



The SMC series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

FEATURES

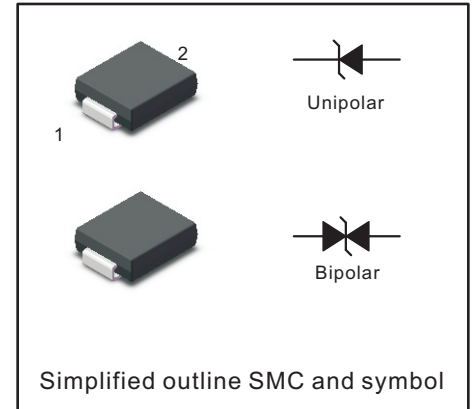
- 1500W peak pulse power capability at 10/1000 μ s waveform
- For surface mounted applications to optimize board space
- Glass passivated chip junction
- Halogen free and RoHS compliant

MECHANICAL DATA

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.22g (0.0077oz)

PINNING

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



| Parameter | Symbol | Value | Unit |
|---|------------------------------------|----------------|---------------|
| Peak Pulse Power Dissipation on 10/1000 us waveform | P_{PPM} | 600 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} (UNI) | 100 | A |
| Maximum instantaneous forward voltage at 100 A for unidirectional only | V_F | 3.5 | V |
| Peak Pulse Current on 10/1000 us waveform | I_{PPM} | See Next Table | A |
| Typical Thermal Resistance Junction to Ambient(Note 1) | $R_{\theta JA}$ $R_{\theta JL}$ | 75 15 | $^{\circ}C/W$ |
| Operating Junction Temperature and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | $^{\circ}C$ |

NOTES:

