



1.5SMC10AS ~ 1.5SMC250CAS Series

Transient Voltage Suppressor

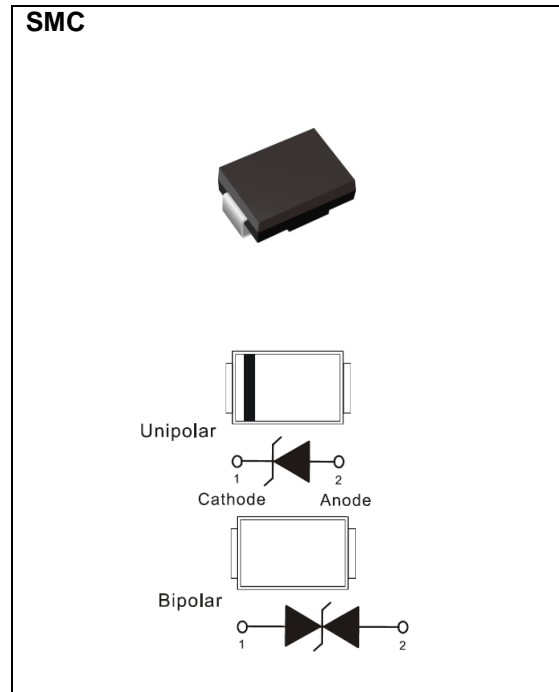
Voltage 10~250 V **Power** 1500 W

Features

- Fast response time
- Low incremental surge resistance
- Ultra thin profile package for space constrained utilization.
- High temperature soldering : 260°C /10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: Molded plastic, SMC
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0082 ounces, 0.2325 grams



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|------------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10 / 1000 us) | P _{PP} ^{(1) (2)} | 1500 | W |
| Peak Pulse Current on tp = 10 / 1000 us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | A |
| Power Dissipation on Infinite Heat Sink at T _L = 50 °C | P _D | 6.5 | W |
| ESD IEC61000-4-2(Air) | V _{ESD} | ±30 | kV |
| ESD IEC61000-4-2(Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} ⁽³⁾ | 125 | °C/W |
| Operating Junction Temperature Range | T _J | -55~150 | °C |
| Storage Temperature Range | T _{STG} | -55~150 | °C |



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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

