

Small Signal Product

400mW High Speed SMD Switching Diode

FEATURES

- Fast switching device ($t_{rr} < 4.0\text{ns}$)
- Surface Mount Device Type
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Pb free version and RoHS compliant
- Packing code with suffix "G" means green compound (halogen-free)


SOD-123F

MECHANICAL DATA

- Case: Flat lead SOD-123F 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: $8.85 \pm 0.5\text{mg}$



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_D	400	mW
Reverse Voltage	V_R	100	V
Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Repetitive Peak Forward Current	I_{FRM}	300	mA
Non-Repetitive Peak Forward Surge Current @ $t=1.0\mu\text{s}$	I_{FSM}	2	A
Forward Current	I_F	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	$^{\circ}\text{C}$

PARAMETER	SYMBOL	MIN	MAX	UNIT	
Reverse Voltage	V_R	$I_R=100\mu\text{A}$	100	-	V
		$I_R=5\mu\text{A}$	75	-	
Forward Voltage	V_F	1N4448W, 1N914BW $I_F=5.0\text{mA}$	0.62	0.72	V
		1N4148W $I_F=10.0\text{mA}$	-	1.0	
		1N4448W, 1N914BW $I_F=100.0\text{mA}$	-	1.0	
Reverse Leakage Current	I_R	$V_R=20\text{V}$	-	25	nA
		$V_R=75\text{V}$	-	5.0	μA
Junction Capacitance	C_J	-	4.0	pF	
Reverse Recovery Time	t_{rr}	-	4.0	ns	

Notes 1: Test Condition : 8.3ms Single half Sine-Wave Superimposed on Rated Load

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

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RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

