

Surface mount transient voltage suppressor power 200 watts

Stand-Off Voltage : 5.0V~220V

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

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

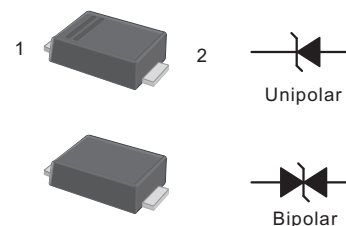
| Parameter | Symbol | Value | Unit |
|--|--------------------|-------------|------|
| Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1) | P_{PPM} | 200 | W |
| Peak Forward Surge Current (Note 3) | I_{FSM} (UNI) | 20 | A |
| Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2 | I_{PPM} | see Table 1 | A |
| Steady State Power Dissipation (Note 4) | $P_{M(AV)}$ | 1 | W |
| Operating Junction and Storage Range | T_J, T_{STG} | -55 to +150 | °C |
| Typical Thermal Resistance | $R_{\theta JA}$ | 180 | °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 powe. 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

PINNING

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



Top View
Simplified outline sSOD-123FL and symbol

Characteristics at Ta = 25°C

| Type | | Marking | | V _{RWM} | Breakdown Voltage | | Test Current I _T | Reverse Leakage I _R @ V _{RWM} | Max. Clamp Voltage V _C @ I _{PP} | Peak Pulse Current I _{PP} |
|---------------|---------------|---------|------|------------------|----------------------------------|------|--------------------------------|--|--|---------------------------------------|
| | | | | | V _{BR} @ I _T | | | | | |
| | | | | | Min | Max | | | | |
| Uni | Bi | Uni | Bi | V | V | V | mA | µA | V | A |
| KSJD12A05L01 | KSJD12C05L01 | AE | CAE | 5 | 6.4 | 7 | 10 | 200 | 9.2 | 21.7 |
| KSJD12A06L01 | KSJD12C06L01 | AG | CAG | 6 | 6.67 | 7.37 | 10 | 100 | 10.3 | 19.4 |
| KSJD12A6.5L01 | KSJD12C6.5L01 | AK | CAK | 6.5 | 7.22 | 7.98 | 10 | 75 | 11.2 | 17.9 |
| KSJD12A07L01 | KSJD12C07L01 | AM | CAM | 7 | 7.78 | 8.6 | 10 | 50 | 12 | 16.7 |
| KSJD12A7.5L01 | KSJD12C7.5L01 | AP | CAP | 7.5 | 8.33 | 9.21 | 1 | 50 | 12.9 | 15.5 |
| KSJD12A08L01 | KSJD12C08L01 | AR | CAR | 8 | 8.89 | 9.83 | 1 | 25 | 13.6 | 14.7 |
| KSJD12A8.5L01 | KSJD12C8.5L01 | AT | CAT | 8.5 | 9.44 | 10.4 | 1 | 10 | 14.4 | 13.9 |
| KSJD12A09L01 | KSJD12C09L01 | AV | CAV | 9 | 10 | 11.1 | 1 | 5 | 15.4 | 13 |
| KSJD12A10L01 | KSJD12C10L01 | AX | CAX | 10 | 11.1 | 12.3 | 1 | 2.5 | 17 | 11.8 |
| KSJD12A11L01 | KSJD12C11L01 | AZ | CAZ | 11 | 12.2 | 13.5 | 1 | 2.5 | 18.2 | 11 |
| KSJD12A12L01 | KSJD12C12L01 | BE | CBE | 12 | 13.3 | 14.7 | 1 | 2.5 | 19.9 | 10.1 |
| KSJD12A13L01 | KSJD12C13L01 | BG | CBG | 13 | 14.4 | 15.9 | 1 | 1 | 21.5 | 9.3 |
| KSJD12A14L01 | KSJD12C14L01 | BK | CBK | 14 | 15.6 | 17.2 | 1 | 1 | 23.2 | 8.6 |
| KSJD12A15L01 | KSJD12C15L01 | BM | CBM | 15 | 16.7 | 18.5 | 1 | 1 | 24.4 | 8.2 |
| KSJD12A16L01 | KSJD12C16L01 | BP | CBP | 16 | 17.8 | 19.7 | 1 | 1 | 26 | 7.7 |
