Small Signal Diodes

1N4148WS, 1N4448WS, 1N914BWS



SOD−323FL
(Flat Lead)
CASE 477AB

Band Indicates Cathode

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
- These Devices are Pb−Free and are RoHS Compliant

ELECTRICAL SYMBOL



DEVICE MARKING INFORMATION

See general marking information in the device marking section on page 3 of this data sheet.

ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet.

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.

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.

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TYPICAL CHARACTERISTICS

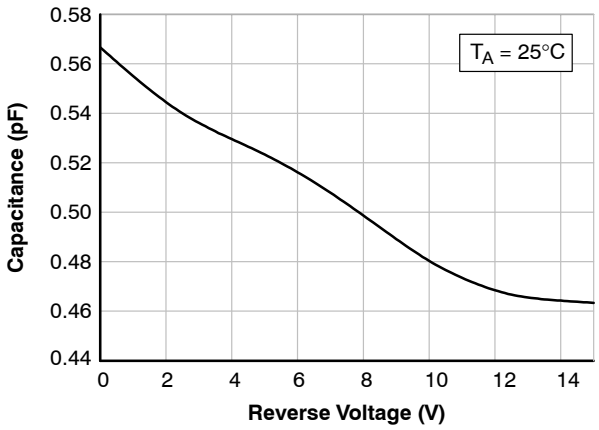


Figure 1. Total Capacitance

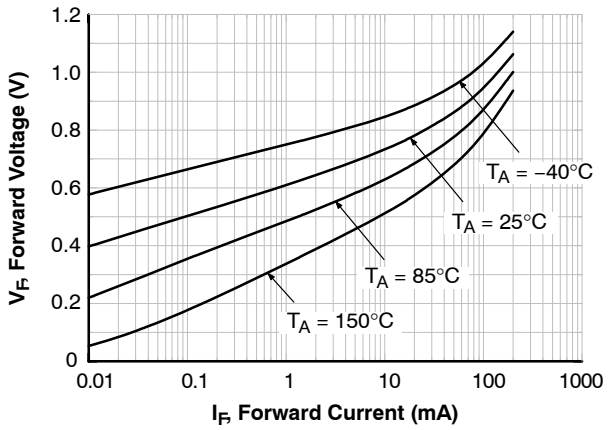


Figure 2. Forward Voltage vs. Ambient Temperature

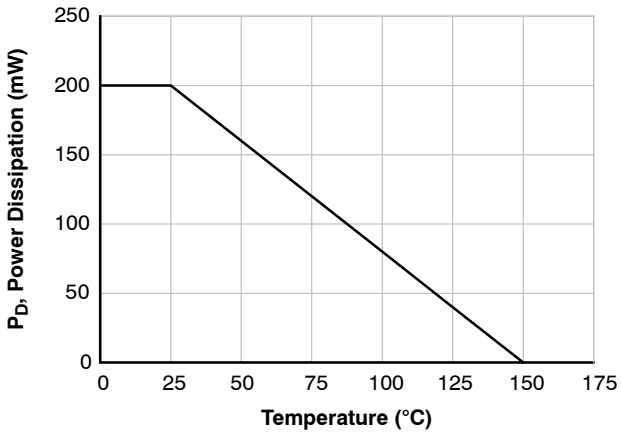


Figure 3. Power Derating Curve

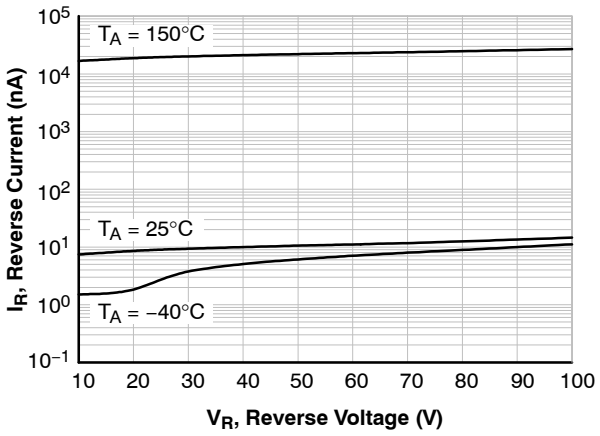


Figure 4. Reverse Current vs. Reverse Voltage

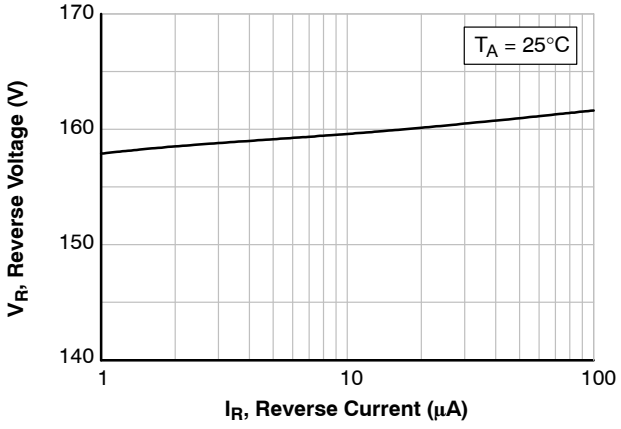
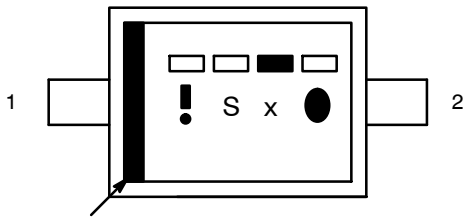


Figure 5. Reverse Voltage vs. Reverse Current

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MARKING DIAGRAM



