1 Amp General Purpose Rectifier 50 to 1000 Volts

Features

- AEC-Q101 Qualified
- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Low Leakage Current
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

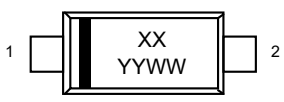
Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value							Unit
		SM4001 PLHE3	SM4002 PLHE3	SM4003 PLHE3	SM4004 PLHE3	SM4005 PLHE3	SM4006 PLHE3	SM4007 PLHE3	
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V_{RWM}								
DC Blocking Voltage	V_R								
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ See Fig. 1	$I_{F(AV)}$	1							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	30							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60							
Current Squared Time @1ms≤t≤8.3ms	I^2t	3.7							A^2s

Marking code

Part Number	Marking code
SM4001PLHE3	A1
SM4002PLHE3	A2
SM4003PLHE3	A3
SM4004PLHE3	A4
SM4005PLHE3	A5
SM4006PLHE3	A6
SM4007PLHE3	A7

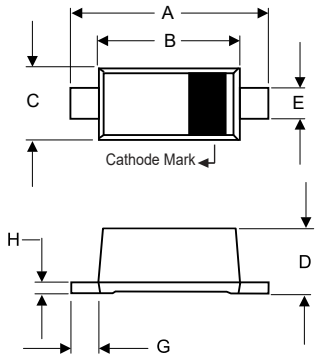
Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	 XX = Marking Code YYWW = Date Code	
2	Anode		

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

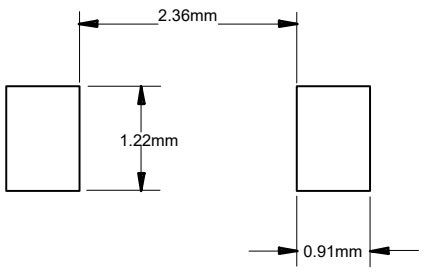
2. High temperature solder exemption applied, see EU directive annex 7a.

SOD-123FL



DIMENSIONS					
DIM	INCHES		MM		NOTE
	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



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$Rth_{(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		30		°C/W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		80		°C/W

Note:
1.Mounted on P.C.B with 5mm*5mm Copper Pad Areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=1A;T_J=25°C			1.1	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			1 50	μA
Junction Capacitance	C_J	V_R=4V;f=1MHz;T_J=25°C		10		pF
Reverse Recovery Time	t_{rr}	I_F=0.5A; I_R=1.0A; I_{rr}=0.25A;T_J=25°C	1000		3000	nS

