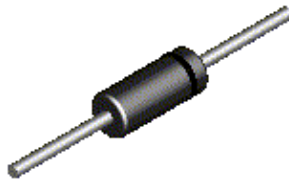




**Discrete POWER & Signal  
Technologies**

## 1N/FDLL 914/A/B / 916/A/B / 4148 / 4448



**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
FDLL914	BLACK	BROWN
FDLL914A	BLACK	GRAY
FDLL914B	BROWN	BLACK
FDLL916	BLACK	RED
FDLL916A	BLACK	WHITE
FDLL916B	BROWN	BROWN
FDLL4148	BLACK	BROWN
FDLL4448	BROWN	BLACK

## High Conductance Fast Diode

Sourced from Process D3.

### Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
$W_{IV}$	Working Inverse Voltage	75	V
$I_O$	Average Rectified Current	200	mA
$I_F$	DC Forward Current	300	mA
$i_f$	Recurrent Peak Forward Current	400	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 914/A/B / 4148 / 4448	
$P_D$	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 Fast Diode

(continued)

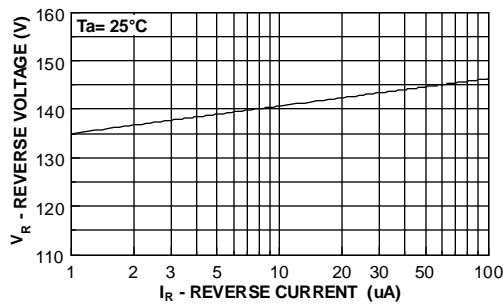
## Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

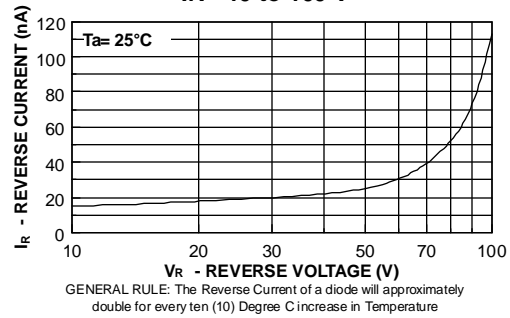
Symbol	Parameter	Test Conditions	Min	Max	Units
B <sub>V</sub>	Breakdown Voltage	I <sub>R</sub> = 100 μA I <sub>R</sub> = 5.0 μA	100 75		V V
I <sub>R</sub>	Reverse Current	V <sub>R</sub> = 20 V V <sub>R</sub> = 20 V, T <sub>A</sub> = 150°C V <sub>R</sub> = 75 V		25 50 5.0	nA μA μA
V <sub>F</sub>	Forward Voltage	1N914B / 4448 1N916B 1N914 / 916 / 4148 1N914A / 916A 1N916B 1N914B / 4448	I <sub>F</sub> = 5.0 mA I <sub>F</sub> = 5.0 mA I <sub>F</sub> = 10 mA I <sub>F</sub> = 20 mA I <sub>F</sub> = 30 mA I <sub>F</sub> = 100 mA	620 630 720 730 1.0 1.0 1.0	mV mV V V V V
C <sub>O</sub>	Diode Capacitance	1N916A/B / 4448 1N914A/B / 4148	V <sub>R</sub> = 0, f = 1.0 MHz V <sub>R</sub> = 0, f = 1.0 MHz	2.0 4.0	pF pF
T <sub>RR</sub>	Reverse Recovery Time	I <sub>F</sub> = 10 mA, V <sub>R</sub> = 6.0 V (60 mA), I <sub>tr</sub> = 1.0 mA, R <sub>L</sub> = 100 Ω		4.0	nS

## Typical Characteristics

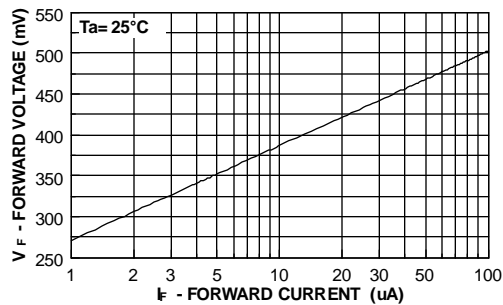
REVERSE VOLTAGE vs REVERSE CURRENT  
BV - 1.0 to 100 μA



