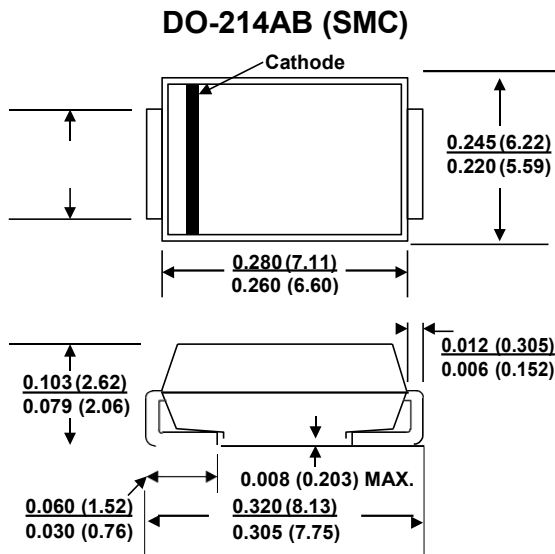


**SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 5.0 TO 440 Volts
1500 Watt Peak Pulse Power**



Dimensions in inches and(millimeters)

FEATURES

- ⊙ For surface mounted applications in order to optimize board space
- ⊙ Low profile package
- ⊙ Built-in strain relief
- ⊙ Glass passivated junction
- ⊙ Low inductance
- ⊙ Excellent clamping capability
- ⊙ Repetition Rate(duty cycle):0.05%
- ⊙ Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- ⊙ Typical IR less than 1μA above 10V
- ⊙ High temperature soldering: 250°C/10 seconds at terminals
- ⊙ Plastic package has Underwriters Laboratory Flammability 94V-O

MECHANICAL DATA

Case

Terminal: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity

Standard Packaging: 16mm tape(EIA STD RS-481)

Weight: 0.007ounce, 0.21gram

DEVICES FOR BIPOLAR APPLICATION

For Bidirectional use C or CA Suffix for types SMCJ5.0 thru types SMCJ170 (e.g. SMCJ5.0C , SMCJ170CA)
Electrical characteristics apply in both directions

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING | SYMBOL | VALUE | UNITS |
|---|-----------------------------------|--------------|-------|
| Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2,FIG.1) | P _{PPM} | Minimum 1500 | Watts |
| Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3) | I _{PPM} | SEE TABLE 1 | Amps |
| Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 2,3) | I _{FSM} | 200 | Amps |
| Operating junction and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |

Notes :

