

## Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix Designates Compliant. See Ordering Information)
- Low Leakage Current
- Glass Passivated Junction
- Halogen Free. "Green" Device (Note 2)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 50°C/W Junction to Ambient
- Typical Thermal Resistance: 28°C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SM4001PL	A1	50V	35V	50V
SM4002PL	A2	100V	70V	100V
SM4003PL	A3	200V	140V	200V
SM4004PL	A4	400V	280V	400V
SM4005PL	A5	600V	420V	600V
SM4006PL	A6	800V	560V	800V
SM4007PL	A7	1000V	700V	1000V

### Electrical Characteristics @ 25°C Unless Otherwise Specified

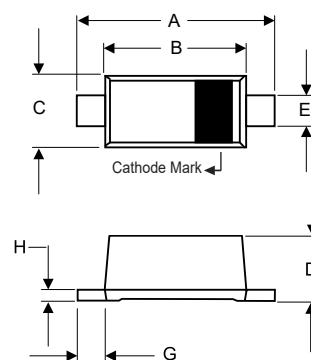
Average Forward Current	$I_{F(AV)}$	1.0A	$T_A=75^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, Half Sine
Maximum Instantaneous Forward Voltage	$V_F$	1.1V	$I_F=1.0\text{A}; T_A=25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0 $\mu\text{A}$ 50 $\mu\text{A}$	$T_A=25^\circ\text{C};$ $T_A=100^\circ\text{C}$
Maximum Full Load Reverse Current Average, Full Cycle 9.5mm Lead Length	$I_R$	30 $\mu\text{A}$	$T_L=75^\circ\text{C};$
Typical Junction Capacitance	$C_J$	10 pF	Measured at 1.0MHz, $V_R=4.0\text{V}$
Reverse Recovery Time	$t_{rr}$	1000ns Min 3000ns Max	$I_F=0.5\text{A}, I_R=1.0\text{A}$ $I_{RR}=0.25\text{A}$

Note :1. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

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

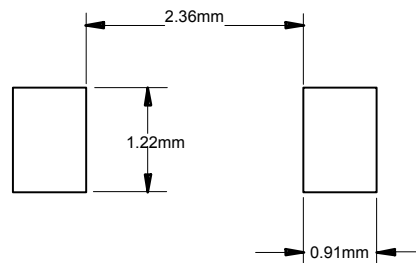
# 1.0 Amp Silicon Rectifier 50 to 1000 Volts

## SOD-123FL



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.130	0.152	3.30	3.85	
B	0.100	0.122	2.55	3.10	
C	0.055	0.075	1.40	1.90	
D	0.035	0.053	0.90	1.35	
E	0.020	0.041	0.50	1.05	
G	0.010	----	0.25	----	
H	----	0.010	----	0.25	

