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)

1 Amp Super Fast Recovery Rectifier 50 to 600 Volts

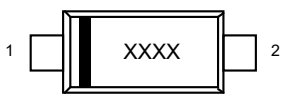
Maximum Ratings @ 25°C (Unless Otherwise Specified)

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_{RRM}	50	100	150	200	300	400	500	600	V
Working Peak Reverse Voltage	V_{RWM}									
DC Blocking Voltage	V_R									
RMS Reverse Voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Average Rectified Forward Current @ T_L=110°C	$I_{F(AV)}$	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	3.735								A^2s

Marking code

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

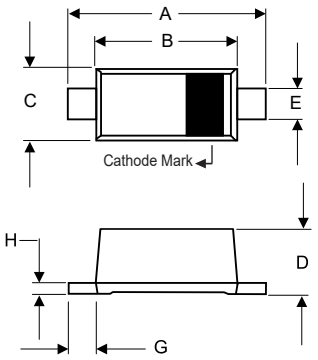
Internal Structure

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.

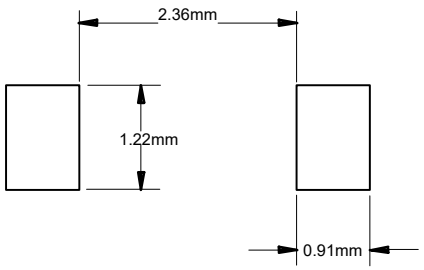
2. High temperature solder exemption applied, see EU directive annex 7a.

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		28		°C/W
$Rth_{(J-A)}$	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°C			 0.95 1.25 1.70	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			5 100	μA
Reverse Recovery Time	t_{rr}	I_F=0.5A; I_R=1.0A; I_{rr}=0.25A;T_J=25°C			35	ns
Junction Capacitance SFM11PL~SFM14PL SFM15PL~SFM16PL SFM17PL~SFM18PL	C_J	V_R=4V;f=1MHz;T_J=25°C		 20 12 8		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

