

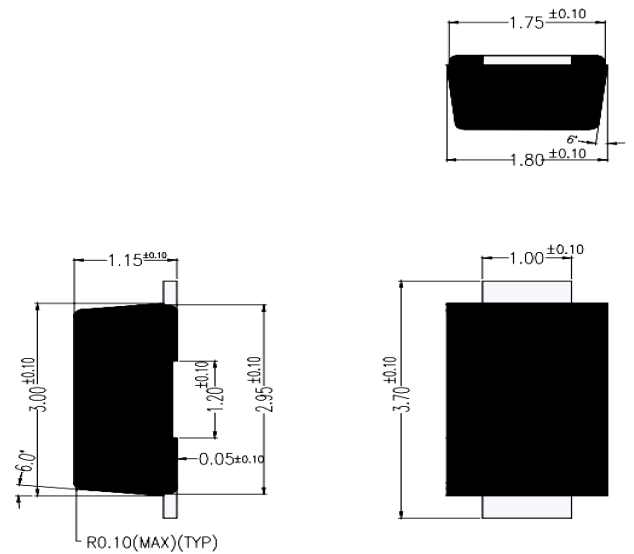
## ■ Features

- Glass passivated chip
- 200W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle):0.01%
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

## ■ Mechanical Data

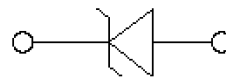
- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Moisture Sensitivity: Level 1 per J-STD-020
- RoHS Compliant
- Whisker test is conducted based on JEDEC JESD201A per its table 4a and 4c
- IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4

## SOD-123FL



Dimensions: inch[mm]

Uni-directional



Bi-directional



## ■ Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 $\mu$ s waveform(1)	PPP	200	W
Peak pulse current with a 10/1000 $\mu$ s waveform(1)	IPP	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^{\circ}\text{C}$	PD	0.4	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	IFSM	20	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V <sub>F</sub>	3.5	V
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to +150	$^{\circ}\text{C}$

Note:

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

(2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

## ■ Electrical Characteristics ( $T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage VBR @IT			Maximum Reverse Leakage IR @VRWM (uA)	Working Peak Reverse Voltage VRWM (V)	Maximum Reverse Surge Current IPP (A)	Maximum Clamping Voltage VC @IPP (V)
		Uni	Bi	Min (V)	Max (V)	IT (mA)				
SMF3.3A	SMF3.3CA	FD	KD	5.2	6.5	10	500	3.3	22.7	8.8



■ Ratings and Characteristics Curves ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

