

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

## Small Signal Diode



DO-35

Cathode is denoted with a black band



LL-34

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

## LL-34 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

-1st band denotes cathode terminal and has wider width

### Absolute Maximum Ratings\*

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

Symbol	Parameter	Value	Units
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage	100	V
I <sub>O</sub>	Average Rectified Forward Current	200	mA
I <sub>F</sub>	DC Forward Current	300	mA
i <sub>f</sub>	Recurrent Peak Forward Current	400	mA
I <sub>FSM</sub>	Non-repetitive 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 + 175	°C
T <sub>J</sub>	Operating Junction Tempera	-65 to + 175	°C

\* These ratings are limiting values above which the serviceability of the diode 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

Symbol	Parameter	Max.	Units
		1N/FDLL 914/A/B / 4148 / 4448	
P <sub>D</sub>	Power Dissipation	500	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	300	°C/W

## Electrical Characteristics\*

$T_A=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
$V_R$	Breakdown Voltage	$I_R = 100\mu\text{A}$ $I_R = 5.0\mu\text{A}$	100 75		V V
$V_F$	Forward Voltage 1N914B/4448 1N916B 1N914/916/4148 1N914A/916A 1N916B 1N914B/4448	$I_F = 5.0\text{mA}$ $I_F = 5.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 20\text{mA}$ $I_F = 20\text{mA}$ $I_F = 100\text{mA}$	620 630	720 730 1.0 1.0 1.0 1.0	mV mV V V V V
$I_R$	Reverse Leakage	$V_R = 20\text{V}$ $V_R = 20\text{V}, T_A = 150^\circ\text{C}$ $V_R = 75\text{V}$		25 50 5.0	nA $\mu\text{A}$ $\mu\text{A}$
$C_T$	Total Capacitance 1N916A/B/4448 1N914A/B/4148	$V_R = 0, f = 1.0\text{MHz}$ $V_R = 0, f = 1.0\text{MHz}$		2.0 4.0	pF pF
$t_{rr}$	Reverse Recovery Time	$I_F = 10\text{mA}, V_R = 6.0\text{V} (600\text{mA})$ $I_{rr} = 1.0\text{mA}, R_L = 100\Omega$		4.0	ns

\* Non-recurrent square wave PW = 8.3ms

## Typical Characteristics

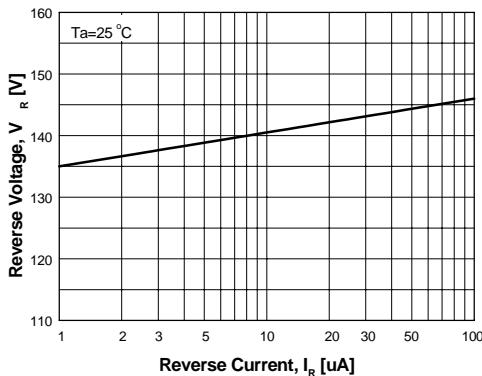
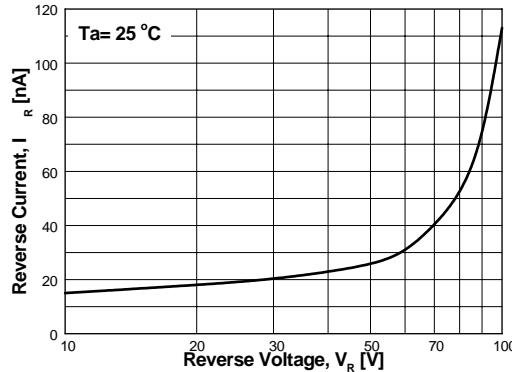


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100 $\mu\text{A}$



GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature  
Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100V

