

## Features

- High Conductance
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 312.5°C/W Junction to Ambient

MCC Part Number	Repetitive Peak Reverse Voltage $V_{RRM}$	RMS Reverse Voltage $V_{R(RMS)}$	DC Blocking Voltage $V_R$
1N4148W	100V	71V	100V

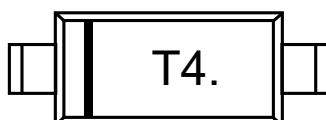
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	150mA	
Peak Forward Surge Current	$I_{FSM}$	4A 1A	@ t=1us @ t=1s
Power Dissipation	$P_D$	400mW	$T_A=25^\circ\text{C}$

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

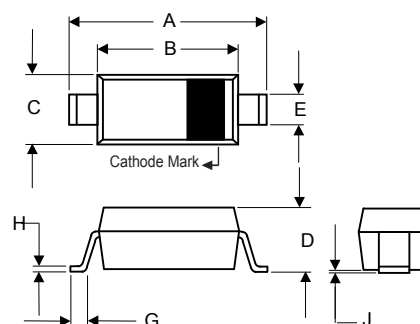
2. Part mounted on FR-4 board with recommended pad layout.

## Internal Structure and Marking Code



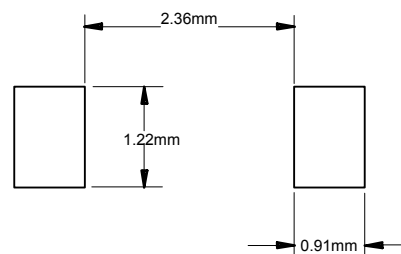
# 400mW High Speed Switching Diode

## SOD-123



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.140	0.152	3.55	3.85	
B	0.100	0.112	2.55	2.85	
C	0.055	0.065	1.40	1.65	
D	----	0.053	----	1.35	
E	0.018	0.026	0.45	0.65	
G	0.006	----	0.15	----	
H	----	0.010	----	0.25	
J	----	0.006	----	0.15	

## Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	$V_F$	$I_F=1\text{mA}$			0.715	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=50\text{mA}$			1	V
		$I_F=150\text{mA}$			1.25	V
Reverse Current	$I_R$	$V_R=20\text{V}, T_J=25^\circ\text{C}$			25	nA
		$V_R=75\text{V}, T_J=25^\circ\text{C}$			1	$\mu\text{A}$
		$V_R=75\text{V}, T_J=150^\circ\text{C}$			50	$\mu\text{A}$
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$			2	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA},$ $I_{rr}=0.1 \cdot I_R, R_L=100\Omega$			4	ns

