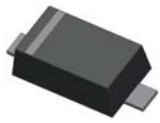


Small Signal Diode



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-123 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 : $8.85 \pm 0.5\text{ mg}$
- ✧ Marking Code : D1, D2, D3

Ordering Information

Package	Part No.	Packing	Marking
SOD-123F	1N4148W RH	3K / 7" Reel	D1
SOD-123F	1N4448W RH	3K / 7" Reel	D2
SOD-123F	1N9148B RH	3K / 7" Reel	D3
SOD-123F	1N4148W RHG	3K / 7" Reel	D1
SOD-123F	1N4448W RHG	3K / 7" Reel	D2
SOD-123F	1N9148B RHG	3K / 7" Reel	D3

Maximum Ratings and Electrical Characteristics

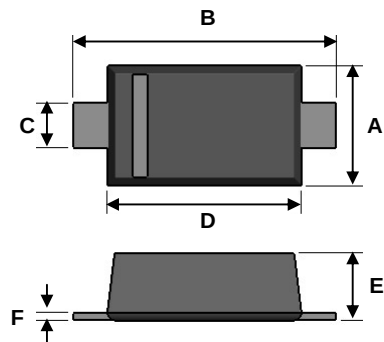
Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	400	mW
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
Mean Forward Current	I_O	150	mA
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	450	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to + 150	$^{\circ}\text{C}$

Notes: 1. Test Condition : 8.3ms Single half Sine-Wave Superimposed on Rated Load (JEDEC Method)

SOD-123F

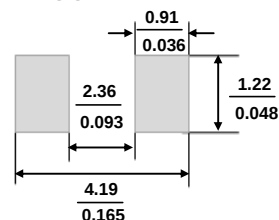


Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.5	1.7	0.059	0.067
B	3.3	3.7	0.130	0.146
C	0.5	0.7	0.020	0.028
D	2.5	2.7	0.098	0.106
E	0.8	1.0	0.031	0.039
F	0.05	0.2	0.002	0.008

Pin Configuration



Suggested PAD Layout



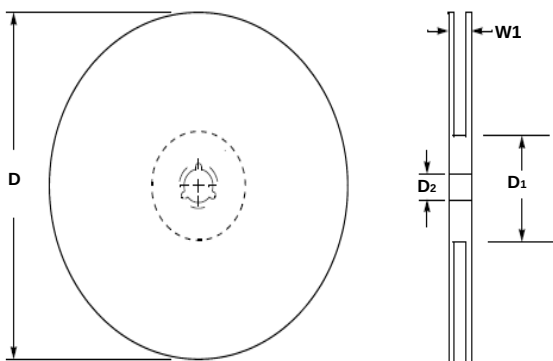
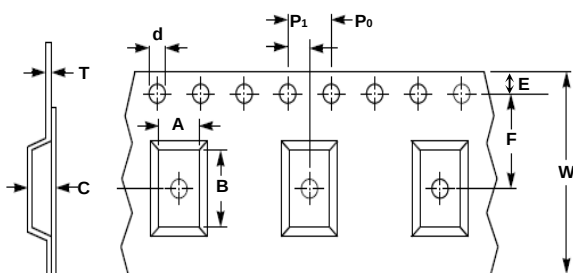
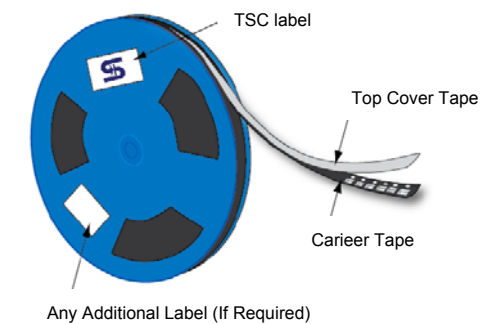
Small Signal Diode

Electrical Characteristics

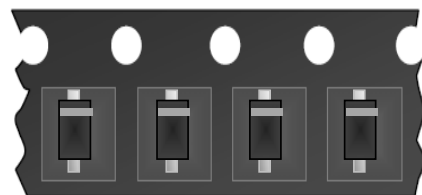
Type Number		Symbol	Min	Max	Units
Reverse Breakdown Voltage	$I_R = 100\mu A$	$V_{(BR)}$	100	-	V
	$I_R = 5\mu A$		75	-	
Forward Voltage	1N4448W, 1N914BW	V_F	0.62	0.72	V
	1N4148W		-	1.0	
	1N4448W, 1N914BW		-	1.0	
Reverse Leakage Current	$V_R = 20V$	I_R	-	25	nA
	$V_R = 75V$		-	5.0	μA
Junction Capacitance	$V_R = 0, f = 1.0MHz$	C_J	-	4.0	pF
Reverse Recovery Time (Note 2)		T_{rr}	-	4.0	ns

