

AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER-5000 Watts

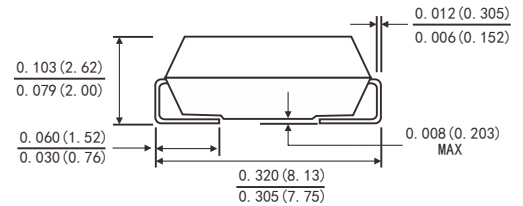
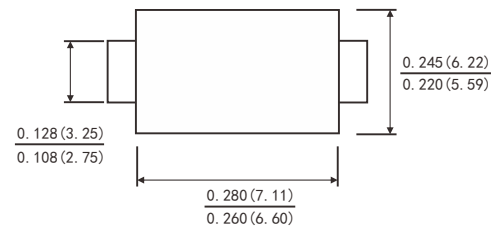
FEATURES

- 5000 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- **AEC-Q101 qualified and PPAP capable**



AEC-Q101 Qualified

SMC(DO-214AB)



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: JEDEC SMC(DO-214AB) molded plastic body
- Terminals: Solder Plated
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device.

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C suffix for Types .
2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

| | Symbols | Value | Units |
|--|----------|------------|-------|
| Peak Pulse Power Dissipation at on 10/1000µs Waveform (Note 1.2) | PPK | 5000 | Watts |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 2) | IFSM | 300 | Amps |
| Operating junction and storage temperature range | TJ, TSTG | -55 to 150 | °C |