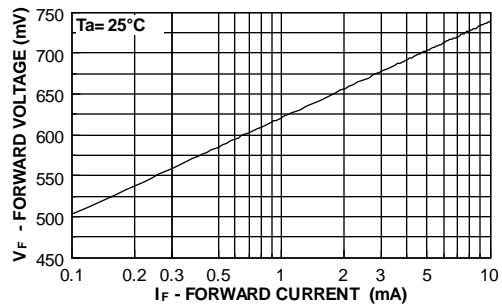
REVERSE CURRENT vs REVERSE VOLTAGE  
IR - 10 to 100 V



FORWARD VOLTAGE vs FORWARD CURRENT  
VF - 1 to 100 μA



FORWARD VOLTAGE vs FORWARD CURRENT  
VF - 0.1 to 100 mA



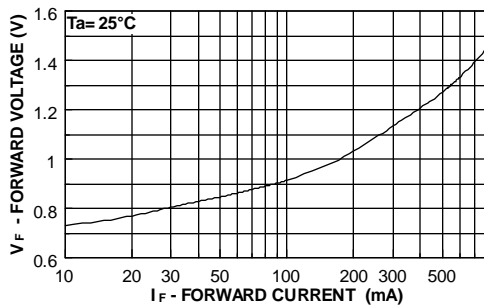
1N/FD/L 914/A/B / 916/A/B / 4148 / 4448

# High Conductance Fast Diode

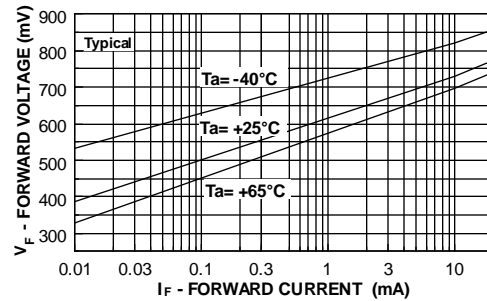
(continued)

## Typical Characteristics (continued)

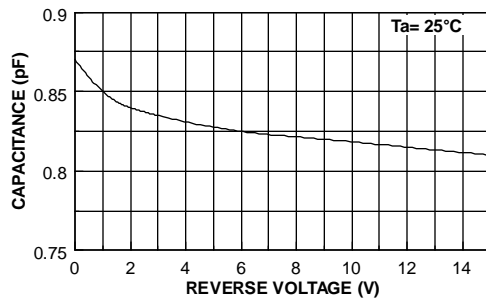
**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 10 to 800 mA



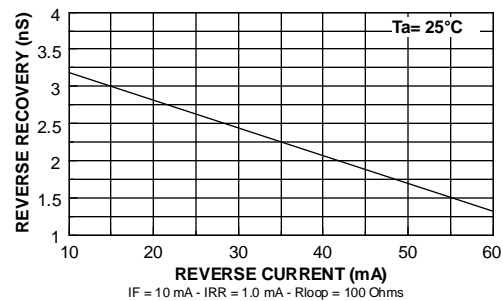
**VF - 0.01 - 20 mA (-40 to +65 Deg C)**  
**FORWARD VOLTAGE vs**  
**AMBIENT TEMPERATURE**



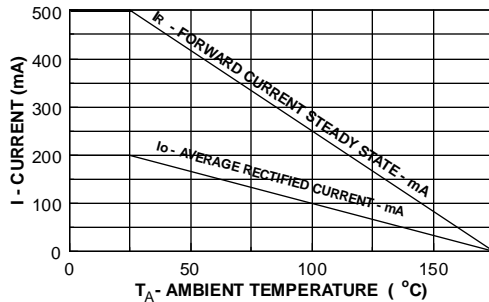
**CAPACITANCE vs REVERSE VOLTAGE**  
VR = 0.0 to 15 V



**REVERSE RECOVERY TIME vs**  
**REVERSE CURRENT**



**Average Rectified Current ( $I_o$ ) &**  
**Forward Current ( $I_F$ ) versus**  
**Ambient Temperature ( $T_A$ )**



**POWER DERATING CURVE**

