



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	1.0	A
	Pulse Width = 1.0 second	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

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

Small Signal Diode

(continued)

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units	
V _R	Breakdown Voltage	I _R = 100 μA I _R = 5.0 μA	100 75		V V	
V _F	Forward Voltage	1N914B/4448 1N916B 1N914/916/4148 1N914A/916A 1N916B 1N914B/4448	I _F = 5.0 mA I _F = 5.0 mA I _F = 10 mA I _F = 20 mA I _F = 20 mA I _F = 100 mA	620 720 730 1.0 1.0 1.0 1.0	mV mV V V V V	
I _R	Reverse Current	V _R = 20 V V _R = 20 V, T _A = 150°C V _R = 75 V		25 50 5.0	nA μA μA	
C _T	Total Capacitance	1N916A/B/4448 1N914A/B/4148	V _R = 0, f = 1.0 MHz V _R = 0, f = 1.0 MHz		2.0 4.0	pF pF
t _{rr}	Reverse Recovery Time	I _F = 10 mA, V _R = 6.0 V (60mA), I _{rr} = 1.0 mA, R _L = 100Ω		4.0	ns	

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

Typical Characteristics

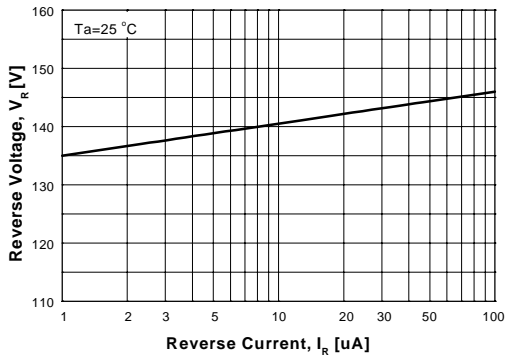


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

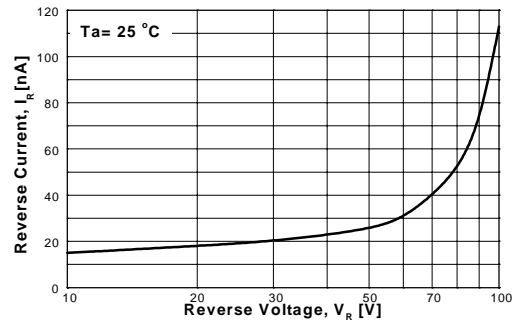


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

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

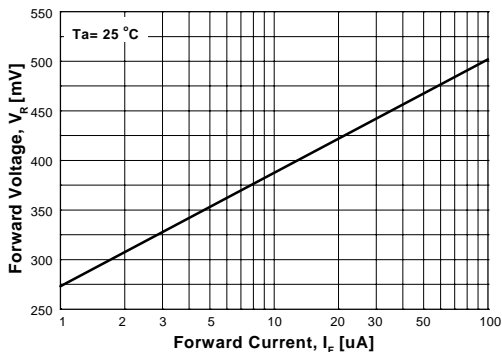


Figure 3. Forward Voltage vs Forward Current
VF - 1 to 100 uA

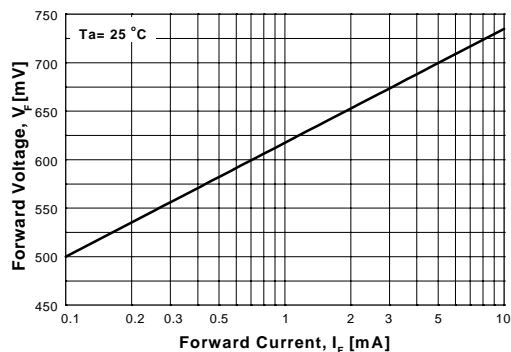


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

Typical Characteristics (continued)

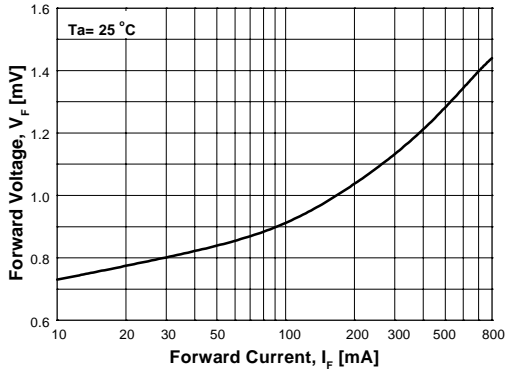


Figure 5. Forward Voltage vs Forward Current
VF - 10 to 800 mA

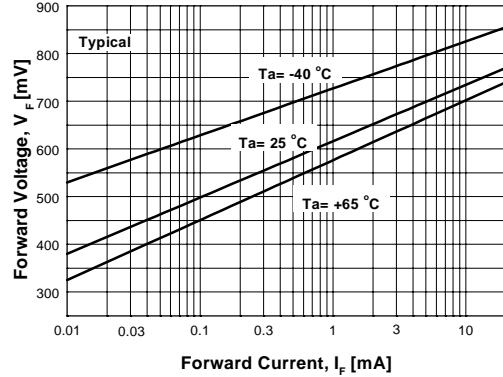


Figure 6. Forward Voltage
vs Ambient Temperature
VF - 0.01 - 20 mA (-40 to +65 Deg C)