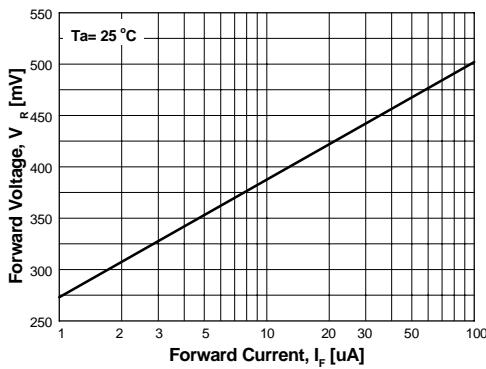


Figure 3. Forward Voltage vs Forward Current  
VF - 1 to 100 $\mu\text{A}$

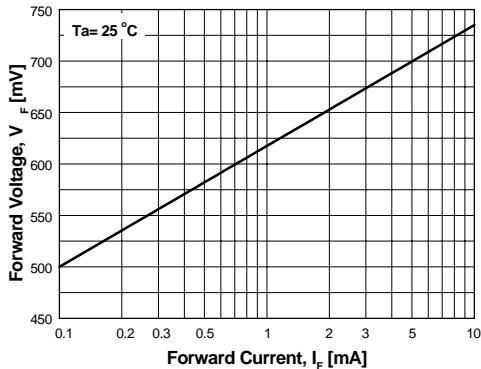
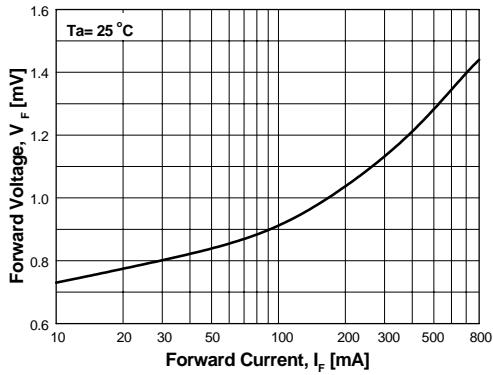
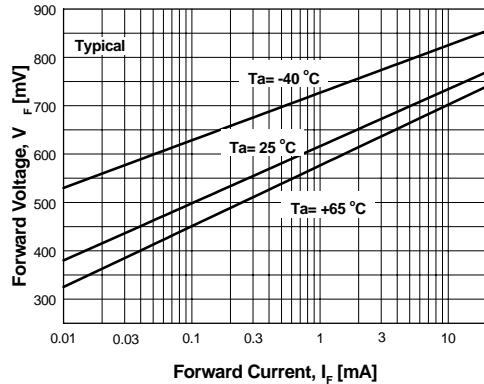


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10mA

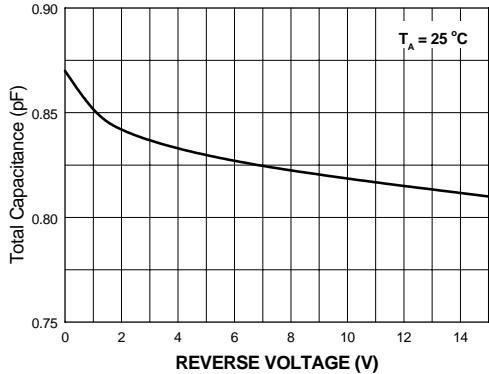
## Typical Characteristics (Continued)



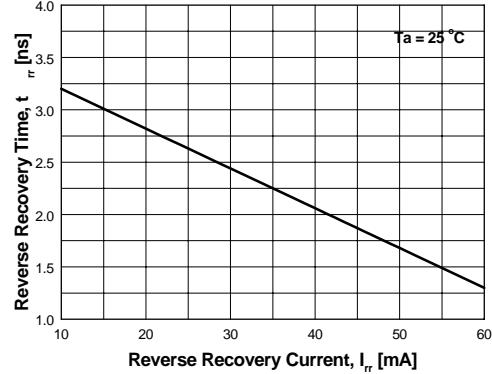
**Figure 5. Forward Voltage vs Forward Current  
VF - 10 to 800mA**



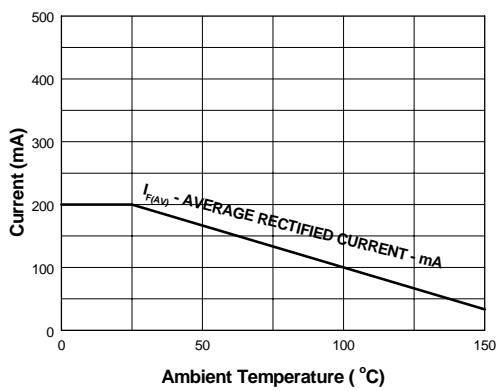
**Figure 6. Forward Voltage vs Ambient Temperature  
VF - 0.01 - 20 mA (- 40 to +65°C)**



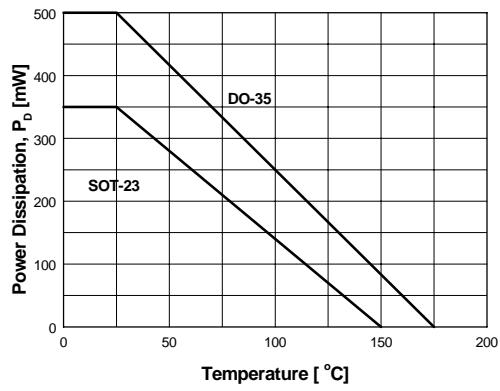
**Figure 7. Total Capacitance**



**Figure 8. Reverse Recovery Time vs  
Reverse Recovery Current**



**Figure 9. Average Rectified Current ( $I_{F(AV)}$ )  
vs Ambient Temperature ( $T_A$ )**



**Figure 10. Power Derating Curve**

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