

Surface mount transient voltage suppressor power 1500watts

Stand-Off Voltage: 5.0V~440V

**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: DO-214AB/SMC
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 0.22g / 0.0077oz

**Maximum Ratings and Electrical characteristics**

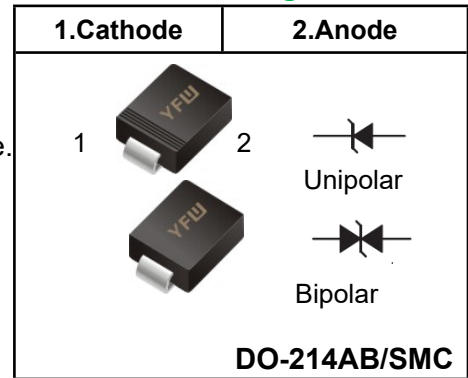
Ratings at 25 ambient temperature unless otherwise specified.

| Parameter  | Symbol                                 | Value          | Unit        |
|--|--|----------------|-------------|
| Peak Pulse Power Dissipation on 10/1000 us waveform  | <b>P<sub>PPM</sub></b>                 | 1500           | <b>W</b>    |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) | <b>I<sub>FSM</sub></b><br><b>(UNI)</b> | 200            | <b>A</b>    |
| Peak Pulse Current on 10/1000 us waveform  | <b>I<sub>PPM</sub></b>                 | see Next Table | <b>A</b>    |
| Power dissipation on Infinite heat sink at TA=50 °C  | <b>P<sub>D</sub></b>                   | 6.5            | <b>W</b>    |
| Maximum instantaneous forward voltage at 100 A for unidirectional only                             | <b>V<sub>F</sub></b>                   | 3.5            | <b>V</b>    |
| Typical Thermal Resistance Junction to Ambient(Note 1)   | <b>R<sub>θJA</sub></b>                 | 75             | <b>°C/W</b> |
|  | <b>R<sub>θJL</sub></b>                 | 15             | <b>°C/W</b> |
| Operating Junction Temperature and Storage Temperature Range                                       | <b>T<sub>J</sub>, T<sub>STG</sub></b>  | -65 to +150    | <b>°C</b>   |

**NOTES:**

- 1. Mounted on 8 mm<sup>2</sup> (0.13mm thick) land areas.

**Pinning**

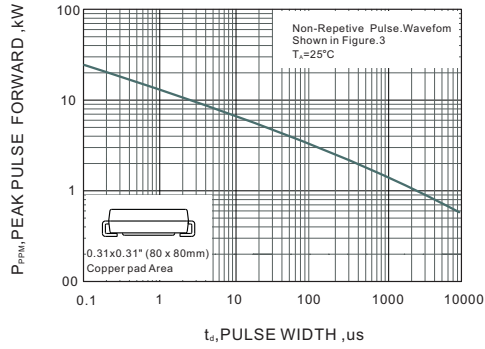


|          |           |     |     |       |        |        |    |       |       |     |   |
|----------|-----------|-----|-----|-------|--------|--------|----|-------|-------|-----|---|
| SMCJ5.0A | SMCJ5.0CA | GDE | BDE | 5.0   | 6.40   | 7.00   | 10 | 9.2   | 163.0 | 800 | X |
| SMCJ6.0A | SMCJ6.0CA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

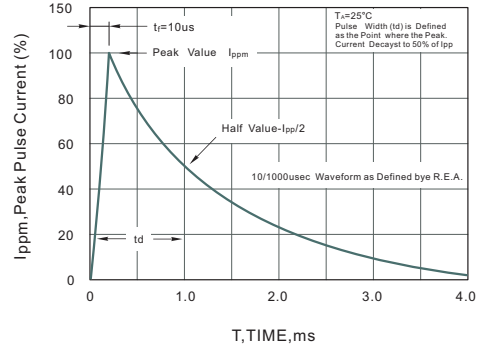
For bidirectional type having  $V_R$  of 10 volts and less, the  $I_R$  limit is double.

For parts without A, the  $V_{BR}$  is  $\pm 10\%$  and  $V_C$  is 5% higher than with A parts.

