



SMF5.0A~SMF175A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

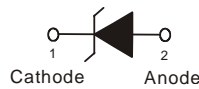
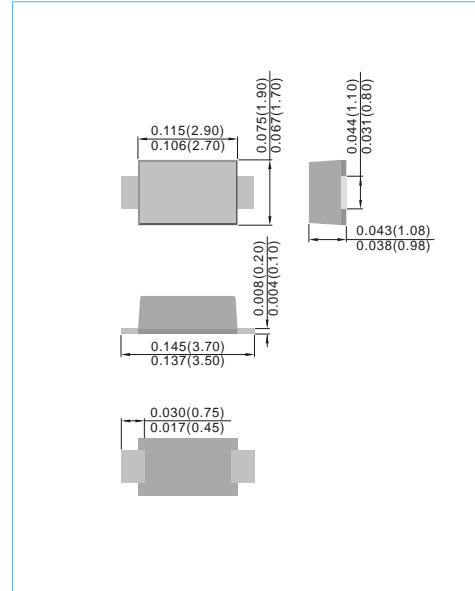
VOLTAGE 5 to 175 Volt **POWER** 200 Watt **SOD-123FL** Unit : inch(mm)

FEATURES

- For surface mounted applications in order to optimize board space.
- Ultra Thin Profile Package for Space Constrained Utilization
- Package suitable for Automated Handling
- Low inductance
- High temperature soldering : 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0006 ounce, 0.0173 gram
- Standard Packaging : 8mm tape (EIA-481)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNITS |
|--|-----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation on T _A = 25°C (Notes 1,2,5, Fig.1) | P _{PPM} | 200 | W |
| Peak Forward Surge Current per (Notes 3) | I _{FSM} | 20 | A |
| Peak Pulse Current on tp=10/1000µs waveform (Notes 1) Fig.2 | I _{PPM} | see Table 1 | A |
| Steady State Power Dissipation (Notes 4) | P _{M(AV)} | 1 | W |
| Operating Junction and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |
| Typical thermal resistance | R _{θJA} | 180 | °C |

NOTES :

- 1.Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2 .
- 2.Mounted on 5mm² 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°C =T_L .
- 5.Peak pulse power waveform is tp=10/1000µs.
- 6.A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.



