

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

Small Signal Diode

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{RRM}	Maximum Repetitive Reverse Voltage	100	V
I _{F(AV)}	Average Rectified Forward Current	200	mA
I _{FSM}	Non-repetitive Peak Forward Surge Current		
	Pulse Width = 1.0 second	1.0	A
	Pulse Width = 1.0 microsecond	4.0	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

Symbol	Characteristic	Max	Units
		1N/FDLL 914/A/B / 4148 / 4448	
P _D	Power Dissipation	500	mW
R _{θJA}	Thermal Resistance, Junction to Ambient	300	°C/W

Small Signal Diode
(continued)

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

Symbol	Parameter	Test Conditions	Min	Max	Units
V_R	Breakdown Voltage	$I_R = 100 \mu\text{A}$	100		V
		$I_R = 5.0 \mu\text{A}$	75		V
V_F	Forward Voltage	1N914B/4448 $I_F = 5.0 \text{ mA}$	620	720	mV
		1N916B $I_F = 5.0 \text{ mA}$	630	730	mV
		1N914/916/4148 $I_F = 10 \text{ mA}$		1.0	V
		1N914A/916A $I_F = 20 \text{ mA}$		1.0	V
		1N916B $I_F = 20 \text{ mA}$		1.0	V
		1N914B/4448 $I_F = 100 \text{ mA}$		1.0	V
I_R	Reverse Current	$V_R = 20 \text{ V}$ $V_R = 20 \text{ V}, T_A = 150^\circ\text{C}$ $V_R = 75 \text{ V}$		25 50 5.0	nA μA μA
C_T	Total Capacitance	1N916A/B/4448 $V_R = 0, f = 1.0 \text{ MHz}$		2.0	pF
		1N914A/B/4148 $V_R = 0, f = 1.0 \text{ MHz}$		4.0	pF
t_{rr}	Reverse Recovery Time	$I_F = 10 \text{ mA}, V_R = 6.0 \text{ V (60mA)}$, $I_{rr} = 1.0 \text{ mA}, R_L = 100\Omega$		4.0	ns

Typical Characteristics

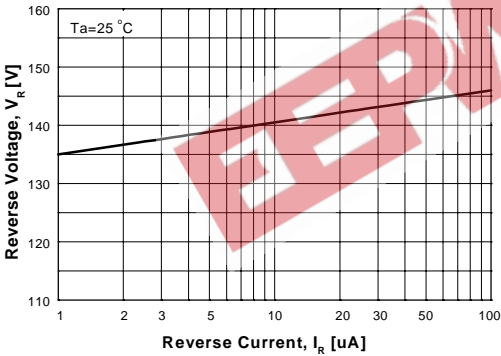


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

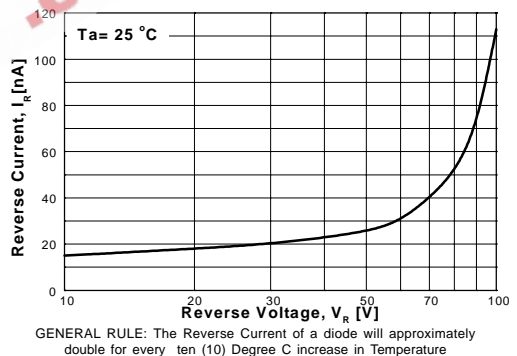


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

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

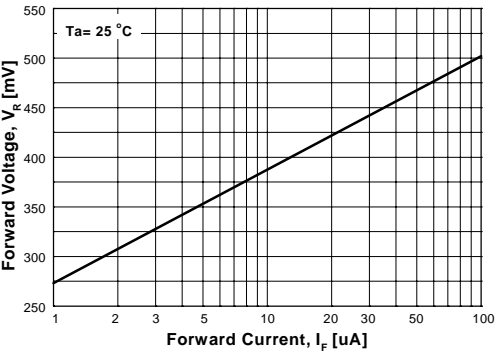


Figure 3. Forward Voltage vs Forward Current
VF - 1 to 100 uA

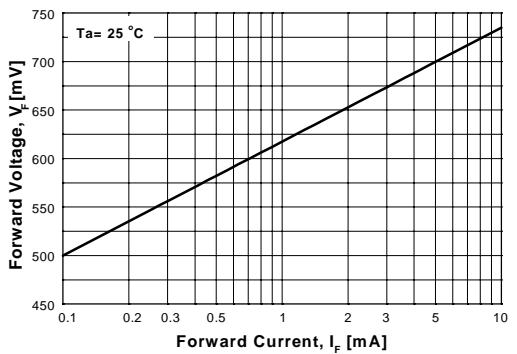


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

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

Typical Characteristics (continued)

