

# 1N4148WS / 1N4448WS / 1N914BWS

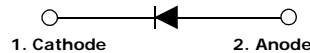
## Small Signal Diodes

### Features

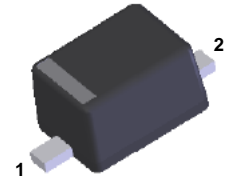
- General Purpose Diodes
- Fast Switching Device ( $T_{RR} < 4.0\text{ns}$ )
- Very Small and Thin SMD Package
- Moisture Level Sensitivity 1
- Pb-free Version and RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Green Mold Compound

Device Marking Code

Device Type	Device Marking
1N4148WS	S1
1N4448WS	S2
1N914BWS	S3



ELECTRICAL SYMBOL



SOD-323 Flat Lead  
Band Indicates Cathode

### Absolute Maximum Ratings\* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RSM}$	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	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

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

\* Device mounted on FR-4 PCB minimum land pad.

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$BV_R$	Breakdown Voltage	$I_R = 100 \mu\text{A}$ $I_R = 5 \mu\text{A}$	100			V
			75			V
$I_R$	Reverse Current	$V_R = 20 \text{ V}$ $V_R = 75 \text{ V}$			25	nA
					5	$\mu\text{A}$
$V_F$	Forward Voltage	1N4448WS/914BWS	0.62		0.72	V
		1N4148WS			1	V
		1N4448WS/914BWS			1	V
$C_O$	Diode Capacitance	$V_R = 0, f = 1 \text{ MHz}$			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

