



P6SMB6.8A-AU ~ P6SMB82CA-AU Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Voltage

6.8~82 V

Power

600 W

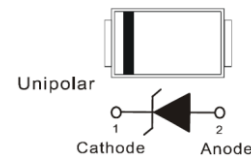
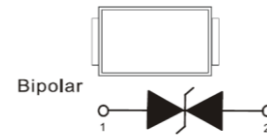
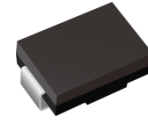
Features

- ISO10605(C=330 pF,R=330Ω): ± 30kV Air, ± 30kV Contact
- HBM ≥ ± 8 kV & CDM ≥ ± 2 kV
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: Molded plastic, SMB
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0032 ounces, 0.092 grams

SMB



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⁾ | 600 | W |
| Peak Forward Surge Current(8.3 ms single half sine-wave) | I _{FSM} | 100 | A |
| Peak Pulse Current on tp = 10 / 1000 us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | A |
| ISO10605(C = 330 pF, R = 330 Ω) (Air) | V _{ESD} | ±30 | kV |
| ISO10605(C = 330 pF, R = 330 Ω) (Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} ⁽³⁾ | 60 | °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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Part Number | | V_{RWM} | V_{BR} | | | I_R @ V_{RWM} | | $V_C @ I_{PP}$ | | Marking Code | |
|-----------------------------------|---------------|-----------|----------|------|-------|----------------------|------|----------------|------|--------------|-----|
| | | | Min. | Max. | I_T | uA | | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 600W Transient Voltage Suppressor | | | | | | | | | | | |
| P6SMB6.8A-AU | P6SMB6.8CA-AU | 5.8 | 6.45 | 7.14 | 10 | 1000 | 2000 | 10.5 | 57 | EZB | DZB |
| P6SMB7.5A-AU | P6SMB7.5CA-AU | 6.4 | 7.13 | 7.88 | 10 | 500 | 1000 | 11.3 | 53 | EZD | DZD |
| P6SMB8.2A-AU | P6SMB8.2CA-AU | 7.02 | 7.79 | 8.61 | 10 | 200 | 400 | 12.1 | 50 | EZF | DZF |
| P6SMB9.1A-AU | P6SMB9.1CA-AU | 7.78 | 8.65 | 9.5 | 1 | 50 | 100 | 13.4 | 45 | EZH | DZH |
| P6SMB10A-AU | P6SMB10CA-AU | 8.55 | 9.5 | 10.5 | 1 | 10 | 20 | 14.5 | 41 | EZK | DZK |
| P6SMB11A-AU | P6SMB11CA-AU | 9.4 | 10.5 | 11.6 | 1 | 5 | 10 | 15.6 | 38 | EZM | DZM |
| P6SMB12A-AU | P6SMB12CA-AU | 10.2 | 11.4 | 12.6 | 1 | 5 | 5 | 16.7 | 36 | EZP | DZP |
| P6SMB13A-AU | P6SMB13CA-AU | 11.1 | 12.4 | 13.7 | 1 | 1 | 1 | 18.2 | 33 | EZR | DZR |
| P6SMB15A-AU | P6SMB15CA-AU | 12.8 | 14.3 | 15.8 | 1 | 1 | 1 | 21.2 | 28 | EZT | DZT |
| P6SMB16A-AU | P6SMB16CA-AU | 13.6 | 15.2 | 16.8 | 1 | 1 | 1 | 22.5 | 27 | EZV | DZV |
| P6SMB18A-AU | P6SMB18CA-AU | 15.3 | 17.1 | 18.9 | 1 | 1 | 1 | 25.2 | 24 | EZX | DZX |
| P6SMB20A-AU | P6SMB20CA-AU | 17.1 | 19 | 21 | 1 | 1 | 1 | 27.7 | 22 | EZZ | DZZ |
| P6SMB22A-AU | P6SMB22CA-AU | 18.8 | 20.9 | 23.1 | 1 | 1 | 1 | 30.6 | 20 | EXB | DXB |
| P6SMB24A-AU | P6SMB24CA-AU | 20.5 | 22.8 | 25.2 | 1 | 1 | 1 | 33.2 | 18 | EXD | DXD |
| P6SMB27A-AU | P6SMB27CA-AU | 23.1 | 25.7 | 28.4 | 1 | 1 | 1 | 37.5 | 16 | EXF | DXF |
| P6SMB30A-AU | P6SMB30CA-AU | 25.6 | 28.5 | 31.5 | 1 | 1 | 1 | 41.4 | 14.4 | EXH | DXH |
| P6SMB33A-AU | P6SMB33CA-AU | 28.2 | 31.4 | 34.7 | 1 | 1 | 1 | 45.7 | 13.2 | EXK | DXK |
| P6SMB36A-AU | P6SMB36CA-AU | 30.8 | 34.2 | 37.8 | 1 | 1 | 1 | 49.9 | 12 | EXM | DXM |
| P6SMB39A-AU | P6SMB39CA-AU | 33.3 | 37.1 | 41 | 1 | 1 | 1 | 53.9 | 11.2 | EXP | DXP |
| P6SMB43A-AU | P6SMB43CA-AU | 36.8 | 40.9 | 45.2 | 1 | 1 | 1 | 59.3 | 10.1 | EXR | DXR |
| P6SMB47A-AU | P6SMB47CA-AU | 40.2 | 44.7 | 49.4 | 1 | 1 | 1 | 64.8 | 9.3 | EXT | DXT |
| P6SMB51A-AU | P6SMB51CA-AU | 43.6 | 48.5 | 53.6 | 1 | 1 | 1 | 70.1 | 8.6 | EXV | DXV |
| P6SMB56A-AU | P6SMB56CA-AU | 47.8 | 53.2 | 58.8 | 1 | 1 | 1 | 77 | 7.8 | EXX | DXX |
| P6SMB62A-AU | P6SMB62CA-AU | 53 | 58.9 | 65.1 | 1 | 1 | 1 | 85 | 7.1 | EXZ | DXZ |
| P6SMB68A-AU | P6SMB68CA-AU | 58.1 | 64.6 | 71.4 | 1 | 1 | 1 | 92 | 6.5 | EYB | DYB |
| P6SMB75A-AU | P6SMB75CA-AU | 64.1 | 71.3 | 78.8 | 1 | 1 | 1 | 103 | 5.8 | EYD | DYD |
| P6SMB82A-AU | P6SMB82CA-AU | 70.1 | 77.9 | 86.1 | 1 | 1 | 1 | 113 | 5.3 | EYF | DYF |

