

# SOD-123FL Plastic-Encapsulate Diodes

## Transient Voltage Suppressor Diodes

### Features

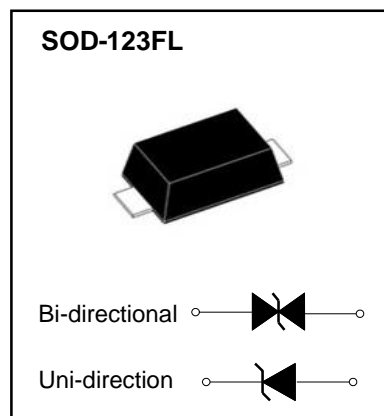
- $P_{PPM}$  200W
- $V_{RWM}$  3.3V
- Low power loss, high efficiency
- Excellent clamping capability

### Applications

- Protect sensitive circuit from damage by high voltage transients
- Lighting, ESD transient voltage protection of IC, system
- Inductive switching load protection of IC, system
- Electrical Fast Transient Immunity protection of IC, system

### Mechanical Data

- Case: SOD-123FL molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end



### Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak power dissipation	$P_{PPM}$	W	with a 10/1000us waveform <sup>(1)</sup>	200
Peak pulse current	$I_{PPM}$	A	with a 10/1000us waveform	See Next Table
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	Peak forward surge current, 8.3 ms single half sinewave unidirectional only	30
Peak Forward Voltage	$V_F$	V	Maximum instantaneous forward voltage at 10 A for unidirectional only	3.5
Operating junction and storage temperature range	$T_J, T_{STG}$	°C		-55 to +150
Thermal resistance	$R_{\theta JL}$	°C/W	Between junction and lead	26
	$R_{\theta JA}$	°C/W	Between junction and Ambient	300
	$R_{\theta JC}$	°C/W	Between junction and Case	40

1)Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25^\circ\text{C}$  per Fig.1 ;

Part Number		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C MAX}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMF3.3A	SMF3.3CA	3.30	4.10	5.10	10	7.3	27.5	1000

