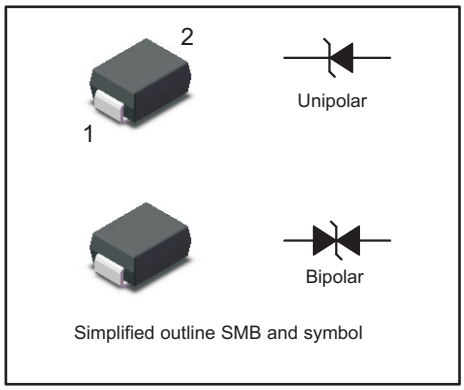
**Surface mount transient voltage suppressor power 600 watts**
**Breakdown Voltage: 6.8V~440V**

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: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.1g / 0.0034oz

**PINNING**

| PIN | DESCRIPTION |
|---|---|
| 1 | Cathode |
| 2 | Anode |



Simplified outline SMB and symbol

**Maximum Ratings and Electrical characteristics**
**Ratings at 25 °C ambient temperature unless otherwise specified.**

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power Dissipation on $T_A$=25°C (Note 1,2,4, Fig1) | $P_{PPM}$ | 600 | W |
| Peak Forward Surge Current (Note 3,Fig 4) | $I_{FSM}$ (UNI) | 100 | A |
| Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3) | $I_{PPM}$ | see Table 1 | A |
| ESD Voltage per IEC61000-4-2 Contact<br>Air | $V_{ESD1}$<br>$V_{ESD2}$ | ±30<br>±30 | kV |
| Typical Thermal Resistance Junction to Ambient(Note 5) | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 43<br>9<br>18 | ° C/W |
| Operating Junction Temperature and Storage Temperature Range | $T_j$, $T_{stg}$ | -55 ~ +150 | °C |

NOTES:
1. Non-repetitive current pulse, per Fig.3 and derated above $T_A$ = 25°C per Fig. 2.
2. Mounted on 5x5 mm (0.13mm thick) land areas.
3. Measured on 8.3ms,single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.
4. Peak pulse power waveform is 10/1000μS.
5. P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas..

