

## Small Signal Switching Diode



### FEATURES

- Silicon planar diode
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### APPLICATIONS

- General purpose

### 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), 2.5K/box

### PARTS TABLE

| PART  | ORDERING CODE            | TYPE MARKING | INTERNAL CONSTRUCTION | REMARKS       |
|-------|--------------------------|--------------|-----------------------|---------------|
| BA604 | BA604-GS18 or BA604-GS08 | -            | Single diode          | Tape and reel |

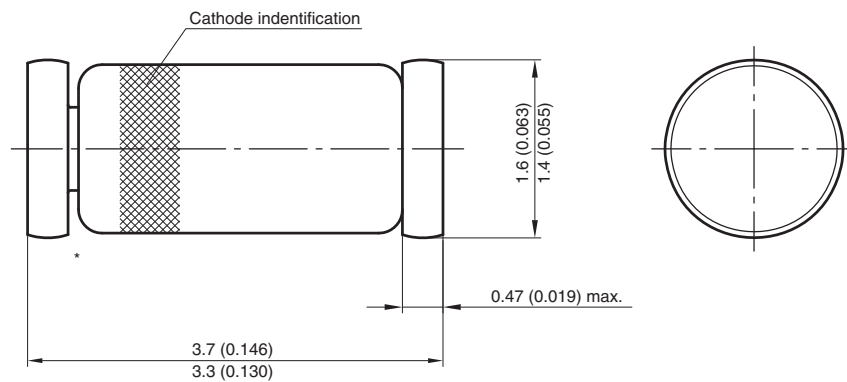
### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

| PARAMETER                       | TEST CONDITION               | SYMBOL    | VALUE | UNIT |
|---------------------------------|------------------------------|-----------|-------|------|
| Repetitive peak reverse voltage |                              | $V_{RRM}$ | 80    | V    |
| Reverse voltage                 |                              | $V_R$     | 50    | V    |
| Peak forward surge current      | $t_p = 1\text{ }\mu\text{s}$ | $I_{FSM}$ | 2     | A    |
| Repetitive peak forward current |                              | $I_{FRM}$ | 450   | mA   |
| Forward continuous current      |                              | $I_F$     | 200   | mA   |
| Power dissipation               |                              | $P_{tot}$ | 500   | mW   |

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

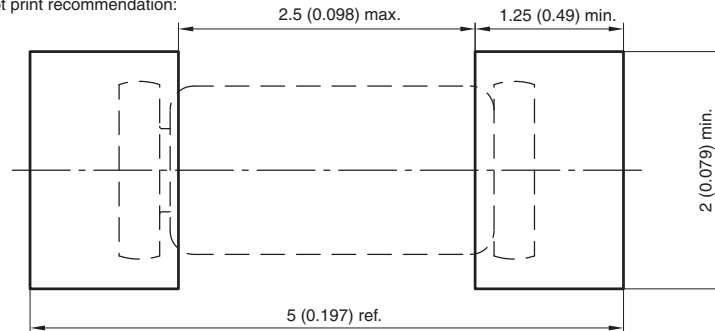
| PARAMETER                                  | TEST CONDITION                     | SYMBOL     | VALUE         | UNIT               |
|--|------------------------------------|------------|---------------|--------------------|
| Thermal resistance junction to ambient air | On PC board<br>50 mm x 50 mm x 1.6 | $R_{thJA}$ | 500           | K/W                |
| Thermal resistance junction to lead        | $T_L = \text{constant}$            | $R_{thJL}$ | 350           | K/W                |
| Junction temperature                       |                                    | $T_j$      | 175           | $^{\circ}\text{C}$ |
| Storage temperature range                  |                                    | $T_{stg}$  | - 65 to + 175 | $^{\circ}\text{C}$ |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |            |      |      |      |               |
|--|---|------------|------|------|------|---------------|
| PARAMETER  | TEST CONDITION  | SYMBOL     | MIN. | TYP. | MAX. | UNIT          |
| Forward voltage  | $I_F = 50\text{ mA}$  | $V_F$      |      |      | 1100 | mV            |
| Reverse current  | $V_R = 50\text{ V}$   | $I_R$      |      |      | 1    | $\mu\text{A}$ |
|  | $V_R = 20\text{ V}$   | $I_R$      |      |      | 50   | nA            |
|  | $V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$          | $I_R$      |      |      | 50   | $\mu\text{A}$ |
| Breakdown voltage  | $I_R = 100\text{ }\mu\text{A}$                                  | $V_{(BR)}$ | 80   |      |      | V             |
| Reverse recovery time  | $I_F = 10\text{ mA}, I_R = 10\text{ mA}$<br>$i_R = 1\text{ mA}$ | $t_{rr}$   |      |      | 20   | ns            |
| Diode capacitance  | $V_R = 0\text{ V}, f = 1\text{ MHz}$                            | $C_D$      |      |      | 4    | pF            |

**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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 96 12070



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