# Typical Characteristics

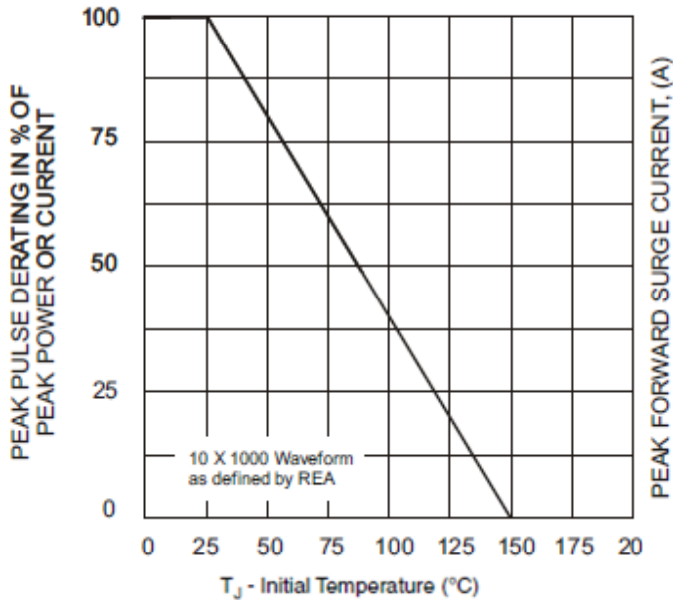


Fig. 1 - Pulse Derating Curve

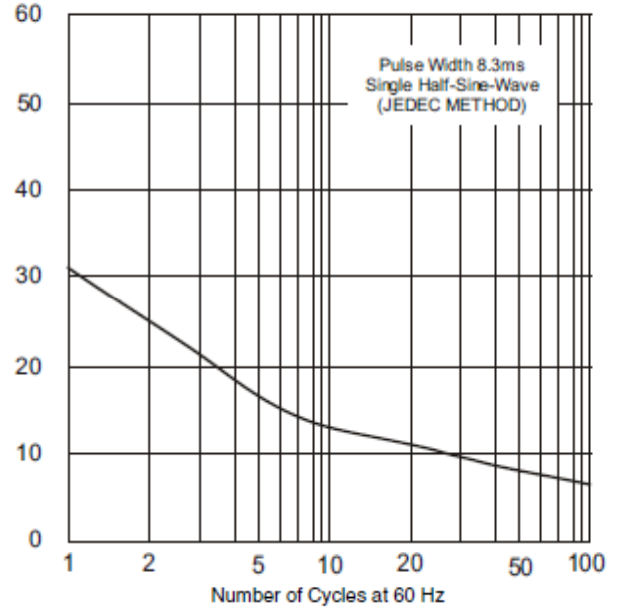


Fig. 2 - Maximum Non-Repetitive Surge Current

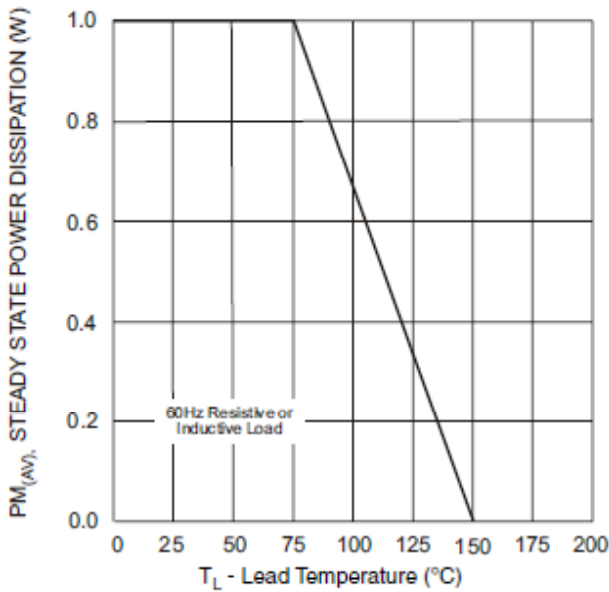


Fig. 3 - Steady State Power Derating Curve

