics

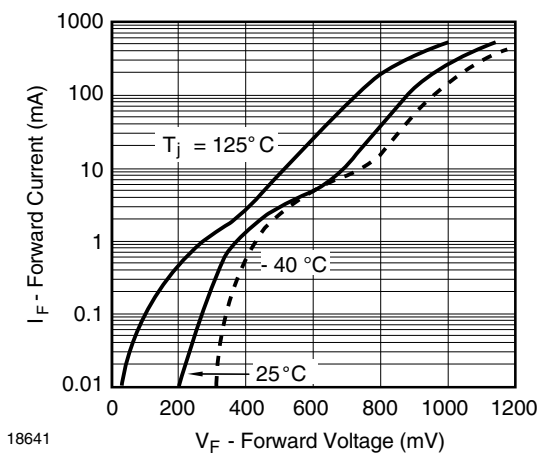
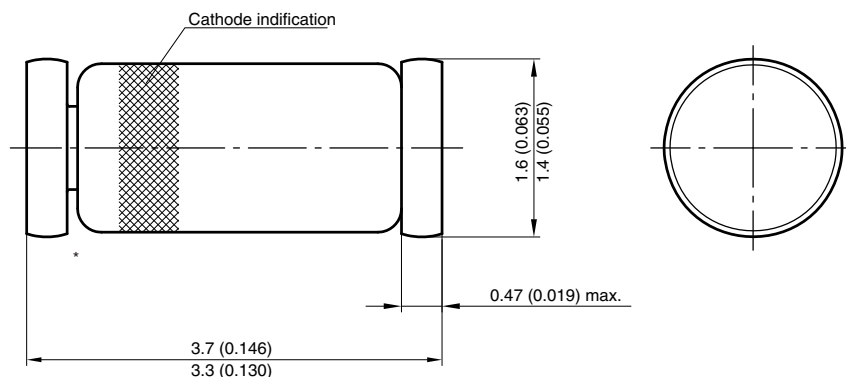
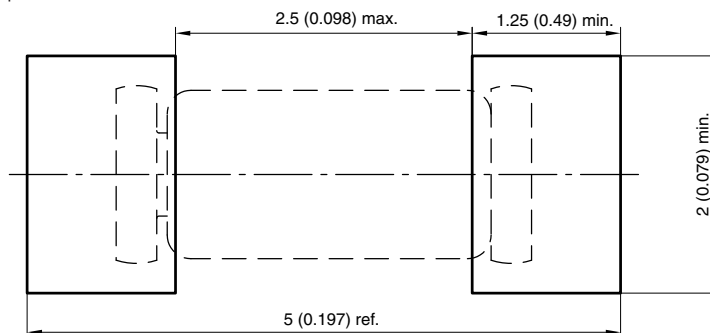


Fig. 3 - Typical Forward Characteristics

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


Foot print recommendation:



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