

## Features

- Halogen Free. "Green" Device (Note 1)
- Super Fast Recovery Time
- Glass Passivated Chip Junction
- 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)

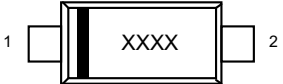

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value								Unit
		SFM 11PL	SFM 12PL	SFM 13PL	SFM 14PL	SFM 15PL	SFM 16PL	SFM 17PL	SFM 18PL	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>									
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Average Rectified Forward Current @ T <sub>L</sub> =110°C	I <sub>F(AV)</sub>	1								A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I <sub>FSM</sub>	30								A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60								
Current Squared Time @1ms≤t≤8.3ms	I <sup>2</sup> t	3.735								A <sup>2</sup> s

## Marking code

Part Number	Marking Code
SFM11PL	S1
SFM12PL	S2
SFM13PL	S3
SFM14PL	S4
SFM15PL	S5
SFM16PL	S6
SFM17PL	S7
SFM18PL	S8

## Internal Structure

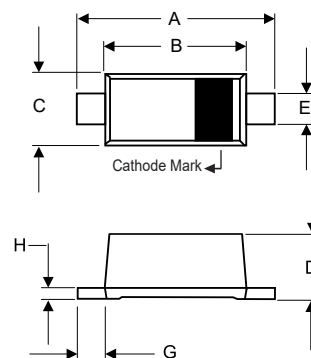
Pin	Description	Simplified outline	Graphic symbol
1	Cathode	 XXXX = Marking code	
2	Anode		

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.

# 1 Amp Super Fast Recovery Rectifier 50 to 600 Volts

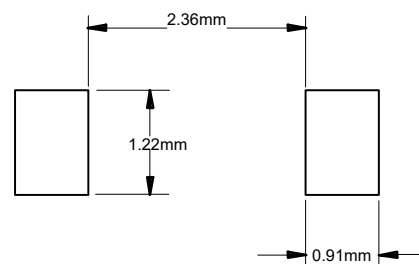
## SOD-123FL



## 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
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		28		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		95		°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 SFM11PL~SFM14PL SFM15PL~SFM16PL SFM17PL~SFM18PL	$V_F$	$I_F=1A; T_J=25^{\circ}C$			0.95 1.25 1.70	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	$\mu A$
Reverse Recovery Time	$t_{rr}$	$I_F=0.5A; I_R=1.0A;$ $I_{rr}=0.25A; T_J=25^{\circ}C$			35	ns
Junction Capacitance SFM11PL~SFM14PL SFM15PL~SFM16PL SFM17PL~SFM18PL	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		20 12 8		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

