



**FDH300/FDLL300**  
**FDH333/FDLL333**

T-01-09

High Conductance Low Leakage Diodes

- BV... 150 V (MIN) @ 100  $\mu$ A
- $I_R$ ... 1.0 nA (MAX) @ 125 V (FDH300), 3.0 nA (MAX) @ 125 V (FDH333)

**PACKAGES**

|         |       |
|---------|-------|
| FDH300  | DO-35 |
| FDH333  | DO-35 |
| FDLL300 | LL-34 |
| FDLL333 | LL-34 |

**ABSOLUTE MAXIMUM RATINGS (Note 1)**

**Temperatures**

|  |                 |
|--|-----------------|
| Storage Temperature Range              | -65°C to +200°C |
| Maximum Junction Operating Temperature | +175°C          |
| Lead Temperature                       | +260°C          |

**Power Dissipation (Note 2)**

|   |            |
|---|------------|
| Maximum Total Dissipation at 25°C Ambient | 500 mW     |
| Linear Derating Factor (from 25°C)        | 3.33 mW/°C |

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1500 family.

**Maximum Voltages and Currents**

|                     |                                |        |
|---------------------|--------------------------------|--------|
| WIV                 | Working Inverse Voltage        | 125 V  |
| $I_O$               | Average Rectified Current      | 200 mA |
| $I_F$               | Forward Current Steady State   | 500 mA |
| $I_f$               | Recurrent Peak Forward Current | 600 mA |
| $I_f(\text{surge})$ | Peak Forward Surge Current     |        |
|                     | Pulse Width = 1.0 s            | 1.0 A  |
|                     | Pulse Width = 1.0 $\mu$ s      | 4.0 A  |

**ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)**

| SYMBOL | CHARACTERISTIC    | FDH300 |     | FDH333 |      | UNITS   | TEST CONDITIONS                    |                |
|--------|-------------------|--------|-----|--------|------|---------|------------------------------------|----------------|
|        |                   | MIN    | MAX | MIN    | MAX  |         |                                    |                |
| $V_F$  | Forward Voltage   |        |     | 0.9    | 1.15 | V       | $I_F = 300$ mA                     |                |
|        |                   |        |     | 0.88   | 1.08 | V       | $I_F = 250$ mA                     |                |
|        |                   |        | 1.0 | 0.87   | 1.05 | V       | $I_F = 200$ mA                     |                |
|        |                   |        |     | 0.86   | 0.97 | V       | $I_F = 150$ mA                     |                |
|        |                   |        |     | 0.92   | 0.83 | 0.94    | V                                  | $I_F = 100$ mA |
|        |                   |        |     | 0.88   | 0.80 | 0.89    | V                                  | $I_F = 50$ mA  |
|        |                   |        |     | 0.8    |      |         | V                                  | $I_F = 10$ mA  |
|        |                   |        |     | 0.75   |      |         | V                                  | $I_F = 5.0$ mA |
|        |                   |        |     | 0.68   |      |         | V                                  | $I_F = 1.0$ mA |
| $I_R$  | Reverse Current   |        | 1.0 |        | 3.0  | nA      | $V_R = 125$ V                      |                |
|        |                   |        | 3.0 |        |      | $\mu$ A | $V_R = 125$ V, $T_A = 150^\circ$ C |                |
|        |                   |        |     |        | 500  | nA      | $V_R = 125$ V, $T_A = 100^\circ$ C |                |
| C      | Capacitance       |        | 6.0 |        | 6.0  | pF      | $V_R = 0, f = 1$ MHz               |                |
| BV     | Breakdown Voltage | 150    |     | 150    |      | V       | $I_R = 100$ $\mu$ A                |                |

**NOTES:**

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For family characteristic curves, refer to Chapter 4, D2.