Characteristics at Ta = 25°C

| Type | | Marking | | $V_{RMW}$ | Breakdown Voltage | | Test Current | Max. Reverse Leakage | Max.Clamp Voltage | Max. Peak Pulse Current |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $V_{BR}$ @ $I_T$ | | $I_T$ | IR@VR | $V_C$ @ $I_{PP}$ | $I_{PP}$ |
| | | | | | Min | Max | | | | |
| UNI | BI | UNI | BI | V | V | V | mA | μA | V | A |
| P6SMB6.8A | P6SMB6.8CA | 6V8A | 6V8C | 5.8 | 6.45 | 7.14 | 10 | 1000 | 10.5 | 58.1 |
| P6SMB7.5A | P6SMB7.5CA | 7V5A | 7V5C | 6.4 | 7.13 | 7.88 | 10 | 500 | 11.3 | 54 |
| P6SMB8.2A | P6SMB8.2CA | 8V2A | 8V2C | 7.02 | 7.79 | 8.61 | 10 | 200 | 12.1 | 50.4 |
| P6SMB9.1A | P6SMB9.1CA | 9V1A | 9V1C | 7.78 | 8.65 | 9.55 | 1 | 50 | 13.4 | 45.5 |
| P6SMB10A | P6SMB10CA | 10A | 10C | 8.55 | 9.5 | 10.5 | 1 | 10 | 14.5 | 42.1 |
| P6SMB11A | P6SMB11CA | 11A | 11C | 9.4 | 10.5 | 11.6 | 1 | 5 | 15.6 | 39.1 |
| P6SMB12A | P6SMB12CA | 12A | 12C | 10.2 | 11.4 | 12.6 | 1 | 5 | 16.7 | 36.5 |
| P6SMB13A | P6SMB13CA | 13A | 13C | 11.1 | 12.4 | 13.7 | 1 | 5 | 18.2 | 33.5 |
| P6SMB15A | P6SMB15CA | 15A | 15C | 12.8 | 14.3 | 15.8 | 1 | 1 | 21.2 | 28.8 |
| P6SMB16A | P6SMB16CA | 16A | 16C | 13.6 | 15.2 | 16.8 | 1 | 1 | 22.5 | 27.1 |
| P6SMB18A | P6SMB18CA | 18A | 18C | 15.3 | 17.1 | 18.9 | 1 | 1 | 25.5 | 24.2 |
| P6SMB20A | P6SMB20CA | 20A | 20C | 17.1 | 19 | 21 | 1 | 1 | 27.7 | 22 |
| P6SMB22A | P6SMB22CA | 22A | 22C | 18.8 | 20.9 | 23.1 | 1 | 1 | 30.6 | 19.9 |
| P6SMB24A | P6SMB24CA | 24A | 24C | 20.5 | 22.8 | 25.2 | 1 | 1 | 33.2 | 18.4 |
| P6SMB27A | P6SMB27CA | 27A | 27C | 23.1 | 25.7 | 28.4 | 1 | 1 | 37.5 | 16.3 |
| P6SMB30A | P6SMB30CA | 30A | 30C | 25.6 | 28.5 | 31.5 | 1 | 1 | 41.4 | 14.7 |
| P6SMB33A | P6SMB33CA | 33A | 33C | 28.2 | 31.4 | 34.7 | 1 | 1 | 45.7 | 13.3 |
| P6SMB36A | P6SMB36CA | 36A | 36C | 30.8 | 34.2 | 37.8 | 1 | 1 | 49.9 | 12.2 |
| P6SMB39A | P6SMB39CA | 39A | 39C | 33.3 | 37.1 | 41 | 1 | 1 | 53.9 | 11.3 |