1. Mounted on 8 mm² (0.13mm thick) land areas.

Characteristics at Ta = 25°C

| Type | | Marking | | Reverse Stand-off Voltage | Breakdown Voltage | | Test Current | Max Clamping Voltage | Peak Pulse Current | Maximum Reverse Leakage |
|------------|-------------|---------|-----|---------------------------|----------------------------------|--------|----------------|----------------------------------|--------------------|-------------------------|
| | | | | V _{RMW} | V _{BR} @ I _T | | I _T | V _C @ I _{PP} | I _{PP} | I _R |
| UNI | BI | UNI | BI | V | Min(V) | Max(V) | mA | V | A | µA |
| SMCJ5.0A-L | SMCJ5.0CA-L | GDE | BDE | 5 | 6.4 | 7 | 10 | 9.2 | 65.3 | 800 |
| SMCJ6.0A-L | SMCJ6.0CA-L | GDG | BDG | 6 | 6.67 | 7.37 | 10 | 10.3 | 58.3 | 800 |
| SMCJ6.5A-L | SMCJ6.5CA-L | GDK | BDK | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 53.6 | 500 |
| SMCJ7.0A-L | SMCJ7.0CA-L | GDM | BDM | 7 | 7.78 | 8.6 | 10 | 12 | 50.0 | 200 |
| SMCJ7.5A-L | SMCJ7.5CA-L | GDP | BDP | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 46.6 | 100 |
| SMCJ8.0A-L | SMCJ8.0CA-L | GDR | BDR | 8 | 8.89 | 9.83 | 1 | 13.6 | 44.2 | 50 |
| SMCJ8.5A-L | SMCJ8.5CA-L | GDT | BDT | 8.5 | 9.44 | 10.4 | 1 | 14.4 | 41.7 | 20 |
| SMCJ9.0A-L | SMCJ9.0CA-L | GDV | BDV | 9 | 10 | 11.1 | 1 | 15.4 | 39.0 | 10 |
| SMCJ10A-L | SMCJ10CA-L | GDX | BDX | 10 | 11.1 | 12.3 | 1 | 17 | 35.3 | 5 |
| SMCJ11A-L | SMCJ11CA-L | GDZ | BDZ | 11 | 12.2 | 13.5 | 1 | 18.2 | 33.0 | 1 |
| SMCJ12A-L | SMCJ12CA-L | GEE | BEE | 12 | 13.3 | 14.7 | 1 | 19.9 | 30.2 | 1 |
| SMCJ13A-L | SMCJ13CA-L | GEG | BEG | 13 | 14.4 | 15.9 | 1 | 21.5 | 28.0 | 1 |
| SMCJ14A-L | SMCJ14CA-L | GEK | BEK | 14 | 15.6 | 17.2 | 1 | 23.2 | 25.9 | 1 |
| SMCJ15A-L | SMCJ15CA-L | GEM | BEM | 15 | 16.7 | 18.5 | 1 | 24.4 | 24.6 | 1 |
| SMCJ16A-L | SMCJ16CA-L | GEP | BEP | 16 | 17.8 | 19.7 | 1 | 26 | 23.1 | 1 |
| SMCJ17A-L | SMCJ17CA-L | GER | BER | 17 | 18.9 | 20.9 | 1 | 27.6 | 21.8 | 1 |
| SMCJ18A-L | SMCJ18CA-L | GET | BET | 18 | 20 | 22.1 | 1 | 29.2 | 20.6 | 1 |
| SMCJ20A-L | SMCJ20CA-L | GEV | BEV | 20 | 22.2 | 24.5 | 1 | 32.4 | 18.6 | 1 |
| SMCJ22A-L | SMCJ22CA-L | GEX | BEX | 22 | 24.4 | 26.9 | 1 | 35.5 | 16.9 | 1 |
| SMCJ24A-L | SMCJ24CA-L | GEZ | BEZ | 24 | 26.7 | 29.5 | 1 | 38.9 | 15.5 | 1 |
| SMCJ26A-L | SMCJ26CA-L | GFE | BFE | 26 | 28.9 | 31.9 | 1 | 42.1 | 14.3 | 1 |
| SMCJ28A-L | SMCJ28CA-L | GFG | BFG | 28 | 31.1 | 34.4 | 1 | 45.4 | 13.3 | 1 |
| SMCJ30A-L | SMCJ30CA-L | GFK | BFK | 30 | 33.3 | 36.8 | 1 | 48.4 | 12.4 | 1 |