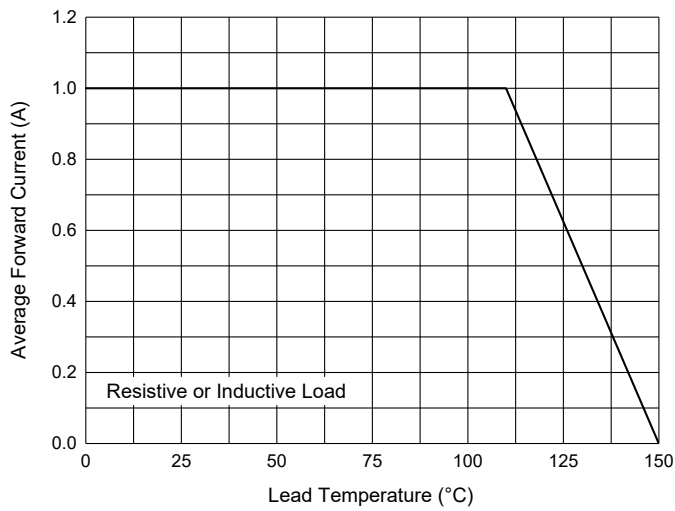


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

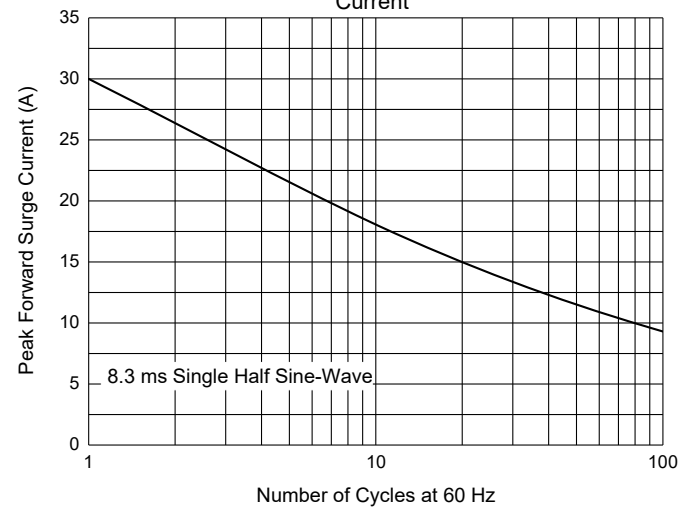


Fig. 3 - Typical Forward Characteristics

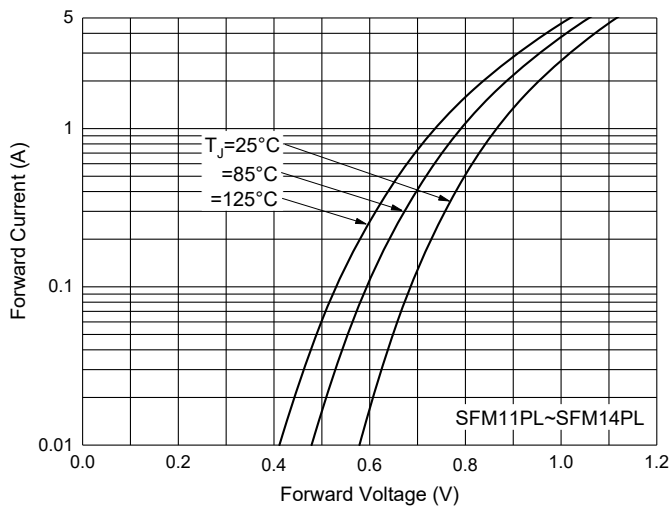


Fig. 4 - Typical Forward Characteristics

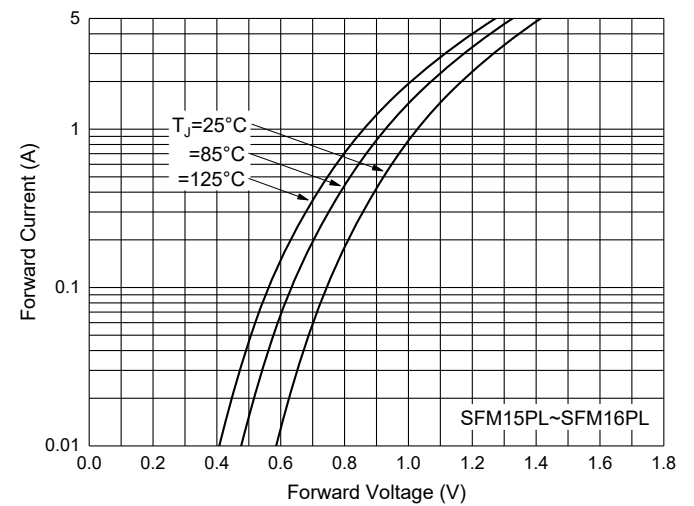


Fig. 5 - Typical Forward Characteristics

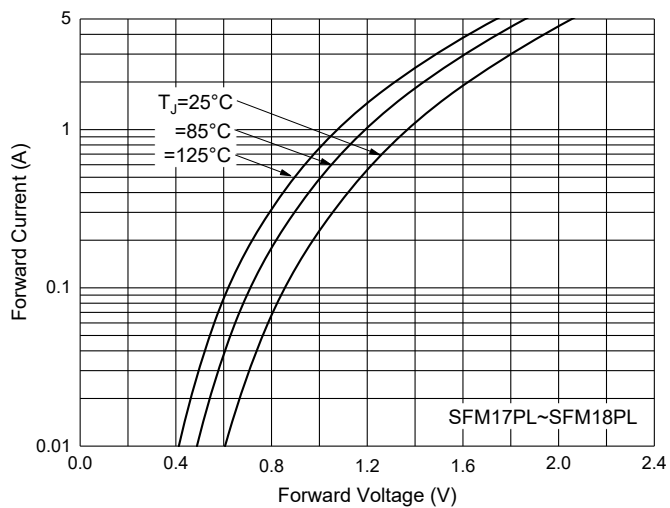
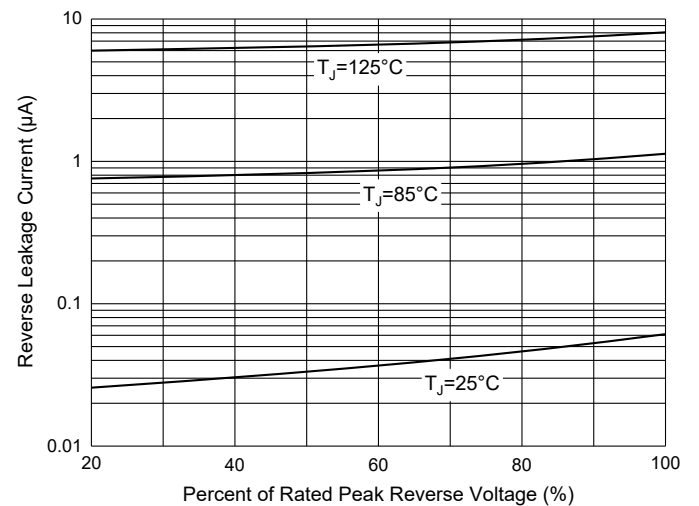
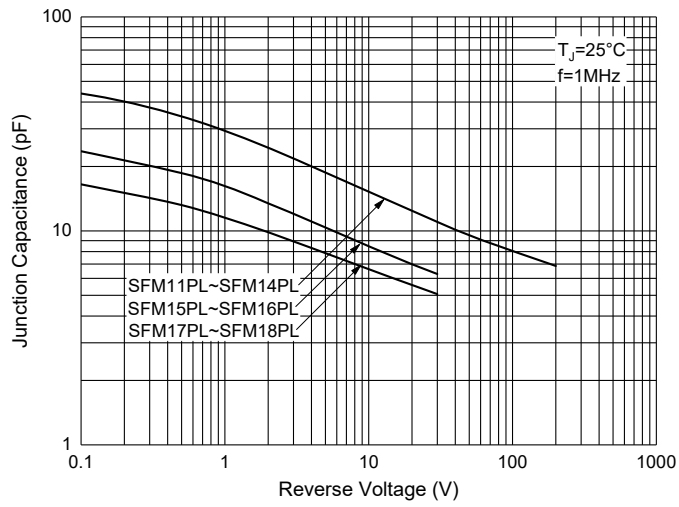


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - 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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