- 1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25°C per Fig. 2 .
- 2.Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
- 3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
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| SMCJ PART NUMBER | | DEVICE MARKING CODE | | REVERSE STAND-OFF VOLTAGE $V_{RWM}(V)$ | BREAKDOWN VOLTAGE $V_{BR}(V)$ MIN.@ I_T | BREAKDOWN VOLTAGE $V_{BR}(V)$ MAX.@ I_T | TEST CURRENT I_T (mA) | MAXIMUM CLAMPING VOLTAGE @ I_{pp} $V_C(V)$ | PEAK PULSE CURRENT I_{pp} (A) | REVERSE LEAKAGE @ V_{RWM} $I_R(\mu A)$ |
|------------------|-----------|---------------------|-----|--|---|---|-------------------------|--|---------------------------------|--|
| UNI-POLAR | BI-POLAR | UNI | BI | | | | | | | |
| SMCJ5.0A | SMCJ5.0CA | GDE | BDE | 5.0 | 6.40 | 7.00 | 10 | 9.2 | 163.0 | 800 |
| SMCJ6.0A | SMCJ6.0CA | GDG | BDG | 6.0 | 6.67 | 7.37 | 10 | 10.3 | 145.7 | 800 |
| SMCJ6.5A | SMCJ6.5CA | GDK | BDK | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 134.0 | 500 |
| SMCJ7.0A | SMCJ7.0CA | GDM | BDM | 7.0 | 7.78 | 8.60 | 10 | 12.0 | 125.0 | 200 |
| SMCJ7.5A | SMCJ7.5CA | GDP | BDP | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 116.3 | 100 |
| SMCJ8.0A | SMCJ8.0CA | GDR | BDR | 8.0 | 8.89 | 9.83 | 1 | 13.6 | 110.3 | 50 |
| SMCJ8.5A | SMCJ8.5CA | GDT | BDT | 8.5 | 9.44 | 10.40 | 1 | 14.4 | 104.2 | 20 |
| SMCJ9.0A | SMCJ9.0CA | GDV | BDV | 9.0 | 10.00 | 11.10 | 1 | 15.4 | 97.4 | 10 |
| SMCJ10A | SMCJ10CA | GDX | BDX | 10.0 | 11.10 | 12.30 | 1 | 17.0 | 88.3 | 5 |
| SMCJ11A | SMCJ11CA | GDZ | BDZ | 11.0 | 12.20 | 13.50 | 1 | 18.2 | 82.5 | 5 |
| SMCJ12A | SMCJ12CA | GEE | BEE | 12.0 | 13.30 | 14.70 | 1 | 19.9 | 75.4 | 5 |
| SMCJ13A | SMCJ13CA | GEG | BEG | 13.0 | 14.40 | 15.90 | 1 | 21.5 | 69.8 | 5 |
| SMCJ14A | SMCJ14CA | GEK | GEK | 14.0 | 15.60 | 17.20 | 1 | 23.2 | 64.7 | 5 |
| SMCJ15A | SMCJ15CA | GEM | GEM | 15.0 | 16.70 | 18.50 | 1 | 24.4 | 61.5 | 5 |
| SMCJ16A | SMCJ16CA | GEP | BEP | 16.0 | 17.80 | 19.70 | 1 | 26.0 | 57.7 | 5 |
| SMCJ17A | SMCJ17CA | GER | BER | 17.0 | 18.90 | 20.90 | 1 | 27.6 | 54.4 | 5 |
| SMCJ18A | SMCJ18CA | GET | BET | 18.0 | 20.00 | 22.10 | 1 | 29.2 | 51.4 | 5 |
| SMCJ20A | SMCJ20CA | GEV | BEV | 20.0 | 22.20 | 24.50 | 1 | 32.4 | 46.3 | 5 |
| SMCJ22A | SMCJ22CA | GEX | BEX | 22.0 | 24.40 | 26.90 | 1 | 35.5 | 42.3 | 5 |
| SMCJ24A | SMCJ24CA | GEZ | BEZ | 24.0 | 26.70 | 29.50 | 1 | 38.9 | 38.6 | 5 |
| SMCJ26A | SMCJ26CA | GFE | BFE | 26.0 | 28.90 | 31.90 | 1 | 42.1 | 35.7 | 5 |
| SMCJ28A | SMCJ28CA | GFG | BFG | 28.0 | 31.10 | 34.40 | 1 | 45.4 | 33.1 | 5 |
| SMCJ30A | SMCJ30CA | GFK | BFK | 30.0 | 33.30 | 36.80 | 1 | 48.4 | 31.0 | 5 |
| SMCJ33A | SMCJ33CA | GFM | BFM | 33.0 | 36.70 | 40.60 | 1 | 53.3 | 28.2 | 5 |
