

**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)

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

Parameter	Symbol	Value			Unit
		SM5817PL	SM5818PL	SM5819PL	
Peak Repetitive Reverse Voltage	$V_{RRM}$	20	30	40	V
Working Peak Reverse Voltage	$V_{RWM}$				
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 @ $1ms \leq t \leq 8.3ms$	$I^2t$	3.735			A <sup>2</sup> s

**1 Amp**  
**Gi fZUW'Ac i bh**  
**GW ch\_mIF YWjZyF**  
**20 to 40 Volts**

**Marking Code**

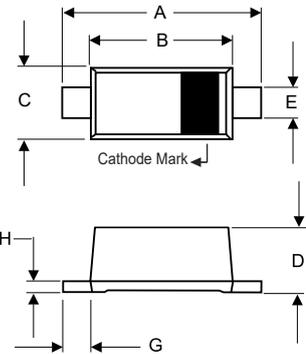
Part Number	Marking Code
SM5817PL	K2
SM5818PL	K3
SM5819PL	K4

**Internal Structure**

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	<p>XX = Marking code</p>	
2	Anode		

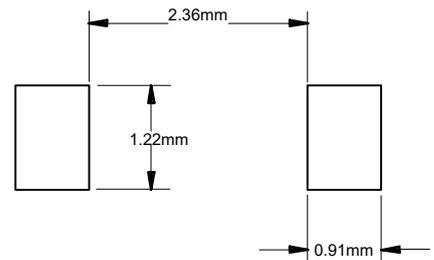
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High temperature solder exemption applied, see EU directive annex 7a.

**SOD-123FL**



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		125	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		30		°C/W
$R_{th(J-A)}$	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	$V_F$	$I_F=1A; T_J=25^{\circ}C$			0.45 0.53	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=100^{\circ}C$			0.05 9	mA
Junction Capacitance SM5817PL SM5818PL~SM5819PL	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		75 50		pF