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

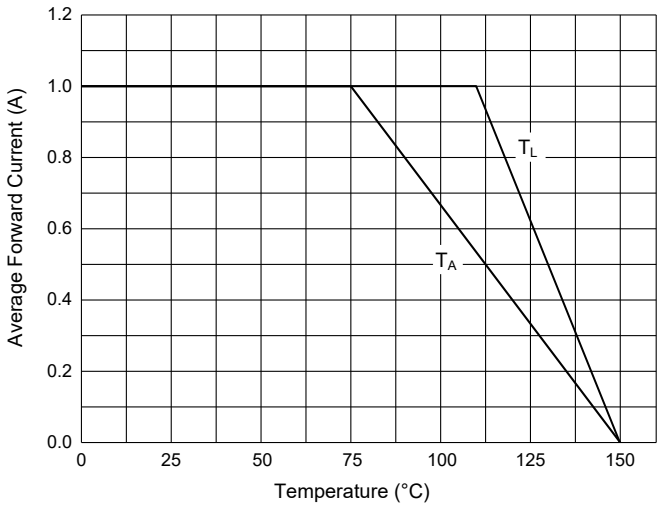


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

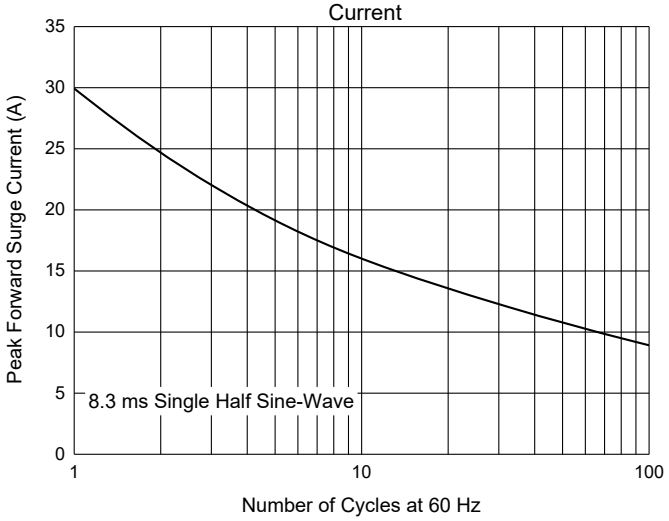


Fig. 3 - Typical Forward Characteristics

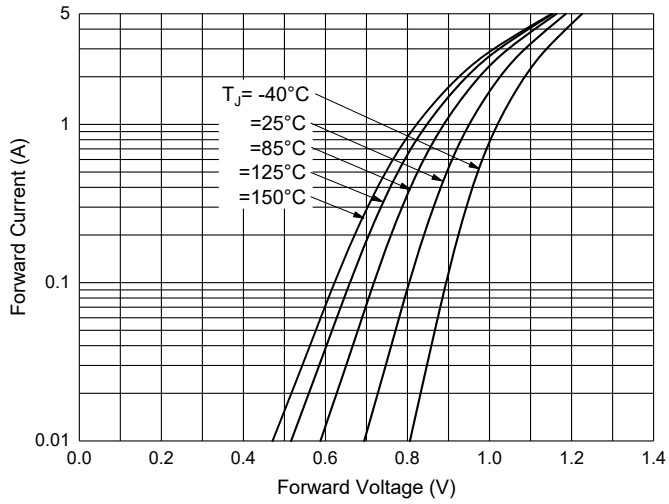


Fig. 4 - Typical Reverse Leakage Characteristics

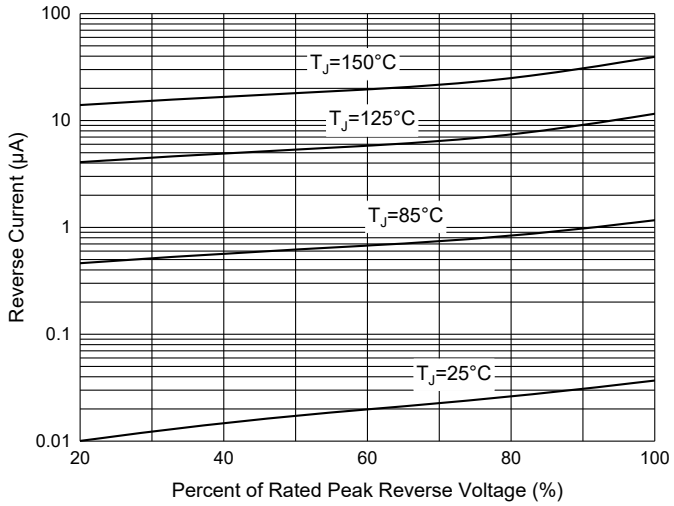
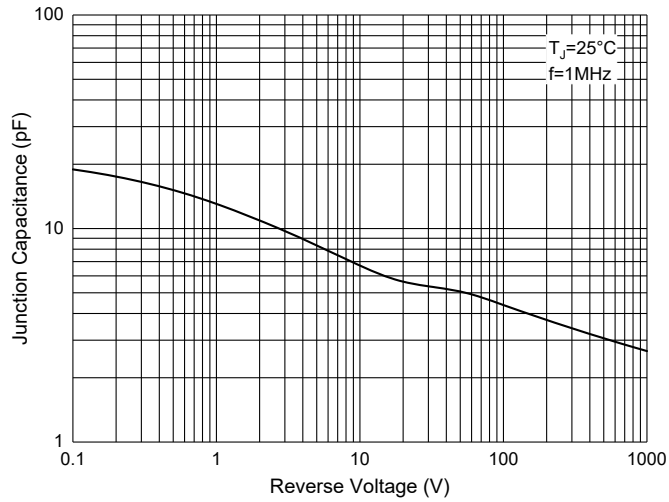


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

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