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FAIRCHILD SEMICONDUCTOR TM

*Discrete POWER & Signal Technologies*

# FDH3595

**DO-35**

## High Conductance Low Leakage Diode

Sourced from Process 1M. See MMBD1501-1505 for characteristics.

### Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $W_{IV}$ | Working Inverse Voltage | 125 | V |
| $I_O$ | Average Rectified Current | 200 | mA |
| $I_F$ | DC Forward Current | 500 | mA |
| $i_f$ | Recurrent Peak Forward Current | 600 | mA |
| $i_{f(surge)}$ | Peak Forward Surge Current<br>Pulse width = 1.0 second<br>Pulse width = 1.0 microsecond | <br>1.0<br>4.0 | <br>A<br>A |
| $T_{stg}$ | Storage Temperature Range | -65 to +175 | °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 |
|---|---|---|---|
| | | **MMBD7000*** | |
| $P_D$ | 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 Low Leakage Diode
(continued)

### Electrical Characteristics
TA = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|---|---|---|---|---|---|
| $B_V$ | Breakdown Voltage | $I_R$ = 100 µA | 150 | | V |
| $I_R$ | Reverse Voltage Leakage Current | $V_R$ = 125 V | | 1.0 | nA |
| | | $V_R$ = 30 V, $T_A$ = 125°C | | 300 | nA |
| | | $V_R$ = 125 V, $T_A$ = 125°C | | 500 | nA |
| | | $V_R$ = 125 V, $T_A$ = 150°C | | 3.0 | µA |
| $V_F$ | Forward Voltage | $I_F$ = 1.0 mA | 520 | 680 | mV |
| | | $I_F$ = 5.0 mA | 600 | 760 | mV |
| | | $I_F$ = 10 mA | 650 | 800 | mV |
| | | $I_F$ = 50 mA | 750 | 890 | mV |
| | | $I_F$ = 100 mA | 790 | 920 | mV |
| | | $I_F$ = 200 mA | 0.83 | 1.0 | V |
| $C_T$ | Diode Capacitance | $V_R$ = 0, f = 1.0 MHz | | 8.0 | pF |

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