

Small Signal Product

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
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

MECHANICAL DATA

- Case: Bend 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: $10 \pm 0.5\text{ mg}$
- Marking Code: T4


SOD-123


MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNITS
Power dissipation	P_D	350	mW
DC blocking voltage	V_R	100	V
Repetitive peak reverse voltage	V_{RRM}	100	V
Work peak reverse voltage	V_{RWM}	100	V
RMS reverse voltage	$V_{R(RMS)}$	70	V
Repetitive peak forward current	I_{FRM}	300	mA
Mean forward current	I_O	150	mA
Non-repetitive peak forward surge current @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$	I_{FSM}	2.0 1.0	A
Thermal resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction and storage temperature range	T_J, T_{STG}	-65 to + 150	$^{\circ}\text{C}$

PARAMETER	SYMBOL	MIN	MAX	UNITS
Forward voltage $I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$	V_F	-	0.715	V
		-	0.855	
		-	1.0	
		-	1.25	
Reverse leakage current $V_R = 20\text{V}$ $V_R = 75\text{V}$ $V_R = 25\text{V}, T_J = 150^{\circ}\text{C}$ $V_R = 75\text{V}, T_J = 150^{\circ}\text{C}$	I_R	-	25	nA
		-	2.5	μA
		-	30	μA
		-	50	μA
Junction capacitance $V_R = 0, f = 1.0\text{MHz}$	C_J	-	2.0	pF
Reverse recovery time (Note 2)	T_{rr}	-	4.0	ns

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

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

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ORDERING INFORMATION					
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MANUFACTURE CODE
1N4148W-G	RB	Suffix "G"	SOD-123	3000 / 7" Reel	(Note)

Note: Manufacture special control, if empty means no special control requirement.

EXAMPLE					
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	MANUFACTURE CODE	DESCRIPTION
1N4148W-G RB	1N4148W-G	RB			
1N4148W-G RBG	1N4148W-G	RB	G		Green compound
1N4148W-G RB	1N4148W-G	RB		X0	
1N4148W-G RBG	1N4148W-G	RB	G	X0	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

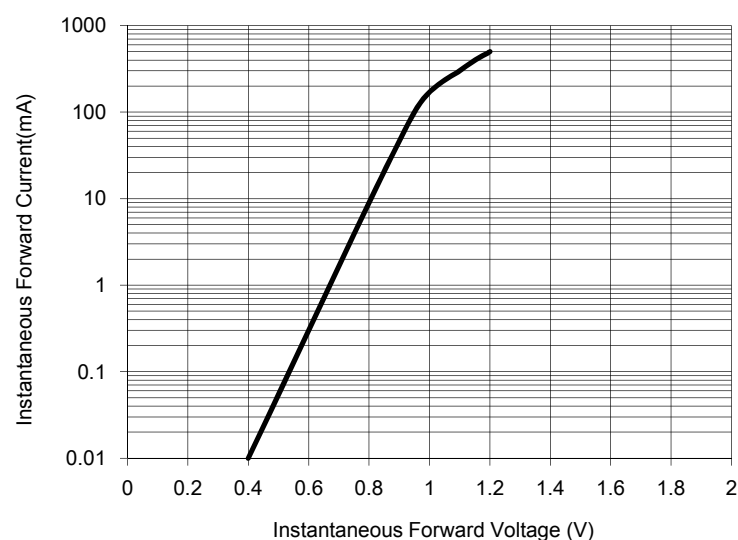
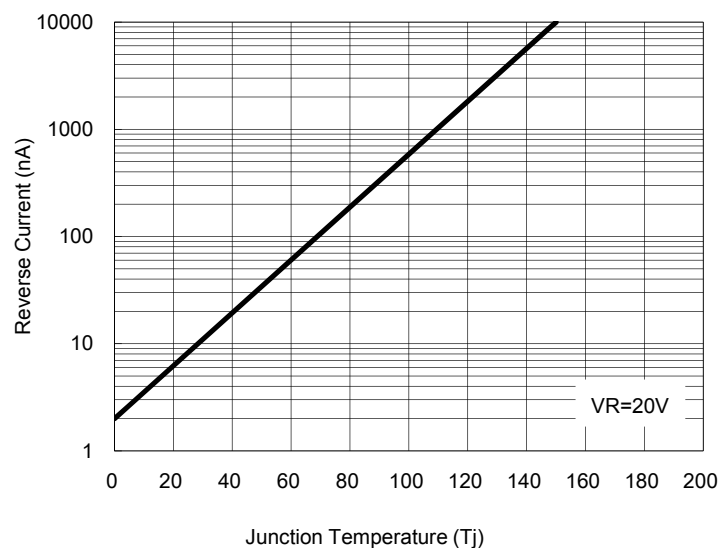
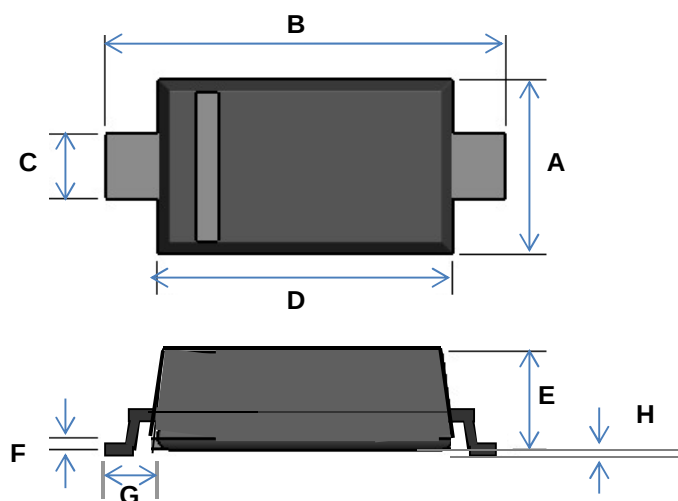


Fig. 2 Reverse Current vs Junction Temperature



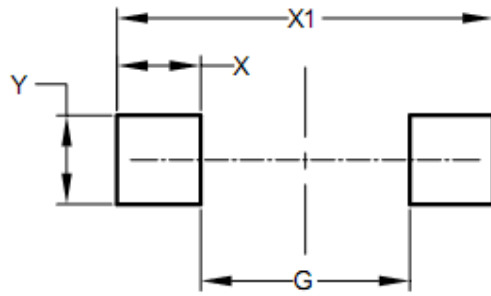
DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

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SUGGESTED PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Min	Min
G	2.25	0.089
X	0.90	0.035
X1	4.05	0.159
Y	0.95	0.037