

# GSMF3.3A/GSMF3.3CA

Surface Mount Transient Voltage Suppressors  
 Peak Pulse Power 200W Stand-off Voltage 3.3V

## Features

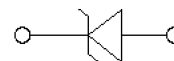
- Glass passivated chip
- 200W peak pulse power capability with a 10/1000µs waveform, repetitive rate (duty cycle): 0.01%
- Low leakage
- Uni and Bi directional unit
- Excellent clamping capability
- Very fast response time



SOD-123FL

## Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Cathode band denotes cathode end except Bipolar
- Moisture Sensitivity: Level 1 per J-STD-020
- 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



Uni-directional



Bi-directional

### Schematic Diagram

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Power Dissipation with a 10/1000µs Waveform <sup>1</sup>	P <sub>PP</sub>	200	W
Peak Pulse Current with a 10/1000µs Waveform <sup>1</sup>	I <sub>PP</sub>	See Next Table	A
Power Dissipation on Infinite Heatsink at T <sub>L</sub> =75°C	P <sub>D</sub>	0.4	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave for Unidirectional Only <sup>2</sup>	I <sub>FSM</sub>	20	A
Maximum Instantaneous Forward Voltage at 25A 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	°C

### Notes

1. Non-repetitive current pulse per Fig.5 and derated above T<sub>A</sub>=25°C per Figure 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<sub>A</sub>=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>			Maximum Reverse Leakage I <sub>R</sub> @V <sub>RWM</sub> (µA)	Working Peak Reverse Voltage V <sub>RWM</sub> (V)	Maximum Reverse Surge Current I <sub>PP</sub> (A)	Maximum Clamping Voltage V <sub>C</sub> @I <sub>PP</sub> (V)
		Uni	Bi	Min (V)	Max (V)	I <sub>T</sub> (mA)				
GSMF3.3A	GSMF3.3CA	FD	KD	4.22	6.58	10	30	3.3	22.7	8.8

