

## 1N4150 / FDLL4150



DO-35



LL-34

THE PLACEMENT OF THE EXPANSION GAP  
HAS NO RELATIONSHIP TO THE LOCATION  
OF THE CATHODE TERMINAL

| COLOR BAND MARKING |          |          |
|--------------------|----------|----------|
| DEVICE             | 1ST BAND | 2ND BAND |
| FDLL4150           | BLACK    | ORANGE   |

### High Conductance Ultra Fast Diode

Sourced from Process 1R. See MMBD1201-1205 for characteristics.

#### Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

| Symbol          | Parameter                                                                               | Value       | Units  |
|-----------------|-----------------------------------------------------------------------------------------|-------------|--------|
| $W_{IV}$        | Working Inverse Voltage                                                                 | 50          | V      |
| $I_O$           | Average Rectified Current                                                               | 200         | mA     |
| $I_F$           | DC Forward Current                                                                      | 400         | mA     |
| $I_{fr}$        | Recurrent Peak Forward Current                                                          | 600         | mA     |
| $I_{fr(surge)}$ | Peak Forward Surge Current<br>Pulse width = 1.0 second<br>Pulse width = 1.0 microsecond | 1.0<br>4.0  | A<br>A |
| $T_{stg}$       | Storage Temperature Range                                                               | -65 to +200 | °C     |
| $T_J$           | Operating Junction Temperature                                                          | 175         | °C     |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

#### Thermal Characteristics

TA = 25°C unless otherwise noted

| Symbol          | Characteristic                                | Max            | Units       |
|-----------------|-----------------------------------------------|----------------|-------------|
|                 |                                               | 1N / FDLL 4150 |             |
| $P_D$           | Total Device Dissipation<br>Derate above 25°C | 500<br>3.33    | mW<br>mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient       | 300            | °C/W        |

# High Conductance Ultra Fast Diode

(continued)

1N4150 / FDL4150

## Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

| Symbol          | Parameter             | Test Conditions                                                                                                                                 | Min                              | Max                             | Units                     |
|-----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------|---------------------------|
| B <sub>V</sub>  | Breakdown Voltage     | I <sub>R</sub> = 5.0 μA                                                                                                                         | 75                               |                                 | V                         |
| I <sub>R</sub>  | Reverse Current       | V <sub>R</sub> = 50 V<br>V <sub>R</sub> = 50 V, T <sub>A</sub> = 150°C                                                                          |                                  | 100<br>100                      | nA<br>μA                  |
| V <sub>F</sub>  | Forward Voltage       | I <sub>F</sub> = 1.0 mA<br>I <sub>F</sub> = 10 mA<br>I <sub>F</sub> = 50 mA<br>I <sub>F</sub> = 100 mA<br>I <sub>F</sub> = 200 mA               | 540<br>660<br>760<br>820<br>0.87 | 620<br>740<br>860<br>920<br>1.0 | mV<br>mV<br>mV<br>mV<br>V |
| C <sub>O</sub>  | Diode Capacitance     | V <sub>R</sub> = 0, f = 1.0 MHz                                                                                                                 |                                  | 2.5                             | pF                        |
| T <sub>RR</sub> | Reverse Recovery Time | I <sub>F</sub> = I <sub>R</sub> = 10 mA-200 mA, R <sub>L</sub> = 100Ω<br>I <sub>F</sub> = I <sub>R</sub> = 200 mA-400 mA, R <sub>L</sub> = 100Ω |                                  | 4.0<br>6.0                      | nS<br>nS                  |
| T <sub>FR</sub> | Forward Recovery Time | I <sub>F</sub> = 200 mA, V <sub>FR</sub> = 1.0 V                                                                                                |                                  | 10                              | nS                        |

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| FACT Quiet Series™   | Quiet Series™ |
| FAST®                | SuperSOT™-3   |
| FAST <sup>r</sup> ™  | SuperSOT™-6   |
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