

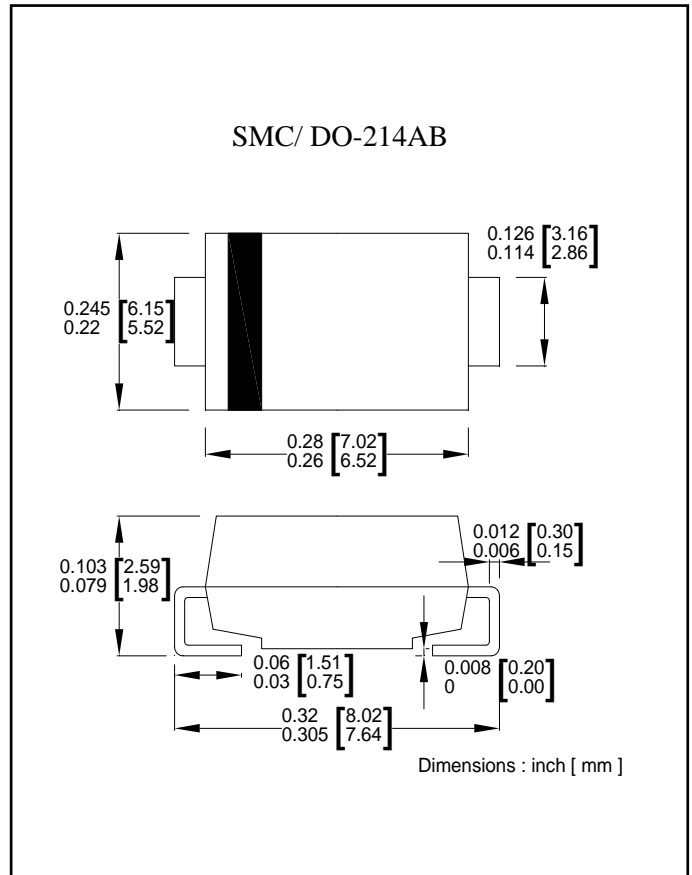
**Reverse Voltage: 5.0 to 58 V**  
**Peak Pulse Power: 2000 W**

**Features**

- Glass passivated chip
- 2000 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

**Mechanical Data**

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



**Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)**

| Parameter   | Symbol                            | Value          | UNIT |
|---|-----------------------------------|----------------|------|
| Peak power dissipation with a 10/1000μs waveform <sup>(1)</sup>                             | P <sub>PP</sub>                   | 2000           | W    |
| Peak pulse current with a 10/1000μs waveform <sup>(1)</sup>                                 | I <sub>PP</sub>                   | See Next Table | A    |
| Power dissipation on infinite heatsink at T <sub>L</sub> = 75 °C                            | P <sub>D</sub>                    | 6.5            | W    |
| Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup> | I <sub>FSM</sub>                  | 200            | A    |
| Maximum instantaneous forward voltage at 25 A for unidirectional only                       | V <sub>F</sub>                    | ~3.5           | V    |
| Operating junction and storage temperature range  | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150    | °C   |

**Note:**

(1) Non-repetitive current pulse per Fig.5 and derated above T<sub>A</sub> = 25 °C per Fig.1