| Part Number | | V _{RWM} | V _{BR} | | | I _R | | V _{C@IPP} | | Marking Code | |
|------------------------------------|--------------|------------------|-----------------|------|----------------|--------------------|----|--------------------|------|--------------|---------|
| | | | Min. | Max. | I _T | @ V _{RWM} | uA | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 1500W Transient Voltage Suppressor | | | | | | | | | | | |
| 1.5SMC10AS | 1.5SMC10CAS | 8.55 | 9.5 | 10.5 | 1 | 10 | 20 | 14.5 | 103 | MC10AS | MC10CAS |
| 1.5SMC11AS | 1.5SMC11CAS | 9.4 | 10.5 | 11.6 | 1 | 5 | 10 | 15.6 | 96 | MC11AS | MC11CAS |
| 1.5SMC12AS | 1.5SMC12CAS | 10.2 | 11.4 | 12.6 | 1 | 5 | 5 | 16.7 | 90 | MC12AS | MC12CAS |
| 1.5SMC13AS | 1.5SMC13CAS | 11.1 | 12.4 | 13.7 | 1 | 1 | 1 | 18.2 | 82 | MC13AS | MC13CAS |
| 1.5SMC15AS | 1.5SMC15CAS | 12.8 | 14.3 | 15.8 | 1 | 1 | 1 | 21.2 | 71 | MC15AS | MC15CAS |
| 1.5SMC16AS | 1.5SMC16CAS | 13.6 | 15.2 | 16.8 | 1 | 1 | 1 | 22.5 | 67 | MC16AS | MC16CAS |
| 1.5SMC18AS | 1.5SMC18CAS | 15.3 | 17.1 | 18.9 | 1 | 1 | 1 | 25.2 | 59.5 | MC18AS | MC18CAS |
| 1.5SMC20AS | 1.5SMC20CAS | 17.1 | 19 | 21 | 1 | 1 | 1 | 27.7 | 54 | MC20AS | MC20CAS |
| 1.5SMC22AS | 1.5SMC22CAS | 18.8 | 20.9 | 23.1 | 1 | 1 | 1 | 30.6 | 49 | MC22AS | MC22CAS |
| 1.5SMC24AS | 1.5SMC24CAS | 20.5 | 22.8 | 25.2 | 1 | 1 | 1 | 33.2 | 45 | MC24AS | MC24CAS |
| 1.5SMC27AS | 1.5SMC27CAS | 23.1 | 25.7 | 28.4 | 1 | 1 | 1 | 37.5 | 40 | MC27AS | MC27CAS |
| 1.5SMC30AS | 1.5SMC30CAS | 25.6 | 28.5 | 31.5 | 1 | 1 | 1 | 41.4 | 36 | MC30AS | MC30CAS |
| 1.5SMC33AS | 1.5SMC33CAS | 28.2 | 31.4 | 34.7 | 1 | 1 | 1 | 45.7 | 33 | MC33AS | MC33CAS |
| 1.5SMC36AS | 1.5SMC36CAS | 30.8 | 34.2 | 37.8 | 1 | 1 | 1 | 49.9 | 30 | MC36AS | MC36CAS |
| 1.5SMC39AS | 1.5SMC39CAS | 33.3 | 37.1 | 41 | 1 | 1 | 1 | 53.9 | 28 | MC39AS | MC39CAS |
| 1.5SMC43AS | 1.5SMC43CAS | 36.8 | 40.9 | 45.2 | 1 | 1 | 1 | 59.3 | 25.3 | MC43AS | MC43CAS |
| 1.5SMC47AS | 1.5SMC47CAS | 40.2 | 44.7 | 49.4 | 1 | 1 | 1 | 64.8 | 23.2 | MC47AS | MC47CAS |
| 1.5SMC51AS | 1.5SMC51CAS | 43.6 | 48.5 | 53.6 | 1 | 1 | 1 | 70.1 | 21.4 | MC51AS | MC51CAS |
| 1.5SMC56AS | 1.5SMC56CAS | 47.8 | 53.2 | 58.8 | 1 | 1 | 1 | 77 | 19.5 | MC56AS | MC56CAS |
| 1.5SMC62AS | 1.5SMC62CAS | 53 | 58.9 | 65.1 | 1 | 1 | 1 | 85 | 17.7 | MC62AS | MC62CAS |
| 1.5SMC68AS | 1.5SMC68CAS | 58.1 | 64.6 | 71.4 | 1 | 1 | 1 | 92 | 16.3 | MC68AS | MC68CAS |
| 1.5SMC75AS | 1.5SMC75CAS | 64.1 | 71.3 | 78.8 | 1 | 1 | 1 | 103 | 14.6 | MC75AS | MC75CAS |
| 1.5SMC82AS | 1.5SMC82CAS | 70.1 | 77.9 | 86.1 | 1 | 1 | 1 | 113 | 13.3 | MC82AS | MC82CAS |
| 1.5SMC91AS | 1.5SMC91CAS | 77.8 | 86.5 | 95.5 | 1 | 1 | 1 | 125 | 12 | MC91AS | MC91CAS |
| 1.5SMC100AS | 1.5SMC100CAS | 85.5 | 95 | 105 | 1 | 1 | 1 | 137 | 11 | MC1AAS | MC1ACAS |
| 1.5SMC110AS | 1.5SMC110CAS | 94 | 105 | 116 | 1 | 1 | 1 | 152 | 9.9 | MC1BAS | MC1BCAS |
| 1.5SMC120AS | 1.5SMC120CAS | 102 | 114 | 126 | 1 | 1 | 1 | 165 | 9.1 | MC1CAS | MC1CCAS |
| 1.5SMC130AS | 1.5SMC130CAS | 111 | 124 | 137 | 1 | 1 | 1 | 179 | 8.4 | MC1DAS | MC1DCAS |
| 1.5SMC150AS | 1.5SMC150CAS | 128 | 143 | 158 | 1 | 1 | 1 | 207 | 7.2 | MC1EAS | MC1ECAS |