SMF5.0A~SMF175A

| Part Number | V _{RWM} (Note 6) | V _{BR} @ I _T | | | I _r @ V _{RWM} | V _C @ I _{PP} | | Marking Code |
|-----------------------------------|------------------------------|----------------------------------|------|----------------|-----------------------------------|----------------------------------|------|--------------|
| | | Min. | Max. | I _T | | V | A | |
| | V | V | mA | μA | | | | |
| 200W Transient Voltage Suppressor | | | | | | | | |
| SMF5.0A | 5 | 6.4 | 7 | 10 | 200 | 9.2 | 21.7 | HE |
| SMF6.0A | 6 | 6.7 | 7.4 | 10 | 100 | 10.3 | 19.4 | HG |
| SMF6.5A | 6.5 | 7.2 | 8 | 10 | 75 | 11.2 | 17.9 | HK |
| SMF7.0A | 7 | 7.8 | 8.6 | 10 | 50 | 12 | 16.7 | HM |
| SMF7.5A | 7.5 | 8.3 | 9.2 | 1 | 50 | 12.9 | 15.5 | HP |
| SMF8.0A | 8 | 8.9 | 9.8 | 1 | 25 | 13.6 | 14.7 | HR |
| SMF8.5A | 8.5 | 9.4 | 10.4 | 1 | 10 | 14.4 | 13.9 | HT |
| SMF9.0A | 9 | 10 | 11.1 | 1 | 5 | 15.4 | 13 | HV |
| SMF10A | 10 | 11.1 | 12.3 | 1 | 2.5 | 17 | 11.8 | HX |
| SMF11A | 11 | 12.2 | 13.5 | 1 | 2.5 | 18.2 | 11 | HZ |
| SMF12A | 12 | 13.3 | 14.7 | 1 | 2.5 | 19.9 | 10.1 | IE |
| SMF13A | 13 | 14.4 | 15.9 | 1 | 1 | 21.5 | 9.3 | IG |
| SMF14A | 14 | 15.6 | 17.2 | 1 | 1 | 23.2 | 8.6 | IK |
| SMF15A | 15 | 16.7 | 18.5 | 1 | 1 | 24.4 | 8.2 | IM |
| SMF16A | 16 | 17.8 | 19.7 | 1 | 1 | 26 | 7.7 | IP |
| SMF17A | 17 | 18.9 | 20.9 | 1 | 1 | 27.6 | 7.2 | IR |
| SMF18A | 18 | 20 | 22.1 | 1 | 1 | 29.2 | 6.8 | IT |
| SMF20A | 20 | 22.2 | 24.5 | 1 | 1 | 32.4 | 6.2 | IV |
| SMF22A | 22 | 24.4 | 26.9 | 1 | 1 | 35.5 | 5.6 | IX |
| SMF24A | 24 | 26.7 | 29.5 | 1 | 1 | 38.9 | 5.1 | IZ |
| SMF26A | 26 | 28.9 | 31.9 | 1 | 1 | 42.1 | 4.8 | JE |
| SMF28A | 28 | 31.1 | 34.4 | 1 | 1 | 45.4 | 4.4 | JG |
| SMF30A | 30 | 33.3 | 36.8 | 1 | 1 | 48.4 | 4.1 | JK |
| SMF33A | 33 | 36.7 | 40.6 | 1 | 1 | 53.3 | 3.8 | JM |
| SMF36A | 36 | 40 | 44.2 | 1 | 1 | 58.1 | 3.4 | JP |
| SMF40A | 40 | 44.4 | 49.1 | 1 | 1 | 64.5 | 3.1 | JR |
| SMF43A | 43 | 47.8 | 52.8 | 1 | 1 | 69.4 | 2.9 | JT |
| SMF45A | 45 | 50 | 55.3 | 1 | 1 | 72.7 | 2.8 | JV |
| SMF48A | 48 | 53.3 | 58.9 | 1 | 1 | 77.4 | 2.6 | JX |
| SMF51A | 51 | 56.7 | 62.7 | 1 | 1 | 82.4 | 2.4 | JZ |
| SMF54A | 54 | 60 | 66.3 | 1 | 1 | 87.1 | 2.3 | RE |
| SMF58A | 58 | 64.4 | 71.2 | 1 | 1 | 93.6 | 2.1 | RG |
| SMF60A | 60 | 66.7 | 73.7 | 1 | 1 | 96.8 | 1.8 | RK |
| SMF64A | 64 | 71.1 | 78.6 | 1 | 1 | 103 | 1.7 | RM |
| SMF70A | 70 | 77.8 | 86 | 1 | 1 | 113 | 1.5 | RP |
| SMF75A | 75 | 83.3 | 92.1 | 1 | 1 | 121 | 1.4 | RR |
| SMF78A | 78 | 86.7 | 95.8 | 1 | 1 | 126 | 1.4 | RT |
| SMF85A | 85 | 94.4 | 104 | 1 | 1 | 137 | 1.3 | RV |
| SMF90A | 90 | 100 | 111 | 1 | 1 | 146 | 1.2 | RX |
| SMF100A | 100 | 111 | 123 | 1 | 1 | 162 | 1.1 | RZ |
| SMF110A | 110 | 122 | 135 | 1 | 1 | 177 | 1 | SE |
| SMF120A | 120 | 133 | 147 | 1 | 1 | 193 | 0.9 | SG |
| SMF130A | 130 | 144 | 159 | 1 | 1 | 209 | 0.8 | SK |
| SMF150A | 150 | 167 | 185 | 1 | 1 | 243 | 0.7 | SM |
| SMF160A | 160 | 178 | 197 | 1 | 1 | 259 | 0.7 | SP |
| SMF170A | 170 | 189 | 209 | 1 | 1 | 275 | 0.6 | SR |
| SMF175A | 175 | 198 | 214 | 1 | 1 | 284 | 0.6 | S5 |



