



**THE DATASHEET OF  
SM4002PL-TP**





Micro Commercial Components



Micro Commercial Components  
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# SM4001PL thru SM4007PL

## 1.0 Ampere Silicon Rectifier 50 to 1000 Volts

### Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Low Leakage Current
- Glass Passivated Junction
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings

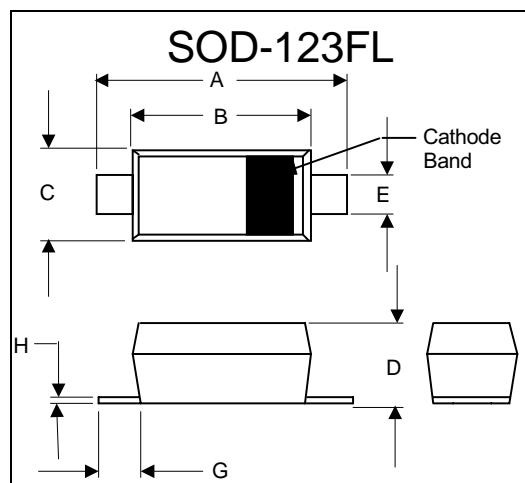
- Operating Temperature(T<sub>J</sub>): -65°C to +175°C
- Storage Temperature(T<sub>STG</sub>): -65°C to +175°C
- Typical Thermal Resistance(R<sub>thJA</sub>): 50°C/W

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

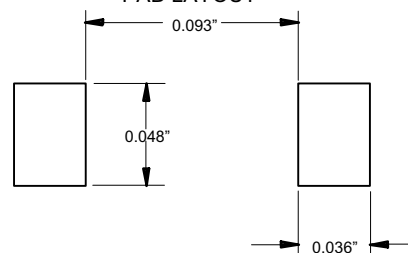
Average Forward Current	I <sub>F(AV)</sub>	1.0A	T <sub>A</sub> = 75°C
Peak Forward Surge Current	I <sub>FSM</sub>	25A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V <sub>F</sub>	1.1V	I <sub>F</sub> =1.0A T <sub>A</sub> = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I <sub>R</sub>	5.0µA 50uA	T <sub>A</sub> = 25°C T <sub>A</sub> =100 °C
Maximum Full Load Reverse Current Average ,Full Cycle 9.5mm Lead Length	I <sub>R</sub>	30uA	T <sub>L</sub> =75 °C
Typical Junction Capacitance	C <sub>J</sub>	15pF	Measured at 1.0MHz, V <sub>R</sub> =4.0V
Typical Reverse Recovery Time	T <sub>rr</sub>	>1000ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A I <sub>RR</sub> =0.25A

Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.140	.152	3.55	3.85	
B	.100	.122	2.55	3.10	
C	.055	.075	1.40	1.90	
D	.035	.047	0.90	1.20	
E	.020	.041	0.50	1.05	
G	.010	-----	0.25	-----	
H	-----	.010	----	.25	

