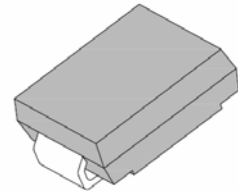


1500W Surface Mount Transient Voltage Suppressor

Features

- Low inductance, excellent clamping capability
- Repetition rate(duty cycle): 0.05%
- Fast response time: typically less than 1.0ps from 0V to BV min.
- Typical I_R less than 1 μ A above 10V
- High temperature soldering guaranteed 250°C/10 seconds at terminals
- This series is UL recognized under component index. File number E315008
- RoHS Compliant



SMC



Mechanical Data

| | |
|---------------------------|--|
| Case: | JEDEC DO-214AB (SMC) molded plastic over glass passivated junction |
| Epoxy: | Meets UL 94V-0 flammability rating |
| Terminals: | Solder plated, solderable per MIL-STD-750, Method 2026 |
| Polarity: | Color band denoted positive end (cathode) except Bi-directional |
| Mounting position: | Any |
| Weight: | 0.007 Ounce, 0.21 gram |

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| Symbol | Description | Value | Unit | Conditions |
|--------------------------------------|--|--------------|-------------|---|
| PPPM | Peak Pulse Power Dissipation on 10/1000 μ s Waveform | Minimum 1500 | W | Non-repetitive current pulse, per FIG.3 and derated above $T_A=25^{\circ}C$ per FIG.2 |
| IPPM | Peak Pulse Current on 10/1000 μ s Waveform | See Table | A | Non-repetitive current pulse |
| IFSM | Peak Forward Surge Current | 200 | A | 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note 1,2) |
| T_J,T_{STG} | Operating Junction and Storage Temperature Range | -55 to 150 | $^{\circ}C$ | |

- Note:** 1. Mounted on 8.0mm x 8.0mm copper pads to each terminal
2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle= 4 pulses per minutes maximum.

