

**FAIRCHILD**

A Schlumberger Company

**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)

**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

**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

 $I_T$ 

Recurrent Peak Forward Current

600 mA

 $I_F$ (surge)

Peak Forward Surge Current

Pulse Width = 1.0 s

1.0 A

Pulse Width = 1.0  $\mu$ s

4.0 A

**PACKAGES**

FDH300 DO-35

FDH333 DO-35

FDLL300 LL-34

FDLL333 LL-34

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

**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 | V       | $I_F = 100$ mA                     |
|        |                   |        |     | 0.88   | 0.80 | 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                     |
|        |                   |        |     |        |      | V       |                                    |
| $I_R$  | 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.