

# Small Signal Diode

## FDLL4150


MiniMELF/SOD-80  
CASE 100AD

### Features

- This is a Pb-Free and Halide Free Device

### ABSOLUTE MAXIMUM RATINGS

(Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.) (Notes 1 and 2)

| Symbol    | Parameter                           | Value                           | Unit             |
|-----------|-------------------------------------|---------------------------------|------------------|
| $W_{IV}$  | Working Inverse Voltage             | 50                              | V                |
| $I_O$     | Average Rectified Forward Current   | 200                             | mA               |
| $I_F$     | DC Forward Current                  | 400                             | mA               |
| $i_F$     | Recurrent Peak Forward Current      | 600                             | mA               |
| $I_{FSM}$ | Non-Repetitive Peak Forward Current | Pulse Width = 1.0 s             | 1.0              |
|           |                                     | Pulse Width = 1.0 $\mu\text{s}$ | 4.0              |
| $T_{STG}$ | Storage Temperature Range           | -65 to +200                     | $^\circ\text{C}$ |
| $T_J$     | Operating Junction Temperature      | 175                             | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- These ratings are based on a maximum junction temperature of  $200^\circ\text{C}$ .
- These are steady-state limits. **onsemi** should be consulted on applications involving pulsed or low-duty-cycle operations.

### THERMAL CHARACTERISTICS

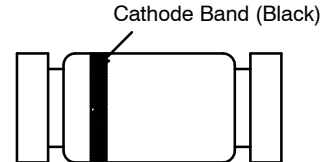
| Symbol          | Parameter                               | Max         | Unit                      |
|-----------------|-----------------------------------------|-------------|---------------------------|
|                 |                                         | 1N/FDLL4150 |                           |
| $P_D$           | Power Dissipation                       | 500         | mW                        |
|                 | Derate above $25^\circ\text{C}$         | 3.33        | mW/ $^\circ\text{C}$      |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 300         | $^\circ\text{C}/\text{W}$ |

### ELECTRICAL CHARACTERISTICS (Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.)

| Symbol   | Parameter             | Test Conditions                                                 | Min  | Max | Unit          |
|----------|-----------------------|-----------------------------------------------------------------|------|-----|---------------|
| $B_V$    | Breakdown Voltage     | $I_R = 5.0 \mu\text{A}$                                         | 75   | –   | V             |
| $I_R$    | Reverse Current       | $V_R = 50 \text{ V}$                                            | –    | 100 | nA            |
|          |                       | $V_R = 50 \text{ V}, T_A = 150^\circ\text{C}$                   | –    | 100 | $\mu\text{A}$ |
| $V_F$    | Forward Voltage       | $I_F = 1.0 \text{ mA}$                                          | 540  | 620 | mV            |
|          |                       | $I_F = 10 \text{ mA}$                                           | 660  | 740 |               |
|          |                       | $I_F = 50 \text{ mA}$                                           | 760  | 860 |               |
|          |                       | $I_F = 100 \text{ mA}$                                          | 820  | 920 |               |
|          |                       | $I_F = 200 \text{ mA}$                                          | 0.87 | 1.0 | V             |
| $C_O$    | Diode Capacitance     | $V_R = 0, f = 1.0 \text{ MHz}$                                  | –    | 2.5 | pF            |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R = 10 \text{ mA} - 200 \text{ mA}, R_L = 100 \Omega$  | –    | 4.0 | ns            |
|          |                       | $I_F = I_R = 200 \text{ mA} - 400 \text{ mA}, R_L = 100 \Omega$ | –    | 6.0 | ns            |
| $T_{FR}$ | Forward Recovery Time | $I_F = 200 \text{ mA}, V_{FR} = 1.0 \text{ V}$                  | –    | 10  | ns            |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### MARKING DIAGRAM



(–1st band denotes cathode terminal and has wider width)

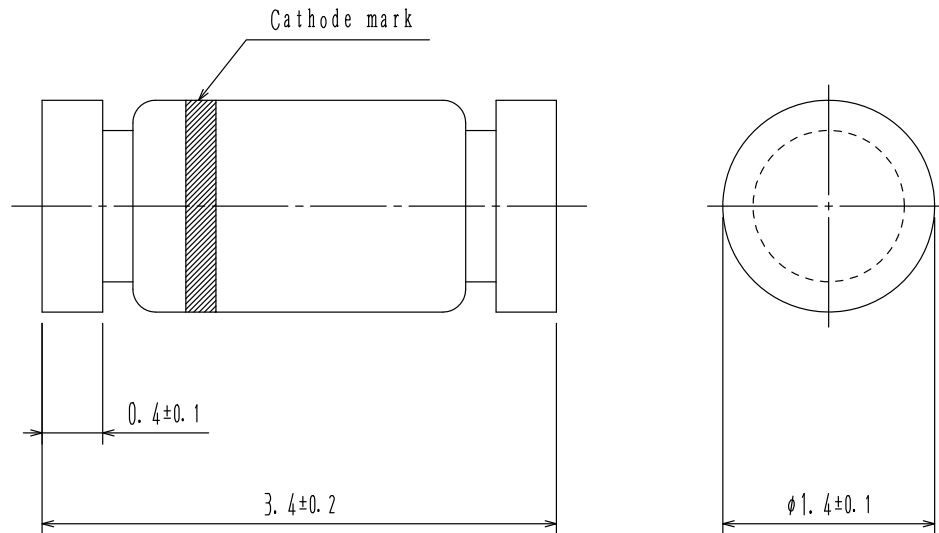
### ORDERING INFORMATION

| Device   | Package                               | Shipping <sup>†</sup> |
|----------|---------------------------------------|-----------------------|
| FDLL4150 | MiniMELF/SOD-80 (Pb-Free/Halide Free) | 2500 / Tape & Reel    |

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, [BRD8011/D](http://BRD8011/D).

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**ISSUE O**

DATE 30 APR 2012



NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-213, VARIATION AC.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

 CORNER RADIUS IS OPTIONAL.

D) DRAWING FILE NAME: SOD80A REV01

|                         |                          |                                                                                                                                                                                     |
|-------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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