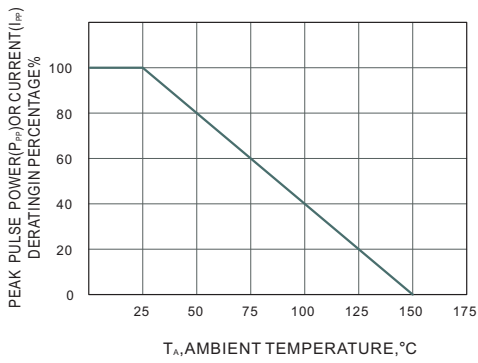
**Fig.1 Peak Pulse Power Rating Curve**



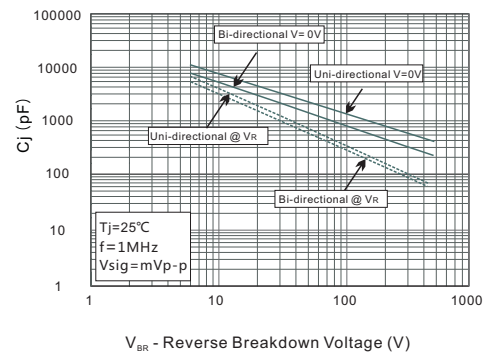
**Fig.2 Pulse Waveform**



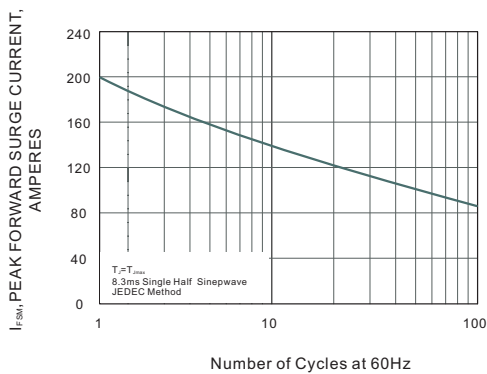
**Fig.3 Forward Current Derating Curve**



**Fig.4 Typical Junction Capacitance**

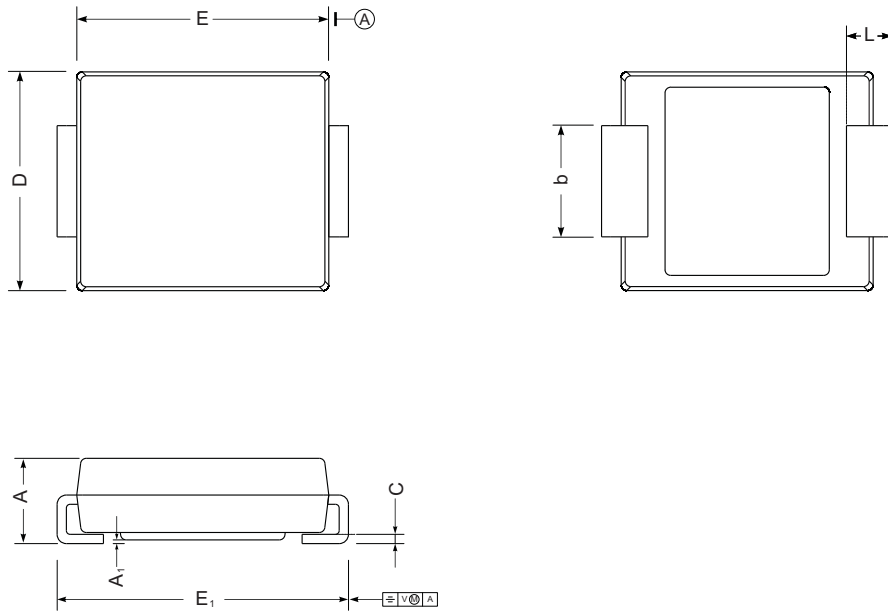


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



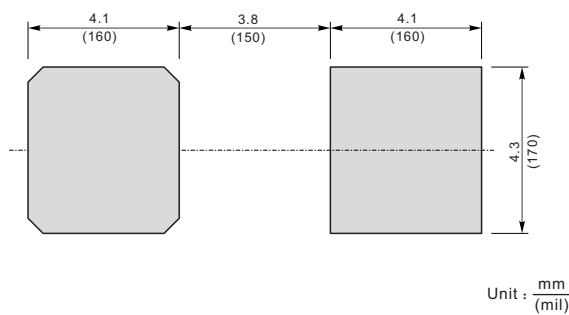
**Package Outline DO-214AB SMC**

Plastic surface mounted package; 2 leads



| UNIT |     | A    | E   | D   | E <sub>1</sub> | A <sub>1</sub> | 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**



**Summary of Packing Options**

| Package      | Packing Description | Packing Quantity | Industry Standard |
|--------------|---------------------|------------------|-------------------|
| DO-214AB SMC | Tape/Reel, 13" reel | 3000             | EIA-481-1         |

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