

# 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	A
		4.0	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

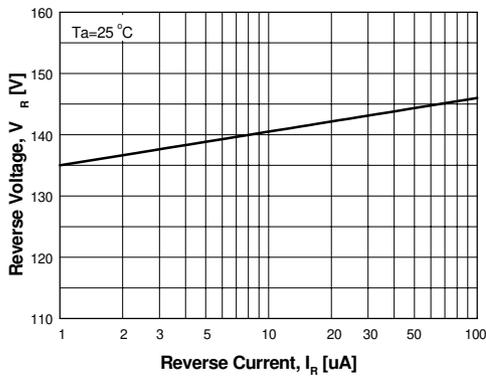
Symbol	Parameter	Max.	Units
		1N/FDLL 914/A/B / 4148 / 4448	
P <sub>D</sub>	Power Dissipation	500	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	300	°C/W

**Electrical Characteristics\*** T<sub>A</sub>=25°C unless otherwise noted

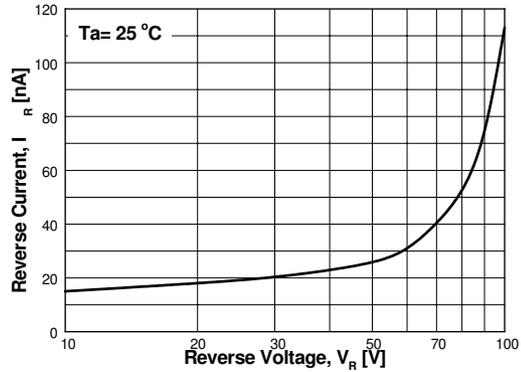
Symbol	Parameter	Test Conditions	Min.	Max.	Units
V <sub>R</sub>	Breakdown Voltage	I <sub>R</sub> = 100μA I <sub>R</sub> = 5.0μA	100 75		V V
V <sub>F</sub>	Forward Voltage	1N914B/4448 I <sub>F</sub> = 5.0mA 1N916B I <sub>F</sub> = 5.0mA 1N914/916/4148 I <sub>F</sub> = 10mA 1N914A/916A I <sub>F</sub> = 20mA 1N916B I <sub>F</sub> = 20mA 1N914B/4448 I <sub>F</sub> = 100mA	620 630	720 730 1.0 1.0 1.0 1.0	mV mV V V V V
I <sub>R</sub>	Reverse Leakage	V <sub>R</sub> = 20V V <sub>R</sub> = 20V, T <sub>A</sub> = 150°C V <sub>R</sub> = 75V		25 50 5.0	nA μA μA
C <sub>T</sub>	Total Capacitance	V <sub>R</sub> = 0, f = 1.0MHz V <sub>R</sub> = 0, f = 1.0MHz		2.0 4.0	pF pF
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> = 10mA, V <sub>R</sub> = 6.0V (600mA) I <sub>rr</sub> = 1.0mA, R <sub>L</sub> = 100Ω		4.0	ns