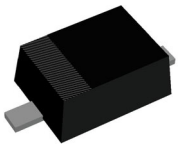
▭▭▬▭ = Calendar Year
❗ = China Subcon
Sx = Specific Device Code
x = 1, 2, 3
⬮ = Payweek

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
1N4148WS	S1	SOD−323FL (Pb−Free)	3000 / Tape & Reel
1N4448WS	S2		
1N914BWS	S3		

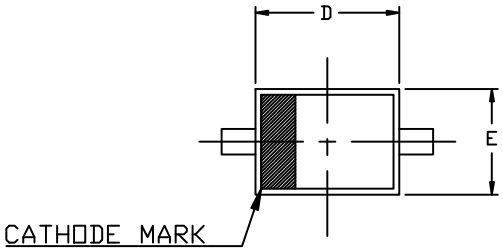
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

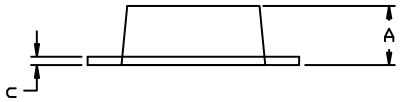
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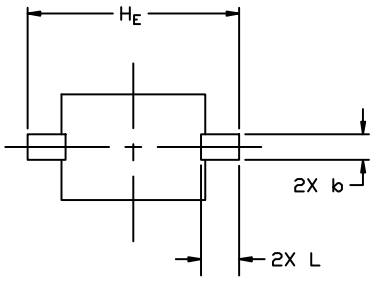


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CASE 477AB
ISSUE A

DATE 03 FEB 2023



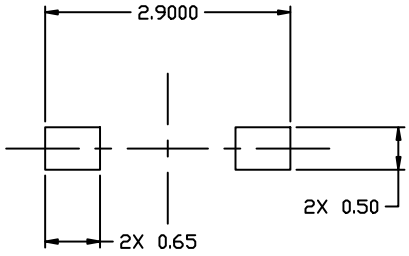




NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. LEAD THICKNESS INCLUDES LEAD FINISH.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN.	NOM	MAX.
A	0.60	0.70	0.90
A1	0.00	0.05	0.10
b	0.25	0.30	0.35
c	0.05	0.10	0.20
D	1.60	1.70	1.80
E	1.15	1.25	1.35
H_E	2.30	2.50	2.70
L	0.35	0.45	0.55



RECOMMENDED
MOUNTING FOOTPRINT

* For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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