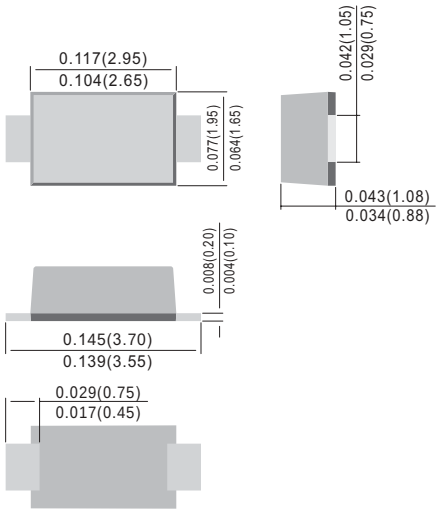
## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**VOLTAGE** 3 to 51 Volts **PEAK PULSE POWER** 200 Watts SOD-123FL Unit: inch (mm)

### FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Low inductance
- High temperature soldering : 260¢XC /10 seconds at terminals
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request




### MECHANICALDATA

Case: JEDEC DO-214AC,Molded plastic over passivated junction.
Terminals: Solder plated,solderable per MIL-STD-202G, Method 208
Polarity: Color band denotes positive end (cathode)
Standard Packaging:12mm tape (EIA-481)
Approx.Weight: 0.0168 gram

### DEVICES FOR BIPOLAR APPLICATIONS

Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Peak Pulse Power Dissipation on $T_A$=25$^O$C (Notes 1,2,5, Fig1) | $P_{PPM}$ | 200 | Watts |
| Peak Forward Surge Cunentper (Notes 3) | $I_{FSM}$ | 20 | A |
| Peak Pulse Currenton 10/1000s waveform (Notes 1, Fig2) | $I_{PPM}$ | see Table 1 | A |
| Steady State Power Dissipation (Notes 4) | $P_{M(AV)}$ | 1.0 | Watts |
| Operating Junction and Storage Temperature Range | $T_J$,$T_{STG}$ | -50 to + 150 | $^O$C |
| Thermal resistance | $R_{\Theta JA}$ | 180 | $^O$C |

NOTES:
1. Non-repetitive current pulse, per Fig.3 and derated above TA = 25 $^O$C per Fig. 2.
2. Mounted on 5.0mm$^2$ copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.
4. Lead temperature at 75$^O$C = $T_L$.
5. Peak pulse power waveform is 10/1000uS.

