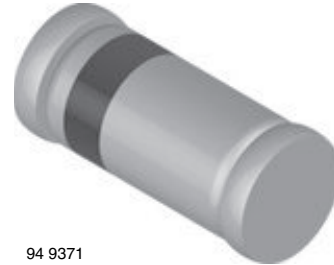


## Small Signal Fast Switching Diode

### Features

- Silicon epitaxial planar diodes
- Low forward voltage drop
- High forward current capability
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



94 9371

### Applications

- High speed switch and general purpose use in computer and industrial applications

### 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       |
|--------|--------------------------|--------------|---------------|
| LL4150 | LL4150GS18 or LL4150GS08 | -            | 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 |                              | $V_{RRM}$ | 50    | V    |
| Reverse voltage                 |                              | $V_R$     | 50    | V    |
| Peak forward surge current      | $t_p = 1\text{ }\mu\text{s}$ | $I_{FSM}$ | 4     | A    |
| Forward continuous current      |                              | $I_F$     | 600   | mA   |
| Average forward current         | $V_R = 0$                    | $I_{FAV}$ | 300   | 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 mm | $R_{thJA}$ | 300           | K/W                |
| Junction temperature                       |                                       | $T_j$      | 175           | $^{\circ}\text{C}$ |
| Storage temperature range                  |                                       | $T_{stg}$  | - 65 to + 175 | $^{\circ}\text{C}$ |

## Electrical Characteristics

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

| Parameter             | Test condition                                                                          | Symbol   | Min. | Typ. | Max. | Unit          |
|-----------------------|-----------------------------------------------------------------------------------------|----------|------|------|------|---------------|
| Forward voltage       | $I_F = 1\text{ mA}$                                                                     | $V_F$    | 540  |      | 620  | mV            |
|                       | $I_F = 10\text{ mA}$                                                                    | $V_F$    | 660  |      | 740  | mV            |
|                       | $I_F = 50\text{ mA}$                                                                    | $V_F$    | 760  |      | 860  | mV            |
|                       | $I_F = 100\text{ mA}$                                                                   | $V_F$    | 820  |      | 920  | mV            |
|                       | $I_F = 200\text{ mA}$                                                                   | $V_F$    | 870  |      | 1000 | mV            |
| Reverse current       | $V_R = 50\text{ V}$                                                                     | $I_R$    |      |      | 100  | nA            |
|                       | $V_R = 50\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$                                  | $I_R$    |      |      | 100  | $\mu\text{A}$ |
| Diode capacitance     | $V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$                                      | $C_D$    |      |      | 2.5  | pF            |
| Reverse recovery time | $I_F = I_R = 10\text{ to }100\text{ mA}, i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$ | $t_{rr}$ |      |      | 4    | ns            |

## Typical Characteristics

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

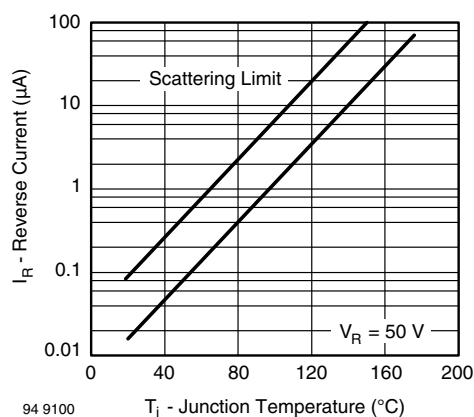


Figure 1. Reverse Current vs. Junction Temperature

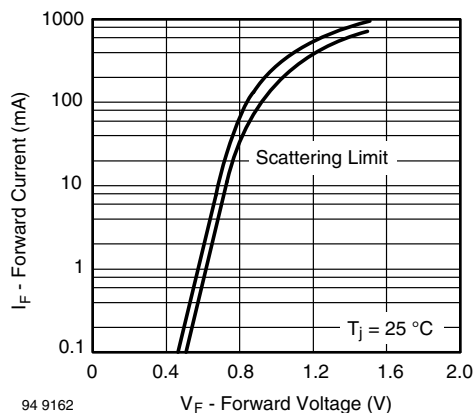
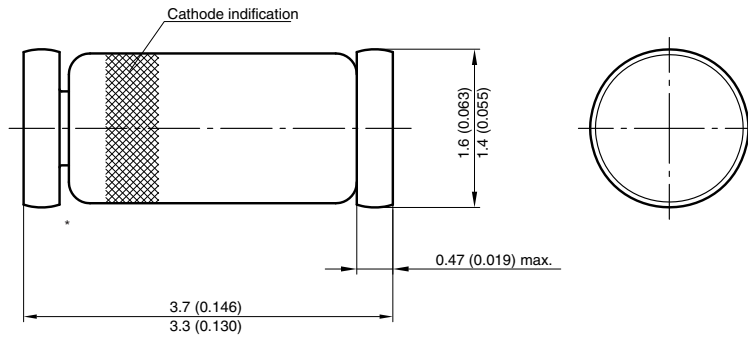


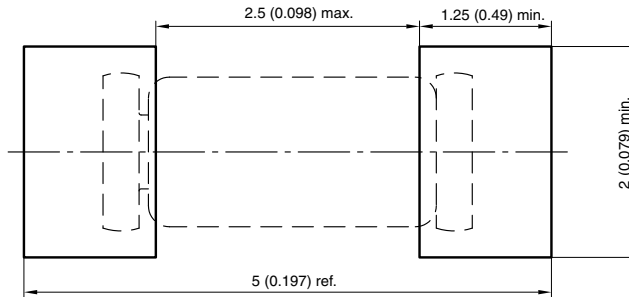
Figure 2. Forward Current vs. Forward Voltage

## 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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96 12070



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