

### Small Signal Diode



#### Features

- ↪ Fast switching device ( $T_{rr} < 4.0\text{nS}$ )
- ↪ Surface device type mounting
- ↪ Moisture sensitivity level 1
- ↪ Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- ↪ Pb free version and RoHS compliant
- ↪ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

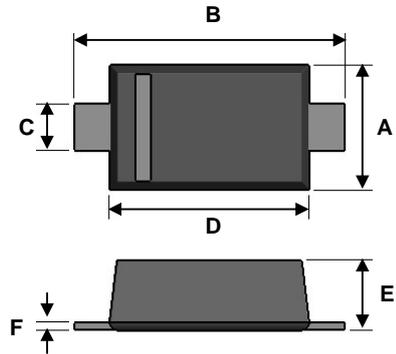
#### Mechanical Data

- ↪ Case : Flat lead SOD-323 small outline plastic package
- ↪ Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ↪ High temperature soldering guaranteed:  $260^{\circ}\text{C}/10\text{s}$
- ↪ Polarity : Indicated by cathode band
- ↪ Weight :  $4.85 \pm 0.5 \text{ mg}$
- ↪ Marking Code : S1, S2, S3

#### Ordering Information

Package	Part No.	Packing	Marking
SOD-323F	1N4148WS RR	3K / 7" Reel	S1
SOD-323F	1N4448WS RR	3K / 7" Reel	S2
SOD-323F	1N9148BWS RR	3K / 7" Reel	S3
SOD-323F	1N4148WS RRG	3K / 7" Reel	S1
SOD-323F	1N4448WS RRG	3K / 7" Reel	S2
SOD-323F	1N9148BWS RRG	3K / 7" Reel	S3

SOD-323F

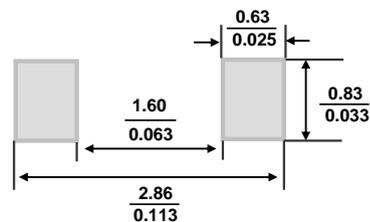


Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.70	0.091	0.106
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.00	0.031	0.039
F	0.05	0.20	0.002	0.008

#### Pin Configuration



#### Suggested PAD Layout



#### Maximum Ratings and Electrical Characteristics

Rating at  $25^{\circ}\text{C}$  ambient temperature unless otherwise specified.

##### Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	$P_D$	200	mW
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Reverse Voltage	$V_R$	100	V
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Mean Forward Current	$I_o$	150	mA
Thermal Resistance (Junction to Ambient) (Note )	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-65 to + 150	$^{\circ}\text{C}$

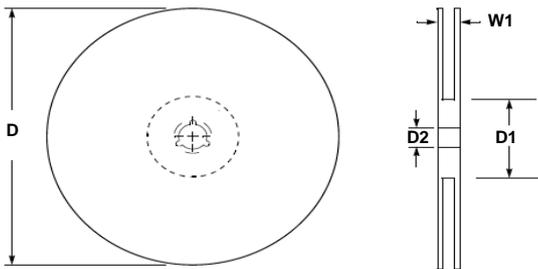
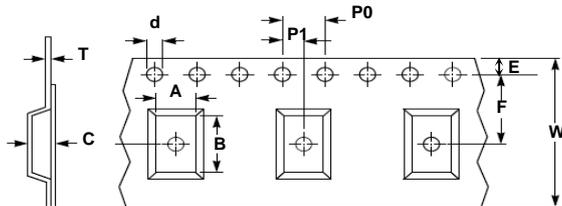
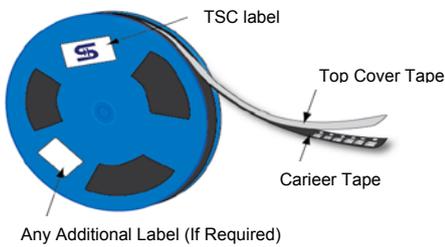
Notes: 1. Valid provided that electrodes are kept at ambient temperature

**Small Signal Diode**

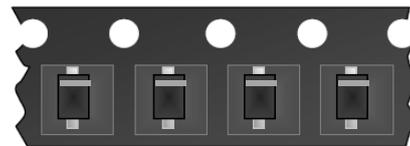
**Electrical Characteristics**

Type Number		Symbol	Min	Max	Units
Reverse Breakdown Voltage	$I_R = 100\mu A$	$V_{(BR)}$	100	-	V
	$I_R = 5\mu A$		75	-	
Forward Voltage	1N4448WS, 1N914BWS	$V_F$	0.62	0.72	V
	1N4148WS		-	1.0	
	1N4448WS, 1N914BWS		-	1.0	
Reverse Leakage Current	$V_R = 20V$	$I_R$	-	25	nA
	$V_R = 75V$		-	5.0	$\mu A$
Junction Capacitance	$V_R = 0, f = 1.0MHz$	$C_J$	-	4.0	pF
Reverse Recovery Time	$I_F = 10mA, I_R = 60mA, R_L = 100\Omega, I_{RR} = 1mA$	$T_{rr}$	-	4.0	ns