| P6SMB43A | P6SMB43CA | 43A | 43C | 36.8 | 40.9 | 45.2 | 1 | 1 | 59.3 | 10.3 |
| P6SMB47A | P6SMB47CA | 47A | 47C | 40.2 | 44.7 | 49.4 | 1 | 1 | 64.8 | 9.4 |
| P6SMB51A | P6SMB51CA | 51A | 51C | 43.6 | 48.5 | 53.6 | 1 | 1 | 70.1 | 8.7 |
| P6SMB56A | P6SMB56CA | 56A | 56C | 47.8 | 53.2 | 58.8 | 1 | 1 | 77 | 7.9 |
| P6SMB58A | P6SMB58CA | 58A | 58C | 52.78 | 55.1 | 60.9 | 1 | 1 | 79.8 | 7.7 |
| P6SMB62A | P6SMB62CA | 62A | 62C | 53 | 58.9 | 65.1 | 1 | 1 | 85 | 7.2 |
| P6SMB68A | P6SMB68CA | 68A | 68C | 58.1 | 64.6 | 71.4 | 1 | 1 | 92 | 6.6 |
| P6SMB75A | P6SMB75CA | 75A | 75C | 64.1 | 71.3 | 78.8 | 1 | 1 | 103 | 5.9 |
| P6SMB82A | P6SMB82CA | 82A | 82C | 70.1 | 77.9 | 86.1 | 1 | 1 | 113 | 5.4 |
| P6SMB91A | P6SMB91CA | 91A | 91C | 77.8 | 86.5 | 95.5 | 1 | 1 | 125 | 4.9 |
| P6SMB100A | P6SMB100CA | 100A | 100C | 85.5 | 95 | 105 | 1 | 1 | 137 | 4.5 |
| P6SMB110A | P6SMB110CA | 110A | 110C | 94 | 105 | 116 | 1 | 1 | 152 | 4 |
| P6SMB120A | P6SMB120CA | 120A | 120C | 102 | 114 | 126 | 1 | 1 | 165 | 3.7 |
| P6SMB130A | P6SMB130CA | 130A | 130C | 111 | 124 | 137 | 1 | 1 | 179 | 3.4 |
| P6SMB150A | P6SMB150CA | 150A | 150C | 128 | 143 | 158 | 1 | 1 | 207 | 2.9 |
| P6SMB160A | P6SMB160CA | 160A | 160C | 136 | 152 | 168 | 1 | 1 | 219 | 2.8 |
| P6SMB170A | P6SMB170CA | 170A | 170C | 145 | 162 | 179 | 1 | 1 | 234 | 2.6 |
| P6SMB180A | P6SMB180CA | 180A | 180C | 154 | 171 | 189 | 1 | 1 | 246 | 2.5 |
| P6SMB200A | P6SMB200CA | 200A | 200C | 171 | 190 | 210 | 1 | 1 | 274 | 2.2 |
| P6SMB220A | P6SMB220CA | 220A | 220C | 185 | 209 | 231 | 1 | 1 | 328 | 1.9 |
| P6SMB250A | P6SMB250CA | 250A | 250C | 214 | 237 | 263 | 1 | 1 | 344 | 1.8 |
| P6SMB300A | P6SMB300CA | 300A | 300C | 256 | 285 | 315 | 1 | 1 | 414 | 1.5 |
| P6SMB350A | P6SMB350CA | 350A | 350C | 300 | 332 | 368 | 1 | 1 | 482 | 1.3 |
| P6SMB400A | P6SMB400CA | 400A | 400C | 342 | 380 | 420 | 1 | 1 | 548 | 1.1 |
| P6SMB440A | P6SMB440CA | 440A | 440C | 376 | 418 | 462 | 1 | 1 | 602 | 1 |