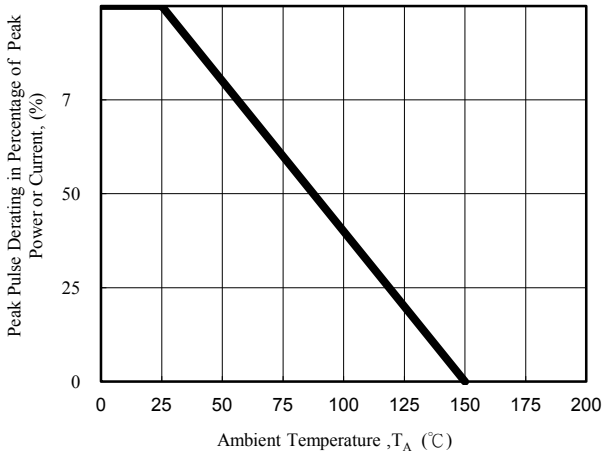


Fig. 1 - Pulse Derating Curve

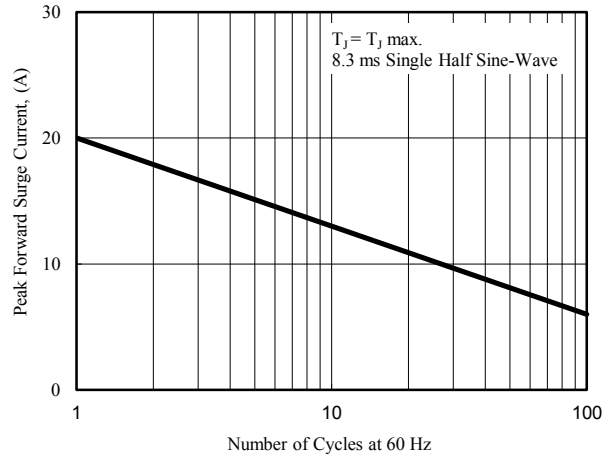


Fig. 2 - Maximum Non-Repetitive Surge Current

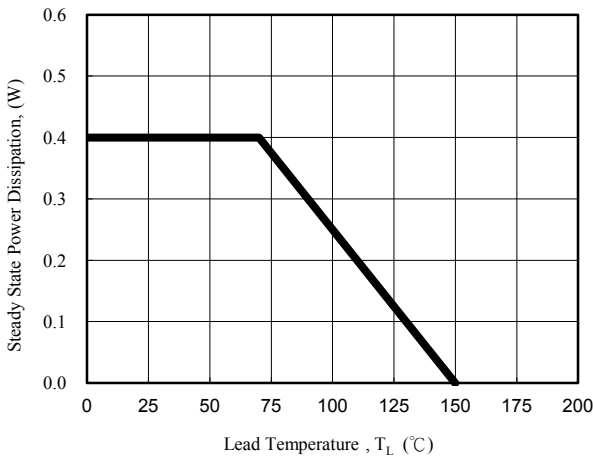


Fig. 3 - Steady State Power Derating Curve

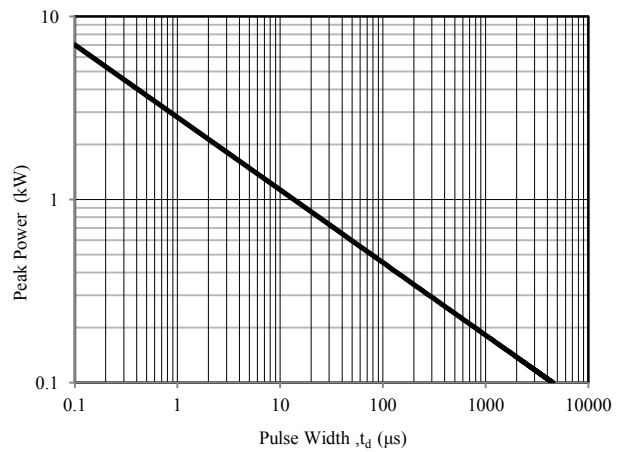


Fig. 4 - Peak Pulse Power Rating Curve

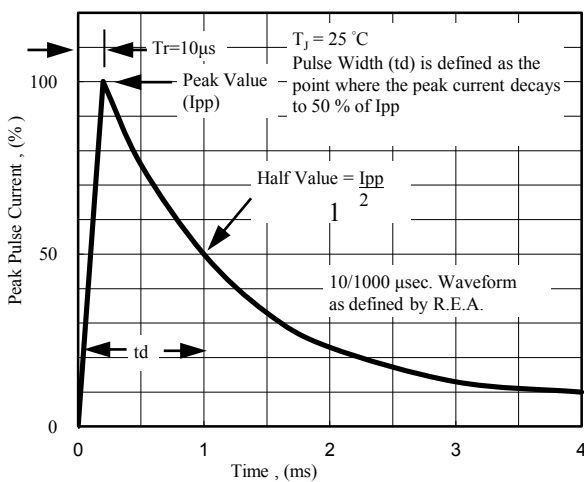


Fig. 5 - Pulse Waveform

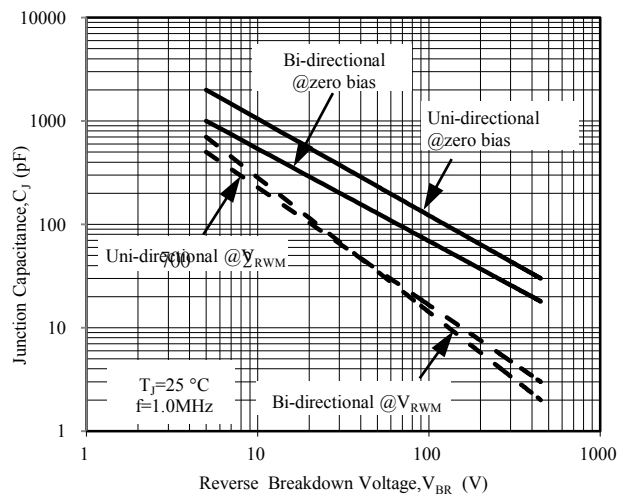


Fig. 6 - Typical Junction Capacitance