SMF5.0A~SMF175A

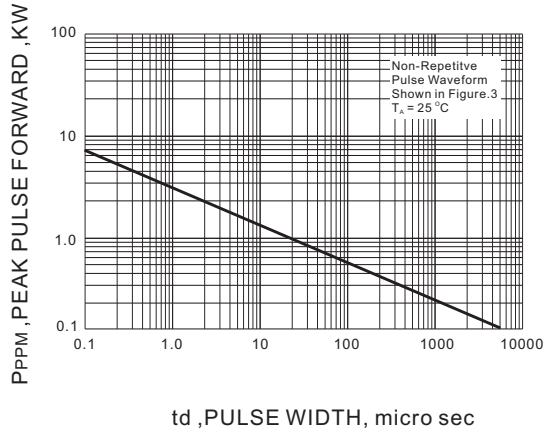


Fig.1 PEAK PULSE POWER RATING CURVE

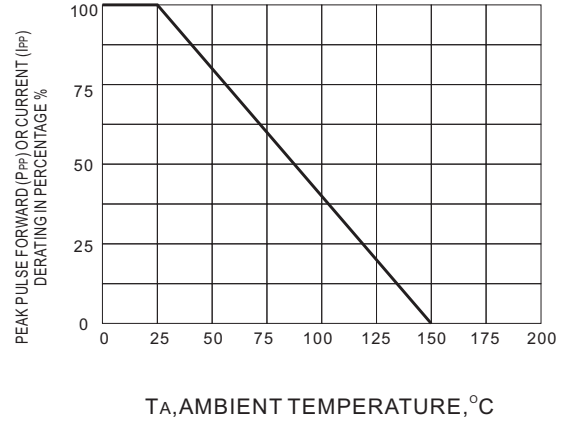


Fig.2 DERATING CURVE

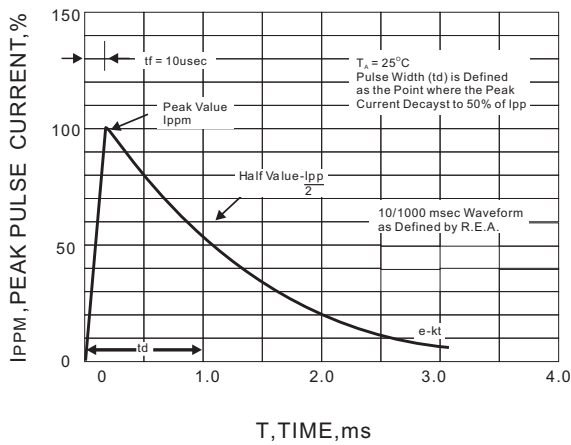


Fig.3 PULSE WAVEFORM

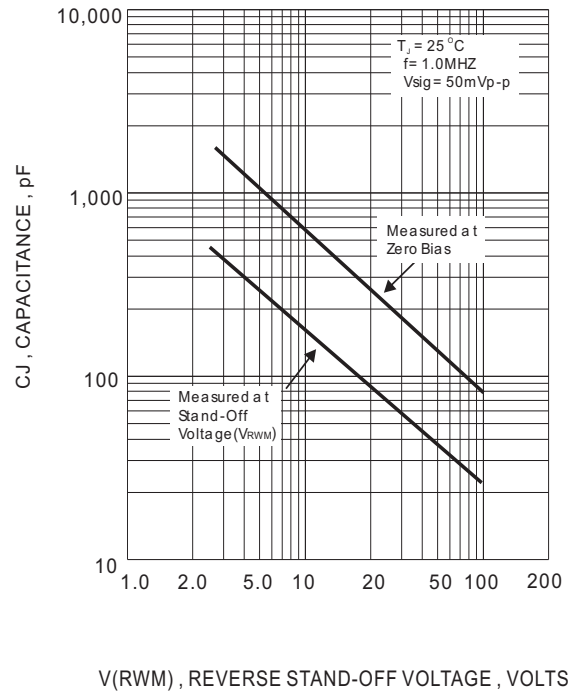


Fig.4 TYPICAL JUNCTION CAPACITANCE

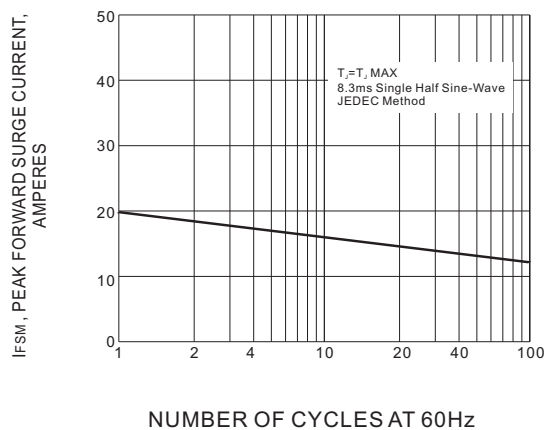


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

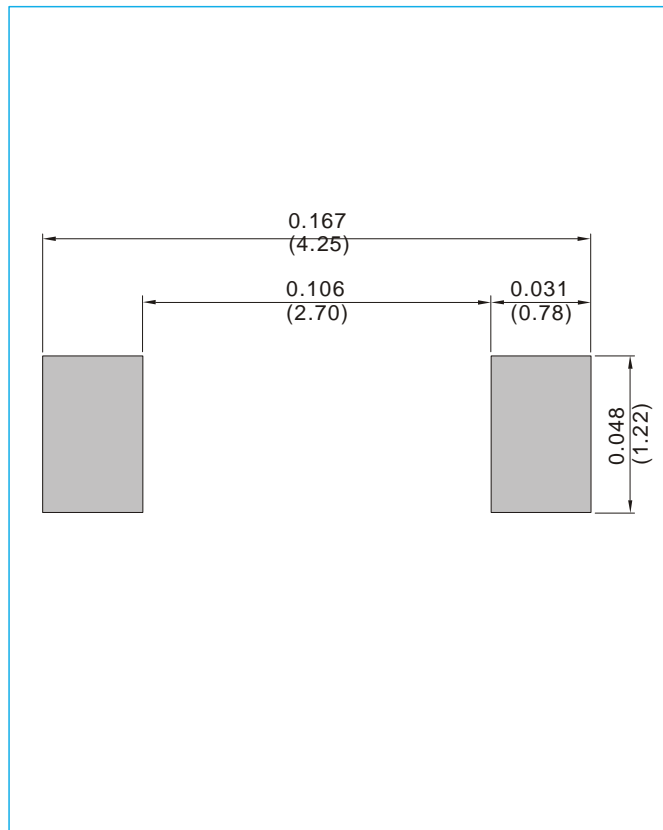


SMF5.0A~SMF175A

MOUNTING PAD LAYOUT

SOD-123FL

Unit : inch(mm)



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel



SMF5.0A~SMF175A

Part No_packing code_Version

SMF5.0A_R1_00001

SMF5.0A_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



SMF5.0A~SMF175A

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.