| SMCJ33A-L | SMCJ33CA-L | GFM | BFM | 33 | 36.7 | 40.6 | 1 | 53.3 | 11.3 | 1 |
| SMCJ36A-L | SMCJ36CA-L | GFP | BFP | 36 | 40 | 44.2 | 1 | 58.1 | 10.4 | 1 |
| SMCJ40A-L | SMCJ40CA-L | GFR | BFR | 40 | 44.4 | 49.1 | 1 | 64.5 | 9.3 | 1 |
| SMCJ43A-L | SMCJ43CA-L | GFT | BFT | 43 | 47.8 | 52.8 | 1 | 69.4 | 8.7 | 1 |
| SMCJ45A-L | SMCJ45CA-L | GFV | BFV | 45 | 50 | 55.3 | 1 | 72.7 | 8.3 | 1 |
| SMCJ48A-L | SMCJ48CA-L | GFX | BFX | 48 | 53.3 | 58.9 | 1 | 77.4 | 7.8 | 1 |
| SMCJ51A-L | SMCJ51CA-L | GFZ | BFZ | 51 | 56.7 | 62.7 | 1 | 82.4 | 7.3 | 1 |
| SMCJ54A-L | SMCJ54CA-L | GGE | BGE | 54 | 60 | 66.3 | 1 | 87.1 | 6.9 | 1 |
| SMCJ58A-L | SMCJ58CA-L | GGG | BGG | 58 | 64.4 | 71.2 | 1 | 93.6 | 6.5 | 1 |
| SMCJ60A-L | SMCJ60CA-L | GGK | BGK | 60 | 66.7 | 73.7 | 1 | 96.8 | 6.2 | 1 |
| SMCJ64A-L | SMCJ64CA-L | GGM | BGM | 64 | 71.1 | 78.6 | 1 | 103 | 5.9 | 1 |
| SMCJ70A-L | SMCJ70CA-L | GGP | BGP | 70 | 77.8 | 86 | 1 | 113 | 5.3 | 1 |
| SMCJ75A-L | SMCJ75CA-L | GGR | BGR | 75 | 83.3 | 92.1 | 1 | 121 | 5.0 | 1 |
| SMCJ78A-L | SMCJ78CA-L | GGT | BGT | 78 | 86.7 | 95.8 | 1 | 126 | 4.8 | 1 |
| SMCJ85A-L | SMCJ85CA-L | GGV | BGV | 85 | 94.4 | 104 | 1 | 137 | 4.4 | 1 |
| SMCJ90A-L | SMCJ90CA-L | GGX | BGX | 90 | 100 | 111 | 1 | 146 | 4.1 | 1 |
| SMCJ100A-L | SMCJ100CA-L | GGZ | BGZ | 100 | 111 | 123 | 1 | 162 | 3.7 | 1 |
| SMCJ110A-L | SMCJ110CA-L | GHE | BHE | 110 | 122 | 135 | 1 | 177 | 3.4 | 1 |
| SMCJ120A-L | SMCJ120CA-L | GHG | BHG | 120 | 133 | 147 | 1 | 193 | 3.1 | 1 |
| SMCJ130A-L | SMCJ130CA-L | GHK | BHK | 130 | 144 | 159 | 1 | 209 | 2.9 | 1 |
| SMCJ150A-L | SMCJ150CA-L | GHM | BHM | 150 | 167 | 185 | 1 | 243 | 2.5 | 1 |
| SMCJ160A-L | SMCJ160CA-L | GHP | BHP | 160 | 178 | 197 | 1 | 259 | 2.3 | 1 |
| SMCJ170A-L | SMCJ170CA-L | GHR | BHR | 170 | 189 | 209 | 1 | 275 | 2.2 | 1 |
| SMCJ180A-L | SMCJ180CA-L | GHT | BHT | 180 | 201 | 222 | 1 | 292 | 2.1 | 1 |
| SMCJ200A-L | SMCJ200CA-L | GHV | BHV | 200 | 224 | 247 | 1 | 324 | 1.9 | 1 |
| SMCJ220A-L | SMCJ220CA-L | GHX | BHX | 220 | 246 | 272 | 1 | 356 | 1.7 | 1 |
| SMCJ250A-L | SMCJ250CA-L | GHZ | BHZ | 250 | 279 | 309 | 1 | 405 | 1.5 | 1 |
| SMCJ300A-L | SMCJ300CA-L | GJE | BJE | 300 | 335 | 371 | 1 | 486 | 1.3 | 1 |
| SMCJ350A-L | SMCJ350CA-L | GJG | BJG | 350 | 391 | 432 | 1 | 567 | 1.1 | 1 |
| SMCJ400A-L | SMCJ400CA-L | GJK | BJK | 400 | 447 | 494 | 1 | 648 | 0.9 | 1 |
| SMCJ440A-L | SMCJ440CA-L | GJM | BJM | 440 | 492 | 543 | 1 | 713 | 0.9 | 1 |



