

Surface mount transient voltage suppressor power 400 watts

Stand-Off Voltage: 5.0V~150V

FEATURES

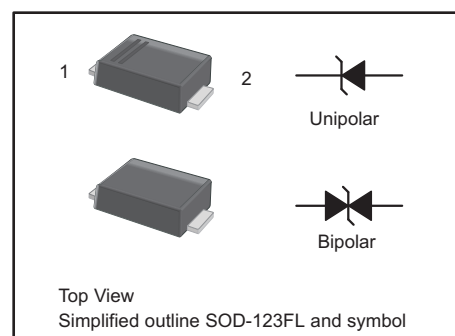
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight:15mg/0.00048oz

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|--|---|-----------------|------|
| Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1) | P_{PPM} | 400 | W |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 40 | A |
| Peak Pulse Current on 10/1000 us waveform (Note 1 Fig 2) | I_{PPM} | see Table 1 | A |
| Steady State Power Dissipation (Note 4) | $P_{M(AV)}$ | 2.8 | W |
| Typical Thermal Resistance (Note 7) | $R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$ | 105 25 32 | °C/W |
| Operating Junction and Storage Range | T_J, T_{STG} | -55 to +150 | °C |

NOTES

1. Non-repetitive current pulse per Fig 3 and derated above $T_A=25^\circ\text{C}$ per Fig 2
2. Mounted on 5mm² copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at $T_L=75^\circ\text{C}$
5. Peak pulse power waveform is $t_p=10/1000\mu\text{s}$
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
7. P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.



Characteristics at Ta = 25°C

Table 1

| Type | | Marking | | V _{RWM} | Breakdown Voltage | | Test Current | Reverse Leakage | Max. Clamp Voltage | Peak Pulse Current |
|-----------|------------|---------|-------|------------------|----------------------------------|------|----------------|-----------------------------------|----------------------------------|--------------------|
| | | | | | V _{BR} @ I _T | | | | | |
| | | | | | Min | Max | I _T | I _R @ V _{RWM} | V _C @ I _{PP} | I _{PP} |
| Uni | Bi | Uni | Bi | V | V | V | mA | μA | V | A |
| SMF4J5.0A | | 5AH | | 5 | 6.4 | 7 | 10 | 800 | 9.2 | 40.1 |
| SMF4J6.0A | | 6AH | | 6 | 6.67 | 7.37 | 10 | 800 | 10.3 | 35.9 |
| SMF4J6.5A | | 6.5AH | | 6.5 | 7.22 | 7.98 | 10 | 500 | 11.2 | 33.1 |
| SMF4J7.0A | SMF4J7.0CA | 7AH | 7CH | 7 | 7.78 | 8.6 | 10 | 200 | 12 | 30.9 |
| SMF4J7.5A | SMF4J7.5CA | 7.5AH | 7.5CH | 7.5 | 8.33 | 9.21 | 1 | 100 | 12.9 | 28.7 |
| SMF4J8.0A | SMF4J8.0CA | 8AH | 8CH | 8 | 8.89 | 9.83 | 1 | 50 | 13.6 | 27.2 |
| SMF4J9.0A | SMF4J9.0CA | 9AH | 9CH | 9 | 10 | 11.1 | 1 | 10 | 15.4 | 24.1 |
| SMF4J10A | SMF4J10CA | 10AH | 10CH | 10 | 11.1 | 12.3 | 1 | 5 | 17 | 23.5 |
| SMF4J11A | SMF4J11CA | 11AH | 11CH | 11 | 12.2 | 13.5 | 1 | 1 | 18.2 | 22 |
| SMF4J12A | SMF4J12CA | 12AH | 12CH | 12 | 13.3 | 14.7 | 1 | 1 | 19.9 | 20.1 |
| SMF4J13A | SMF4J13CA | 13AH | 13CH | 13 | 14.4 | 15.9 | 1 | 1 | 21.5 | 18.6 |
| SMF4J14A | SMF4J14CA | 14AH | 14CH | 14 | 15.6 | 17.2 | 1 | 1 | 23.2 | 17.2 |
| SMF4J15A | SMF4J15CA | 15AH | 15CH | 15 | 16.7 | 18.5 | 1 | 1 | 24.4 | 16.4 |
| SMF4J17A | SMF4J17CA | 17AH | 17CH | 17 | 18.9 | 20.9 | 1 | 1 | 27.6 | 14.5 |
| SMF4J18A | | 18AH | | 18 | 20 | 22.1 | 1 | 1 | 29.2 | 13.7 |
| SMF4J20A | | 20AH | | 20 | 22.2 | 24.5 | 1 | 1 | 32.4 | 12.3 |
| SMF4J22A | | 22AH | | 22 | 24.4 | 26.9 | 1 | 1 | 35.5 | 11.3 |
| SMF4J24A | | 24AH | | 24 | 26.7 | 29.5 | 1 | 1 | 38.9 | 10.3 |
| SMF4J26A | | 26AH | | 26 | 28.9 | 31.9 | 1 | 1 | 42.1 | 9.5 |
| SMF4J28A | | 28AH | | 28 | 31.1 | 34.4 | 1 | 1 | 45.4 | 8.8 |
| SMF4J30A | | 30AH | | 30 | 33.3 | 36.8 | 1 | 1 | 48.4 | 8.3 |
| SMF4J33A | | 33AH | | 33 | 36.7 | 40.6 | 1 | 1 | 53.3 | 7.5 |
| SMF4J36A | | 36AH | | 36 | 40 | 44.2 | 1 | 1 | 58.1 | 6.9 |
| SMF4J40A | | 40AH | | 40 | 44.4 | 49.1 | 1 | 1 | 64.5 | 6.2 |
| SMF4J43A | | 43AH | | 43 | 47.8 | 52.8 | 1 | 1 | 69.4 | 5.8 |
| SMF4J45A | | 45AH | | 45 | 50 | 55.3 | 1 | 1 | 72.7 | 5.5 |
| SMF4J48A | | 48AH | | 48 | 53.3 | 58.9 | 1 | 1 | 77.4 | 5.2 |
| SMF4J51A | | 51AH | | 51 | 56.7 | 62.7 | 1 | 1 | 82.4 | 4.9 |
| SMF4J58A | | 58AH | | 58 | 64.4 | 71.2 | 1 | 1 | 93.6 | 4.3 |
| SMF4J60A | | 60AH | | 60 | 66.7 | 73.7 | 1 | 1 | 96.8 | 4.1 |
| SMF4J64A | | 64AH | | 64 | 71.1 | 78.6 | 1 | 1 | 103 | 3.9 |
| SMF4J70A | | 70AH | | 70 | 77.8 | 86 | 1 | 1 | 113 | 3.5 |
| SMF4J75A | | 75AH | | 75 | 83.3 | 92.1 | 1 | 1 | 121 | 3.3 |
| SMF4J78A | | 78AH | | 78 | 86.7 | 95.8 | 1 | 1 | 126 | 3.2 |
| SMF4J85A | | 85AH | | 85 | 94.4 | 104 | 1 | 1 | 137 | 2.9 |
| SMF4J90A | | 90AH | | 90 | 100 | 111 | 1 | 1 | 146 | 2.7 |
| SMF4J100A | | 100A | | 100 | 111 | 123 | 1 | 1 | 162 | 2.5 |
| SMF4J110A | | 110A | | 110 | 122 | 135 | 1 | 1 | 177 | 2.3 |
| SMF4J120A | | 120A | | 120 | 133 | 147 | 1 | 1 | 193 | 2.1 |
| SMF4J130A | | 130A | | 130 | 144 | 159 | 1 | 1 | 209 | 1.9 |
| SMF4J150A | | 150A | | 150 | 167 | 185 | 1 | 1 | 243 | 1.6 |



