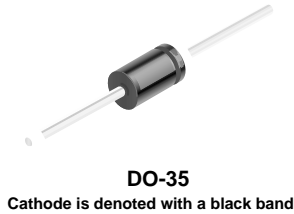


1N/FDLL 914/A/B / 916/A/B / 4148 / 4448

Small Signal Diode



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_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{RRM}	Maximum Repetitive Reverse Voltage	100	V
I _O	Average Rectified Forward Current	200	mA
I _F	DC Forward Current	300	mA
i _f	Recurrent Peak Forward Current	400	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 + 175	°C
T _J	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 _D	Power Dissipation	500	mW
R _{θJA}	Thermal Resistance, Junction to Ambient	300	°C/W

Electrical Characteristics* T_A=25°C unless otherwise noted

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

* Non-recurrent square wave PW = 8.3ms

Typical Characteristics

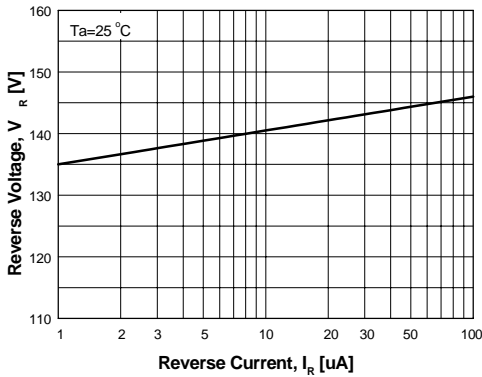


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100μA

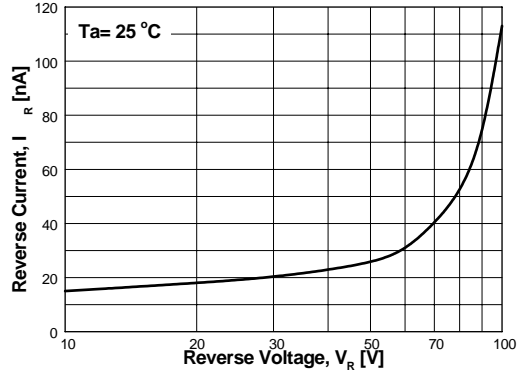


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100V

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

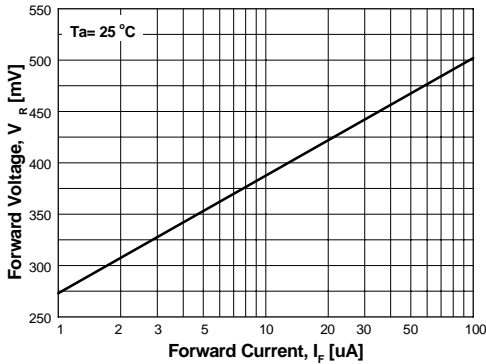


Figure 3. Forward Voltage vs Forward Current
VF - 1 to 100μA

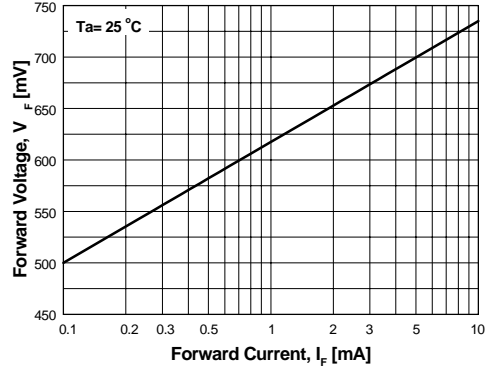


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

Typical Characteristics (Continued)

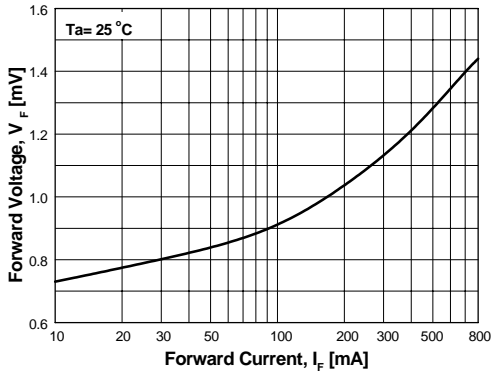


Figure 5. Forward Voltage vs Forward Current
VF - 10 to 800mA

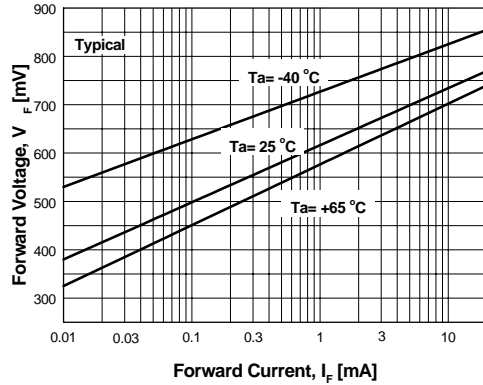


Figure 6. Forward Voltage vs Ambient Temperature
VF - 0.01 - 20 mA (- 40 to +65°C)