Fig.1 Peak Pulse Power Rating Curve

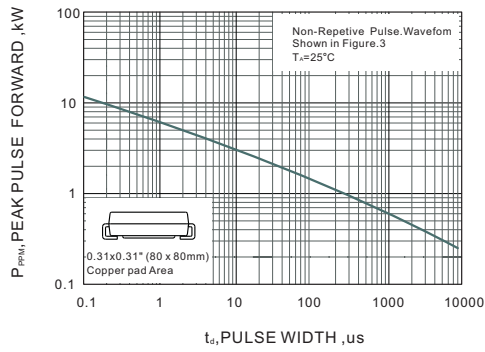


Fig.2 Pulse Waveform

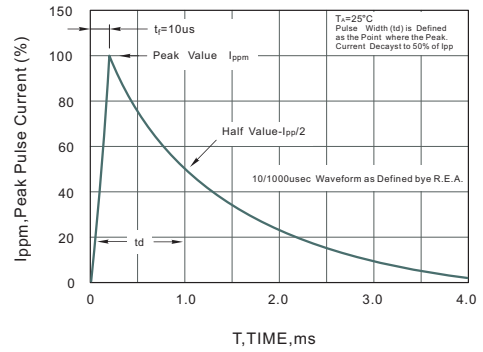


Fig.3 Forward Current Derating Curve

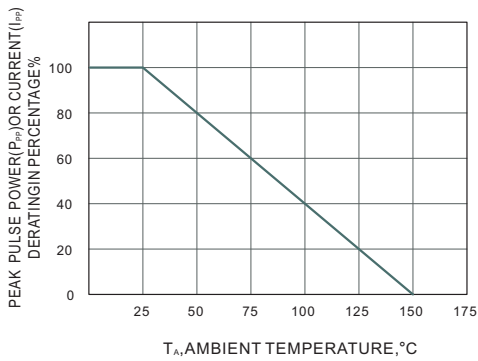


Fig.4 Typical Junction Capacitance

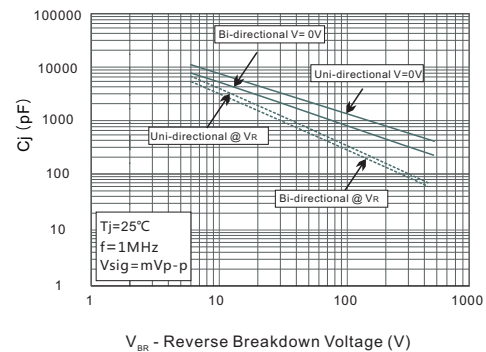
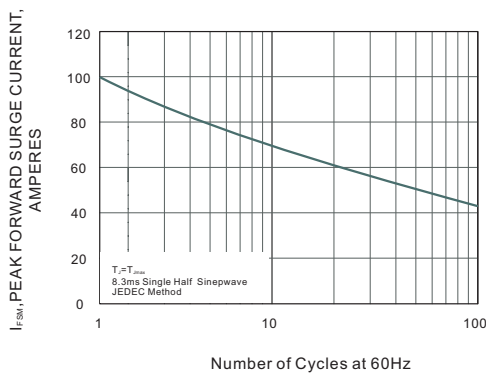


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

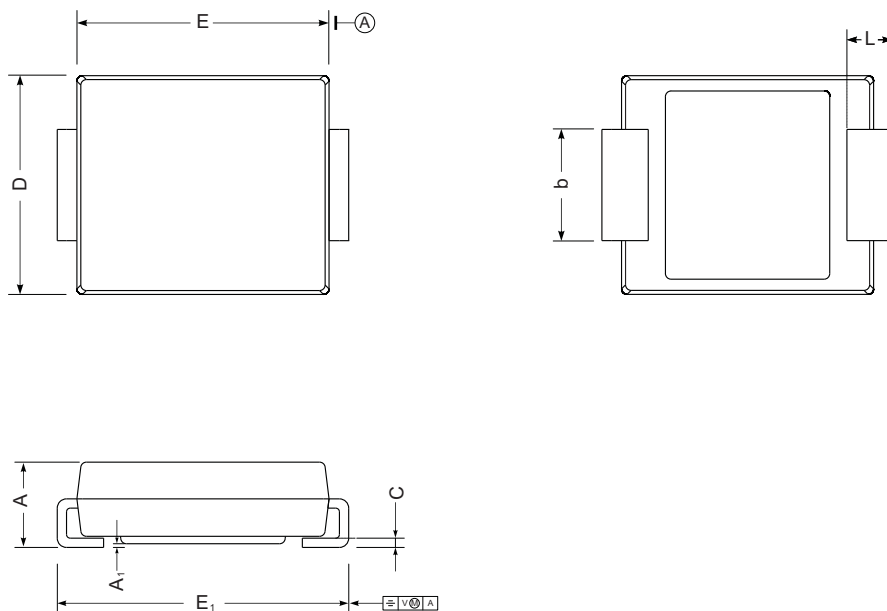




PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

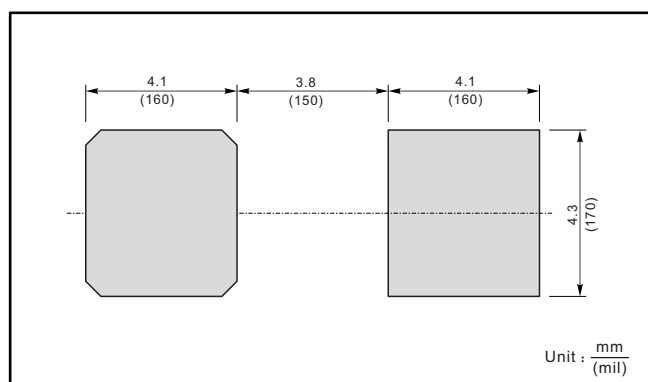
SMC



SMC mechanical data

| UNIT | | A | E | D | E ₁ | A ₁ | C | L | b |
|------|-----|------|-----|-----|----------------|----------------|------|-----|------|
| mm | max | 2.62 | 7.0 | 6.2 | 8.0 | 0.21 | 0.31 | 1.6 | 3.25 |
| | min | 2.00 | 6.5 | 5.6 | 7.6 | 0.05 | 0.15 | 0.9 | 2.75 |
| mil | max | 103 | 276 | 244 | 315 | 8.3 | 12 | 63 | 128 |
| | min | 79 | 256 | 220 | 299 | 2.0 | 5.9 | 35 | 108 |

The recommended mounting pad size



Unit: mm
(mil)

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