Fig.1 Peak Pulse Power Rating Curve

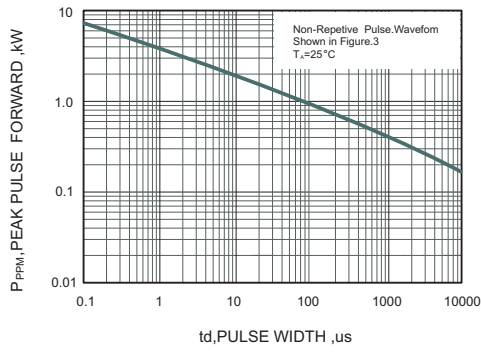


Fig.2 Forward Current Derating Curve

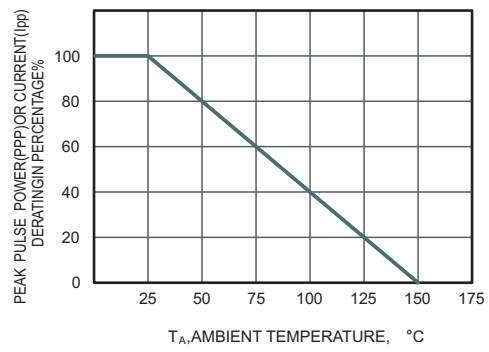


Fig.3 Pulse Waveform

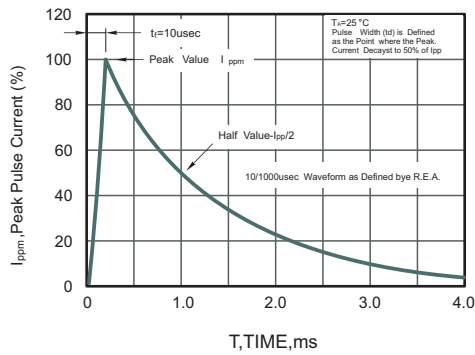
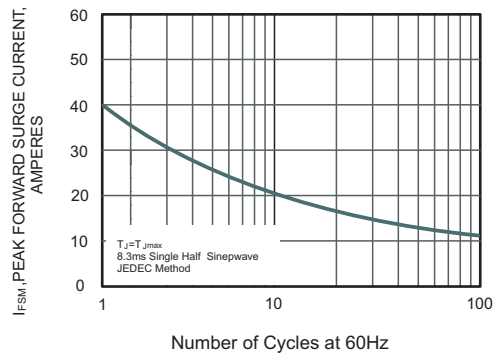


