

### Discrete POWER & Signal **Technologies**

## FDH/FDLL 300/A / 333





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

### COLOR BAND MARKING DEVICE 1ST BAND 2ND BAND BROWN BROWN GREEN YELLOW FDLL300 BROWN BLUE FDLL333

## **High Conductance Low Leakage Diode**

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

## **Absolute Maximum Ratings\***

Symbol	Parameter	Value	Units
W <sub>IV</sub>	Working Inverse Voltage	125	V
Io	Average Rectified Current	200	mA
I <sub>F</sub>	DC Forward Current	500	mA
i <sub>f</sub>	Recurrent Peak Forward Current	600	mA
İ <sub>f</sub> (surge)	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	1.0 4.0	A A
T <sub>stg</sub>	Storage Temperature Range	-65 to +200	°C
TJ	Operating Junction Temperature	175	°C

<sup>\*</sup>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
		FDH/FDLL 300/A / 333	
P <sub>D</sub>	Total Device Dissipation	500	mW
	Derate above 25°C	3.33	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	Para	meter	Test Conditions	Min	Max	Units
B <sub>V</sub>	Breakdown Voltage	Э	$I_R = 100 \mu A$	150		V
I <sub>R</sub>	Reverse Current	FDH/FDLL 300/A	V <sub>R</sub> = 125 V		1.0	nA
			$V_R = 125 \text{ V}, T_A = 150^{\circ}\text{C}$		3.0	μΑ
		FDH/FDLL 333	$V_R = 125 \text{ V}$		3.0	nA
			$V_R = 125 \text{ V}, T_A = 100^{\circ}\text{C}$		500	nA
$V_{F}$	Forward Voltage	FDH/FDLL 300/A	$I_F = 1.0 \text{ mA}$		680	mV
		FDH/FDLL 300	$I_F = 5.0 \text{ mA}$		750	mV
		FDH/FDLL 300A	$I_F = 5.0 \text{ mA}$		760	mV
		FDH/FDLL 300/A	$I_F = 10 \text{ mA}$		800	mV
		FDH/FDLL 300	$I_F = 50 \text{ mA}$		880	mV
		FDH/FDLL 300A	$I_F = 50 \text{ mA}$		890	mV
		FDH/FDLL 300/A	$I_F = 100 \text{ mA}$		920	mV
		FDH/FDLL 300/A	$I_F = 200 \text{ mA}$		1.0	V
		FDH/FDLL 333	I <sub>F</sub> = 50 mA	800	890	mV
			I <sub>F</sub> = 100 mA	830	940	mV
			I <sub>F</sub> = 150 mA	860	970	mV
			I <sub>F</sub> = 200 mA	0.87	1.05	V
			I <sub>F</sub> = 250 mA	0.88	1.08	V
			I <sub>F</sub> = 300 mA	0.9	1.15	V
Co	Diode Capacitance	)	$V_R = 0$ , $f = 1.0 \text{ MHz}$	_	6.0	pF

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