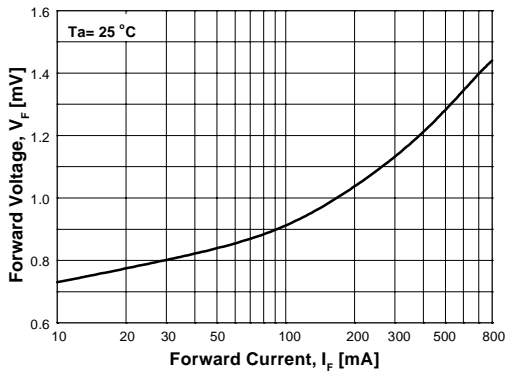


Figure 5. Forward Voltage vs Forward Current
VF - 10 to 800 mA

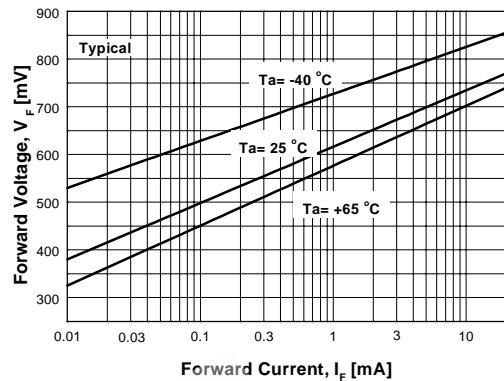


Figure 6. Forward Voltage
vs Ambient Temperature
VF - 0.01 - 20 mA (-40 to +65 Deg C)

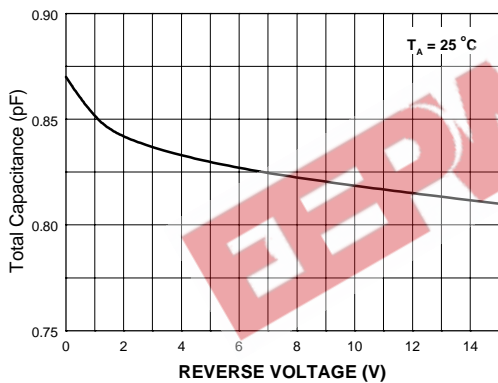


Figure 7. Total Capacitance

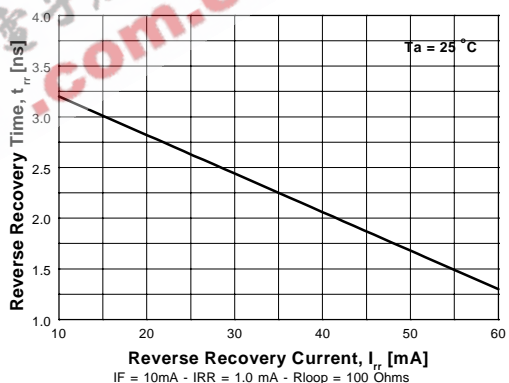


Figure 8. Reverse Recovery Time vs
Reverse Recovery Current
IF = 10mA - IRR = 1.0 mA - Rloop = 100 Ohms

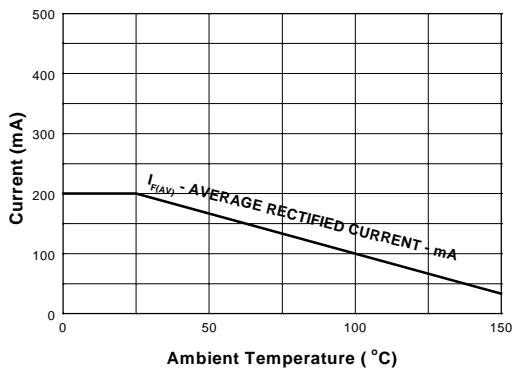


Figure 9. Average Rectified Current ($I_{F(AV)}$)
versus Ambient Temperature (T_A)

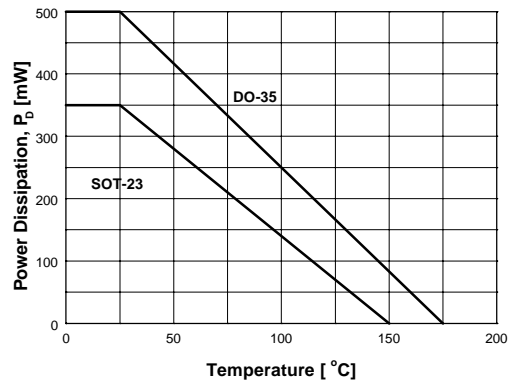


Figure 10. Power Derating Curve

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E ² CMOST™	ISOPLANAR™	QFET™	SuperSOT™-8	
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