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

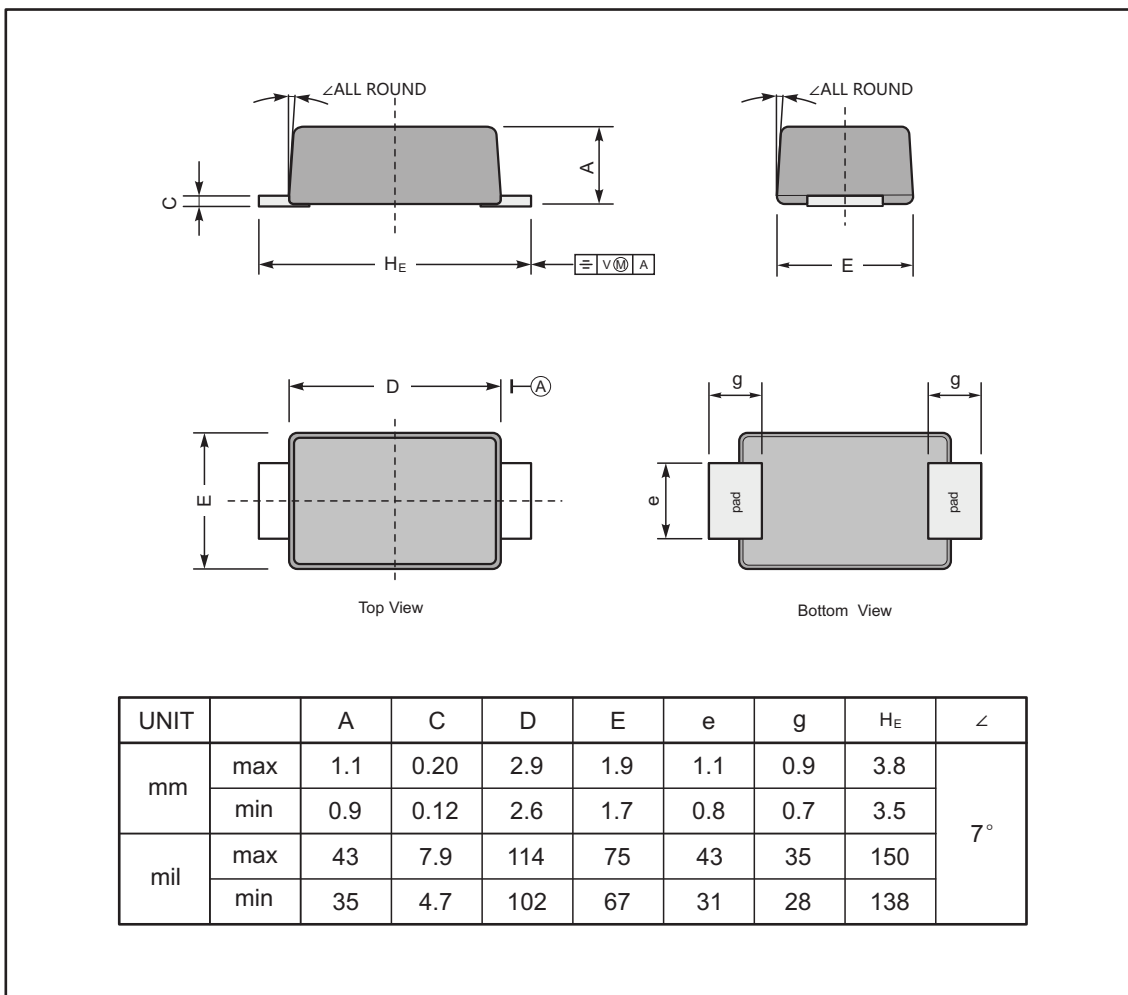




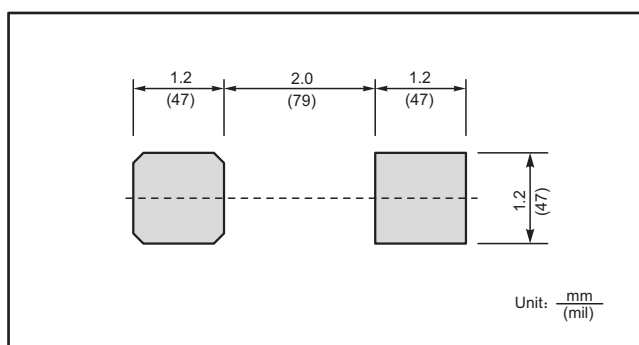
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size





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