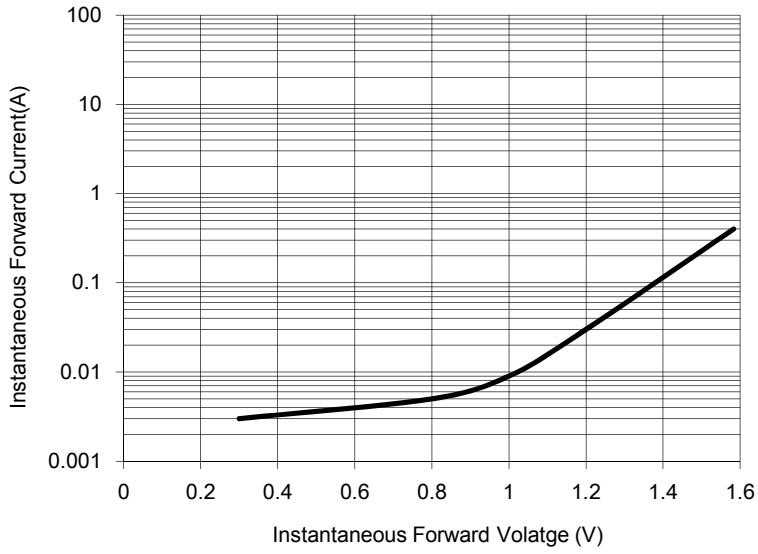


Fig. 2 Reverse Current vs Reverse Voltage

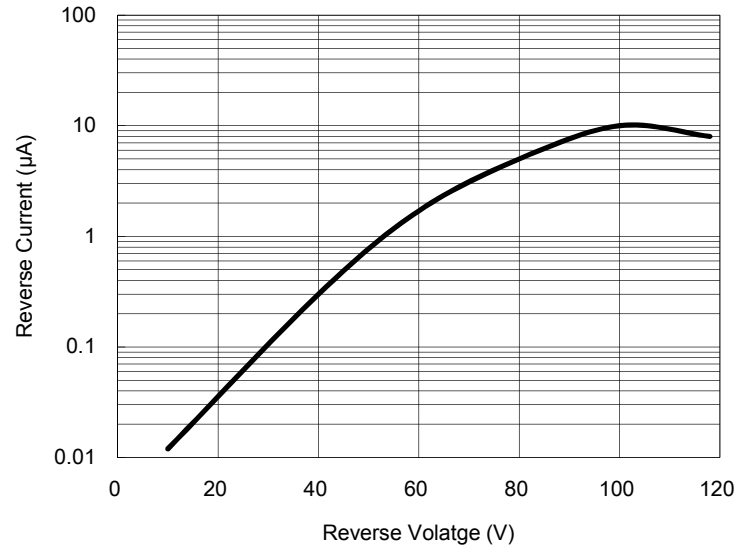


Fig. 3 Admissible Power Dissipation

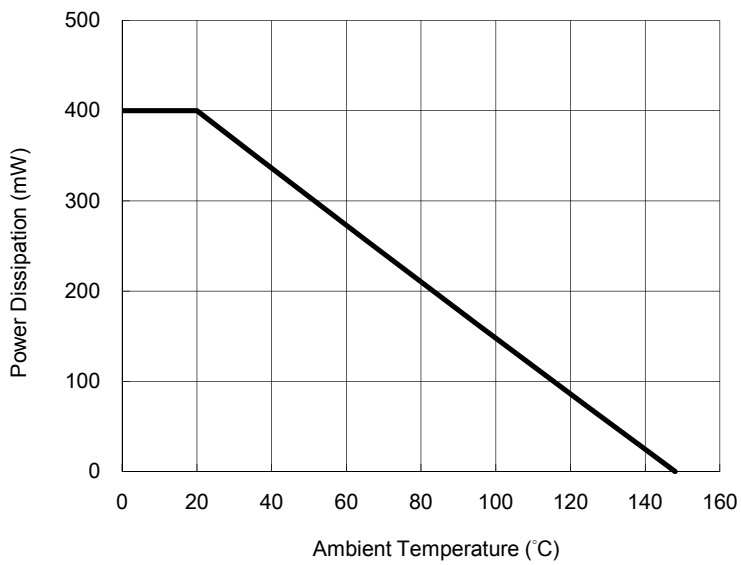


Fig. 4 Typical Junction Capacitance

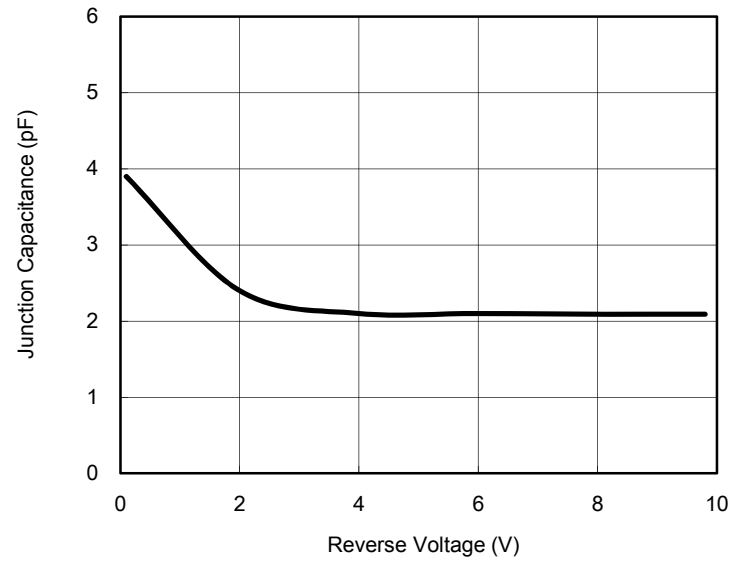
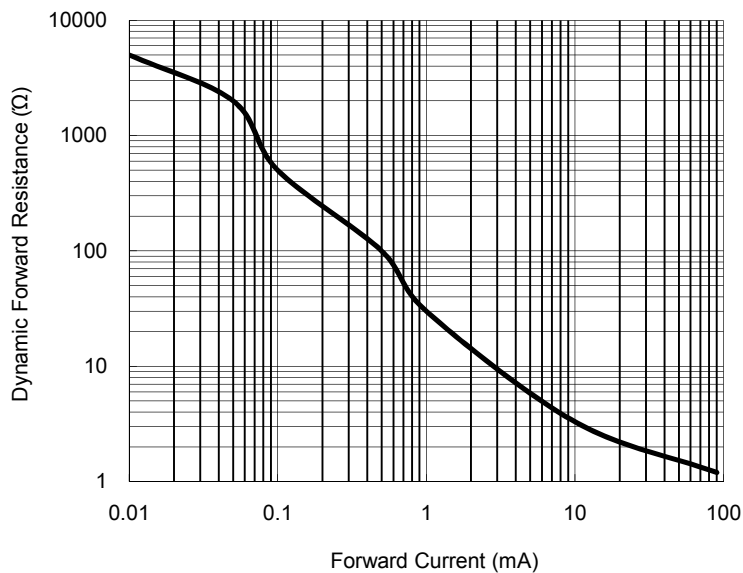


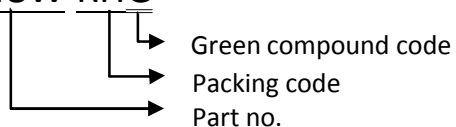
Fig. 5 Forward Resistance vs. Forward Current



Small Signal Product

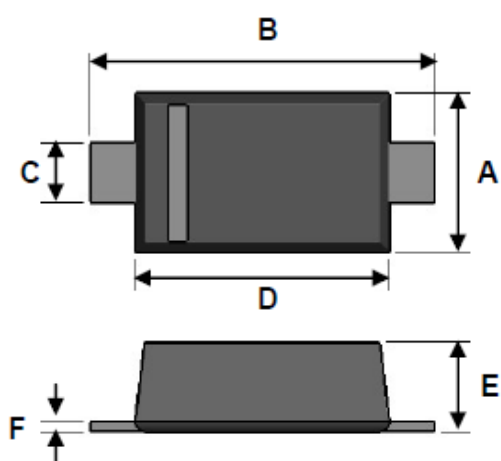
ORDER INFORMATION (EXAMPLE)

1N4148W RHG



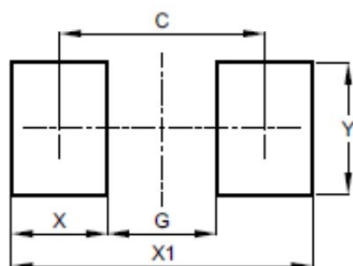
PACKAGE OUTLINE DIMENSIONS

SOD-123F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	3.30	3.90	0.130	0.154
C	0.50	0.70	0.020	0.028
D	2.50	2.70	0.098	0.106
E	0.80	1.15	0.031	0.045
F	0.05	0.20	0.002	0.008

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
C	2.86	0.113
G	1.52	0.060
X	1.34	0.053
X1	4.20	0.165
Y	1.80	0.071

MARKING CODE

Part no.	Marking code
1N4148W	D1
1N4448W	D2
1N914BW	D3

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