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

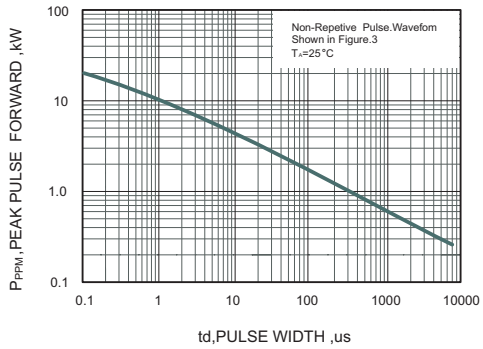



**Fig.2 Forward Current Derating Curve**

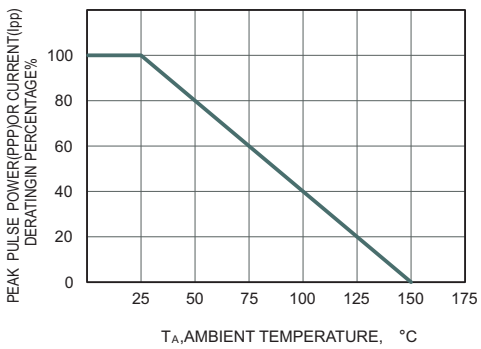



**Fig.3 Pulse Waveform**

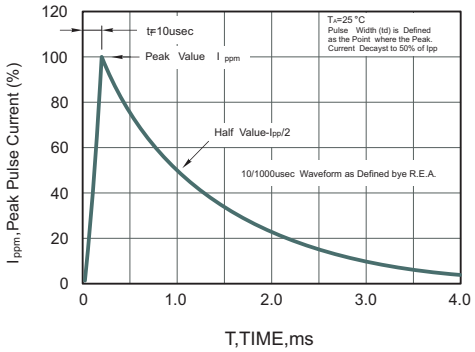
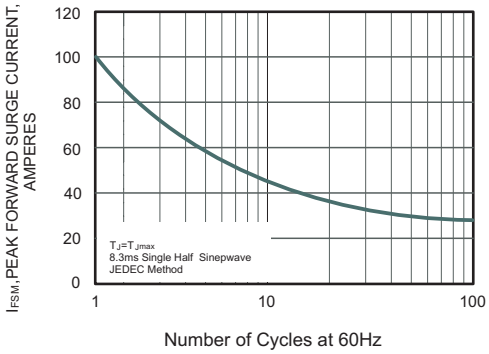
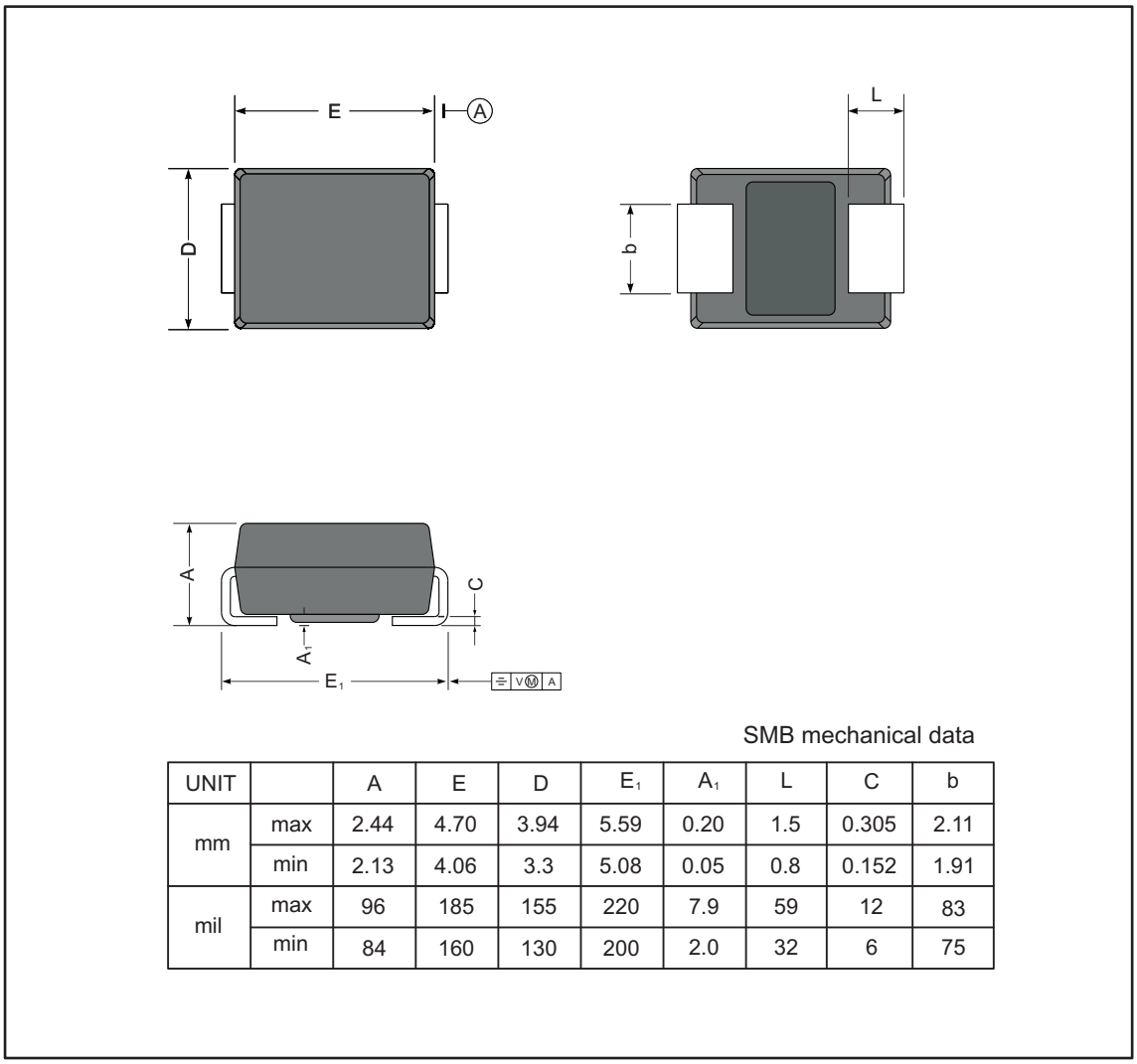



**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



## PACKAGE OUTLINE

**Plastic surface mounted package; 2 leads** SMB




SMB mechanical data

| UNIT | | A | E | D | $E_1$ | $A_1$ | L | C | b |
|---|---|---|---|---|---|---|---|---|---|
| mm | max | 2.44 | 4.70 | 3.94 | 5.59 | 0.20 | 1.5 | 0.305 | 2.11 |
| | min | 2.13 | 4.06 | 3.3 | 5.08 | 0.05 | 0.8 | 0.152 | 1.91 |
| mil | max | 96 | 185 | 155 | 220 | 7.9 | 59 | 12 | 83 |
| | min | 84 | 160 | 130 | 200 | 2.0 | 32 | 6 | 75 |

**The recommended mounting pad size**