| KSJD12A17L01 | KSJD12C17L01 | BR | CBR | 17 | 18.9 | 20.9 | 1 | 1 | 27.6 | 7.2 |
| KSJD12A18L01 | KSJD12C18L01 | BT | CBT | 18 | 20 | 22.1 | 1 | 1 | 29.2 | 6.8 |
| KSJD12A20L01 | KSJD12C20L01 | BV | CBV | 20 | 22.2 | 24.5 | 1 | 1 | 32.4 | 6.2 |
| KSJD12A22L01 | KSJD12C22L01 | BX | CBX | 22 | 24.4 | 26.9 | 1 | 1 | 35.5 | 5.6 |
| KSJD12A24L01 | KSJD12C24L01 | BZ | CBZ | 24 | 26.7 | 29.5 | 1 | 1 | 38.9 | 5.1 |
| KSJD12A26L01 | KSJD12C26L01 | CE | CCE | 26 | 28.9 | 31.9 | 1 | 1 | 42.1 | 4.8 |
| KSJD12A28L01 | KSJD12C28L01 | CG | CCG | 28 | 31.1 | 34.4 | 1 | 1 | 45.4 | 4.4 |
| KSJD12A30L01 | KSJD12C30L01 | CK | CCK | 30 | 33.3 | 36.8 | 1 | 1 | 48.4 | 4.1 |
| KSJD12A33L01 | KSJD12C33L01 | CM | CCM | 33 | 36.7 | 40.6 | 1 | 1 | 53.3 | 3.8 |
| KSJD12A36L01 | KSJD12C36L01 | CP | CCP | 36 | 40 | 44.2 | 1 | 1 | 58.1 | 3.4 |
| KSJD12A40L01 | KSJD12C40L01 | CR | CCR | 40 | 44.4 | 49.1 | 1 | 1 | 64.5 | 3.1 |
| KSJD12A43L01 | KSJD12C43L01 | CT | CCT | 43 | 47.8 | 52.8 | 1 | 1 | 69.4 | 2.9 |
| KSJD12A45L01 | KSJD12C45L01 | CV | CCV | 45 | 50 | 55.3 | 1 | 1 | 72.7 | 2.8 |
| KSJD12A48L01 | KSJD12C48L01 | CX | CCX | 48 | 53.3 | 58.9 | 1 | 1 | 77.4 | 2.6 |
| KSJD12A51L01 | KSJD12C51L01 | CZ | CCZ | 51 | 56.7 | 62.7 | 1 | 1 | 82.4 | 2.4 |
| KSJD12A54L01 | KSJD12C54L01 | DE | CDE | 54 | 60 | 66.3 | 1 | 1 | 87.1 | 2.3 |
| KSJD12A58L01 | KSJD12C58L01 | DG | CDG | 58 | 64.4 | 71.2 | 1 | 1 | 93.6 | 2.1 |
| KSJD12A60L01 | KSJD12C60L01 | DK | CDK | 60 | 66.7 | 73.7 | 1 | 1 | 96.8 | 1.8 |
| KSJD12A64L01 | KSJD12C64L01 | DM | CDM | 64 | 71.1 | 78.6 | 1 | 1 | 103 | 1.7 |
| KSJD12A70L01 | KSJD12C70L01 | DP | CDP | 70 | 77.8 | 86 | 1 | 1 | 113 | 1.5 |
| KSJD12A75L01 | KSJD12C75L01 | DR | CDR | 75 | 83.3 | 92.1 | 1 | 1 | 121 | 1.4 |
| KSJD12A78L01 | KSJD12C78L01 | DT | CDT | 78 | 86.7 | 95.8 | 1 | 1 | 126 | 1.4 |
| KSJD12A85L01 | KSJD12C85L01 | DV | CDV | 85 | 94.4 | 104 | 1 | 1 | 137 | 1.3 |
| KSJD12A90L01 | KSJD12C90L01 | DX | CDX | 90 | 100 | 111 | 1 | 1 | 146 | 1.2 |
| KSJD12A100L01 | KSJD12C100L01 | DZ | CDZ | 100 | 111 | 123 | 1 | 1 | 162 | 1.1 |
| KSJD12A110L01 | KSJD12C110L01 | EE | CEE | 110 | 122 | 135 | 1 | 1 | 177 | 1 |
| KSJD12A120L01 | KSJD12C120L01 | EG | CEG | 120 | 133 | 147 | 1 | 1 | 193 | 0.9 |
| KSJD12A130L01 | KSJD12C130L01 | EK | CEK | 130 | 144 | 159 | 1 | 1 | 209 | 0.8 |
| KSJD12A150L01 | KSJD12C150L01 | EM | CEM | 150 | 167 | 185 | 1 | 1 | 243 | 0.7 |
| KSJD12A160L01 | KSJD12C160L01 | EP | CEP | 160 | 178 | 197 | 1 | 1 | 259 | 0.7 |
| KSJD12A170L01 | KSJD12C170L01 | ER | CER | 170 | 189 | 209 | 1 | 1 | 275 | 0.6 |
| KSJD12A180L01 | KSJD12C180L01 | ET | CET | 180 | 201 | 222 | 1 | 1 | 292 | 0.5 |
| KSJD12A200L01 | KSJD12C200L01 | EX | CEX | 200 | 224 | 247 | 1 | 1 | 324 | 0.5 |
| KSJD12A220L01 | KSJD12C220L01 | E22 | GE22 | 220 | 246 | 272 | 1 | 1 | 356 | 0.5 |

