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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

1N4148WS, 1N4448WS, 1N914BWS

Small Signal Diodes

ON Semiconductor™

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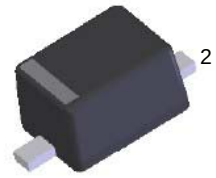
Features

- General Purpose Diodes
- Fast Switching Device (T_{RR} < 4.0 ns)
- Very Small and Thin SMD Package
- Moisture Level Sensitivity 1
- Matte Tin (Sn) Lead Finish
- Green Mold Compound
- Pb−free Version and RoHS Compliant



SOD−323
Flat Lead
CASE 477AB

Band Indicates Cathode

ELECTRICAL SYMBOL

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Non−Repetitive Peak Reverse Voltage	V_{RSM}	100	V
Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Repetitive Peak Forward Current	I_{FRM}	300	mA
Continuous Forward Current	I_O	150	mA
Non−repetitive Peak Forward Surge Current Pulse Width = 1.0 s Pulse Width = 1.0 μs	I_{FSM}	 1.0 4.0	A
Operating Junction Temperature	T_J	+150	°C
Storage Temperature Range	T_{STG}	−55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

Part Number	Top Mark	Package	Packing Method
1N4148WS	S1	SOD−323F 2L	Tape and Reel
1N4448WS	S2	SOD−323F 2L	Tape and Reel
1N914BWS	S3	SOD−323F 2L	Tape and Reel

THERMAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted.)

Symbol	Parameter	Value	Unit
P_D	Power Dissipation (T_C = 25°C)	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient (Note 1)	500	°C/W

1. Device mounted on FR−4 PCB minimum land pad.

ELECTRICAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted.)

Symbol	Parameter		Conditions	Min	Max	Unit
BV_R	Breakdown Voltage		I_R = 100 μA	100		V
			I_R = 5 μA	75		
I_R	Reverse Current		V_R = 20 V		25	nA
			V_R = 75 V		5	μA
V_F	Forward Voltage	1N4448WS / 1N914BWS	I_F = 5 mA	0.62	0.72	V
		1N4148WS	I_F = 10 mA		1	
		1N4448WS / 1N914BWS	I_F = 100 mA		1	
C_O	Diode Capacitance		V_R = 0, f = 1.0 MHz		4	pF
T_{RR}	Reverse Recovery Time		I_F = 10 mA, I_R = 60 mA, I_{RR} = 1 mA, R_L = 100 Ω		4	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