| Part Number | $V_{RWM}$ | $V_{BR}$@ $I_T$ | | $I_T$ | $I_R$@$V_{RWM}$ | Max. Clamp Voltage | Peak Pulse Current | Marking Code | Package |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $V_C$ @$I_{PP}$ | $I_{PP}$ | | |
| | V | Min. V | Max. V | mA | $\mu$A | V | A | | |
| 200 Watt Transient Voltage Suppressor | | | | | | | | | |
| SMF3.0A | 3 | 4.1 | 4.5 | 10 | 400 | 8 | 25 | HD | SOD-123FL |
| SMF5.0A | 5 | 6.4 | 7 | 10 | 400 | 9.2 | 21.7 | HE | SOD-123FL |
| SMF6.0A | 6 | 6.67 | 7.37 | 10 | 400 | 10.3 | 19.4 | HG | SOD-123FL |
| SMF6.5A | 6.5 | 7.22 | 7.98 | 10 | 250 | 11.2 | 17.9 | HK | SOD-123FL |
| SMF7.0A | 7 | 7.78 | 8.6 | 10 | 100 | 12 | 16.7 | HM | SOD-123FL |
| SMF7.5A | 7.5 | 8.33 | 9.21 | 1 | 50 | 12.9 | 15.5 | HP | SOD-123FL |
| SMF8.0A | 8 | 8.89 | 9.83 | 1 | 25 | 13.6 | 14.7 | HR | SOD-123FL |
| SMF8.5A | 8.5 | 9.44 | 10.4 | 1 | 10 | 14.4 | 13.9 | HT | SOD-123FL |
| SMF9.0A | 9 | 10 | 11.1 | 1 | 5 | 15.4 | 13 | HV | SOD-123FL |
| SMF10A | 10 | 11.1 | 12.3 | 1 | 2.5 | 17 | 11.8 | HX | SOD-123FL |
| SMF11A | 11 | 12.2 | 13.5 | 1 | 2.5 | 18.2 | 11 | HZ | SOD-123FL |
| SMF12A | 12 | 13.3 | 14.7 | 1 | 2.5 | 19.9 | 10.1 | IE | SOD-123FL |
| SMF13A | 13 | 14.4 | 15.9 | 1 | 1 | 21.5 | 9.3 | IG | SOD-123FL |
| SMF14A | 14 | 15.6 | 17.2 | 1 | 1 | 23.2 | 8.6 | IK | SOD-123FL |
| SMF15A | 15 | 16.7 | 18.5 | 1 | 1 | 24.4 | 8.2 | IM | SOD-123FL |
| SMF16A | 16 | 17.8 | 19.7 | 1 | 1 | 26 | 7.7 | IP | SOD-123FL |
| SMF17A | 17 | 18.9 | 20.9 | 1 | 1 | 27.6 | 7.2 | IR | SOD-123FL |
| SMF18A | 18 | 20 | 22.1 | 1 | 1 | 29.2 | 6.8 | IT | SOD-123FL |
| SMF20A | 20 | 22.2 | 24.5 | 1 | 1 | 32.4 | 6.2 | IV | SOD-123FL |
| SMF22A | 22 | 24.4 | 26.9 | 1 | 1 | 35.5 | 5.6 | IX | SOD-123FL |
| SMF24A | 24 | 26.7 | 29.5 | 1 | 1 | 38.9 | 5.1 | IZ | SOD-123FL |
| SMF26A | 26 | 28.9 | 31.9 | 1 | 1 | 42.1 | 4.8 | JE | SOD-123FL |
| SMF28A | 28 | 31.1 | 34.4 | 1 | 1 | 45.4 | 4.4 | JG | SOD-123FL |
| SMF30A | 30 | 33.3 | 36.8 | 1 | 1 | 48.4 | 4.1 | JK | SOD-123FL |
| SMF33A | 33 | 36.7 | 40.6 | 1 | 1 | 53.3 | 3.8 | JM | SOD-123FL |
| SMF36A | 36 | 40 | 44.2 | 1 | 1 | 58.1 | 3.4 | JP | SOD-123FL |
| SMF40A | 40 | 44.4 | 49.1 | 1 | 1 | 64.5 | 3.1 | JR | SOD-123FL |
| SMF43A | 43 | 47.8 | 52.8 | 1 | 1 | 69.4 | 2.9 | JT | SOD-123FL |
| SMF45A | 45 | 50 | 55.3 | 1 | 1 | 72.7 | 2.8 | JV | SOD-123FL |
| SMF48A | 48 | 53.3 | 58.9 | 1 | 1 | 77.4 | 2.6 | JX | SOD-123FL |
| SMF51A | 51 | 56.7 | 62.7 | 1 | 1 | 82.4 | 2.4 | JZ | SOD-123FL |