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

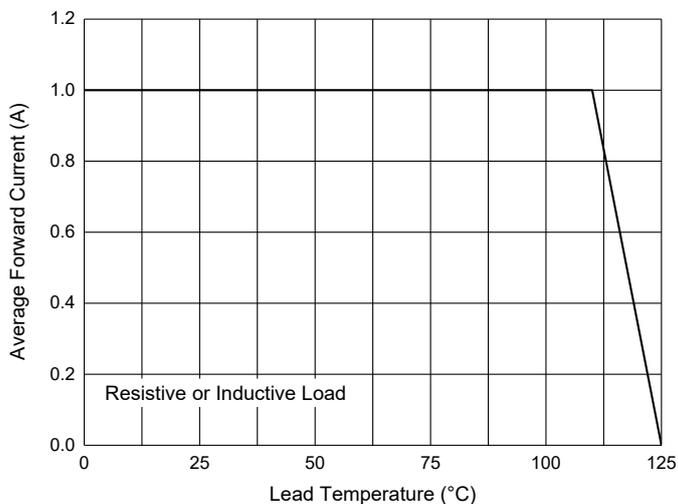


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

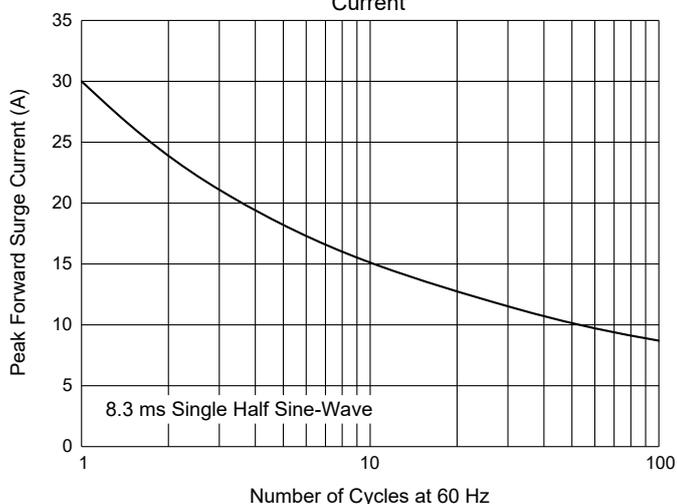


Fig. 3 - Typical Forward Characteristics

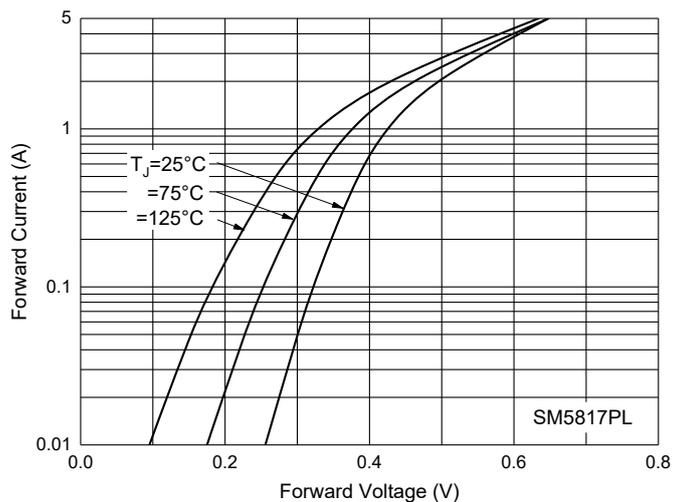


Fig. 4 - Typical Forward Characteristics

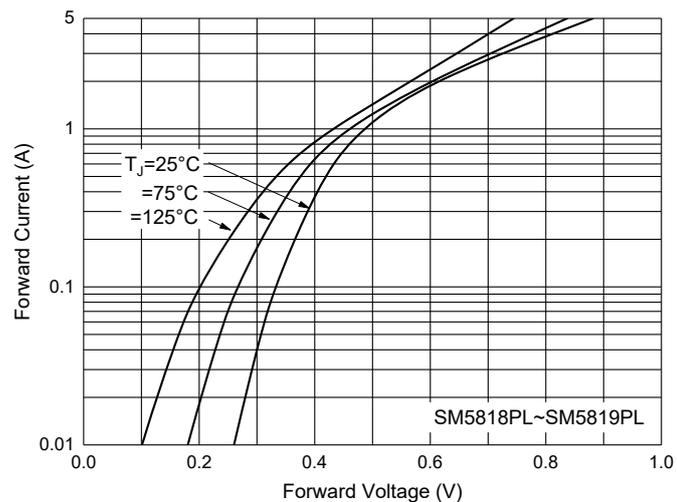


Fig. 5 - Typical Reverse Leakage Characteristics

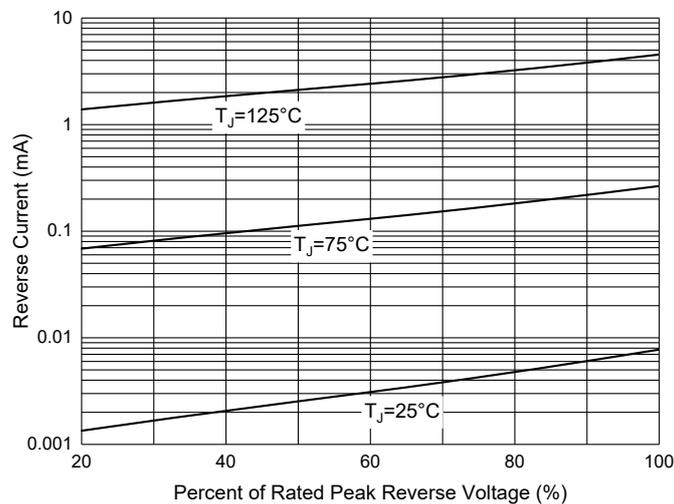
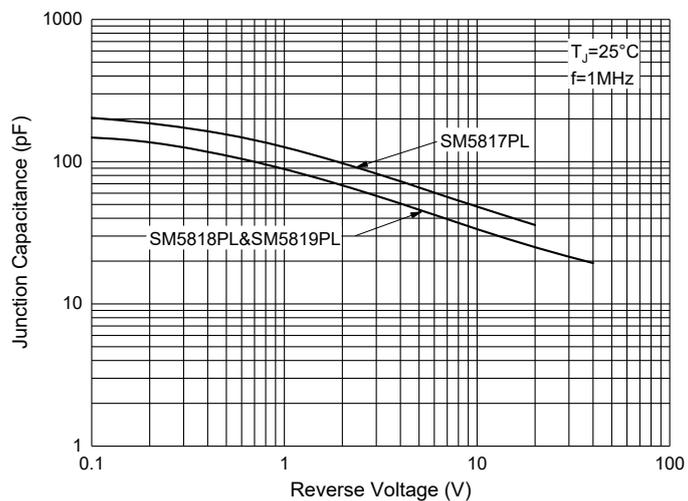


Fig. 6 - Typical Capacitance Characteristics



## Ordering Information

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

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