

## Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Low Profile Package
- High Surge Capability
- 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
		SFM14PLHE3	SFM16PLHE3	SFM18PLHE3	
Peak Repetitive Reverse Voltage	$V_{RRM}$	200	400	600	V
Working Peak Reverse Voltage	$V_{RWM}$				
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{RMS}$	140	280	420	V
Average Rectified Forward Current @ $T_L=90^\circ\text{C}$	$I_{F(AV)}$	1			A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	30			A
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	3.735			A <sup>2</sup> s

## Marking code

Part Number	Marking code
SFM14PLHE3	S4
SFM16PLHE3	S6
SFM18PLHE3	S8

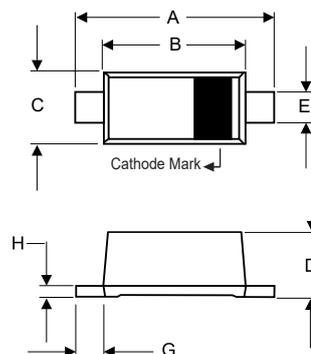
## Internal Structure

Pin	Description	Simplified outline	Graphic symbol
1	cathode	 <p>XXXX = Marking code YYWW = Date 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.

# 1 Amp Super Fast Recovery Rectifier 200 to 600 Volts

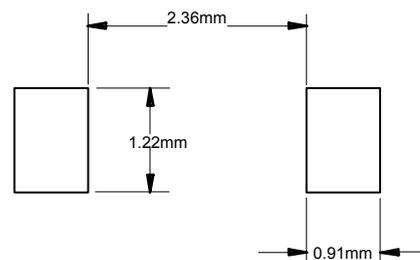
## SOD-123FL



### 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		35		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		85		°C/W

Note:

1. Mounted on P.C.B. with 3mm\*3mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage SFM14PLHE3 SFM16PLHE3 SFM18PLHE3	$V_F$	$I_F=1A; T_J=25^\circ C$			1.0 1.3 1.7	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	uA
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 SFM14PLHE3 SFM16PLHE3 SFM18PLHE3	$C_J$	$V_R=4V; f=1MHz; T_J=25^\circ C$		20 11 13		pF