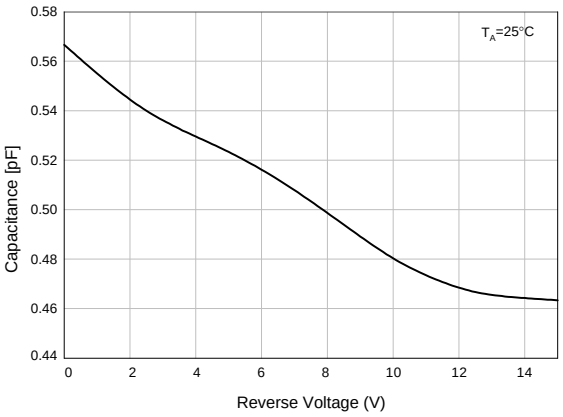


Figure 1. Total Capacitance

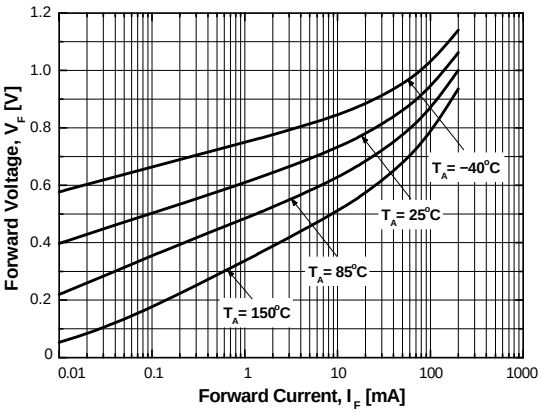


Figure 2. Forward Voltage vs. Ambient Temperature

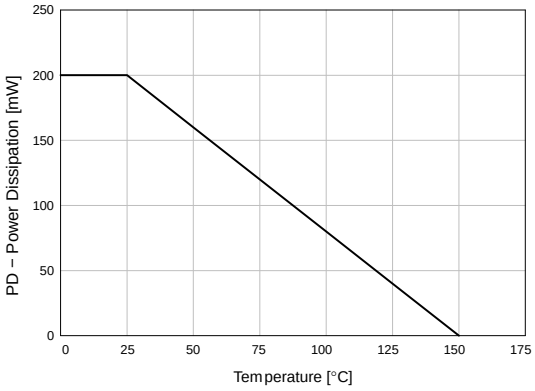


Figure 3. Power Derating Curve

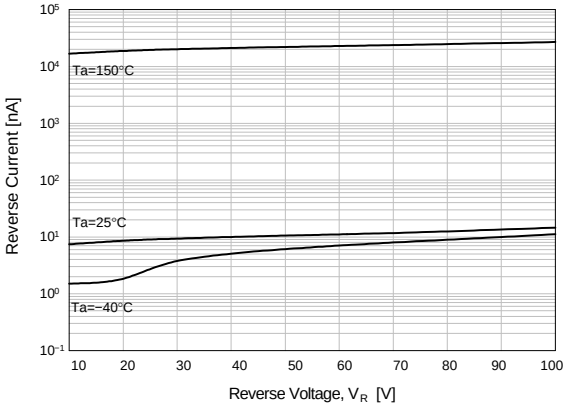


Figure 4. Reverse Current vs. Reverse Voltage

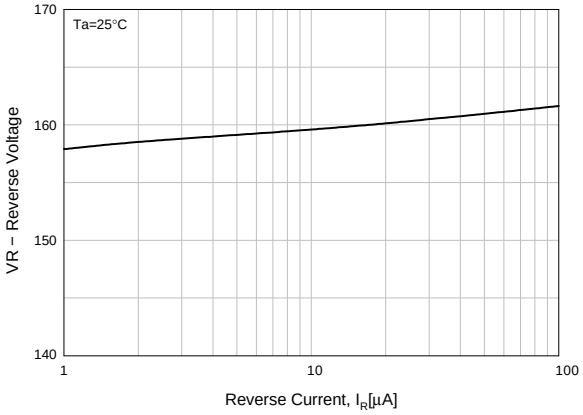
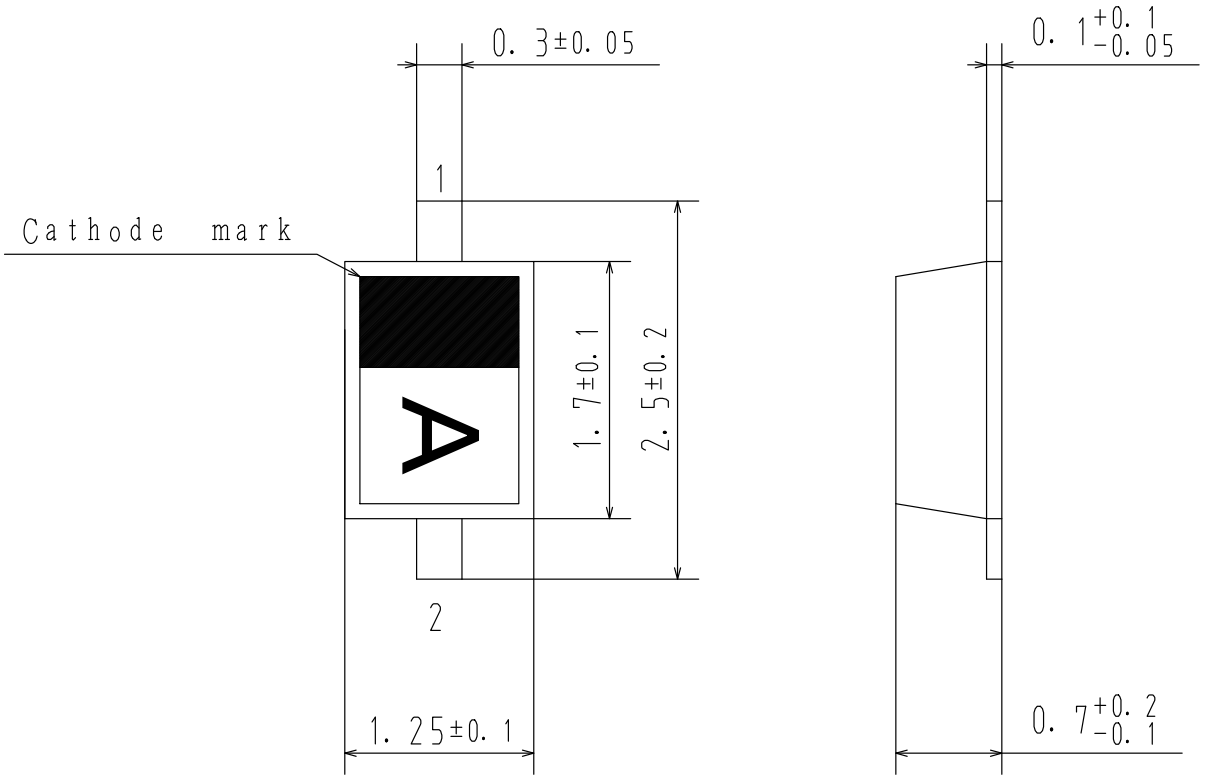


Figure 5. Reverse Voltage vs. Reverse Current

PACKAGE DIMENSIONS

SOD−323FL
CASE 477AB
ISSUE O



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