Figure 7. Total Capacitance

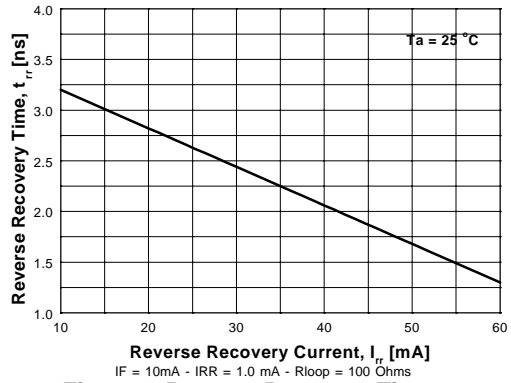


Figure 8. Reverse Recovery Time vs
Reverse Recovery Current

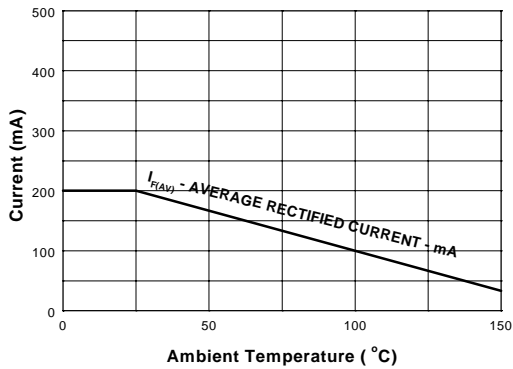


Figure 9. Average Rectified Current ($I_{F(AV)}$)
versus Ambient Temperature (T_A)

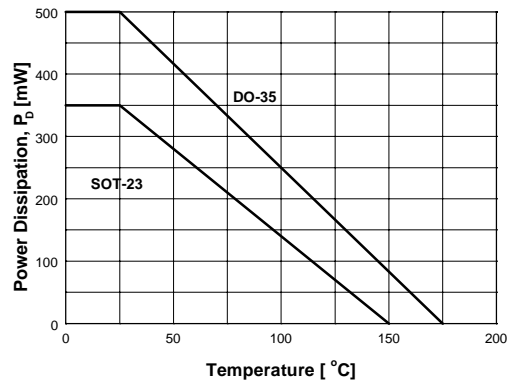


Figure 10. Power Derating Curve

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.

ACE _x [™]	FAST [®]	MICROWIRE [™]	SILENT SWITCHER [®]	UHC [™]
Bottomless [™]	FAST _r [™]	OPTOLOGIC [®]	SMART START [™]	UltraFET [®]
CoolFET [™]	FRFET [™]	OPTOPLANAR [™]	SPM [™]	VCX [™]
CROSSVOLT [™]	GlobalOptoisolator [™]	PACMAN [™]	STAR*POWER [™]	
DenseTrench [™]	GTO [™]	POP [™]	Stealth [™]	
DOME [™]	HiSeC [™]	Power247 [™]	SuperSOT [™] -3	
EcoSPARK [™]	I ² C [™]	PowerTrench [®]	SuperSOT [™] -6	
E ² CMOS [™]	ISOPLANAR [™]	QFET [™]	SuperSOT [™] -8	
EnSigna [™]	LittleFET [™]	QS [™]	SyncFET [™]	
FACT [™]	MicroFET [™]	QT Optoelectronics [™]	TinyLogic [™]	
FACT Quiet Series [™]	MicroPak [™]	Quiet Series [™]	TruTranslation [™]	

STAR*POWER is used under license

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.

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:

1. 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.
2. 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.

Fairchild Semiconductor

SEARCH | [Parametric](#) | [Cross Reference](#) | [Inventory](#)
[space](#) [Product Folders and](#) [Applies](#)

[find products](#) [Home >> Find products >>](#)

- [Products groups](#)
- [Analog and Mixed](#)
- [Signal](#)
- [Discrete](#)
- [Interface](#)
- [Logic](#)
- [Microcontrollers](#)
- [Non-Volatile](#)
- [Memory](#)
- [Optoelectronics](#)
- [Markets and applications](#)
- [New products](#)
- [Product selection and parametric search](#)
- [Cross-reference search](#)

1N4148
 High Conductance Fast Diode

Contents
[General description](#) | [Product status/pricing/packaging](#) | [Models](#) | [Application notes](#)

Datasheet
[Download this datasheet](#)
PDF

- Related Links**
- [Request samples](#)
 - [How to order products](#)
 - [Product Change Notices \(PCNs\)](#)
 - [Support](#)
 - [Distributor and field sales representatives](#)
 - [Quality and reliability](#)
 - [Design tools](#)

General description

Sourced from Process D3.