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

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

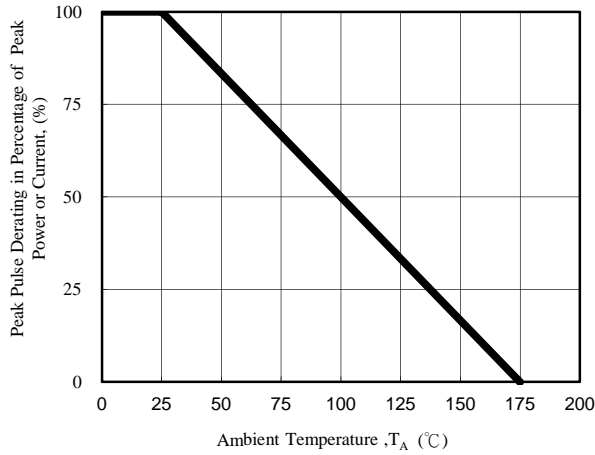


Fig. 1 - Pulse Derating Curve

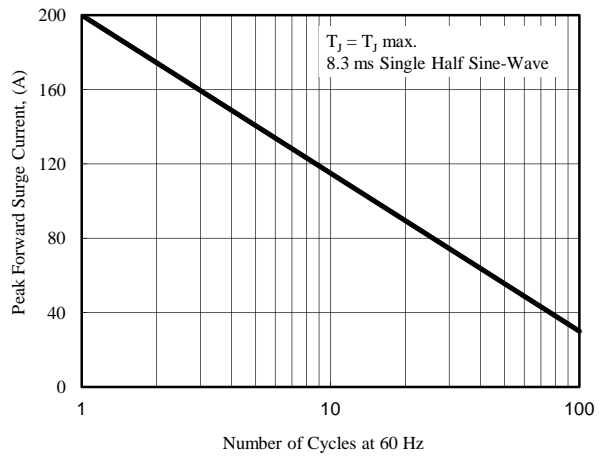


Fig. 2 - Maximum Non-Repetitive Surge Current

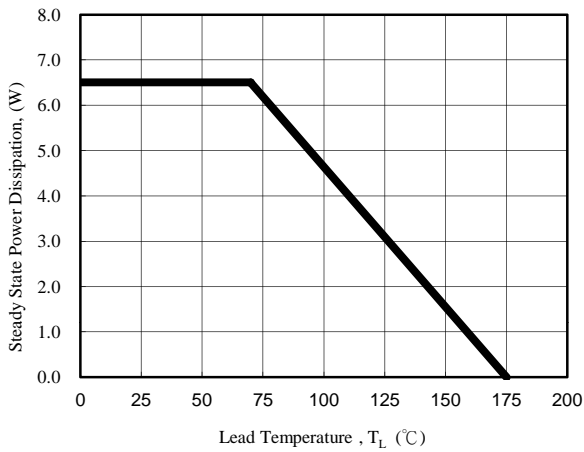


Fig. 3 - Steady State Power Derating Curve

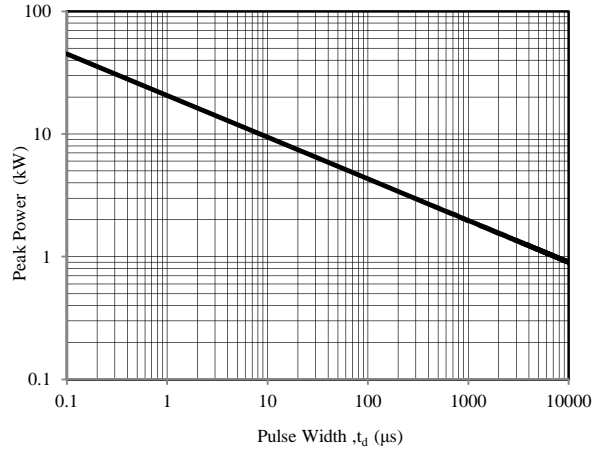


Fig. 4 - Peak Pulse Power Rating Curve

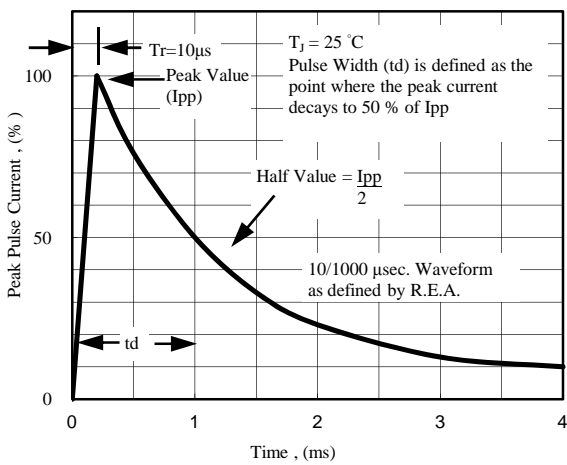


Fig. 5 - Pulse Waveform

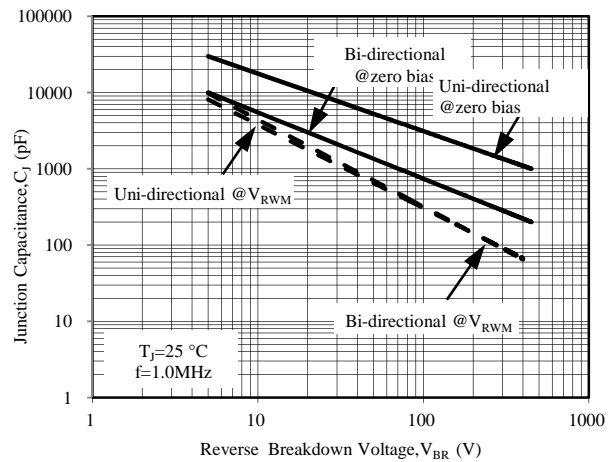


Fig. 6 - Typical Junction Capacitance

**Electrical Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| Part Number (Uni) | Part Number (Bi) | Device Marking Code |      | Breakdown Voltage $V_{BR}$ @ $I_T$ |         |            | Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ ( $\mu\text{A}$ ) | Working Peak Reverse Voltage $V_{RWM}$ (V) | Maximum Reverse Surge Current $I_{PP}$ (A) | Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V) |
|-------------------|------------------|---------------------|------|------------------------------------|---------|------------|---|--|--|---|
|                   |                  | Uni                 | Bi   | Min (V)                            | Max (V) | $I_T$ (mA) |   |  |  |   |
| T2.0SMCJ5.0A      | T2.0SMCJ5.0CA    | 2GDE                | 2BDE | 6.40                               | 7.00    | 10         | 800   | 5.0  | 217.4                                      | 9.2   |
| T2.0SMCJ6.0A      | T2.0SMCJ6.0CA    | 2GDK                | 2BDK | 6.67                               | 7.37    | 10         | 800   | 6.0  | 194.2                                      | 10.3  |
| T2.0SMCJ6.5A      | T2.0SMCJ6.5CA    | 2GDP                | 2BDP | 7.22                               | 7.98    | 10         | 500   | 6.5  | 178.6                                      | 11.2  |
| T2.0SMCJ7.0A      | T2.0SMCJ7.0CA    | 2GDT                | 2BDT | 7.78                               | 8.60    | 10         | 200   | 7.0  | 166.7                                      | 12.0  |
| T2.0SMCJ7.5A      | T2.0SMCJ7.5CA    | 2GDY                | 2BDY | 8.33                               | 9.21    | 1          | 100   | 7.5  | 155.0                                      | 12.9  |
| T2.0SMCJ8.0A      | T2.0SMCJ8.0CA    | 2GEE                | 2BEE | 8.89                               | 9.83    | 1          | 50  | 8.0  | 147.1                                      | 13.6  |
| T2.0SMCJ8.5A      | T2.0SMCJ8.5CA    | 2GEG                | 2BEK | 9.44                               | 10.40   | 1          | 10  | 8.5  | 138.9                                      | 14.4  |
| T2.0SMCJ9.0A      | T2.0SMCJ9.0CA    | 2GEP                | 2BEP | 10.00                              | 11.10   | 1          | 5.0   | 9.0  | 129.9                                      | 15.4  |