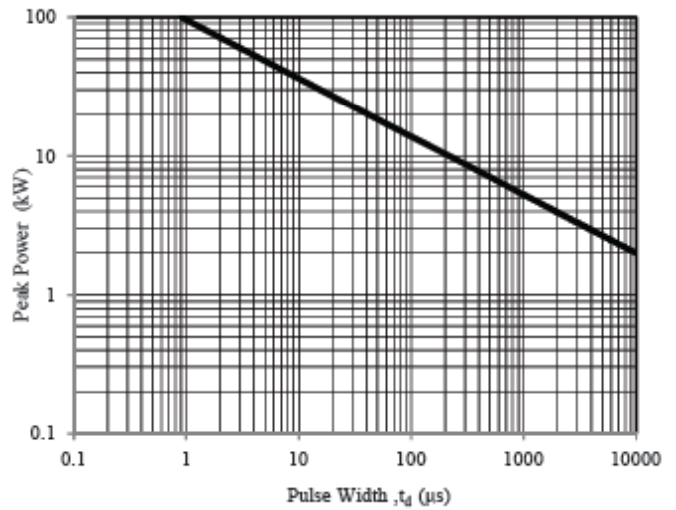


Fig. 4 - Peak Pulse Power Rating Curve

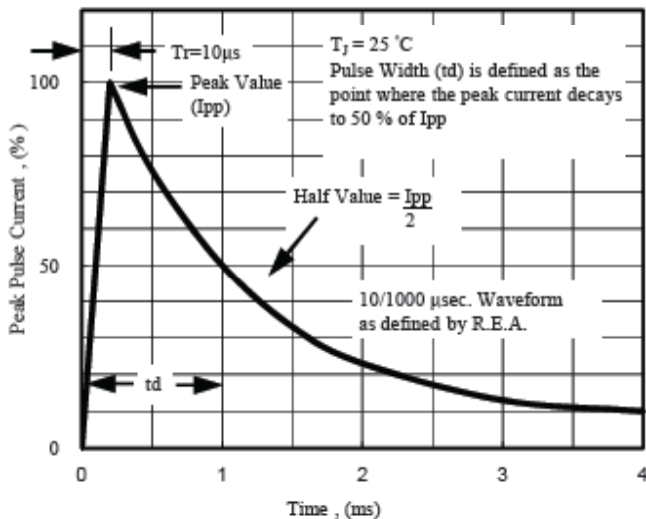


Fig. 5 - Pulse Waveform

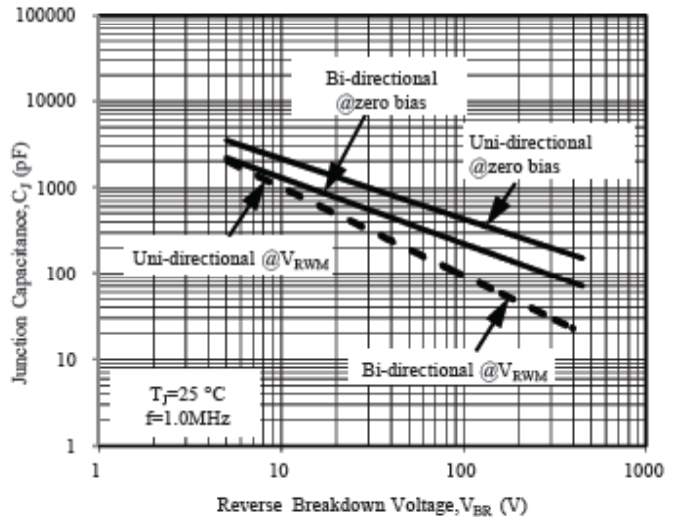
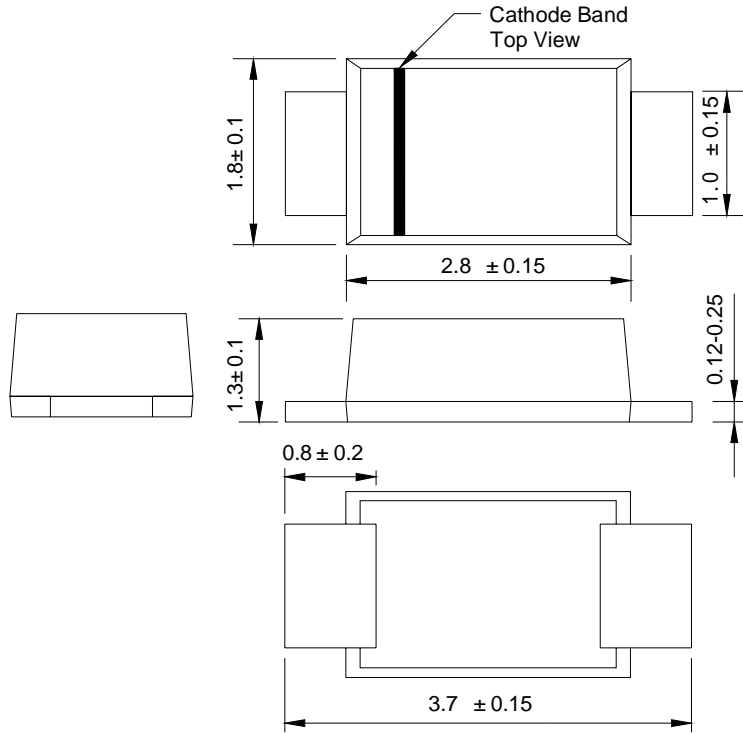