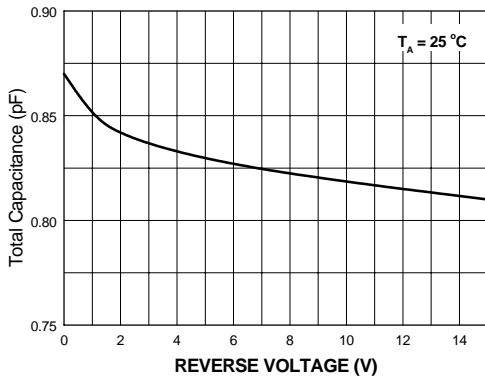


Figure 7. Total Capacitance

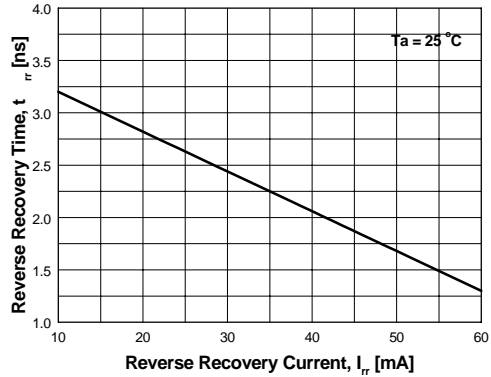


Figure 8. Reverse Recovery Time vs Reverse Recovery Current
IF = 10mA , IRR = 1.0 mA , Rloop = 100 Ohms

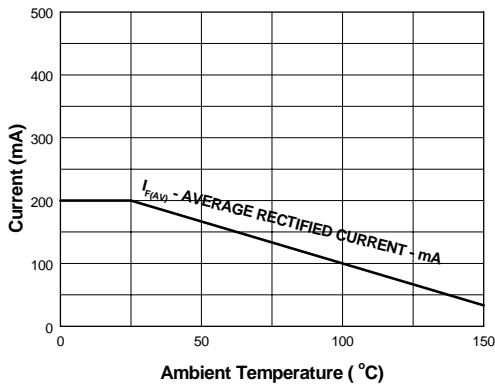


Figure 9. Average Rectified Current ($I_{F(AV)}$) vs Ambient Temperature (T_A)

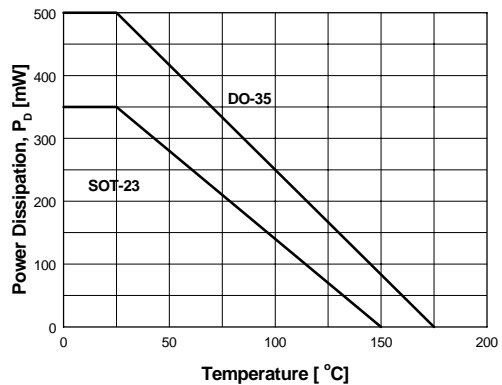


Figure 10. Power Derating Curve

FAIRCHILD SEMICONDUCTOR TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx™	FACT Quiet Series™	OCX™	SILENT SWITCHER®	UniFET™
ActiveArray™	GlobalOptoisolator™	OCXPro™	SMART START™	VCX™
Bottomless™	GTO™	OPTOLOGIC®	SPM™	Wire™
Build it Now™	HiSeC™	OPTOPLANAR™	Stealth™	
CoolFET™	l ² C™	PACMAN™	SuperFET™	
CROSSVOLT™	i-Lo™	POPT™	SuperSOT™-3	
DOMETM	ImpliedDisconnect™	Power247™	SuperSOT™-6	
EcoSPARK™	IntelliMAX™	PowerEdge™	SuperSOT™-8	
E ² CMOS™	ISOPLANAR™	PowerSaver™	SyncFET™	
EnSigna™	LittleFET™	PowerTrench®	TCM™	
FACT®	MICROCOUPLER™	QFET®	TinyBoost™	
FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
FPS™	MICROWIRE™	Quiet Series™	TinyPower™	
FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
Across the board. Around the world.™		μSerDes™	TruTranslation™	
The Power Franchise®		ScalarPump™	UHC®	
Programmable Active Droop™				

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

- Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
- A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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.

Rev. I22