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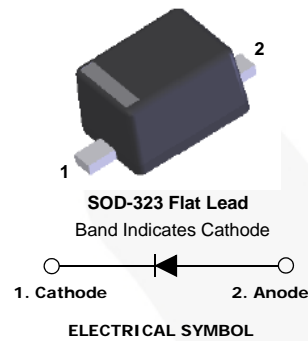
March 2015

1N4148WS / 1N4448WS / 1N914BWS

Small Signal Diodes

Features

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



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

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{RSM}	Non-Repetitive Peak Reverse Voltage	100	V
V_{RRM}	Repetitive Peak Reverse Voltage	75	V
I_{FRM}	Repetitive Peak Forward Current	300	mA
I_O	Continuous Forward Current	150	mA
T_J	Operating Junction Temperature	+150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

Thermal Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

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

Note:

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

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

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

Typical Performance Characteristics

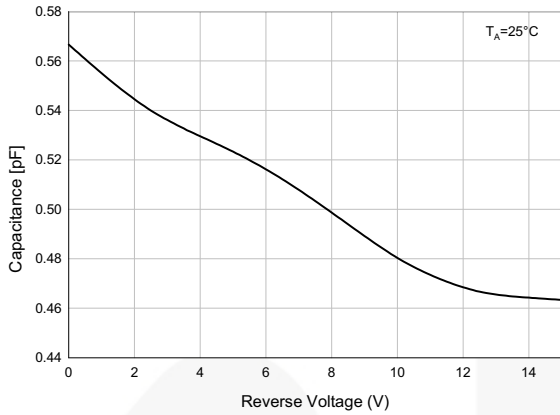


Figure 1. Total Capacitance