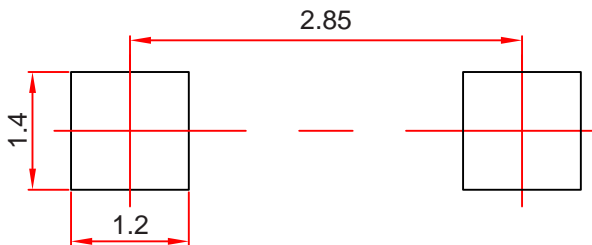
Fig. 6 - Typical Junction Capacitance

## SOD-123FL Package Outline Dimensions



Dimensions in millimeters

## SOD-123FL Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

## Ordering Information

Part Number	Package	Shipping Quantity
SMF3.3(C)A	SOD-123FL	3000/tape&Reel

## Marking Diagram

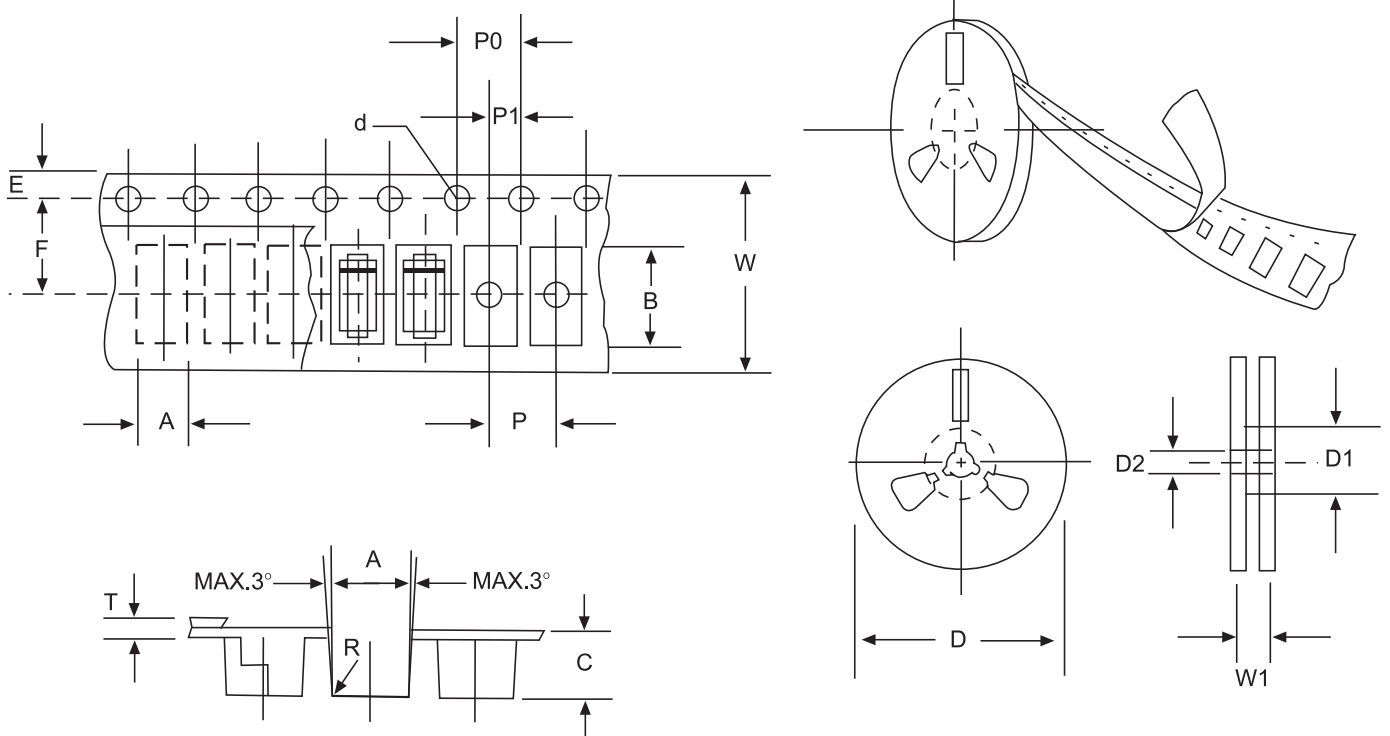
Uni-direction



Bi-directional



# Reel Taping Specifications For Surface Mount Devices–SOD-123FL



**FIG : CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING**

ITEM	SYMBOL	SOD-123FLmm(inch)
Carrier width	A	2.05±0.1(0.081±0.004)
Carrier length	B	3.95±0.1(0.156±0.004)
Carrier depth	C	1.45±0.1(0.057±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	178±2.0(7.0±0.079)
Reel inner diameter	D1	54±1.0(2.13±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	3.50±0.1(0.138±0.002)
Punch hole pitch	P	4.0±0.1(0.157±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Total tape thickness	T	0.21±0.25(0.008±0.010)
Tape width	W	8.0±0.2(0.315±0.008)
Reel width	W1	10.0±2.0(0.394±0.079)

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specification given above.