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2
2. Mounted on 5mm^2 copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, mini pad



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TYPICAL CHARACTERISTIC CURVES

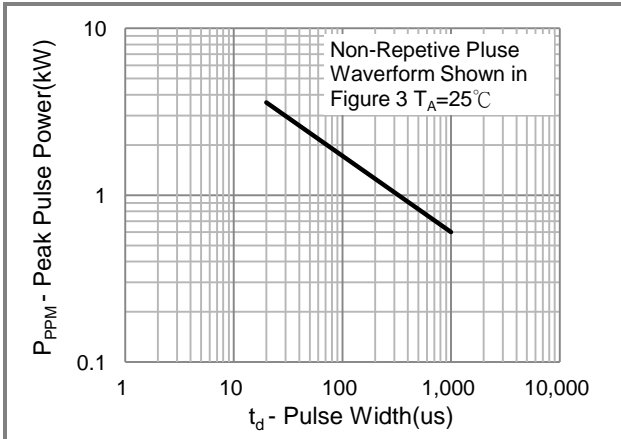


Fig.1 Pulse Power Rating Curve

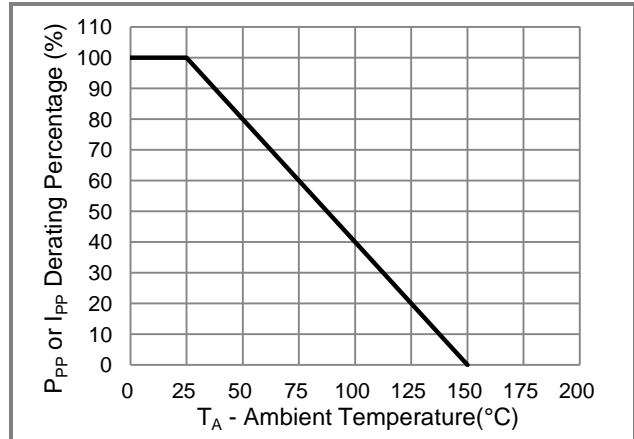


Fig.2 Derating Curve

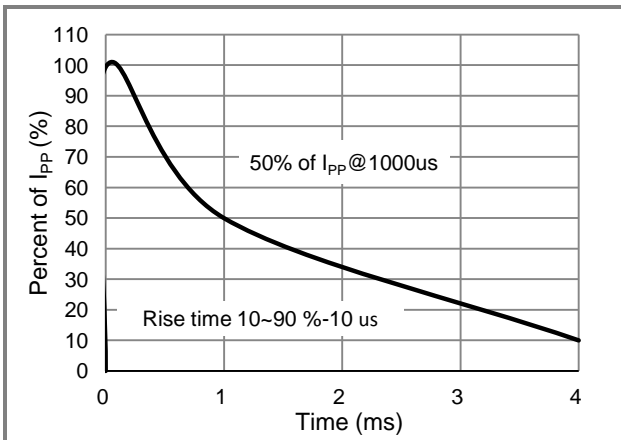


Fig.3 10/1000us Pulse Waveform