1500W Surface Mount Transient Voltage Suppressor

1.5SMC6.8A - 1.5SMC250CA

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| Part NO. | | Device Marking Code | | Reverse Stand-off Voltage | Breakdown Voltage @ Test Current. | | | Max. Clamping Voltage @ IPPM | Max. Peak Pulse Current | Max. Reverse Leakage Current @ V_{WM} |
|------------|-------------|---------------------|------|---------------------------|-----------------------------------|------|------------|------------------------------|-------------------------|---|
| | | | | | V_{BR} | | I_T (mA) | | | |
| Uni-Polar | Bi-Polar | Uni | Bi | V_{WM} (V) | Min. | Max. | | | V_C (V) | IPPM (A) |
| 1.5SMC6.8A | 1.5SMC6.8CA | 6V8A | 6V8C | 5.8 | 6.45 | 7.14 | 10 | 10.5 | 144.8 | 1000/2000 |
| 1.5SMC7.5A | 1.5SMC7.5CA | 7V5A | 7V5C | 6.4 | 7.13 | 7.88 | | 11.3 | 134.5 | 500/1000 |
| 1.5SMC8.2A | 1.5SMC8.2CA | 8V2A | 8V2C | 7.02 | 7.79 | 8.61 | | 12.1 | 125.6 | 200/400 |
| 1.5SMC9.1A | 1.5SMC9.1CA | 9V1A | 9V1C | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 113.4 | 50/100 |
| 1.5SMC10A | 1.5SMC10CA | 10A | 10C | 8.55 | 9.5 | 10.5 | 1 | 14.5 | 104.8 | 10/20 |
| 1.5SMC11A | 1.5SMC11CA | 11A | 11C | 9.4 | 10.5 | 11.6 | 1 | 15.6 | 97.4 | 5/10 |
| 1.5SMC12A | 1.5SMC12CA | 12A | 12C | 10.2 | 11.4 | 12.6 | 1 | 16.7 | 91.0 | 5/10 |
| 1.5SMC13A | 1.5SMC13CA | 13A | 13C | 11.1 | 12.4 | 13.7 | 1 | 18.2 | 83.5 | 1 |
| 1.5SMC15A | 1.5SMC15CA | 15A | 15C | 12.8 | 14.3 | 15.8 | 1 | 21.2 | 71.7 | 1 |
| 1.5SMC16A | 1.5SMC16CA | 16A | 16C | 13.6 | 15.2 | 16.8 | 1 | 22.5 | 67.6 | 1 |
| 1.5SMC18A | 1.5SMC18CA | 18A | 18C | 15.3 | 17.1 | 18.9 | 1 | 25.2 | 60.3 | 1 |
| 1.5SMC20A | 1.5SMC20CA | 20A | 20C | 17.1 | 19 | 21 | 1 | 27.7 | 54.9 | 1 |
| 1.5SMC22A | 1.5SMC22CA | 22A | 22C | 18.8 | 20.9 | 23.1 | 1 | 30.6 | 49.7 | 1 |
| 1.5SMC24A | 1.5SMC24CA | 24A | 24C | 20.5 | 22.8 | 25.2 | 1 | 33.2 | 45.8 | 1 |
| 1.5SMC27A | 1.5SMC27CA | 27A | 27C | 23.1 | 25.7 | 28.4 | 1 | 37.5 | 40.5 | 1 |
| 1.5SMC30A | 1.5SMC30CA | 30A | 30C | 25.6 | 28.5 | 31.5 | 1 | 41.4 | 36.7 | 1 |
| 1.5SMC33A | 1.5SMC33CA | 33A | 33C | 28.2 | 31.4 | 34.7 | 1 | 45.7 | 33.3 | 1 |
| 1.5SMC36A | 1.5SMC36CA | 36A | 36C | 30.8 | 34.2 | 37.8 | 1 | 49.9 | 30.5 | 1 |
| 1.5SMC39A | 1.5SMC39CA | 39A | 39C | 33.3 | 37.1 | 41 | 1 | 53.9 | 28.2 | 1 |
| 1.5SMC43A | 1.5SMC43CA | 43A | 43C | 36.8 | 40.9 | 45.2 | 1 | 59.3 | 25.6 | 1 |
| 1.5SMC47A | 1.5SMC47CA | 47A | 47C | 40.2 | 44.7 | 49.4 | 1 | 64.8 | 23.5 | 1 |
| 1.5SMC51A | 1.5SMC51CA | 51A | 51C | 43.6 | 48.5 | 53.6 | 1 | 70.1 | 21.7 | 1 |
| 1.5SMC56A | 1.5SMC56CA | 56A | 56C | 47.8 | 53.2 | 58.8 | 1 | 77 | 19.7 | 1 |
| 1.5SMC62A | 1.5SMC62CA | 62A | 62C | 53 | 58.9 | 65.1 | 1 | 85 | 17.9 | 1 |
| 1.5SMC68A | 1.5SMC68CA | 68A | 68C | 58.1 | 64.6 | 71.4 | 1 | 92 | 16.5 | 1 |
| 1.5SMC75A | 1.5SMC75CA | 75A | 75C | 64.1 | 71.3 | 78.8 | 1 | 103 | 14.8 | 1 |
| 1.5SMC82A | 1.5SMC82CA | 82A | 82C | 70.1 | 77.9 | 86.1 | 1 | 113 | 13.5 | 1 |
| 1.5SMC91A | 1.5SMC91CA | 91A | 91C | 77.8 | 86.5 | 95.5 | 1 | 125 | 12.2 | 1 |
| 1.5SMC100A | 1.5SMC100CA | 100A | 100C | 85.5 | 95 | 105 | 1 | 137 | 11.1 | 1 |
| 1.5SMC110A | 1.5SMC110CA | 110A | 110C | 94 | 105 | 116 | 1 | 152 | 10.0 | 1 |
| 1.5SMC120A | 1.5SMC120CA | 120A | 120C | 102 | 114 | 126 | 1 | 165 | 9.2 | 1 |
| 1.5SMC130A | 1.5SMC130CA | 130A | 130C | 111 | 124 | 137 | 1 | 179 | 8.5 | 1 |