**Tape & Reel specification**



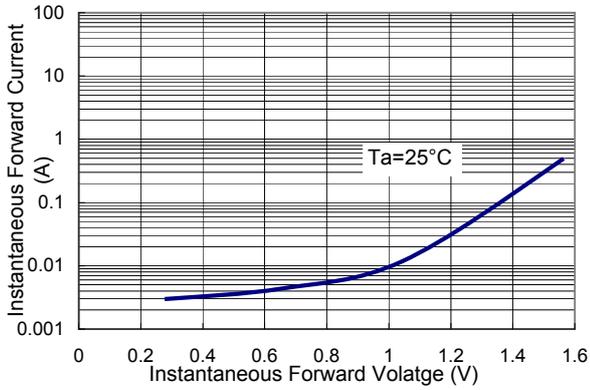
Item	Symbol	Dimension(mm)
Carrier width	A	1.7 ± 0.10
Carrier length	B	3.73 ± 0.10
Carrier depth	C	1.68 ± 0.10
Sprocket hole	d	1.5 ± 0.1
Reel outside diameter	D	178 ± 1
Reel inner diameter	D1	55 Min
Feed hole width	D2	13.0 ± 0.20
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.05
Sprocket hole pitch	P0	4.00 ± 0.10
Embossment center	P1	2.00 ± 0.05
Overall tape thickness	T	0.23 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W1	14.4 Max



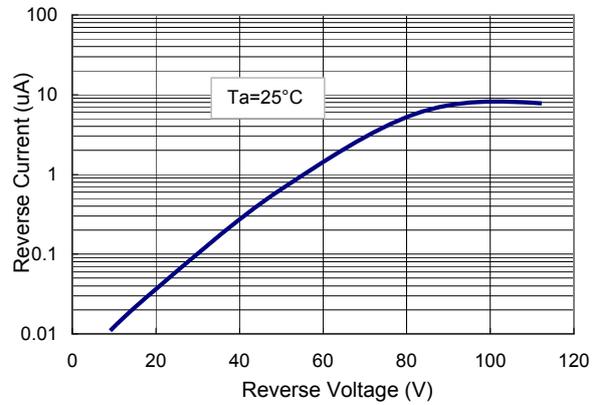
**Small Signal Diode**

**Rating and Sharacteristic Curves**

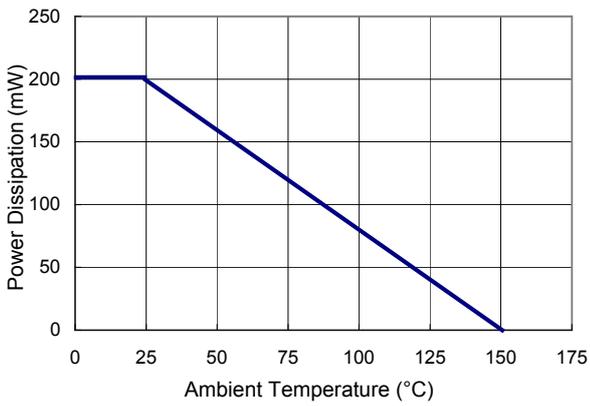
**FIG 1 Typical Forward Characteristics**



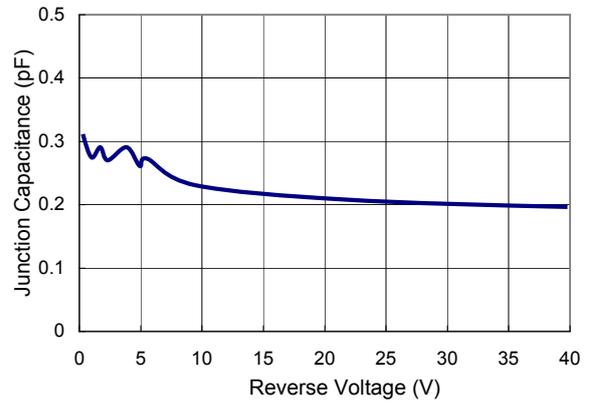
**FIG 2 Reverse Current vs Reverse Voltage**



**FIG 3 Admissible Power Dissipation Curve**



**FIG 4 Typical Junction Capacitance**



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