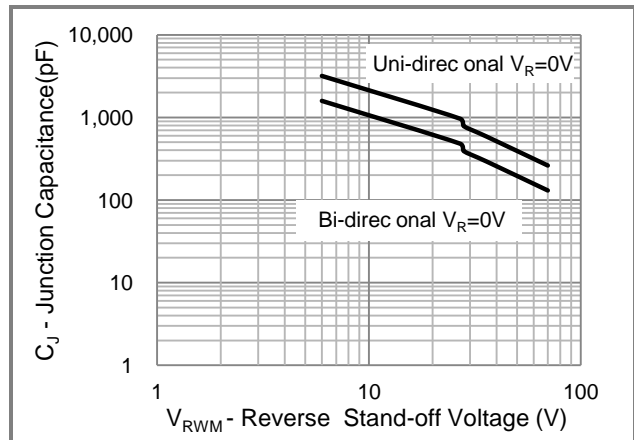


Fig.4 Typical Capacitance

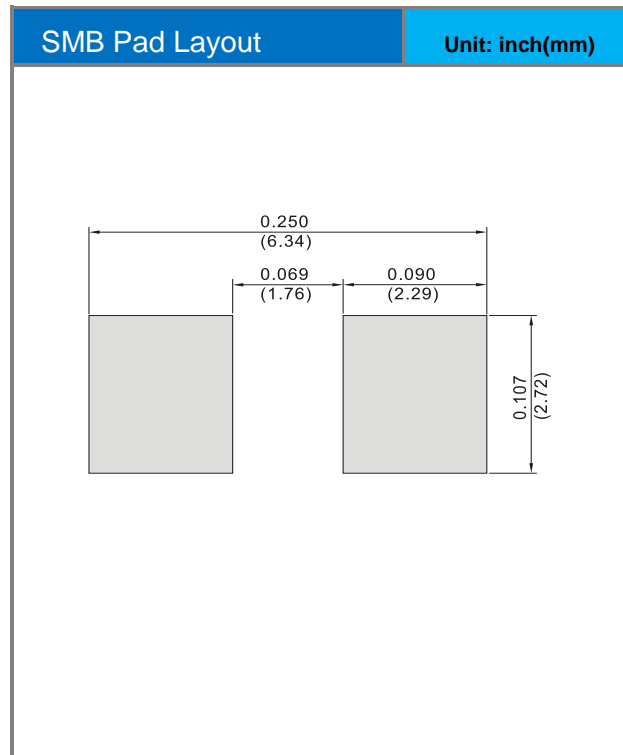
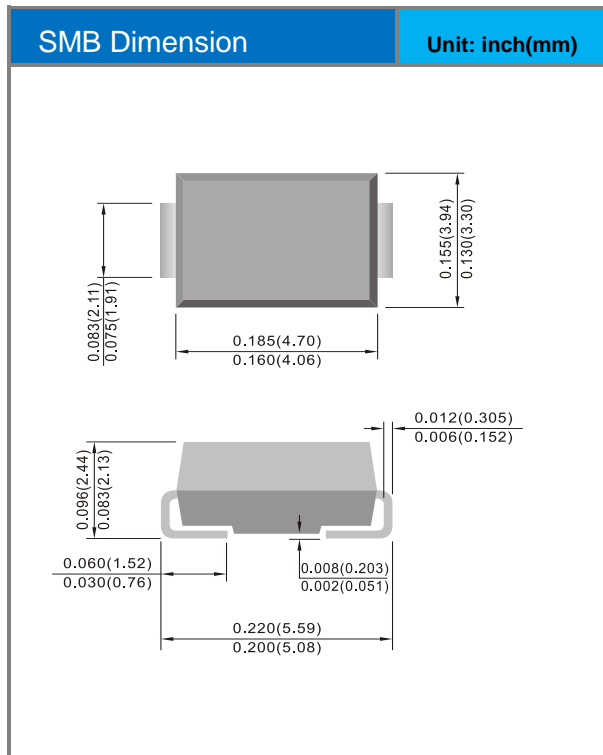


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|-------------------|-----------|--------------|
| P6SMBxxxx-AU_R2_000A1 | SMB | 3K pcs / 13" reel | See Table | Halogen free |

Packaging Information & Mounting Pad Layout





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