National Semiconductor™

Discrete POWER & Signal Technologies

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.

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_f	Recurrent Peak Forward Current	600	mA
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	 1.0 4.0	 A 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 Derate above 25°C	500 3.33	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

High Conductance Ultra Fast Diode

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	I_R = 5.0 µA	75		V
I_R	Reverse Current	V_R = 50 V V_R = 50 V, T_A = 150°C		100 100	nA µA
V_F	Forward Voltage	I_F = 1.0 mA I_F = 10 mA I_F = 50 mA I_F = 100 mA I_F = 200 mA	540 660 760 820 0.87	620 740 860 920 1.0	mV mV mV mV V
C_O	Diode Capacitance	V_R = 0, f = 1.0 MHz		2.5	pF
T_{RR}	Reverse Recovery Time	I_F = I_R = 10 mA-200 mA, R_L = 100Ω I_F = I_R =200 mA-400 mA, R_L = 100Ω		4.0 6.0	nS nS
T_{FR}	Forward Recovery Time	I_F = 200 mA, V_{FR} = 1.0 V		10	nS