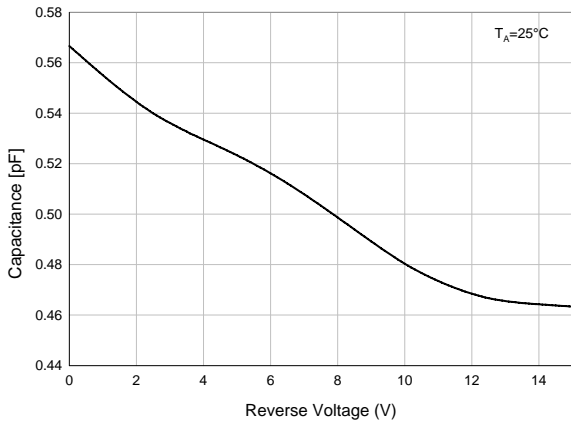


Figure 1. Total Capacitance

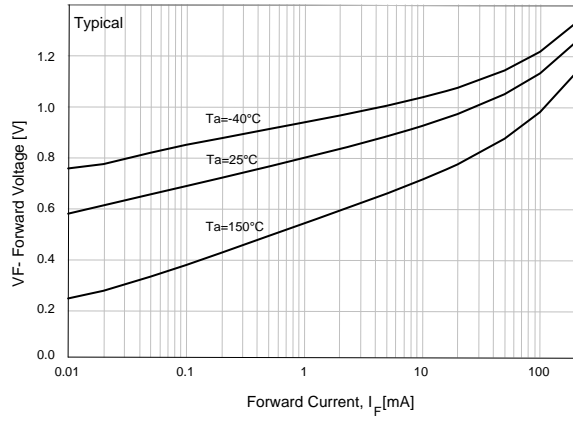


Figure 2. Forward Voltage vs. Ambient Temperature

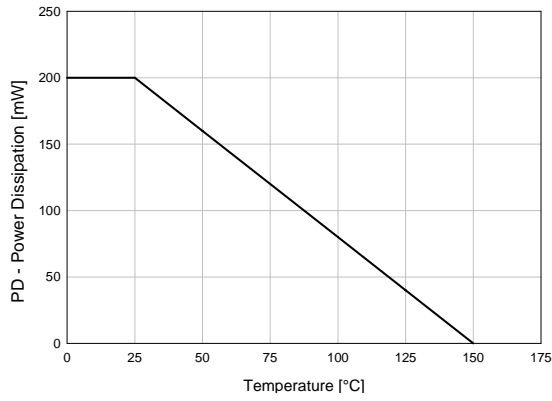


Figure 3. Power Derating Curve

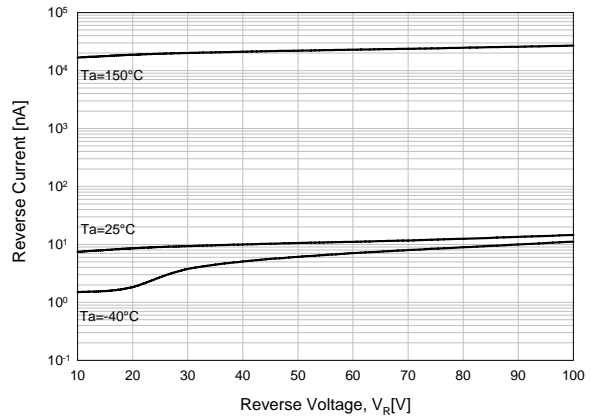


Figure 4. Reverse Current vs. Reverse Voltage

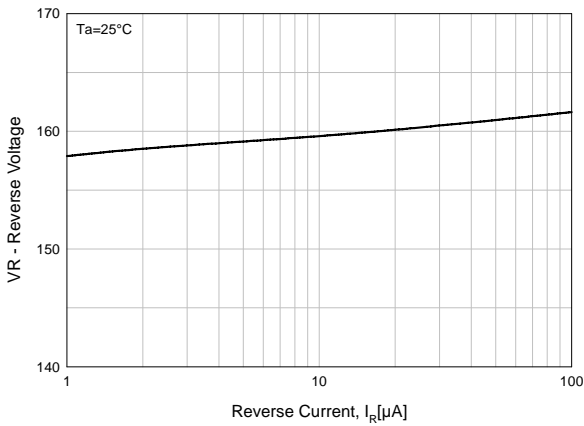
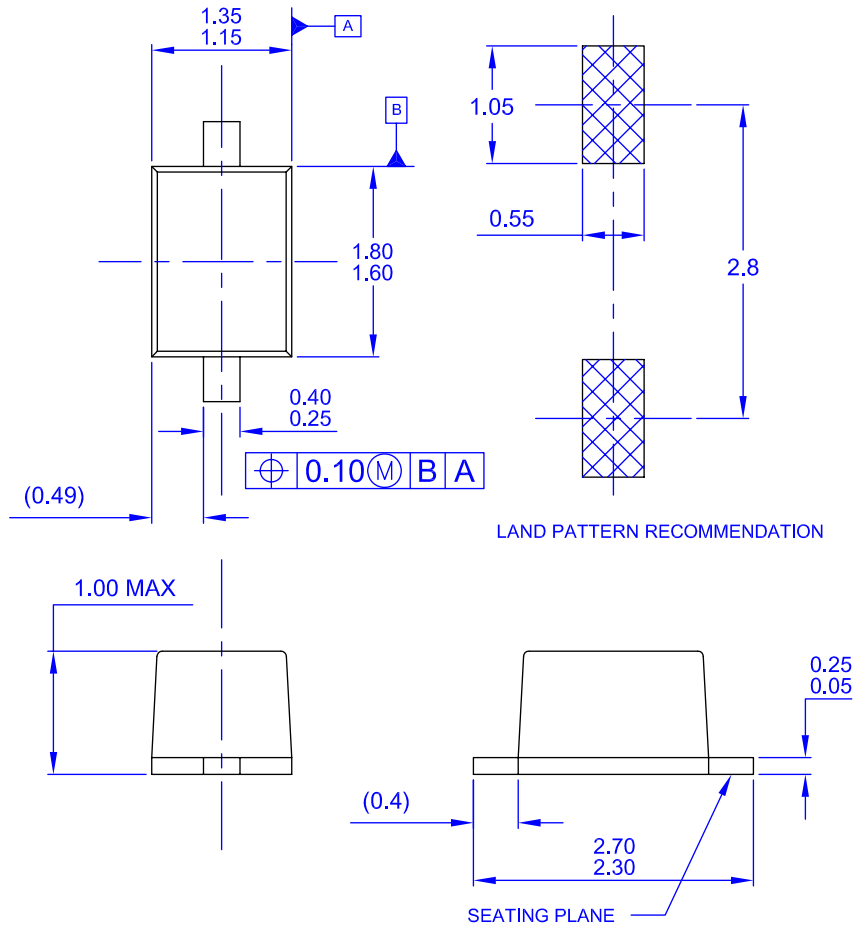


Figure 5. Reverse Voltage vs. Reverse Current

Physical Dimensions

SOD-323F



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

Dimensions in Millimeters



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Rev. I61