### SUGGESTED SOLDER PAD LAYOUT



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

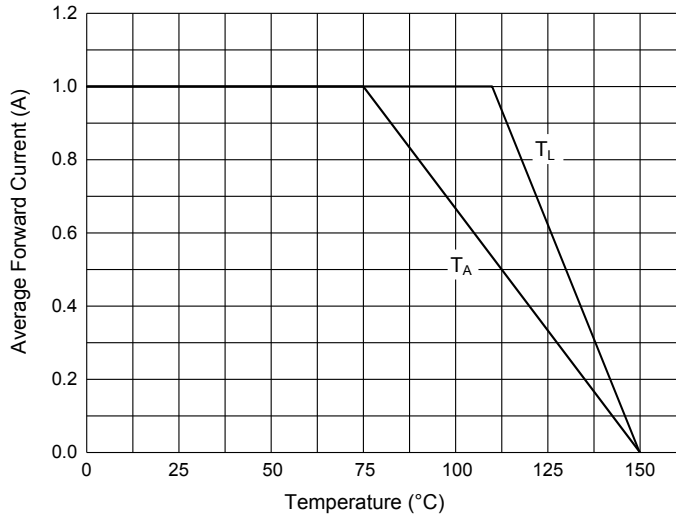


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

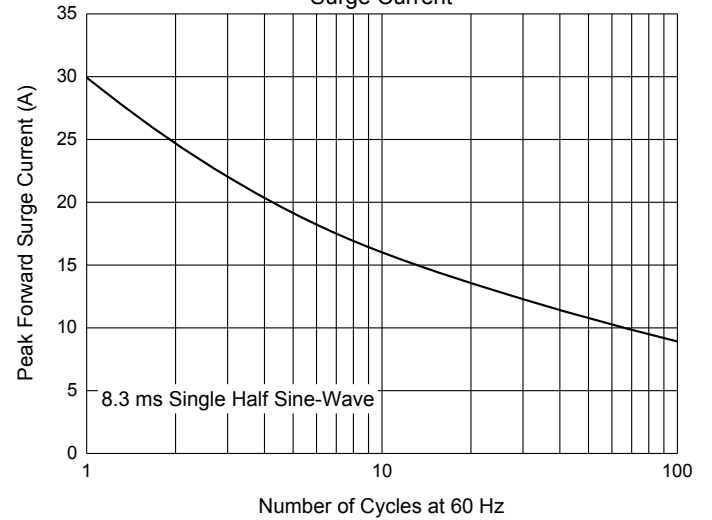


Fig. 3 - Typical Instantaneous Forward Characteristics

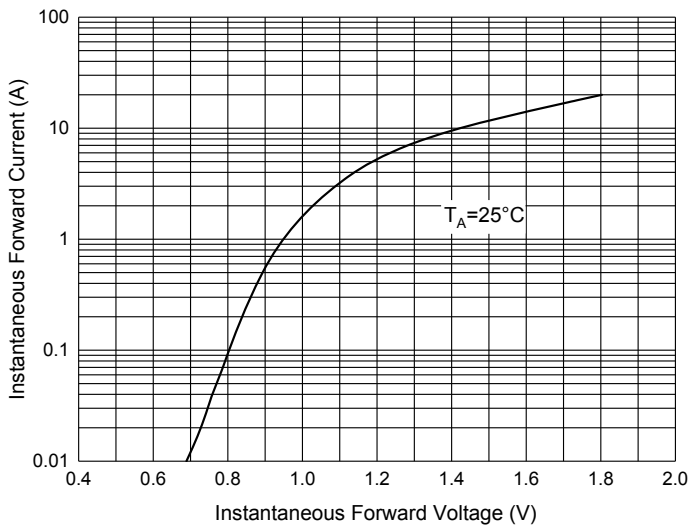


Fig. 4 - Typical Reverse Leakage Characteristics

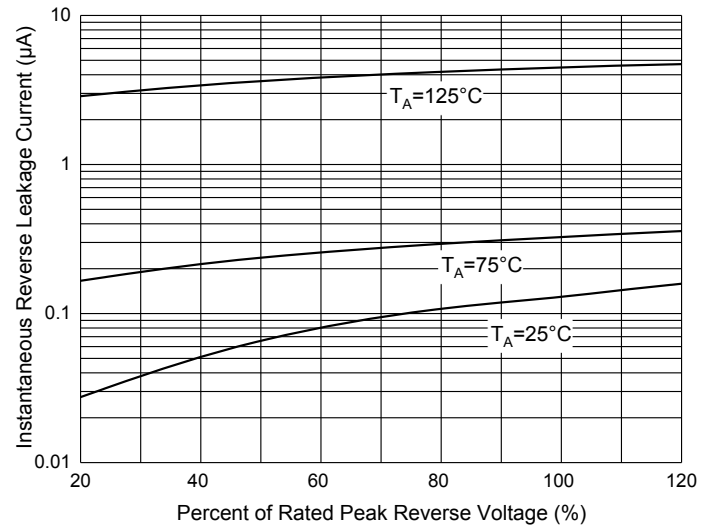
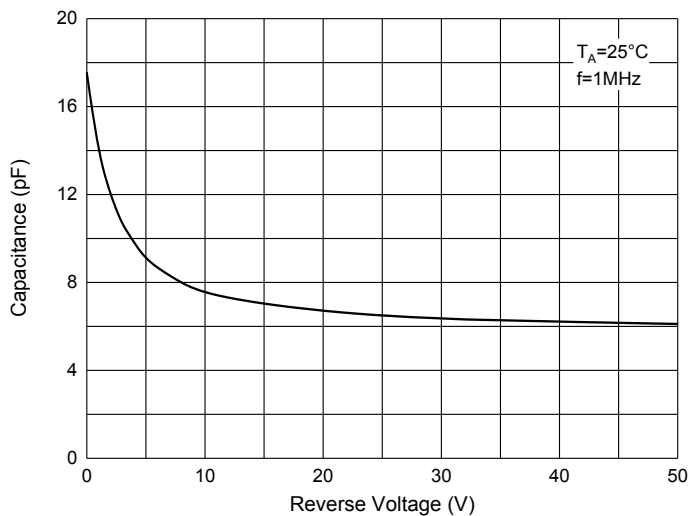


Fig. 5 - Typical Junction Capacitance



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel
Part Number-13P	Tape&Reel: 10Kpcs/Reel

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