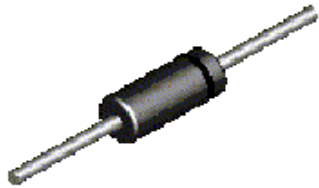


# 1N/FDLL 914/A/B / 916/A/B / 4148 / 4448



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

Symbol	Parameter	Value	Units
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage	100	V
I <sub>F(AV)</sub>	Average Rectified Forward Current	200	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 +200	°C
T <sub>J</sub>	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

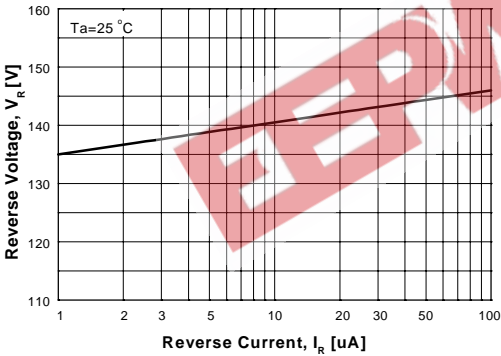
Symbol	Characteristic	Max	Units
		1N/FDLL 914/A/B / 4148 / 4448	
P <sub>D</sub>	Power Dissipation	500	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	300	°C/W

**Small Signal Diode**  
(continued)

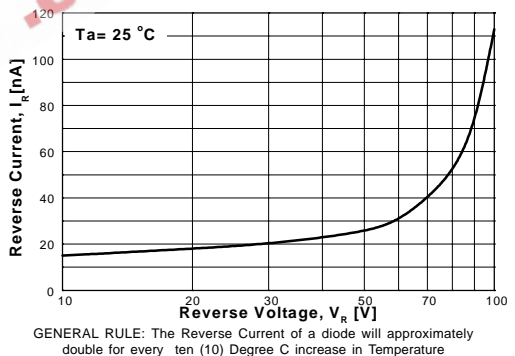
**Electrical Characteristics**  $T_A = 25^\circ\text{C}$  unless otherwise noted

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	<b>1N914B/4448</b> $I_F = 5.0 \text{ mA}$	620	720	mV
		<b>1N916B</b> $I_F = 5.0 \text{ mA}$	630	730	mV
		<b>1N914/916/4148</b> $I_F = 10 \text{ mA}$		1.0	V
		<b>1N914A/916A</b> $I_F = 20 \text{ mA}$		1.0	V
		<b>1N916B</b> $I_F = 20 \text{ mA}$		1.0	V
$I_R$	Reverse Current	$V_R = 20 \text{ V}$		25	nA
		$V_R = 20 \text{ V}, T_A = 150^\circ\text{C}$		50	$\mu\text{A}$
$C_T$	Total Capacitance	$V_R = 0, f = 1.0 \text{ MHz}$		2.0	pF
		$V_R = 0, f = 1.0 \text{ MHz}$		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**

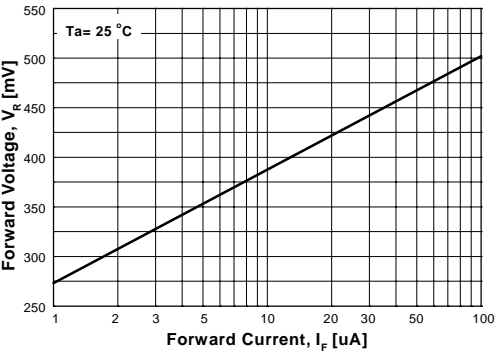


**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100 uA

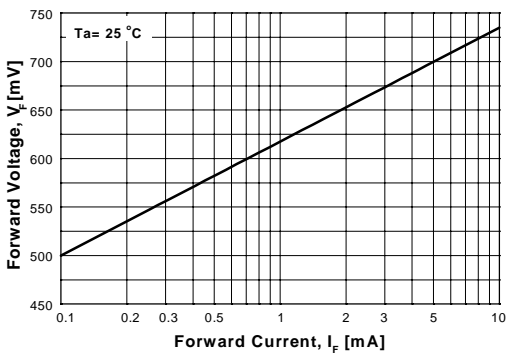


**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 10 to 100 V

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)