| T2.0SMCJ10A       | T2.0SMCJ10CA     | 2GET                | 2BET | 11.10                              | 12.30   | 1          | 5.0   | 10.0                                       | 117.6                                      | 17.0  |
| T2.0SMCJ11A       | T2.0SMCJ11CA     | 2GEV                | 2BEV | 12.20                              | 13.50   | 1          | 5.0   | 11.0                                       | 109.9                                      | 18.2  |
| T2.0SMCJ12A       | T2.0SMCJ12CA     | 2GEZ                | 2BEZ | 13.30                              | 14.70   | 1          | 5.0   | 12.0                                       | 100.5                                      | 19.9  |
| T2.0SMCJ13A       | T2.0SMCJ13CA     | 2GFG                | 2BFG | 14.40                              | 15.90   | 1          | 1.0   | 13.0                                       | 93.0                                       | 21.5  |
| T2.0SMCJ14A       | T2.0SMCJ14CA     | 2GFM                | 2BFM | 15.60                              | 17.20   | 1          | 1.0   | 14.0                                       | 86.2                                       | 23.2  |
| T2.0SMCJ15A       | T2.0SMCJ15CA     | 2GFR                | 2BFR | 16.70                              | 18.50   | 1          | 1.0   | 15.0                                       | 82.0                                       | 24.4  |
| T2.0SMCJ16A       | T2.0SMCJ16CA     | 2GFV                | 2BFV | 17.80                              | 19.70   | 1          | 1.0   | 16.0                                       | 76.9                                       | 26.0  |
| T2.0SMCJ17A       | T2.0SMCJ17CA     | 2GFZ                | 2BFZ | 18.90                              | 20.90   | 1          | 1.0   | 17.0                                       | 72.5                                       | 27.6  |
| T2.0SMCJ18A       | T2.0SMCJ18CA     | 2GGG                | 2BGG | 20.00                              | 22.10   | 1          | 1.0   | 18.0                                       | 68.5                                       | 29.2  |
| T2.0SMCJ19A       | T2.0SMCJ19CA     | 2GGM                | 2BGM | 21.10                              | 23.30   | 1          | 1.0   | 19.0                                       | 65.0                                       | 30.8  |
| T2.0SMCJ20A       | T2.0SMCJ20CA     | 2GGR                | 2BGR | 22.20                              | 24.50   | 1          | 1.0   | 20.0                                       | 61.7                                       | 32.4  |
| T2.0SMCJ22A       | T2.0SMCJ22CA     | 2GGB                | 2BGB | 24.40                              | 26.90   | 1          | 1.0   | 22.0                                       | 56.3                                       | 35.5  |
| T2.0SMCJ24A       | T2.0SMCJ24CA     | 2GGX                | 2BGX | 26.70                              | 29.50   | 1          | 1.0   | 24.0                                       | 51.4                                       | 38.9  |