\* Pulse Test: Pulse Width 300  $\mu\text{sec}$ , Duty Cycle 2%

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

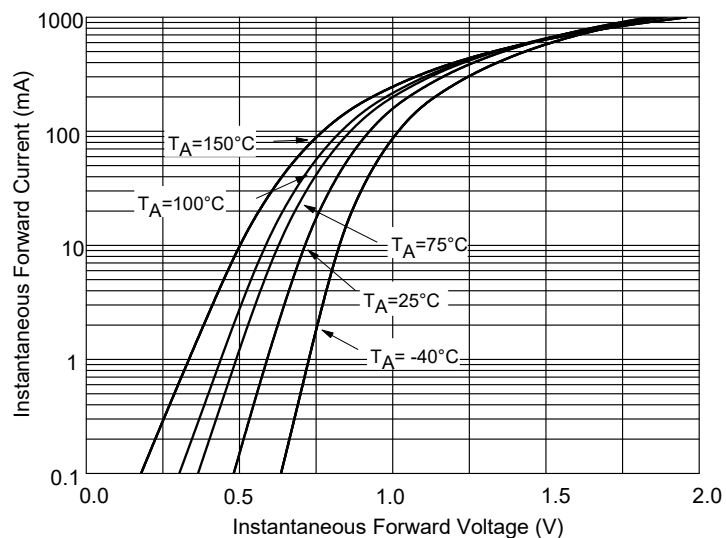


Fig. 2 - Typical Reverse Leakage Characteristics

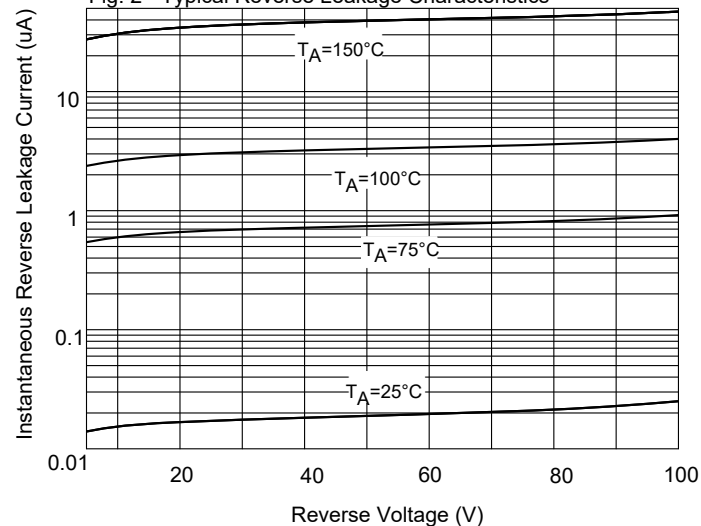


Fig. 3 - Capacitance Characteristics

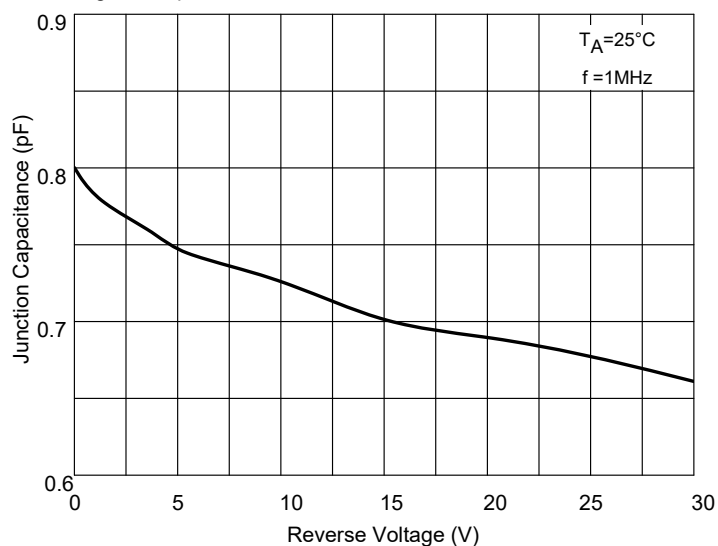
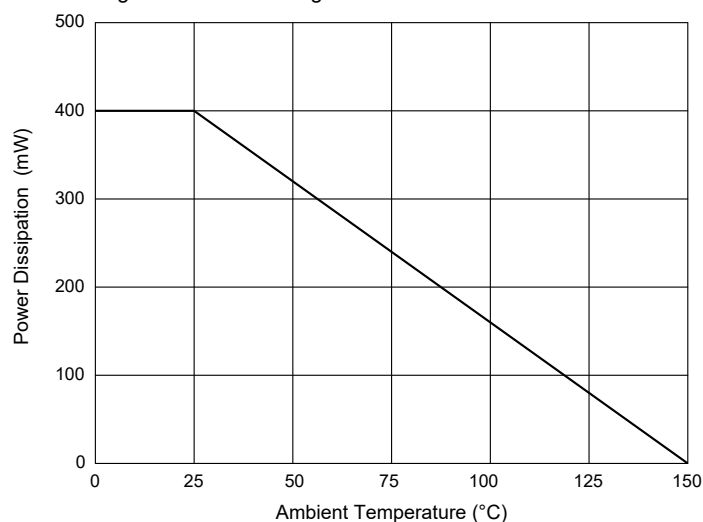


Fig. 4 - Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel
Part Number-13P	Tape&Reel: 10Kpcs/Reel

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