Note: 1. Non repetitive current pulse and derated above TA=25°C

2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

| Part Number | | Device Marking Code | | Reverse Stand-off Voltage | Breakdown Voltage $V_{BR} @ I_T$ | | Test Current | Max. Clamping Voltage @ I_{PP} | Max. Peak Pulse Current | Max. Reverse Leakage @ V_{RWM} |
|---------------|----------------|---------------------|------|---------------------------|----------------------------------|---------|--------------|----------------------------------|-------------------------|----------------------------------|
| UNI-POLAR | BI-POLAR | UNI | BI | $V_{RWM}(V)$ | Min.(V) | Max.(V) | $I_T(mA)$ | $V_{C MAX.}(V)$ | $I_{PP}(A)$ | $I_R(\mu A)$ |
| 5.0SMCJ5.0A-V | 5.0SMCJ5.0CA-V | 5PDE | 5BDE | 5.0 | 6.40 | 7.00 | 10 | 9.2 | 543.5 | 800 |
| 5.0SMCJ6.0A-V | 5.0SMCJ6.0CA-V | 5PDG | 5BDG | 6.0 | 6.67 | 7.37 | 10 | 10.3 | 485.5 | 800 |
| 5.0SMCJ6.5A-V | 5.0SMCJ6.5CA-V | 5PDK | 5BDK | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 446.5 | 800 |
| 5.0SMCJ7.0A-V | 5.0SMCJ7.0CA-V | 5PDM | 5BDM | 7.0 | 7.78 | 8.60 | 10 | 12.0 | 416.7 | 800 |
| 5.0SMCJ7.5A-V | 5.0SMCJ7.5CA-V | 5PDP | 5BDP | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 387.7 | 800 |
| 5.0SMCJ8.0A-V | 5.0SMCJ8.0CA-V | 5PDR | 5BDR | 8.0 | 8.89 | 9.83 | 1 | 13.6 | 367.7 | 800 |
| 5.0SMCJ8.5A-V | 5.0SMCJ8.5CA-V | 5PDT | 5BDT | 8.5 | 9.44 | 10.40 | 1 | 14.4 | 347.2 | 800 |
| 5.0SMCJ9.0A-V | 5.0SMCJ9.0CA-V | 5PDV | 5BDV | 9.0 | 10.00 | 11.10 | 1 | 15.4 | 324.7 | 800 |
| 5.0SMCJ10A-V | 5.0SMCJ10CA-V | 5PDX | 5BDX | 10.0 | 11.10 | 12.30 | 1 | 17.0 | 294.2 | 800 |
| 5.0SMCJ11A-V | 5.0SMCJ11CA-V | 5PEN | 5BEN | 11.0 | 12.20 | 13.50 | 10 | 18.2 | 277.5 | 800 |
| 5.0SMCJ12A-V | 5.0SMCJ12CA-V | 5PEP | 5BEP | 12.0 | 13.30 | 14.70 | 10 | 19.9 | 253.8 | 800 |
| 5.0SMCJ13A-V | 5.0SMCJ13CA-V | 5PEQ | 5BEQ | 13.0 | 14.40 | 15.90 | 10 | 21.5 | 234.9 | 500 |
| 5.0SMCJ14A-V | 5.0SMCJ14CA-V | 5PER | 5BER | 14.0 | 15.60 | 17.20 | 10 | 23.2 | 217.7 | 200 |
| 5.0SMCJ15A-V | 5.0SMCJ15CA-V | 5PES | 5BES | 15.0 | 16.70 | 18.50 | 1 | 24.4 | 207.0 | 100 |
| 5.0SMCJ16A-V | 5.0SMCJ16CA-V | 5PET | 5BET | 16.0 | 17.80 | 19.70 | 1 | 26.0 | 194.2 | 50 |
| 5.0SMCJ17A-V | 5.0SMCJ17CA-V | 5PEU | 5BEU | 17.0 | 18.90 | 20.90 | 1 | 27.6 | 183.0 | 20 |
| 5.0SMCJ18A-V | 5.0SMCJ18CA-V | 5PEV | 5BEV | 18.0 | 20.00 | 22.10 | 1 | 29.2 | 172.9 | 10 |
| 5.0SMCJ20A-V | 5.0SMCJ20CA-V | 5PEW | 5BEW | 20.0 | 22.20 | 24.50 | 1 | 32.4 | 155.9 | 5 |
| 5.0SMCJ22A-V | 5.0SMCJ22CA-V | 5PEX | 5BEX | 22.0 | 24.40 | 26.90 | 1 | 35.5 | 142.3 | 5 |
| 5.0SMCJ24A-V | 5.0SMCJ24CA-V | 5PEZ | 5BEZ | 24.0 | 26.70 | 29.50 | 1 | 38.9 | 129.8 | 5 |
| 5.0SMCJ26A-V | 5.0SMCJ26CA-V | 5PFE | 5BFE | 26.0 | 28.90 | 31.90 | 1 | 42.1 | 120.0 | 5 |
| 5.0SMCJ28A-V | 5.0SMCJ28CA-V | 5PFG | 5BFG | 28.0 | 31.10 | 34.40 | 1 | 45.4 | 111.2 | 5 |
| 5.0SMCJ30A-V | 5.0SMCJ30CA-V | 5PFK | 5BFK | 30.0 | 33.30 | 36.80 | 1 | 48.4 | 104.3 | 5 |
| 5.0SMCJ33A-V | 5.0SMCJ33CA-V | 5PFM | 5BFM | 33.0 | 36.70 | 40.60 | 1 | 53.3 | 94.75 | 5 |