| SMCJ36A | SMCJ36CA | GFP | BFP | 36.0 | 40.00 | 44.20 | 1 | 58.1 | 25.9 | 5 |
| SMCJ40A | SMCJ40CA | GFR | BFR | 40.0 | 44.40 | 49.10 | 1 | 64.5 | 23.3 | 5 |
| SMCJ43A | SMCJ43CA | GFT | BFT | 43.0 | 47.80 | 52.80 | 1 | 69.4 | 21.7 | 5 |
| SMCJ45A | SMCJ45CA | GFV | BFV | 45.0 | 50.00 | 55.30 | 1 | 72.7 | 20.6 | 5 |
| SMCJ48A | SMCJ48CA | GFX | BFX | 48.0 | 53.30 | 58.90 | 1 | 77.4 | 19.4 | 5 |
| SMCJ51A | SMCJ51CA | GFZ | BFZ | 51.0 | 56.70 | 62.70 | 1 | 82.4 | 18.2 | 5 |
| SMCJ54A | SMCJ54CA | GGE | BGE | 54.0 | 60.00 | 66.30 | 1 | 87.1 | 17.3 | 5 |
| SMCJ58A | SMCJ58CA | GGG | BGG | 58.0 | 64.40 | 71.20 | 1 | 93.6 | 16.1 | 5 |
| SMCJ60A | SMCJ60CA | GGK | BGK | 60.0 | 66.70 | 73.70 | 1 | 96.8 | 15.5 | 5 |
| SMCJ64A | SMCJ64CA | GGM | BGM | 64.0 | 71.10 | 78.60 | 1 | 103.0 | 14.6 | 5 |
| SMCJ70A | SMCJ70CA | GGP | BGP | 70.0 | 77.80 | 86.00 | 1 | 113.0 | 13.3 | 5 |
| SMCJ75A | SMCJ75CA | GGR | BGR | 75.0 | 83.30 | 92.10 | 1 | 121.0 | 12.4 | 5 |
| SMCJ78A | SMCJ78CA | GGT | BGT | 78.0 | 86.70 | 95.80 | 1 | 126.0 | 11.9 | 5 |
| SMCJ85A | SMCJ85CA | GGV | BGV | 85.0 | 94.40 | 104.00 | 1 | 137.0 | 11.0 | 5 |
| SMCJ90A | SMCJ90CA | GGX | BGX | 90.0 | 100.00 | 111.00 | 1 | 146.0 | 10.3 | 5 |
| SMCJ100A | SMCJ100CA | GGZ | BGZ | 100.0 | 111.00 | 123.00 | 1 | 162.0 | 9.3 | 5 |
| SMCJ110A | SMCJ110CA | GHE | BHE | 110.0 | 122.00 | 135.00 | 1 | 177.0 | 8.5 | 5 |
| SMCJ120A | SMCJ120CA | GHG | BHG | 120.0 | 133.00 | 147.00 | 1 | 193.0 | 7.8 | 5 |
| SMCJ130A | SMCJ130CA | GHK | BHK | 130.0 | 144.00 | 159.00 | 1 | 209.0 | 7.2 | 5 |
| SMCJ150A | SMCJ150CA | GHM | BHM | 150.0 | 167.00 | 185.00 | 1 | 243.0 | 6.2 | 5 |
| SMCJ160A | SMCJ160CA | GHP | BHP | 160.0 | 178.00 | 197.00 | 1 | 259.0 | 5.8 | 5 |
| SMCJ170A | SMCJ170CA | GHR | BHR | 170.0 | 189.00 | 209.00 | 1 | 275.0 | 5.5 | 5 |
| SMCJ180A | SMCJ180CA | GHT | BHT | 180.0 | 201.00 | 222.00 | 1 | 292.0 | 5.1 | 5 |
| SMCJ200A | SMCJ200CA | GHV | BHV | 200.0 | 224.00 | 247.00 | 1 | 324.0 | 4.6 | 5 |
| SMCJ220A | SMCJ220CA | GHX | BHX | 220.0 | 246.00 | 272.00 | 1 | 356.0 | 4.2 | 5 |
| SMCJ250A | SMCJ250CA | GHZ | BHZ | 250.0 | 279.00 | 309.00 | 1 | 405.0 | 3.7 | 5 |
| SMCJ300A | SMCJ300CA | GJE | BJE | 300.0 | 335.00 | 371.00 | 1 | 486.0 | 3.1 | 5 |
| SMCJ350A | SMCJ350CA | GJG | BJG | 350.0 | 391.00 | 432.00 | 1 | 567.0 | 2.6 | 5 |
| SMCJ400A | SMCJ400CA | GJK | BJK | 400.0 | 447.00 | 494.00 | 1 | 648.0 | 2.3 | 5 |
| SMCJ440A | SMCJ440CA | GJM | BJM | 440.0 | 492.00 | 543.00 | 1 | 713.0 | 2.1 | 5 |

For bidirectional type having V_{rwm} of 10 volts and less, the IR limit is double.
 For parts without A , the V_{BR} is $\pm 10\%$

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