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

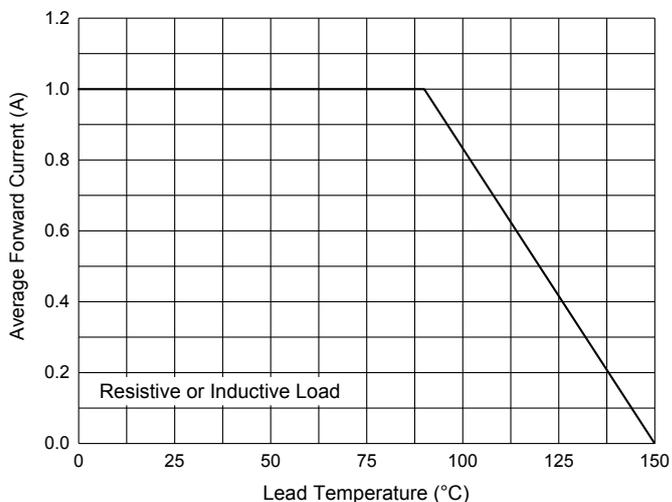


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

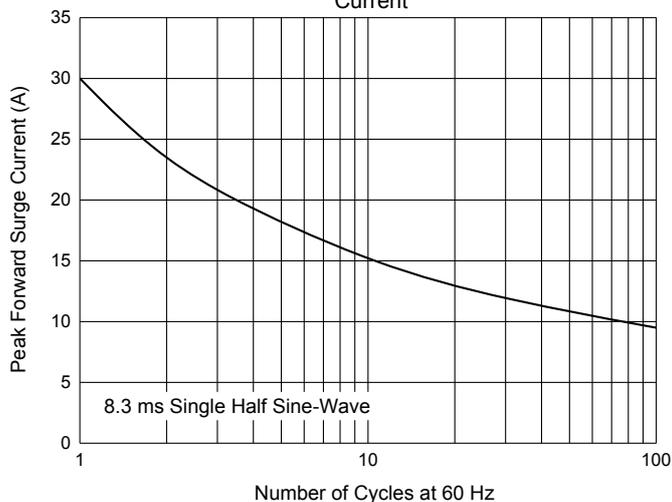


Fig. 3 - Typical Instantaneous Forward Characteristics

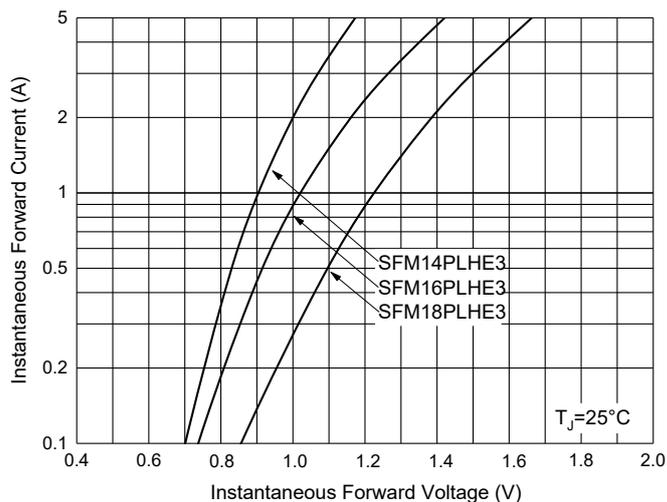


Fig. 4 - Typical Reverse Leakage Characteristics

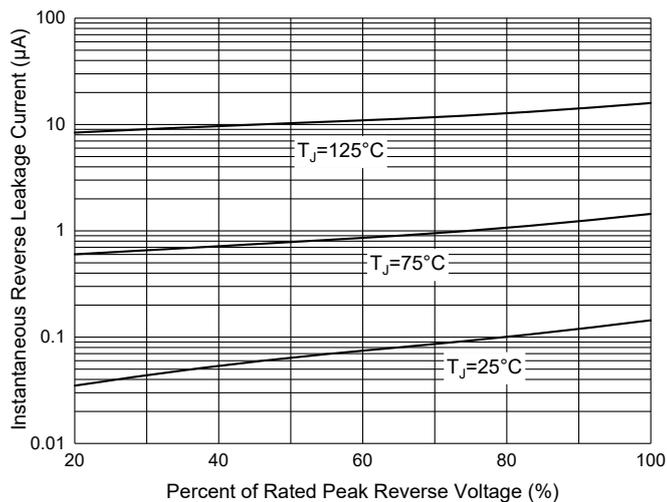
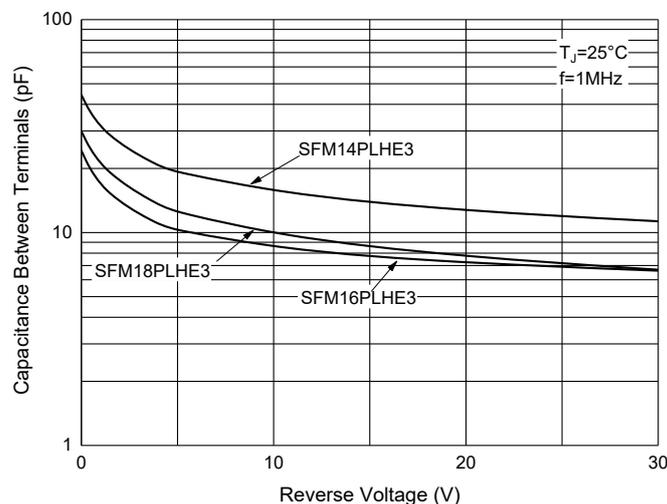


Fig. 5 - Capacitance Characteristics



## Ordering Information

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

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