| T2.0SMCJ26A       | T2.0SMCJ26CA     | 2GHE                | 2BHE | 28.90                              | 31.90   | 1          | 1.0   | 26.0                                       | 47.5                                       | 42.1  |
| T2.0SMCJ28A       | T2.0SMCJ28CA     | 2GHK                | 2BHK | 31.10                              | 34.40   | 1          | 1.0   | 28.0                                       | 44.1                                       | 45.4  |
| T2.0SMCJ30A       | T2.0SMCJ30CA     | 2GHM                | 2BHM | 33.30                              | 36.80   | 1          | 1.0   | 30.0                                       | 41.3                                       | 48.4  |
| T2.0SMCJ33A       | T2.0SMCJ33CA     | 2GHR                | 2BHR | 36.70                              | 40.60   | 1          | 1.0   | 33.0                                       | 37.5                                       | 53.3  |
| T2.0SMCJ36A       | T2.0SMCJ36CA     | 2GFP                | 2BFP | 40.00                              | 44.20   | 1          | 1.0   | 36.0                                       | 34.4                                       | 58.1  |
| T2.0SMCJ40A       | T2.0SMCJ40CA     | 2GFR                | 2BFR | 44.40                              | 49.10   | 1          | 1.0   | 40.0                                       | 31.0                                       | 64.5  |
| T2.0SMCJ43A       | T2.0SMCJ43CA     | 2GFT                | 2BFT | 47.80                              | 52.80   | 1          | 1.0   | 43.0                                       | 28.8                                       | 69.4  |
| T2.0SMCJ45A       | T2.0SMCJ45CA     | 2GFV                | 2BFV | 50.00                              | 55.30   | 1          | 1.0   | 45.0                                       | 27.5                                       | 72.7  |
| T2.0SMCJ48A       | T2.0SMCJ48CA     | 2GFX                | 2BFX | 53.30                              | 58.90   | 1          | 1.0   | 48.0                                       | 25.8                                       | 77.4  |
| T2.0SMCJ51A       | T2.0SMCJ51CA     | 2GFZ                | 2BFZ | 56.70                              | 62.70   | 1          | 1.0   | 51.0                                       | 24.3                                       | 82.4  |
| T2.0SMCJ54A       | T2.0SMCJ54CA     | 2GGE                | 2BGE | 60.00                              | 66.30   | 1          | 1.0   | 54.0                                       | 23.0                                       | 87.1  |
| T2.0SMCJ58A       | T2.0SMCJ58CA     | 2GGG                | 2BGG | 64.40                              | 71.20   | 1          | 1.0   | 58.0                                       | 21.4                                       | 93.6  |

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having  $V_R$  of 10 volts and under, the  $I_R$  limit is double