\* Non-recurrent square wave PW = 8.3ms

**Typical Characteristics**

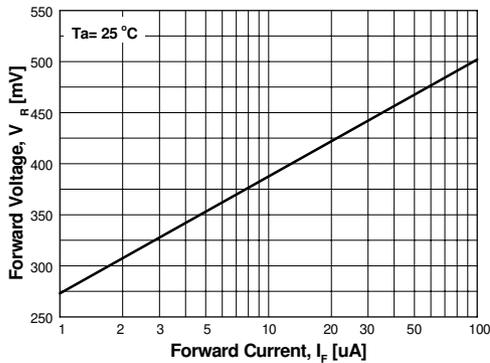


**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100μA

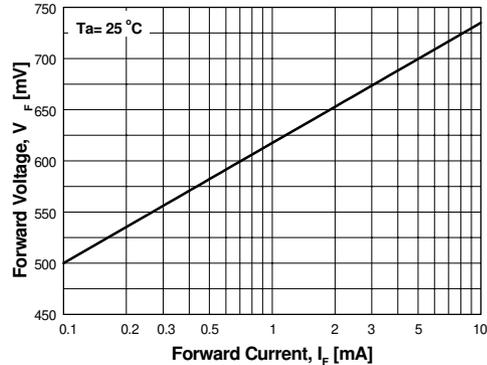


**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 10 to 100V

GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

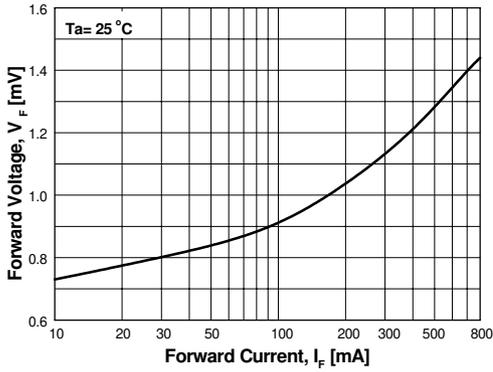


**Figure 3. Forward Voltage vs Forward Current**  
VF - 1 to 100μA

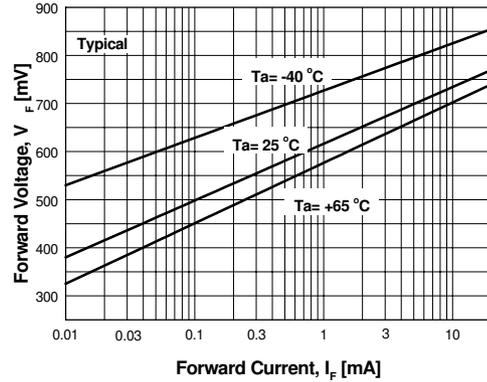


**Figure 4. Forward Voltage vs Forward Current**  
VF - 0.1 to 10mA

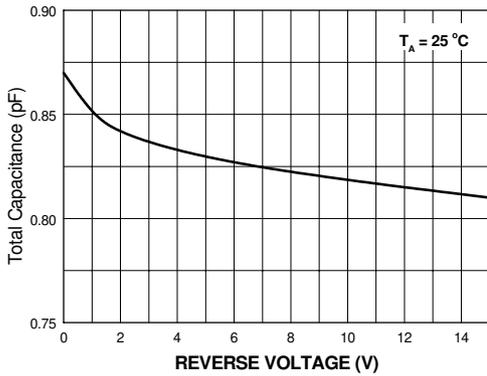
**Typical Characteristics** (Continued)



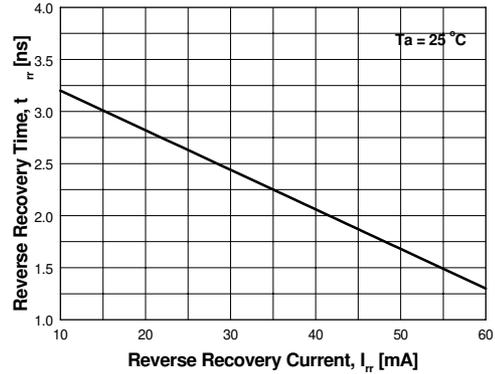
**Figure 5. Forward Voltage vs Forward Current**  
VF - 10 to 800mA



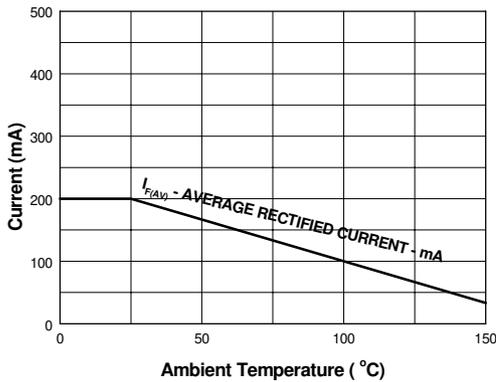
**Figure 6. Forward Voltage vs Ambient Temperature**  
VF - 0.01 - 20 mA (- 40 to +65°C)



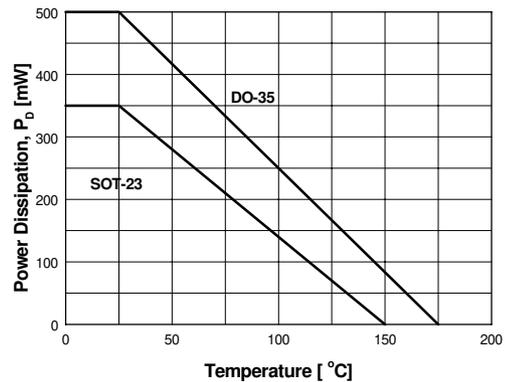
**Figure 7. Total Capacitance**



**Figure 8. Reverse Recovery Time vs Reverse Recovery Current**  
IF = 10mA, IRR = 1.0 mA, Rloop = 100 Ohms



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



**Figure 10. Power Derating Curve**

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FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
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