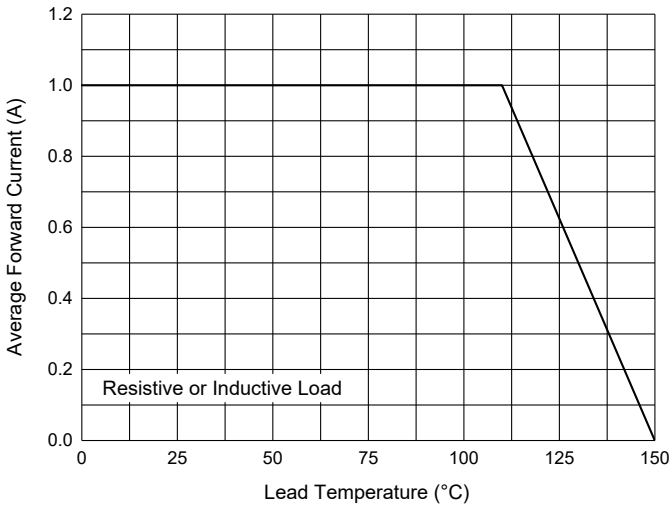


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

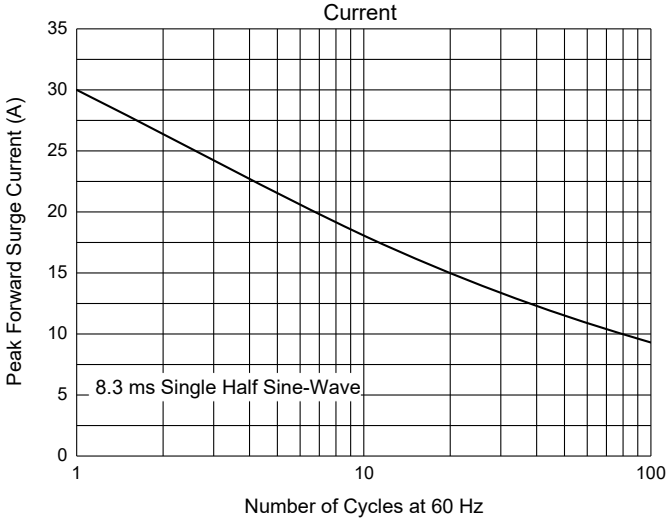


Fig. 3 - Typical Forward Characteristics

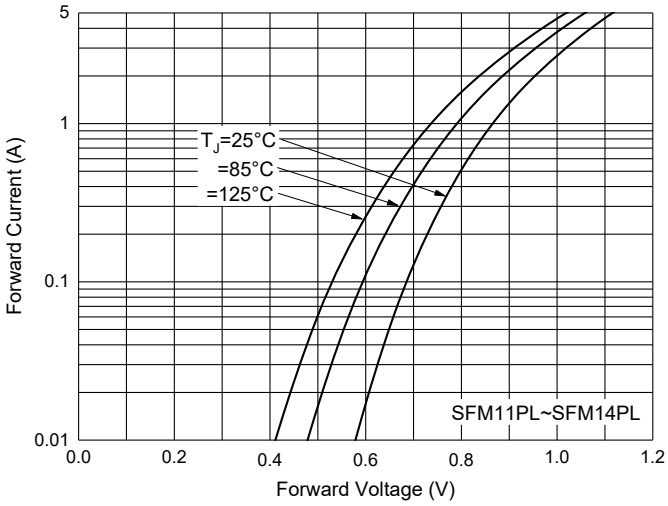


Fig. 4 - Typical Forward Characteristics

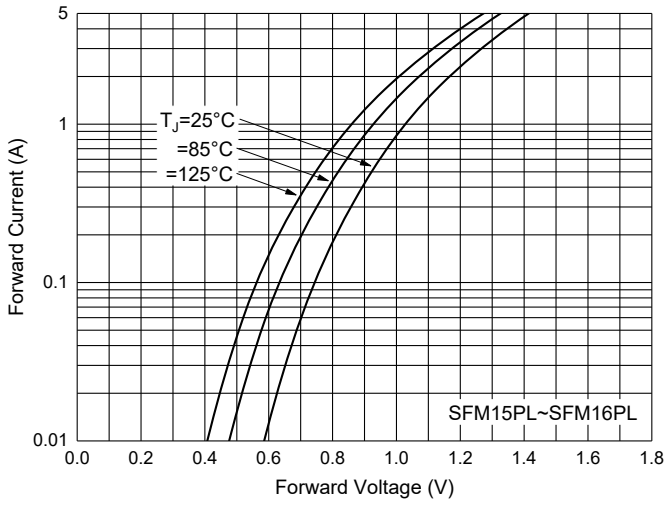


Fig. 5 - Typical Forward Characteristics

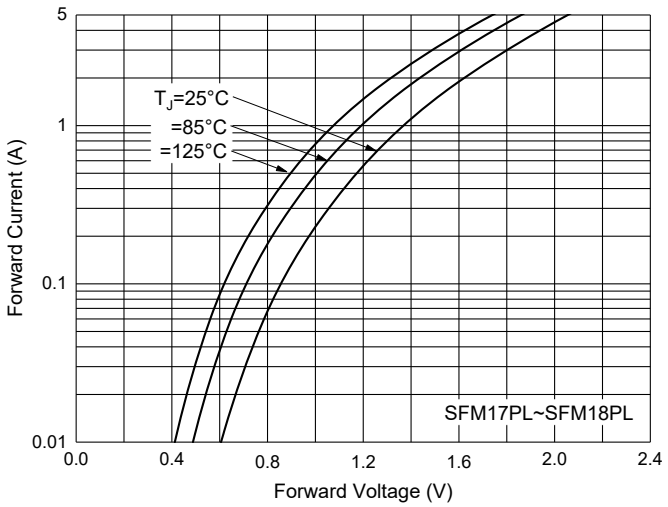
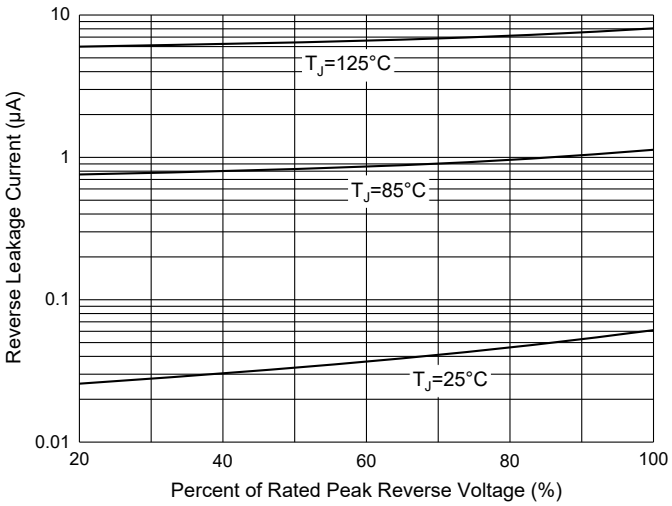
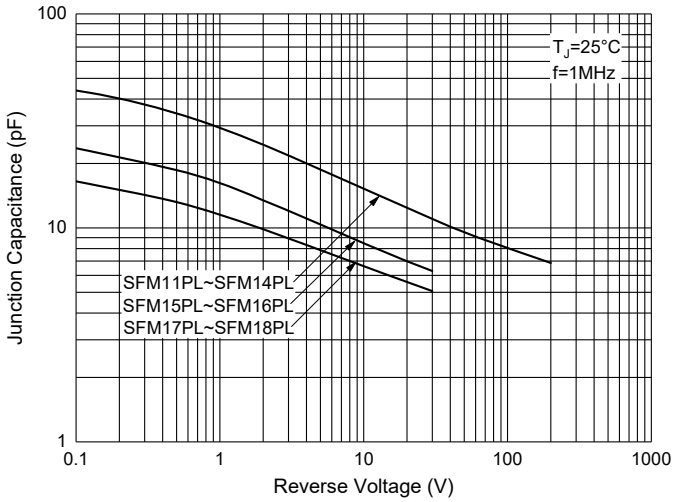


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics



Ordering Information

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