[e-mail this datasheet](#)
[E-]

This page [Print version](#)

[back to top](#)

Product status/pricing/packaging

- [technical information](#)
- [buy products](#)
- [technical support](#)
- [my Fairchild](#)
- [company](#)

Product	Product status	Pricing*	Inventory check & ordering	Package type	Leads	Package marking	Packing method
1N4148	Full Production	\$0.0263	Purchase	DO-35	2	\$Y 41 48	BULK
1N4148TR	Full Production	\$0.0263	Purchase	DO-35	2	\$Y 41 48	TAPE REEL
1N4148PA	Full Production	\$0.0263	Purchase	DO-35	2	\$Y 41 48	AMMO
1N4148TA	Full Production	\$0.0263	Purchase	DO-35	2	\$Y 41 48	AMMO

* Fairchild 1,000 piece Budgetary Pricing

[back to top](#)

Models

Package & leads	Condition	Temperature range	Software version	Revision date
-----------------	-----------	-------------------	------------------	---------------

PSPICE				
DO-35-2	Electrical	25°C	6	Jan 1, 1994

[back to top](#)

Application notes

[AN-4121: AN-4121 Design of Power Factor Correction Circuit Using FAN7527B](#) (124 K) Sep 27, 2002

[AN-4111: AN-4111 Fairchild Power Switch Single Chip FSDH Series for Charger and Adapter Use](#) (1497 K) Sep 27, 2002

[AN-2003: AN-2003 Flexible Thermostat with ACE1101](#) (116 K) Sep 27, 2002

[AN-42010: AN-42010 Theory and Application of the ML4874 and ML4876 LCD Backlight Controller ICs](#) (548 K) Sep 27, 2002

[AN-4107: AN-4107 Power Factor Correction Controller](#) (105 K) Sep 27, 2002

[ABR-42021: ABR-42021 Control Interface for Standard 0 - 10VDC Dimmers](#) (110 K) Sep 27, 2002

[ABR-42022: ABR-42022 ML4833 220V Non-Dimming Ballast Design](#) (68 K) Sep 27, 2002

[AN-4102: AN-4102 A Fairchild Power Switch Based SMPS for Color Television Receivers](#) (334 K) Sep 27, 2002

[AN-42043: AN-42043 ML4803 240W Off-Line Power Supply with PFC](#) (296 K) Sep 27, 2002

[AB-18: AB-18 Using the RC5051 for a Katmai Motherboard Design](#) (41 K) Sep 27, 2002

[AN-4104: AN-4104 Forward Converter Type PC SMPS with FPS](#) (283 K) Sep 27, 2002

[AN-42001: AN-42001 Low Cost Non-Dimming 220V Ballast Design](#) (403 K) Sep 27, 2002

[AN-42025: AN-42025 Generating Fixed Frequency Sine Waves with ML2035](#) (193 K) Sep 27, 2002

[AN-42026: AN-42026 Phase Modulated PWM Topology with the ML4818](#) (279 K) Sep 27, 2002

[AN-42034: AN-42034 Synchronizing the ML4824 to Wide Frequency Ranges](#) (119 K) Sep 27, 2002

[AN-42038: AN-42038 Benchmarking the Performance of the ML6440](#) (332 K) Sep 27, 2002

[AN-9013: AN-9013 Reducing Switching Losses with QFET in a Step-up Convert](#) (88 K) Sep 27, 2002

[AN-9015: AN-9015 A180W, 100KHz Forward Converter Using QFET](#) (65 K) Sep 27, 2002

[AN-9008: AN-9008 The Use of QFET in Flyback Converter](#) (124 K) Sep 27, 2002

[AN-5510: AN-5510 Evaluation Board Application Note](#) (1133 K) Sep 27, 2002

[AN-7710: AN-7710/AN-7725 Evaluation Board Application Note](#) (1090 K) Sep 27, 2002

[AN-7720: AN-7720 Evaluation Board Application Note](#) (246 K) Sep 27, 2002
[AN-7721: AN-7721/AN-7722 Evaluation Board Application Note](#) (401 K) Sep 27, 2002
[AN-7722: AN-7721/AN-7722 Evaluation Board Application Note](#) (401 K) Sep 27, 2002
[AN-7725: AN-7710/AN-7725 Evaluation Board Application Note](#) (1090 K) Sep 27, 2002
[AN-7734: AN-7734 Evaluation Board Application Note](#) (203 K) Sep 27, 2002
[AN-7750: AN-7750/AN-7755/AN-7760 Evaluation Board Application Note](#) (902 K) Sep 27, 2002
[AN-7755: AN-7750/AN-7755/AN-7760 Evaluation Board Application Note](#) (902 K) Sep 27, 2002
[AN-7760: AN-7750/AN-7755/AN-7760 Evaluation Board Application Note](#) (902 K) Sep 27, 2002
[AN-7853: AN-7853 Evaluation Board Application Note](#) (585 K) Sep 27, 2002
[AN-7862: AN-7862 Evaluation Board Application Note](#) (737 K) Sep 27, 2002
[AN-7835: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7840: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7850: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7855: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7860: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7861: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002
[AN-7863: AN-7835/40/50/55/60/61/63 Evaluation Board Application Note](#) (206 K) Sep 27, 2002

[back to top](#)

[Home](#) | [Find products](#) | [Technical information](#) | [Buy products](#) | [Support](#) | [Company](#) | [Contact us](#) | [Site index](#) | [Privacy policy](#)

© Copyright 2002 Fairchild Semiconductor