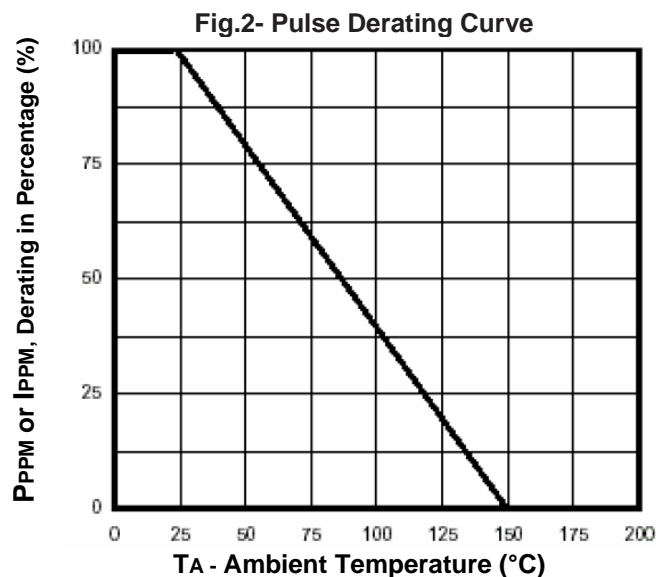
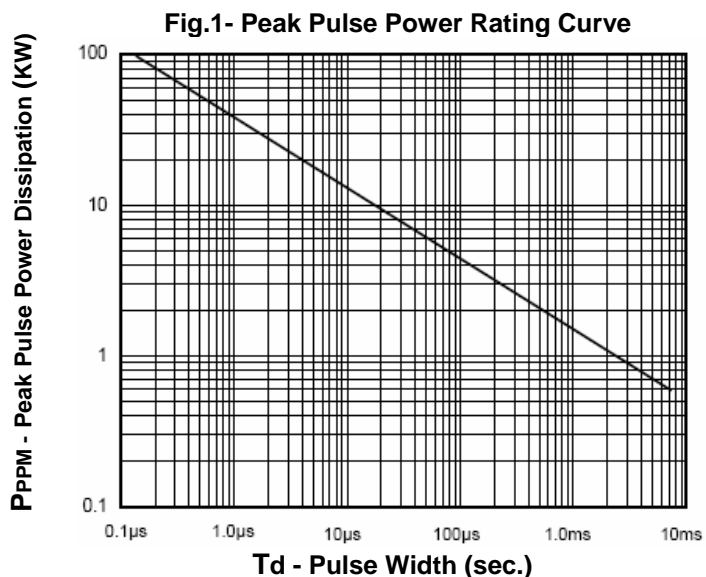
1500W Surface Mount Transient Voltage Suppressor

1.5SMC6.8A - 1.5SMC250CA

| Part NO. | | Device Marking Code | | Reverse Stand-off Voltage | Breakdown Voltage @ Test Current. | | | Max. Clamping Voltage @ IPPM | Max. Peak Pulse Current | Max. Reverse Leakage Current @ V _{WM} |
|------------|-------------|---------------------|------|---------------------------|-----------------------------------|------|---------------------|------------------------------|-------------------------|--|
| | | | | | V _{BR} | | I _T (mA) | | | |
| Uni-Polar | Bi-Polar | Uni | Bi | V _{WM} (V) | Min. | Max. | | V _C (V) | IPPM (A) | I _D (μA) |
| 1.5SMC150A | 1.5SMC150CA | 150A | 150C | 128 | 143 | 158 | 1 | 207 | 7.3 | 1 |
| 1.5SMC160A | 1.5SMC160CA | 160A | 160C | 136 | 152 | 168 | 1 | 219 | 6.9 | 1 |
| 1.5SMC170A | 1.5SMC170CA | 170A | 170C | 145 | 162 | 179 | 1 | 234 | 6.5 | 1 |
| 1.5SMC180A | 1.5SMC180CA | 180A | 180C | 154 | 171 | 189 | 1 | 246 | 6.2 | 1 |
| 1.5SMC200A | 1.5SMC200CA | 200A | 200C | 171 | 190 | 210 | 1 | 274 | 5.5 | 1 |
| 1.5SMC220A | 1.5SMC220CA | 220A | 220C | 185 | 209 | 231 | 1 | 328 | 4.6 | 1 |
| 1.5SMC250A | 1.5SMC250CA | 250A | 250C | 214 | 237 | 263 | 1 | 344 | 4.4 | 1 |

Note: For bi-directional type having V_{WM} of 10V and less, the I_D limit is double.