Notes: 2. Reverse Recovery Test Conditions: $I_F = 10mA$, $I_R = 60mA$, $R_L = 100\Omega$, $I_{RR} = 1mA$

Tape & Reel specification



Item	Symbol	Dimension
Carrier width	A	1.85 ± 0.10
Carrier length	B	3.94 ± 0.10
Carrier depth	C	1.50 ± 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

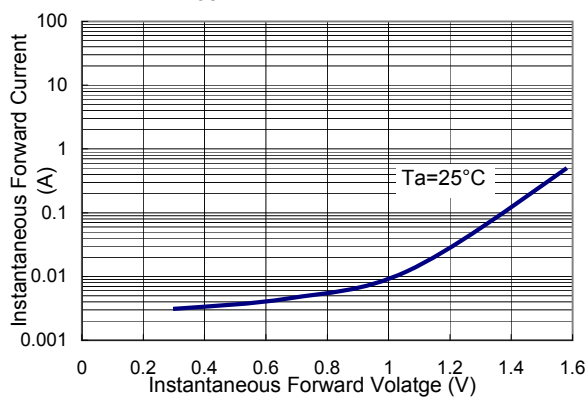


FIG 2 Reverse Current vs Reverse Voltage

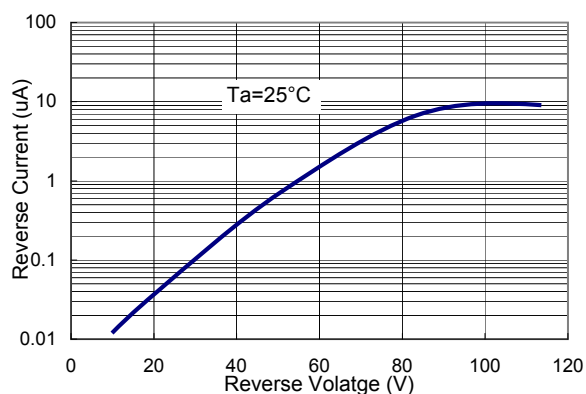


FIG 3 Admissible Power Dissipation Curve

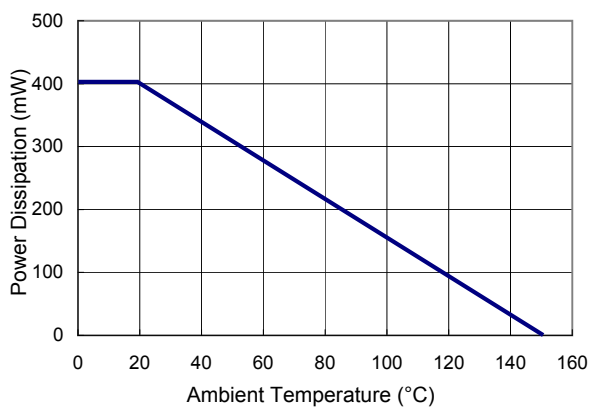


FIG 4 Typical Junction Capacitance

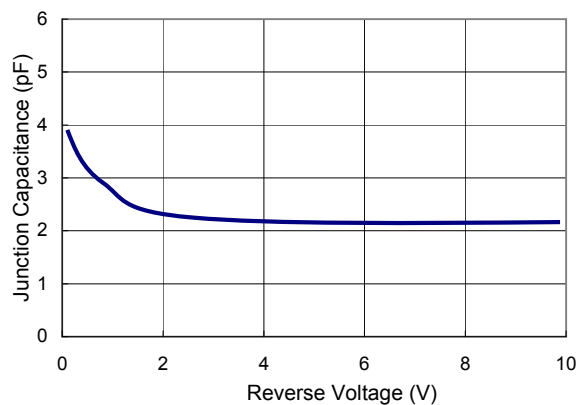


FIG 5 Forward Resistance vs. Forward Current