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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

| Part Number | | V _{RWM} | V _{BR} | | | I _R | | V _{C@I_{PP}} | | Marking Code | |
|------------------------------------|--------------|------------------|-----------------|------|----------------|-------------------|----|-------------------------------|-----|--------------|---------|
| | | | Min. | Max. | I _T | @V _{RWM} | | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 1500W Transient Voltage Suppressor | | | | | | | | | | | |
| 1.5SMC160AS | 1.5SMC160CAS | 136 | 152 | 168 | 1 | 1 | 1 | 219 | 6.8 | MC1FAS | MC1FCAS |
| 1.5SMC170AS | 1.5SMC170CAS | 145 | 162 | 179 | 1 | 1 | 1 | 234 | 6.4 | MC1GAS | MC1GCAS |
| 1.5SMC180AS | 1.5SMC180CAS | 154 | 171 | 189 | 1 | 1 | 1 | 246 | 6.1 | MC1HAS | MC1HCAS |
| 1.5SMC200AS | 1.5SMC200CAS | 171 | 190 | 210 | 1 | 1 | 1 | 274 | 5.5 | MC2IAS | MC2ICAS |
| 1.5SMC220AS | 1.5SMC220CAS | 185 | 209 | 231 | 1 | 1 | 1 | 328 | 4.6 | MC2JAS | MC2JCAS |
| 1.5SMC250AS | 1.5SMC250CAS | 214 | 237 | 263 | 1 | 1 | 1 | 344 | 4.5 | MC2KAS | MC2KCAS |

Notes :

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2
2. Mounted on 100cm² copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, standard footprint



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TYPICAL CHARACTERISTIC CURVES



Fig.1 Pulse Power Rating Curve



Fig.2 Derating Curve

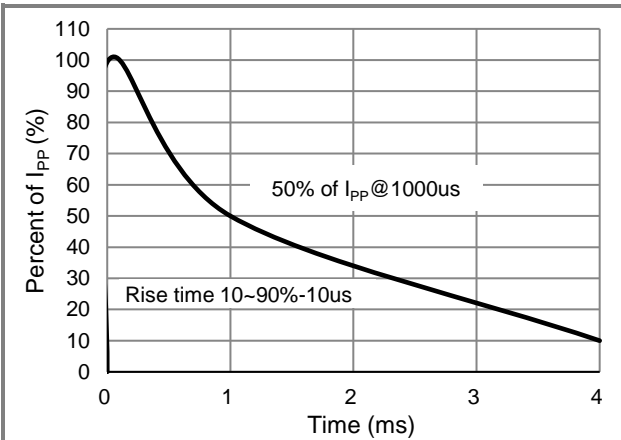


Fig.3 10/1000us Pulse Waveform

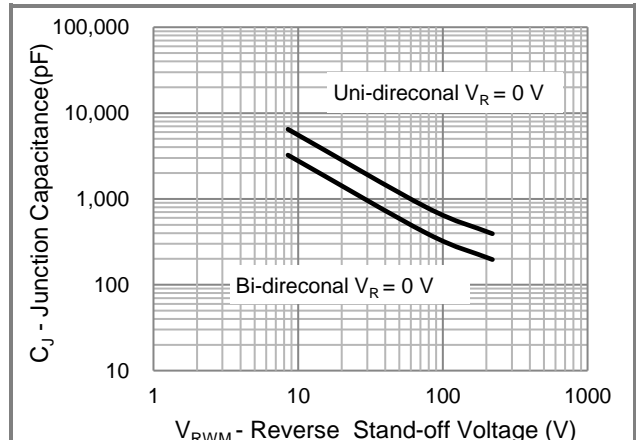


Fig.4 Typical Capacitance



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Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|--------------------|-----------|--------------------------------|
| 1.5SMCxxxxAS_R1_00001 | SMC | 0.8K pcs / 7" reel | See Table | Halogen free RoHS compliant |

Packaging Information & Mounting Pad Layout