Typical Characteristics Curves



1500W Surface Mount Transient Voltage Suppressor

1.5SMC6.8A - 1.5SMC250CA

Fig.3- Pulse Waveform

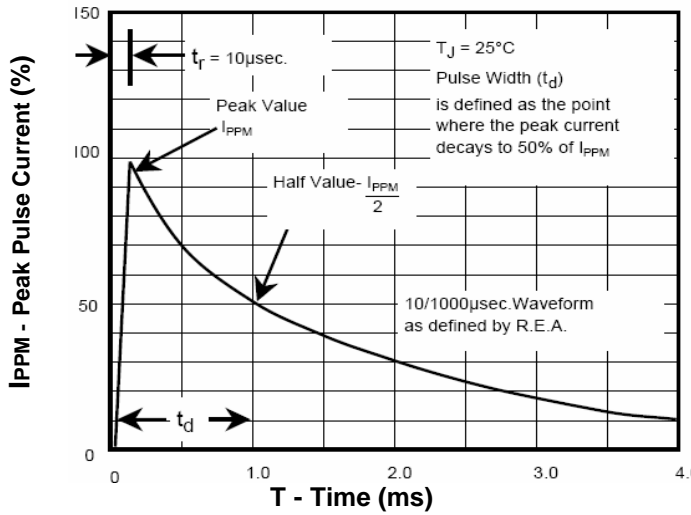


Fig.4 - Max. Non-Repetitive Forward Surge Current Uni-Directional Only

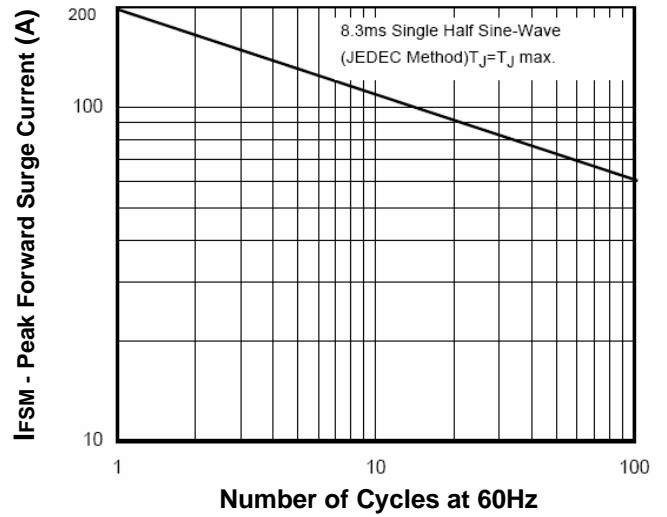
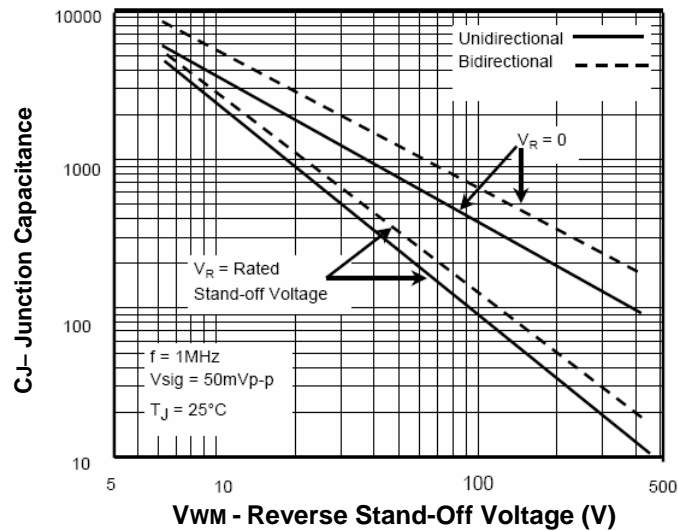


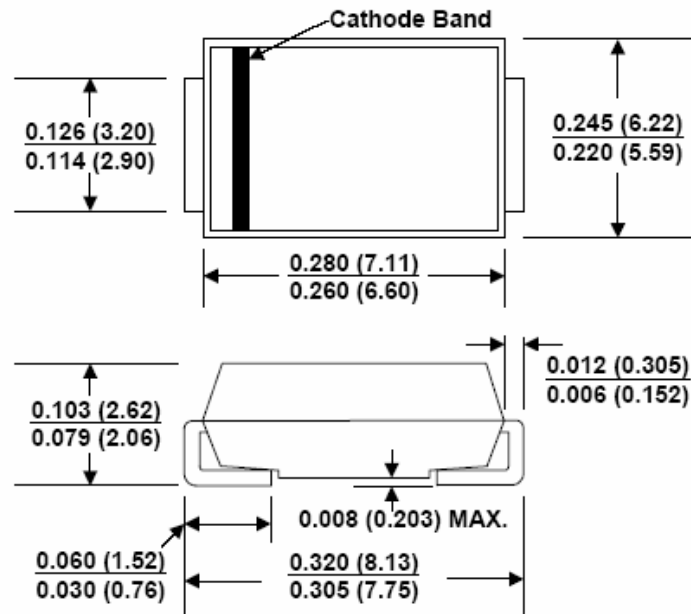
Fig.5- Typical Junction Capacitance



1500W Surface Mount Transient Voltage Suppressor

1.5SMC6.8A - 1.5SMC250CA

Dimensions in inches (mm)



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SMC

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