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1N4148WS, 1N4448WS, 1N914BWS
Small Signal Diodes

Features

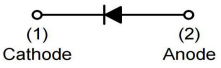
- General Purpose Diodes
- Fast Switching Device (T_{RR} < 4.0 ns)
- Very Small and Thin SMD Package
- Moisture Level Sensitivity 1
- Matte Tin (Sn) Lead Finish
- Green Mold Compound
- Pb−free Version and RoHS Compliant



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.

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TYPICAL CHARACTERISTICS

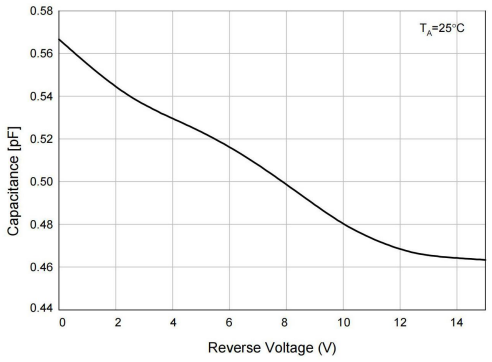


Figure 1. Total Capacitance

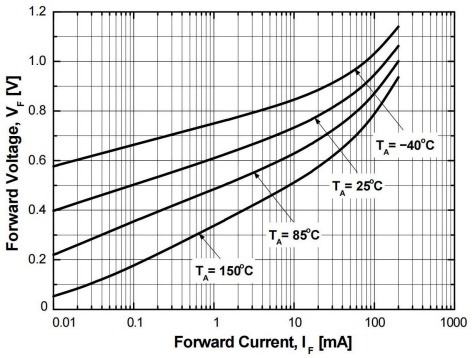


Figure 2. Forward Voltage vs. Ambient Temperature

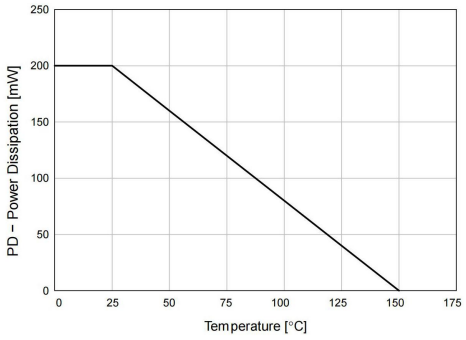


Figure 3. Power Derating Curve

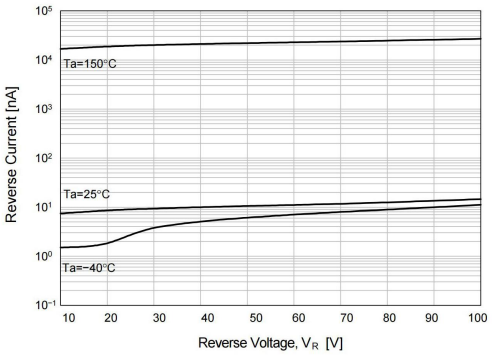


Figure 4. Reverse Current vs. Reverse Voltage

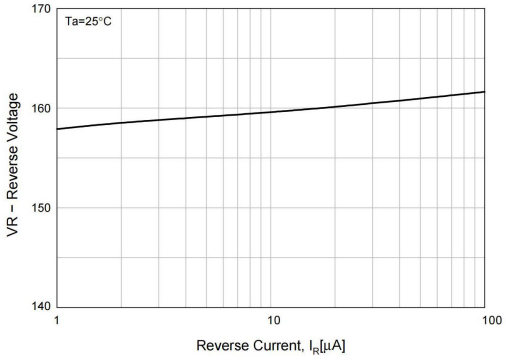


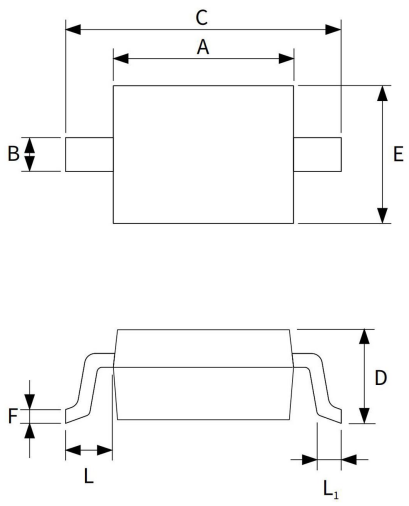
Figure 5. Reverse Voltage vs. Reverse Current

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Ordering Information

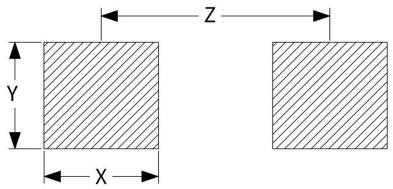
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-323	R1	0.0048	3000	30000	240000	7''

Package Outline Dimensions (SOD-323)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.40	0.010	0.016
C	2.30	2.80	0.091	0.110
D	0.80	1.10	0.031	0.043
D_1	0.80	0.90	0.031	0.035
E	1.20	1.40	0.047	0.055
F	0.08	0.18	0.003	0.007
L	0.475REF		0.019REF	
L_1	0.25	0.40	0.010	0.016
H	-	0.14	-	0.006

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.65	0.75	0.026	0.030
Y	0.65	0.75	0.026	0.030
Z	2.10	2.20	0.084	0.088