

## Features

- Halogen Free. "Green" Device (Note 1)
- High Current Capability
- Low Profile Package
- 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)

1 Amp  
Gi fZUMY'Aci bh  
GW ch\_mF YWIZYf  
20 to 40 Volts

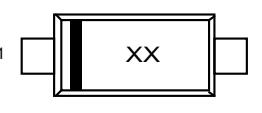
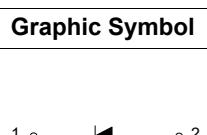
## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value			Unit
		SM5817PL	SM5818PL	SM5819PL	
Peak Repetitive Reverse Voltage	$V_{RRM}$				
Working Peak Reverse Voltage	$V_{RWM}$	20	30	40	V
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{RMS}$	14	21	28	V
Average Rectified Forward Current	$I_{F(AV)}$		1		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$		30		A
Current Squared Time @1ms≤t≤8.3ms	$I^2t$		3.735		$A^2s$

## Marking Code

Part Number	Marking Code
SM5817PL	K2
SM5818PL	K3
SM5819PL	K4

## Internal Structure

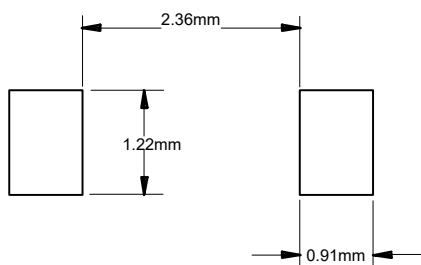
Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode	 XX = Marking code	

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						NOTE	
		INCHES		MM			
DIM		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 <sub>J</sub>	Operating Junction Temperature Range		-55		125	°C
T <sub>stg</sub>	Storage Temperature Range		-55		150	°C
R <sub>th(J-L)</sub>	Thermal Resistance from Junction to Lead	Note 1		30		°C/W
R <sub>th(J-A)</sub>	Thermal Resistance from Junction to Ambient	Note 1		88		°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 SM5817PL SM5818PL~SM5819PL	V <sub>F</sub>	I <sub>F</sub> =1A;T <sub>J</sub> =25°C			0.45 0.53	V
Reverse Current	I <sub>R</sub>	at Rated V <sub>R</sub> ;T <sub>J</sub> =25°C at Rated V <sub>R</sub> ;T <sub>J</sub> =100°C			0.05 9	mA
Junction Capacitance SM5817PL SM5818PL~SM5819PL	C <sub>J</sub>	V <sub>R</sub> =4V;f=1MHz;T <sub>J</sub> =25°C		75 50		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