### SUGGESTED SOLDER PAD LAYOUT



# SM4001PL thru SM4007PL

Figure 1  
Typical Forward Characteristics

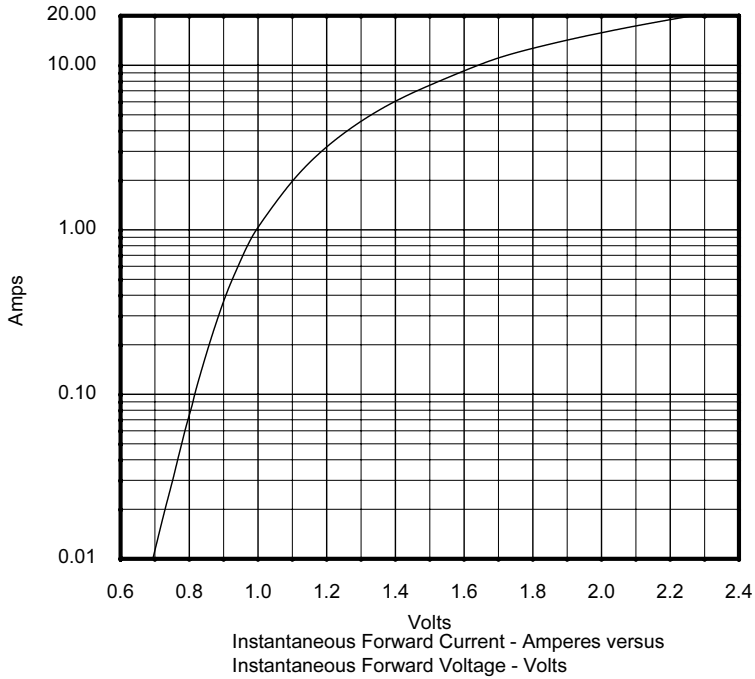


Figure 2  
Forward Derating Curve

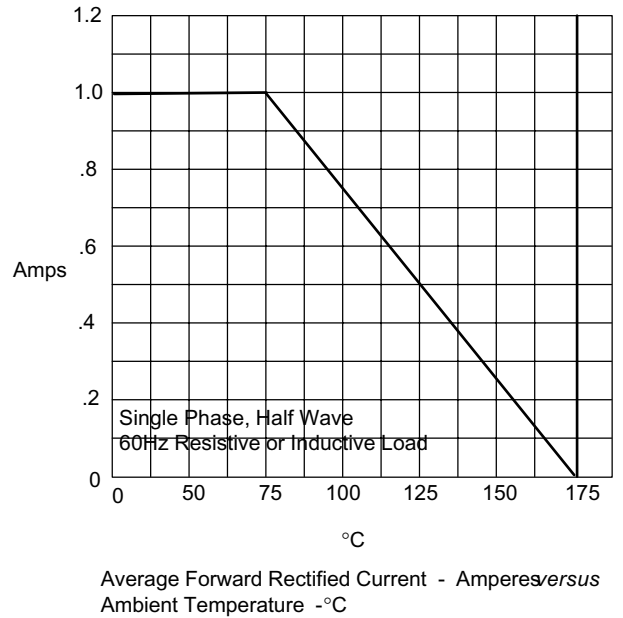


Figure 3  
Junction Capacitance

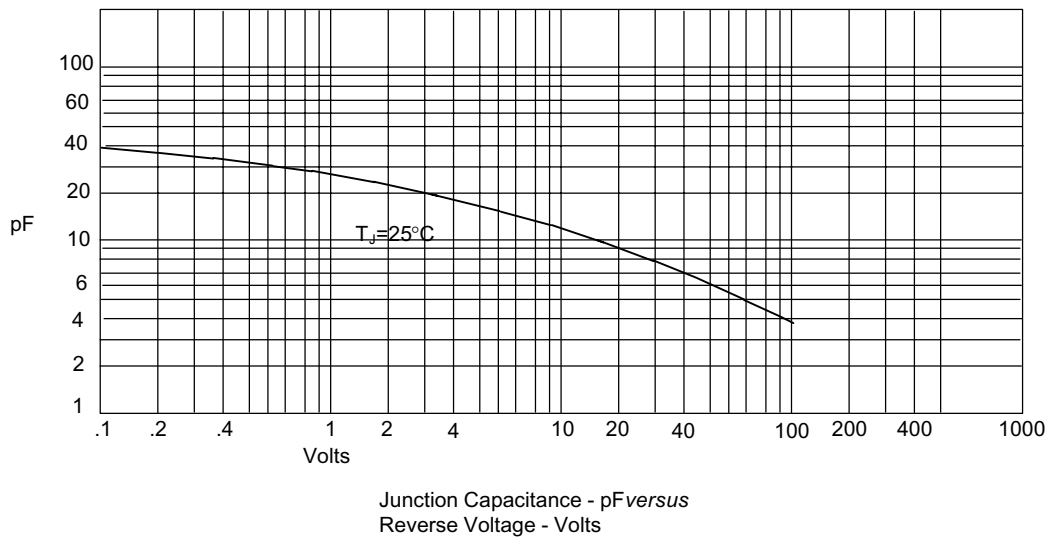
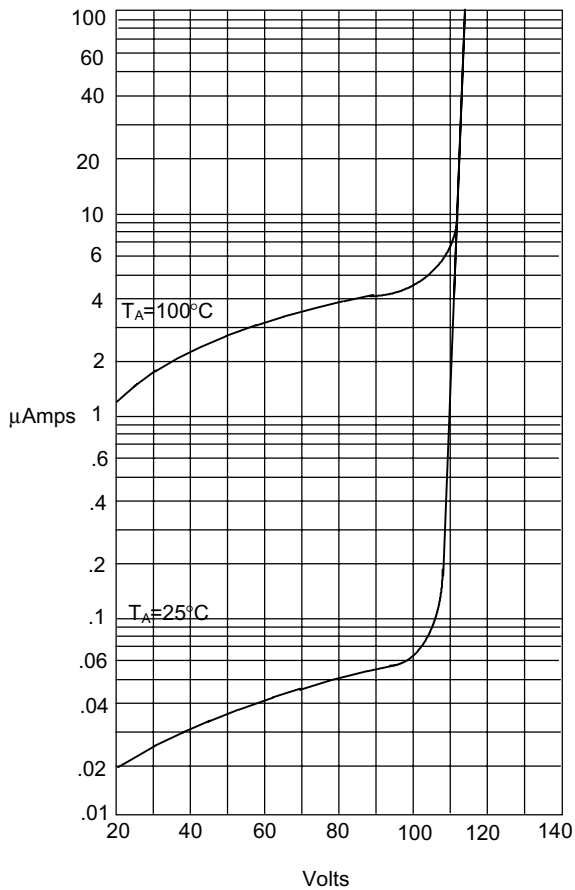
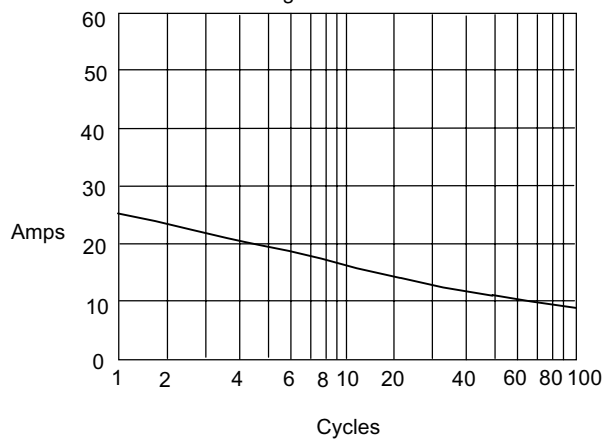


Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles



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Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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