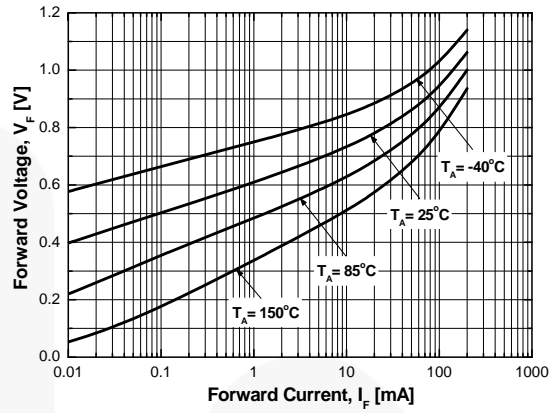


Figure 2. Forward Voltage vs. Ambient Temperature

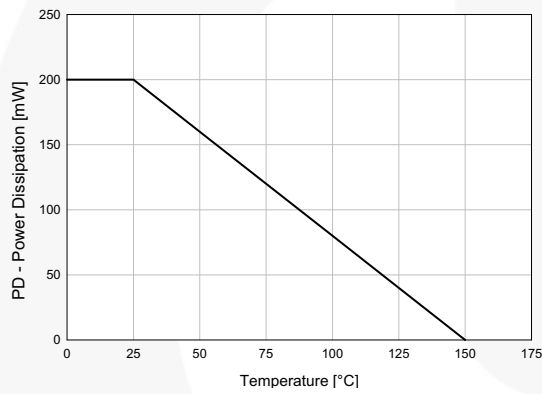


Figure 3. Power Derating Curve

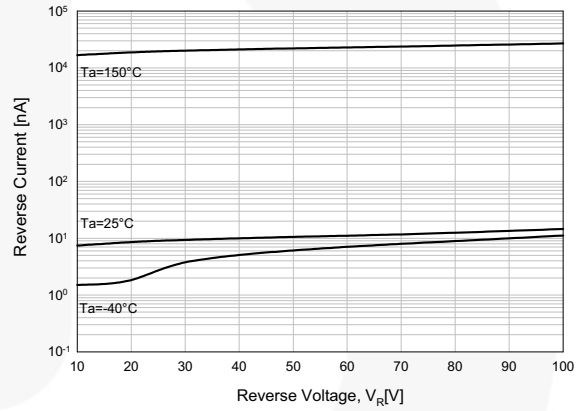


Figure 4. Reverse Current vs. Reverse Voltage

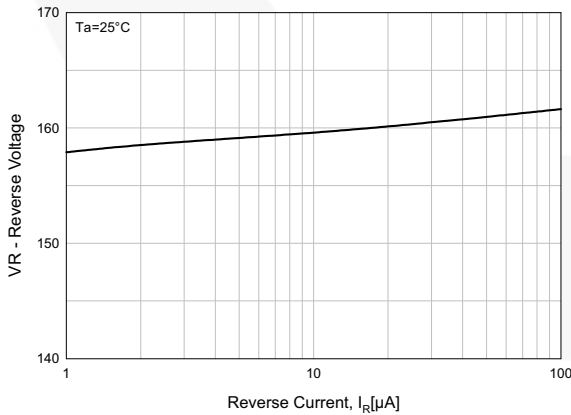
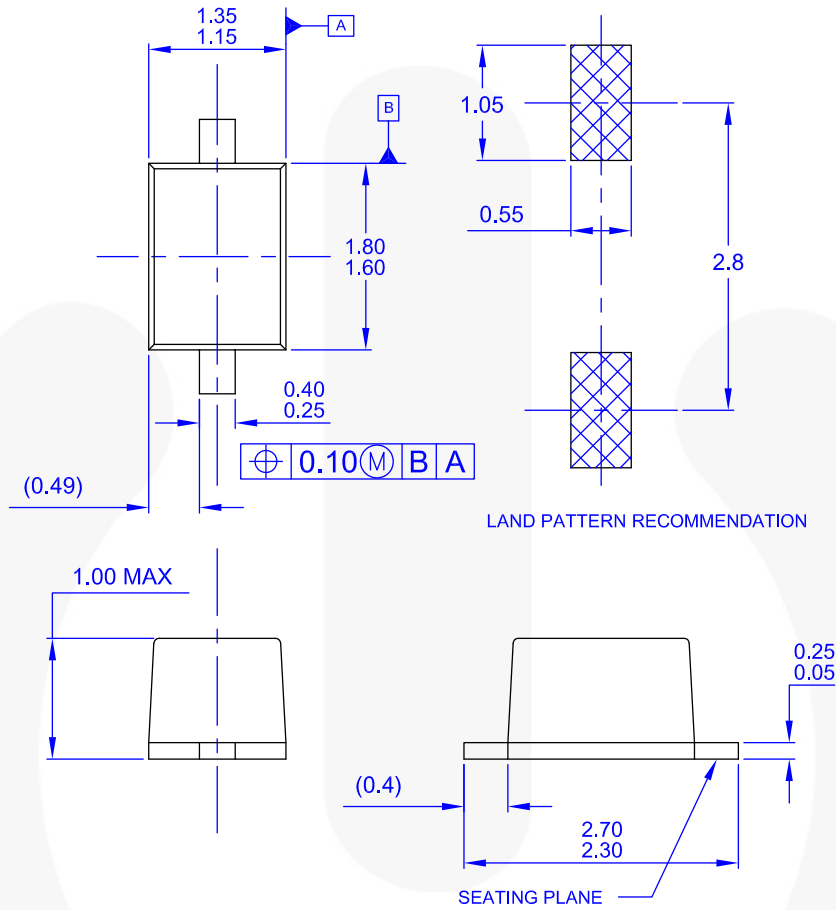


Figure 5. Reverse Voltage vs. Reverse Current

Physical Dimensions








- NOTES: UNLESS OTHERWISE SPECIFIED
- A) PACKAGE REFERENCE: THIS PACKAGE OUTLINE CONFORMS TO JEITA SC90, STANDARD EXCEPT FOR THE OVERALL PACKAGE HEIGHT.
 - B) ALL DIMENSIONS ARE IN MILLIMETERS.
 - C) DRAWING CONFORMS TO ASME Y14.5M - 1994 .
 - D) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
 - E) LANDPATTERN RECOMMENDATION IS BASED ON IPC7351A STANDARD SOD2514X110M.
 - F) DRAWING NUMBER AND REVISION: MKT-SOD 323F2rev2

Figure 6. 2-LEAD, SOD-323F, JEITA SC90, 1.0 MM TALL, FLAT TERMINAL



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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