

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. See MMBD1201-1205 for characteristics.

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_R	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)

1N4150 / FDL4150

Electrical Characteristics

T_A = 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

TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACE [™]	ISOPLANAR [™]
CoolFET [™]	MICROWIRE [™]
CROSSVOLT [™]	POP [™]
E ² CMOS [™]	PowerTrench [™]
FACT [™]	QS [™]
FACT Quiet Series [™]	Quiet Series [™]
FAST [®]	SuperSOT [™] -3
FAST [™]	SuperSOT [™] -6
GTO [™]	SuperSOT [™] -8
HiSeC [™]	TinyLogic [™]

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.