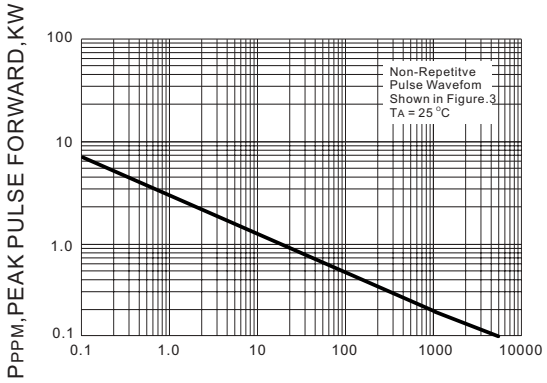



**Fig.1 PEAK PULSE POWER RATING CURVE**

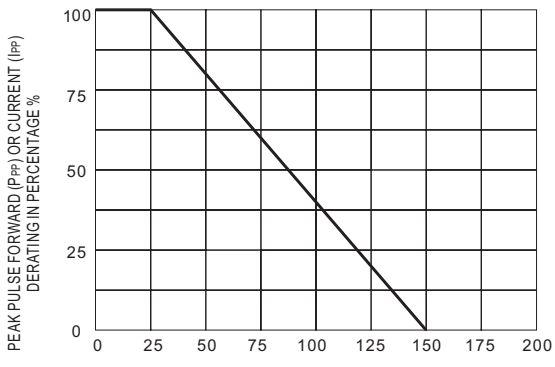



**Fig.2 DERATING CURVE**

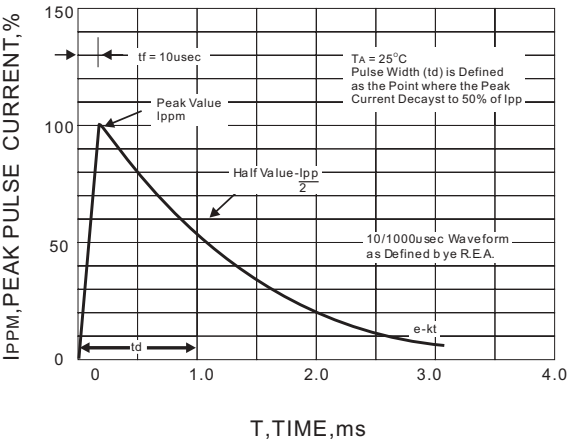



**Fig.3 PULSE WAVEFORM**

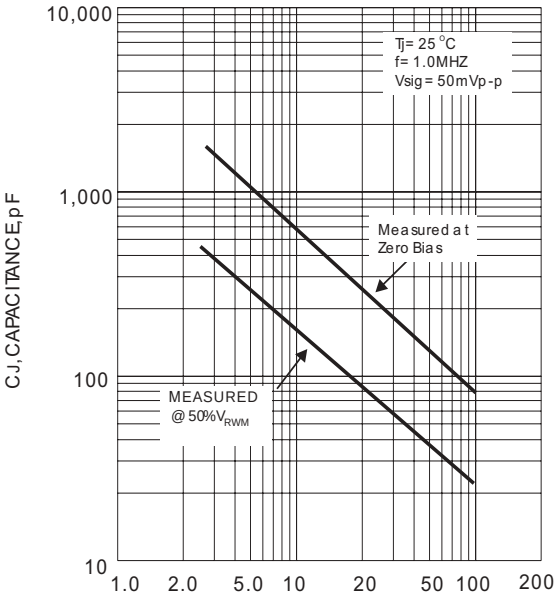
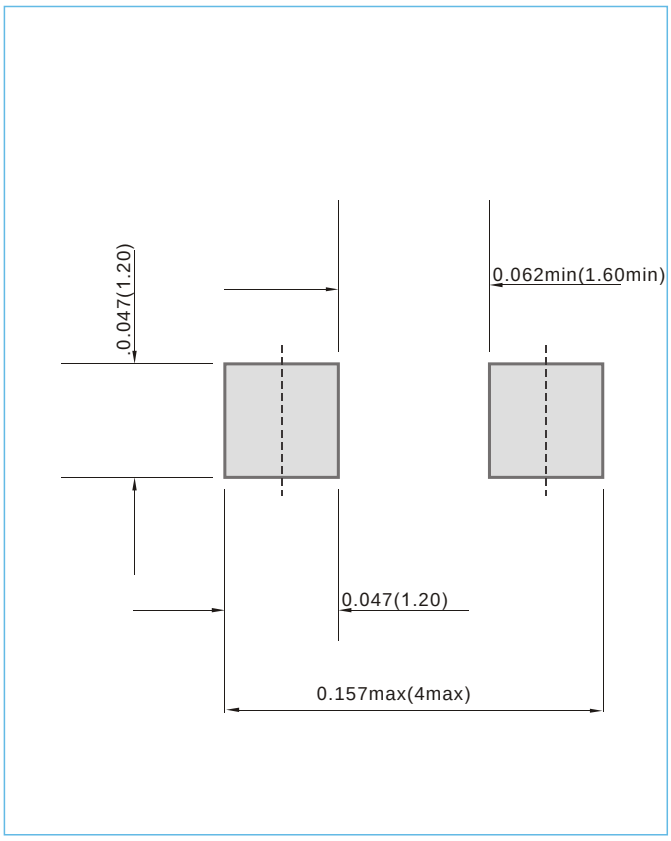



**Fig.4 TYPICAL JUNCTION CAPACITANCE**

## MOUNTING PAD LAYOUT

SOD-123FL Unit: inch ( mm )




## ORDER INFORMATION

- Packing information

  T/R - 10K per 13" plastic Reel

  T/R - 3.0K per 7" plastic Reel

## LEGAL STATEMENT

**IMPORTANT NOTICE**

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

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