| 5.0SMCJ36A-V | 5.0SMCJ36CA-V | 5PFP | 5BFP | 36.0 | 40.00 | 44.20 | 1 | 58.1 | 86.92 | 5 |
| 5.0SMCJ40A-V | 5.0SMCJ40CA-V | 5PFR | 5BFR | 40.0 | 44.40 | 49.10 | 1 | 64.5 | 78.29 | 5 |
| 5.0SMCJ43A-V | 5.0SMCJ43CA-V | 5PFT | 5BFT | 43.0 | 47.80 | 52.80 | 1 | 69.4 | 72.77 | 5 |
| 5.0SMCJ45A-V | 5.0SMCJ45CA-V | 5PFV | 5BFV | 45.0 | 50.00 | 55.30 | 1 | 72.7 | 69.46 | 5 |
| 5.0SMCJ48A-V | 5.0SMCJ48CA-V | 5PFX | 5BFX | 48.0 | 53.30 | 58.90 | 1 | 77.4 | 65.25 | 5 |
| 5.0SMCJ51A-V | 5.0SMCJ51CA-V | 5PFZ | 5BFZ | 51.0 | 56.70 | 62.70 | 1 | 82.4 | 61.29 | 5 |
| 5.0SMCJ54A-V | 5.0SMCJ54CA-V | 5PGE | 5BGE | 54.0 | 60.00 | 66.30 | 1 | 87.1 | 57.98 | 5 |
| 5.0SMCJ58A-V | 5.0SMCJ58CA-V | 5PGG | 5BGG | 58.0 | 64.40 | 71.20 | 1 | 93.6 | 53.95 | 5 |
| 5.0SMCJ60A-V | 5.0SMCJ60CA-V | 5PGK | 5BGK | 60.0 | 66.70 | 73.70 | 1 | 96.8 | 52.17 | 5 |
| 5.0SMCJ64A-V | 5.0SMCJ64CA-V | 5PGM | 5BGM | 64.0 | 71.10 | 78.60 | 1 | 103.0 | 49.03 | 5 |
| 5.0SMCJ70A-V | 5.0SMCJ70CA-V | 5PGP | 5BGP | 70.0 | 77.80 | 86.00 | 1 | 113.0 | 44.69 | 5 |
| 5.0SMCJ75A-V | 5.0SMCJ75CA-V | 5PGR | 5BGR | 75.0 | 83.30 | 92.10 | 1 | 121.0 | 41.74 | 5 |
| 5.0SMCJ78A-V | 5.0SMCJ78CA-V | 5PGT | 5BGT | 78.0 | 86.70 | 95.80 | 1 | 126.0 | 40.08 | 5 |
| 5.0SMCJ85A-V | 5.0SMCJ85CA-V | 5PGV | 5BGV | 85.0 | 94.40 | 104.00 | 1 | 137.0 | 36.86 | 5 |
| 5.0SMCJ90A-V | 5.0SMCJ90CA-V | 5PGX | 5BGX | 90.0 | 100.00 | 111.00 | 1 | 146.0 | 34.59 | 5 |
| 5.0SMCJ100A-V | 5.0SMCJ100CA-V | 5PGZ | 5BGZ | 100.0 | 111.00 | 123.00 | 1 | 162.0 | 31.17 | 5 |
| 5.0SMCJ110A-V | 5.0SMCJ110CA-V | 5PHE | 5BHE | 110.0 | 122.00 | 135.00 | 1 | 177.0 | 28.53 | 5 |
| 5.0SMCJ120A-V | 5.0SMCJ120CA-V | 5PHG | 5BHG | 120.0 | 133.00 | 147.00 | 1 | 193.0 | 26.17 | 5 |
| 5.0SMCJ130A-V | 5.0SMCJ130CA-V | 5PHK | 5BHK | 130.0 | 144.00 | 159.00 | 1 | 209.0 | 24.16 | 5 |
| 5.0SMCJ150A-V | 5.0SMCJ150CA-V | 5PHM | 5BHM | 150.0 | 155.00 | 171.00 | 1 | 226.8 | 22.27 | 5 |
| 5.0SMCJ160A-V | 5.0SMCJ160CA-V | 5PHP | 5BHP | 160.0 | 167.00 | 185.00 | 1 | 243.0 | 20.78 | 5 |
| 5.0SMCJ170A-V | 5.0SMCJ170CA-V | 5PHR | 5BHR | 170.0 | 178.00 | 197.00 | 1 | 259.0 | 19.50 | 5 |
| 5.0SMCJ180A-V | 5.0SMCJ180CA-V | 5PHT | 5BHT | 180.0 | 189.0 | 209.0 | 1 | 275.0 | 18.36 | 5 |
| 5.0SMCJ190A-V | 5.0SMCJ190CA-V | 5PHV | 5DHV | 190.0 | 200.0 | 220.0 | 1 | 291.6 | 17.32 | 5 |
| 5.0SMCJ200A-V | 5.0SMCJ200CA-V | 5PHX | 5DHX | 200.0 | 211.0 | 232.0 | 1 | 307.8 | 16.41 | 5 |
| 5.0SMCJ210A-V | 5.0SMCJ210CA-V | 5PHZ | 5DHZ | 210.0 | 224.0 | 247.0 | 1 | 324.0 | 15.59 | 5 |
| 5.0SMCJ220A-V | 5.0SMCJ220CA-V | 5PIE | 5DIE | 220.0 | 246.0 | 272.0 | 1 | 356.0 | 14.19 | 5 |
| 5.0SMCJ250A-V | 5.0SMCJ250CA-V | 5PIG | 5DIG | 250.0 | 279.0 | 309.0 | 1 | 405.0 | 12.47 | 5 |
| 5.0SMCJ300A-V | 5.0SMCJ300CA-V | 5PIK | 5DIK | 300.0 | 335.0 | 371.0 | 1 | 486.0 | 10.39 | 5 |
| 5.0SMCJ350A-V | 5.0SMCJ350CA-V | 5PIM | 5DIM | 350.0 | 391.0 | 432.0 | 1 | 567.0 | 8.91 | 5 |
| 5.0SMCJ400A-V | 5.0SMCJ400CA-V | 5PIP | 5DIP | 400.0 | 447.0 | 494.0 | 1 | 648.0 | 7.79 | 5 |
| 5.0SMCJ440A-V | 5.0SMCJ440CA-V | 5PIR | 5DIR | 440.0 | 492.0 | 543.0 | 1 | 713.0 | 7.00 | 5 |

