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www.vishay.com

**LL4150**

Vishay Semiconductors

## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diodes
- Low forward voltage drop
- High forward current capability
- 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

- 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:**

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

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

### PARTS TABLE

| PART   | ORDERING CODE            | TYPE MARKING | INTERNAL CONSTRUCTION | REMARKS       |
|--------|--------------------------|--------------|-----------------------|---------------|
| LL4150 | LL4150GS08 or LL4150GS18 | -            | Single diode          | Tape and reel |

### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

| PARAMETER                       | TEST CONDITION        | SYMBOL             | VALUE | UNIT |
|---------------------------------|-----------------------|--------------------|-------|------|
| Repetitive peak reverse voltage |                       | V <sub>RRM</sub>   | 50    | V    |
| Reverse voltage                 |                       | V <sub>R</sub>     | 50    | V    |
| Peak forward surge current      | t <sub>p</sub> = 1 μs | I <sub>FSM</sub>   | 4     | A    |
| Forward continuous current      |                       | I <sub>F</sub>     | 600   | mA   |
| Average forward current         | V <sub>R</sub> = 0    | I <sub>F(AV)</sub> | 300   | mA   |
| Power dissipation               |                       | P <sub>tot</sub>   | 500   | mW   |

### THERMAL CHARACTERISTICS (T<sub>amb</sub> = 25 °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 <sub>thJA</sub> | 300         | K/W  |
| Junction temperature                       |                                       | T <sub>j</sub>    | 175         | °C   |
| Storage temperature range                  |                                       | T <sub>stg</sub>  | -65 to +175 | °C   |
| Operating temperature range                |                                       | T <sub>op</sub>   | -55 to +175 | °C   |



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| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |          |       |      |       |               |
|--|---|----------|-------|------|-------|---------------|
| PARAMETER  | TEST CONDITION  | SYMBOL   | MIN.  | TYP. | MAX.  | UNIT          |
| Forward voltage  | $I_F = 1\text{ mA}$   | $V_F$    | 0.540 |      | 0.620 | V             |
|  | $I_F = 10\text{ mA}$  | $V_F$    | 0.660 |      | 0.740 | V             |
|  | $I_F = 50\text{ mA}$  | $V_F$    | 0.760 |      | 0.860 | V             |
|  | $I_F = 100\text{ mA}$   | $V_F$    | 0.820 |      | 0.920 | V             |
|  | $I_F = 200\text{ mA}$   | $V_F$    | 0.870 |      | 1     | V             |
| 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  | $I_F = I_R = 10\text{ mA to } 100\text{ mA}, I_R = 0.1 \times I_F, R_L = 100\text{ }\Omega$ | $t_{rr}$ |       |      | 4     | ns            |

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

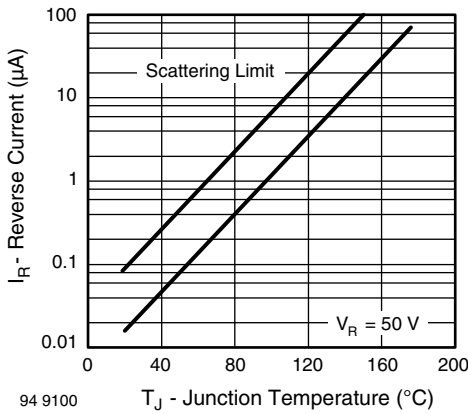


Fig. 1 - Reverse Current vs. Junction Temperature

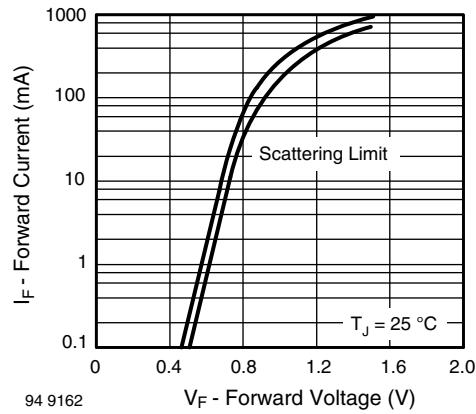
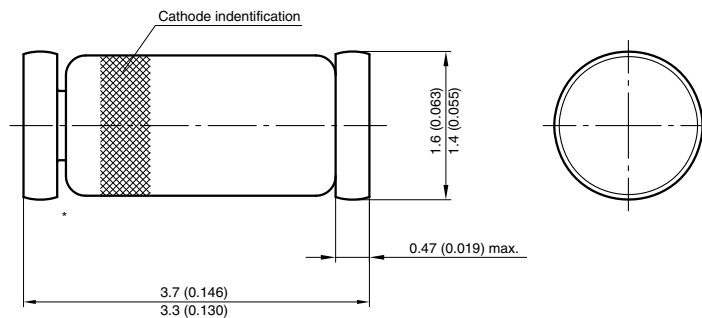
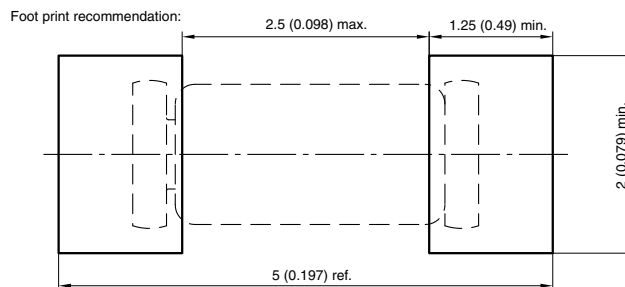


Fig. 2 - Forward Current vs. Forward Voltage

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



\* The gap between plug and glass can be either on cathode or anode side



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