Fig.1 Peak Pulse Power Rating Curve

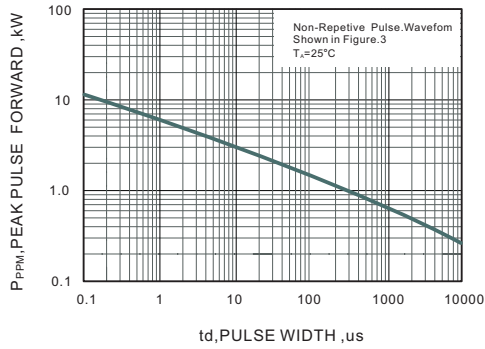


Fig.2 Forward Current Derating Curve

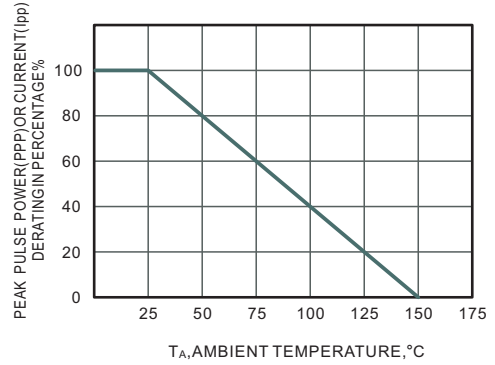


Fig.3 Pulse Waveform

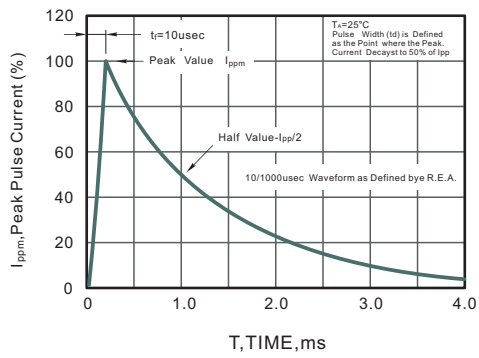
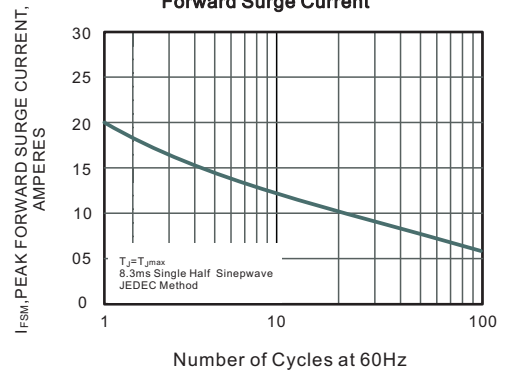


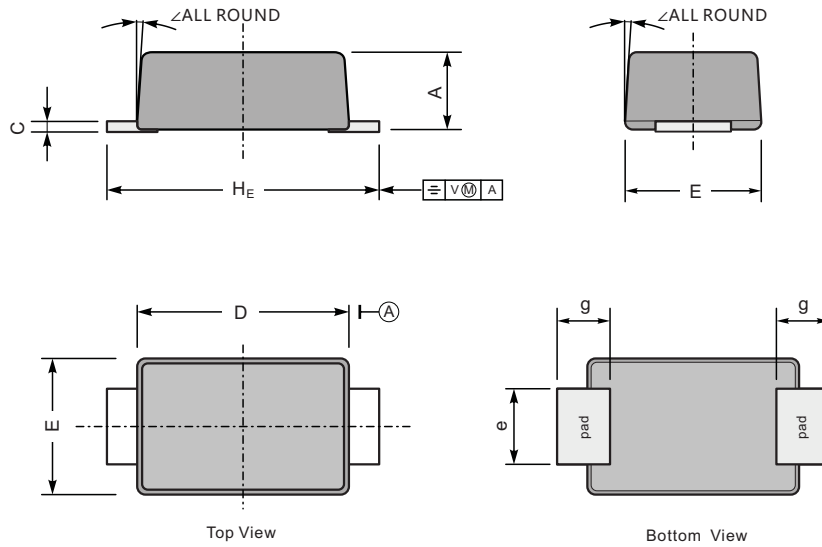
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

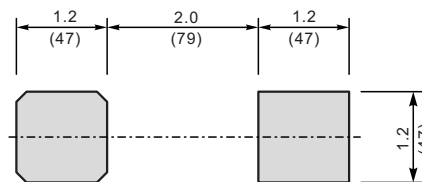
Plastic surface mounted package; 2 leads

SOD-123FL



| UNIT | | A | C | D | E | e | g | H_E | \angle |
|------|-----|-----|------|-----|-----|-----|-----|-------|----------|
| mm | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8 | 7° |
| | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5 | |
| mil | max | 43 | 7.9 | 114 | 75 | 43 | 35 | 150 | |
| | min | 35 | 4.7 | 102 | 67 | 31 | 28 | 138 | |

The recommended mounting pad size



Unit: $\frac{\text{mm}}{\text{(mil)}}$

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