FIG. 1-PEAK PULSE POWER CURVE

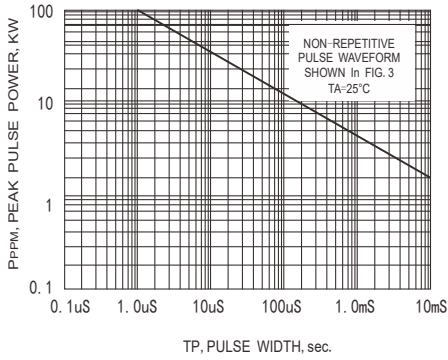


FIG. 2-PULSE DERATING CURVE

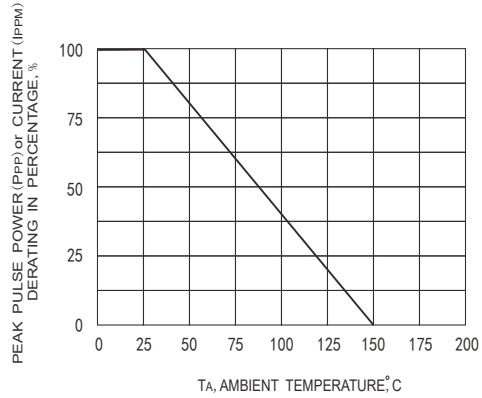


FIG. 3-PULSE WAVEFORM

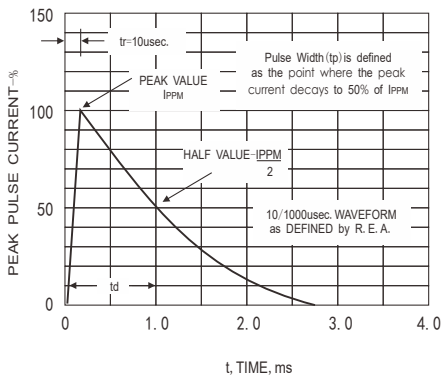


FIG. 4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

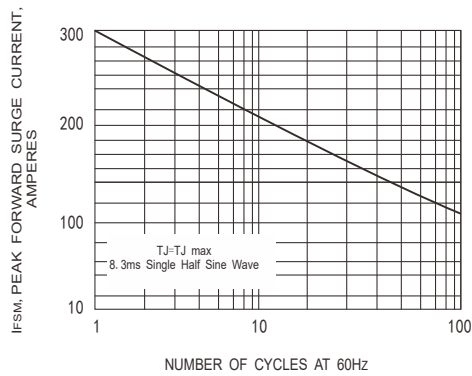


FIG. 5-Steady State Power Derating Curve

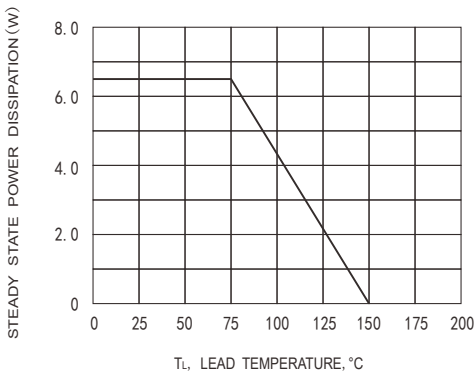


FIG. 6-TYPICAL JUNCTION CAPACITANCE