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

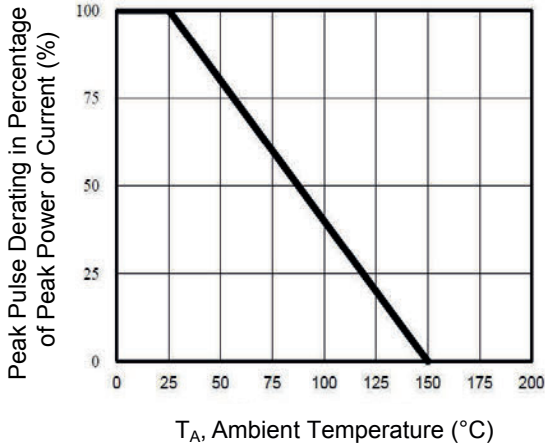


Figure 1. Pulse Derating Curve

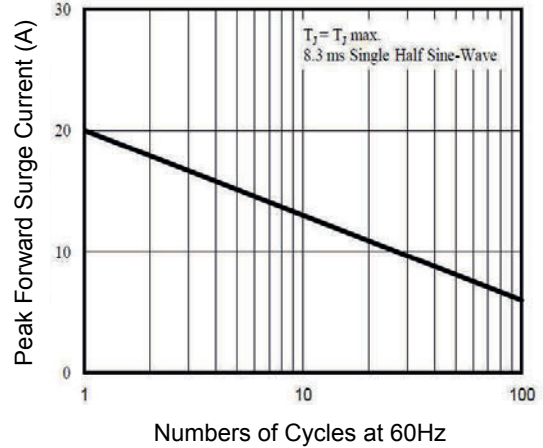


Figure 2. Maximum Non-Repetitive Surge Current

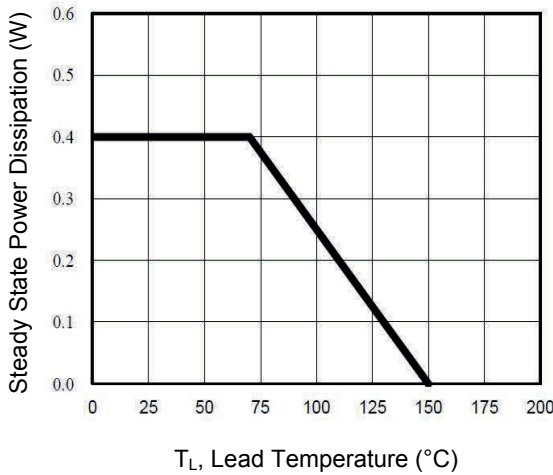


Figure 3. Steady State Power Derating Curve

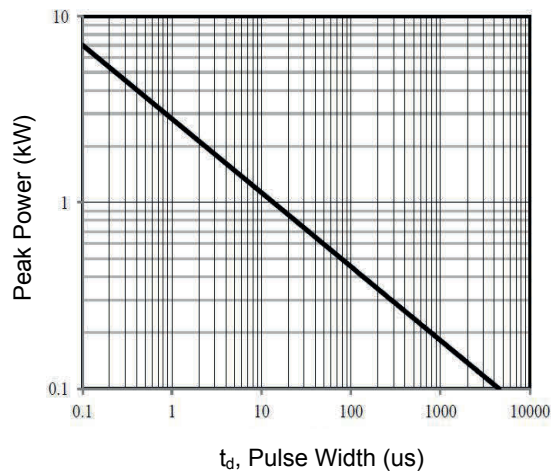


Figure 4. Peak Pulse Power Rating Curve

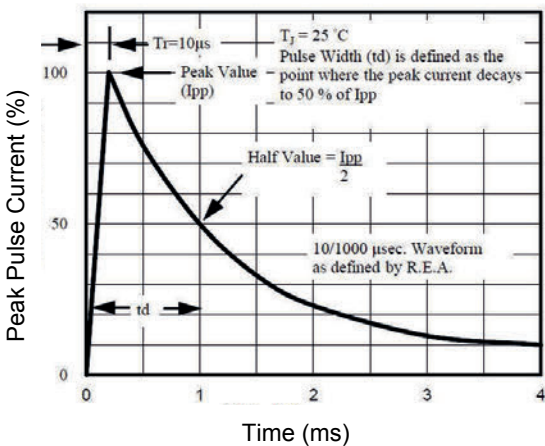


Figure 5. Pulse Waveform

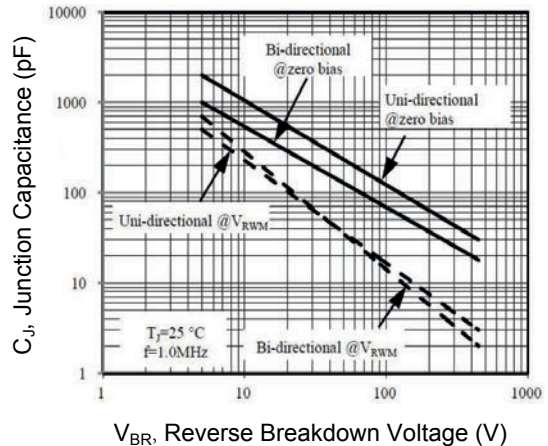
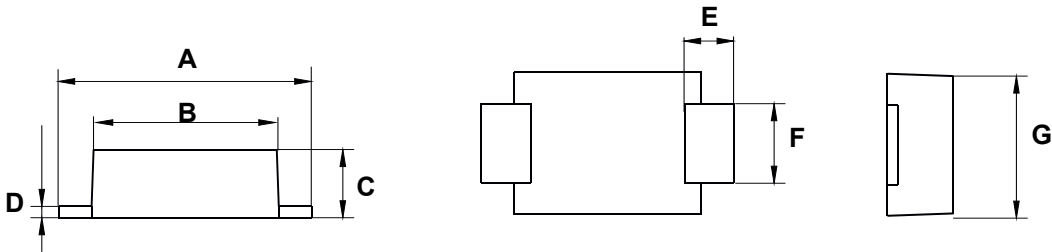


Figure 6. Typical Junction Capacitance

## Package Outline Dimensions (SOD-123FL)



Symbol	Dimensions in millimeters		Dimensions in inches	
	Min	Max	Min	Max
A	3.45	3.95	0.136	0.156
B	2.60	3.00	0.102	0.118
C	1.05	1.35	0.041	0.053
D	0.10	0.25	0.004	0.010
E	0.30	0.90	0.012	0.035
F	0.85	1.15	0.033	0.045
G	1.60	2.00	0.063	0.079

## Recommended Pad Layout