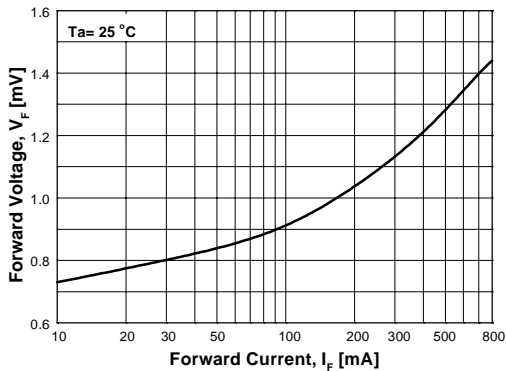


Figure 5. Forward Voltage vs Forward Current  
VF - 10 to 800 mA

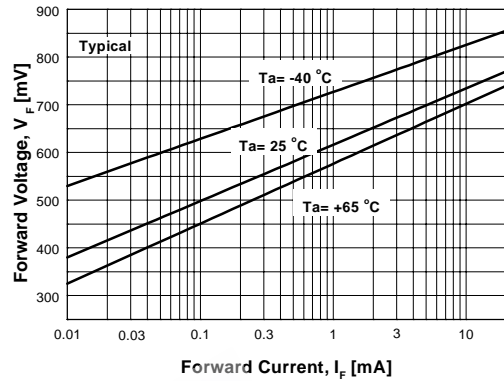


Figure 6. Forward Voltage  
vs Ambient Temperature  
VF - 0.01 - 20 mA (-40 to +65 Deg C)

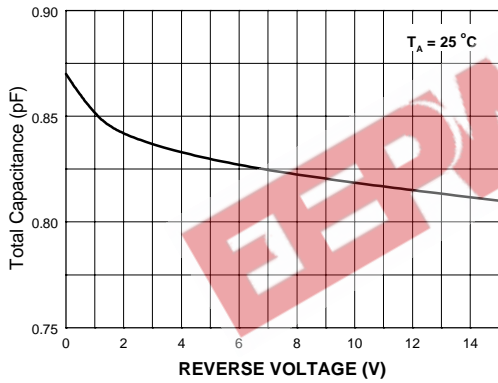


Figure 7. Total Capacitance

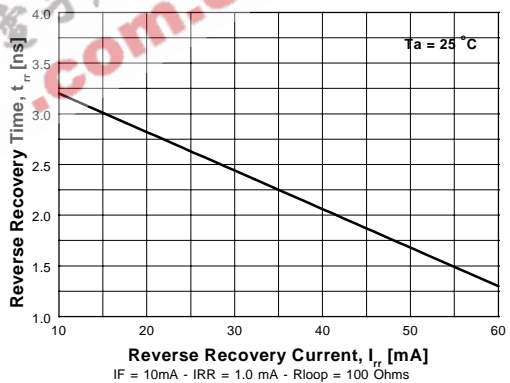


Figure 8. Reverse Recovery Time vs  
Reverse Recovery Current  
IF = 10mA - IRR = 1.0 mA - Rloop = 100 Ohms

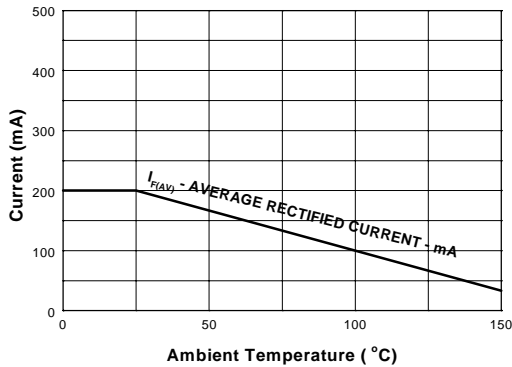


Figure 9. Average Rectified Current ( $I_{F(AV)}$ )  
versus Ambient Temperature ( $T_A$ )

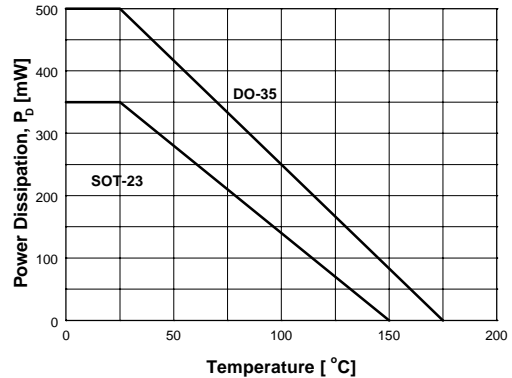


Figure 10. Power Derating Curve

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CoolFET™	FRFET™	OPTOPLANAR™	SPM™	VCX™
CROSSVOLT™	GlobalOptoisolator™	PACMAN™	STAR*POWER™	
DenseTrench™	GTO™	POP™	Stealth™	
DOME™	HiSeC™	Power247™	SuperSOT™-3	
EcoSPARK™	I <sup>2</sup> C™	PowerTrench®	SuperSOT™-6	
E <sup>2</sup> CMOST™	ISOPLANAR™	QFET™	SuperSOT™-8	
EnSigna™	LittleFET™	QS™	SyncFET™	
FACT™	MicroFET™	QT Optoelectronics™	TinyLogic™	
FACT Quiet Series™	MicroPak™	Quiet Series™	TruTranslation™	

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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.