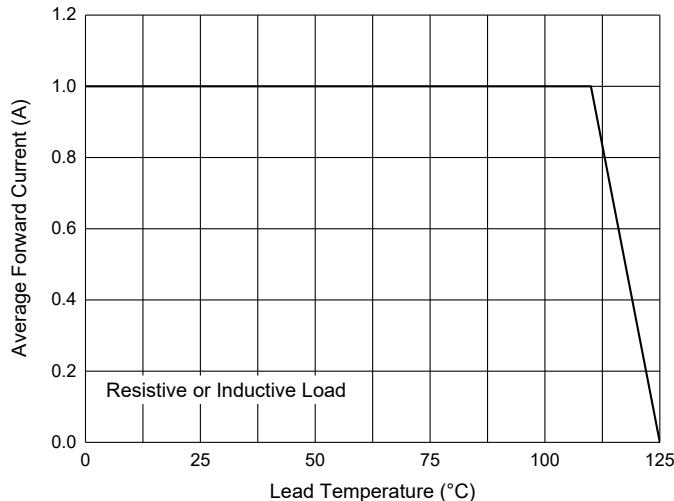


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

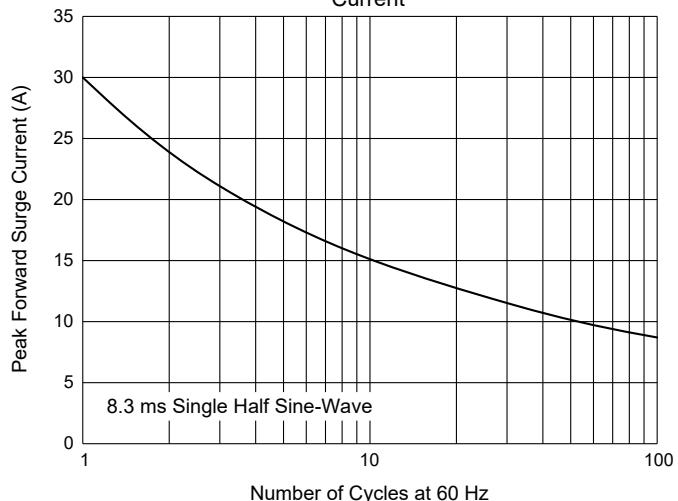


Fig. 3 - Typical Forward Characteristics

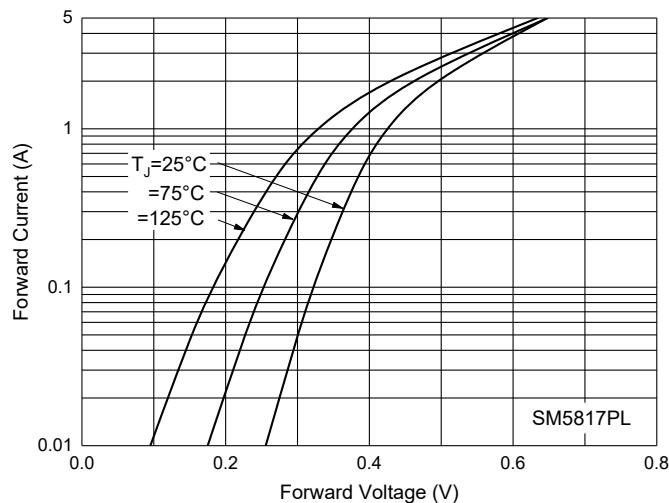


Fig. 4 - Typical Forward Characteristics

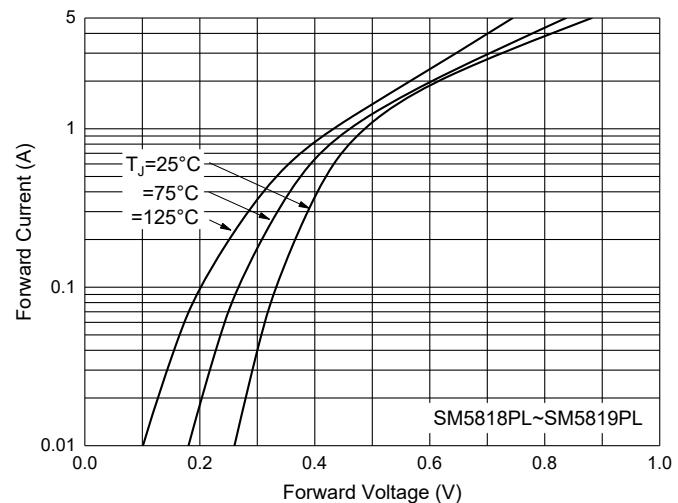


Fig. 5 - Typical Reverse Leakage Characteristics

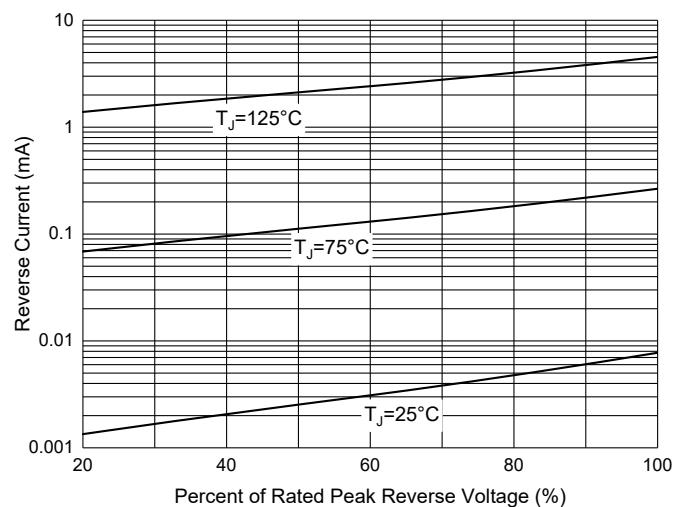
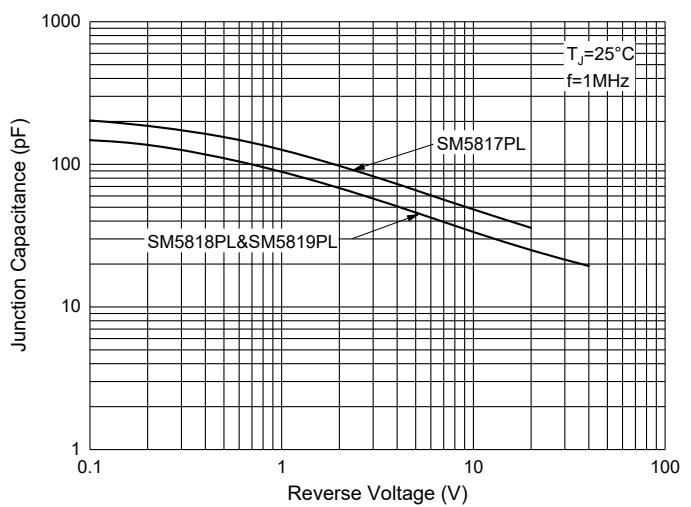


Fig. 6 - Typical Capacitance Characteristics



## Ordering Information

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

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