

P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Voltage

5~220 V

Power

400 W

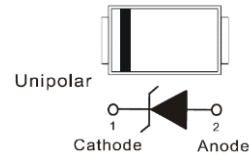
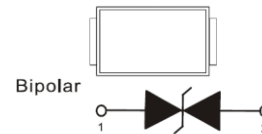
Features

- 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, SMA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0679 grams

SMA



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

| PARAMETER | SYMBOL | LIMIT | UNIT |
|---|-----------------------------------|-------------|------|
| Peak Pulse Power Dissipation(tp=10/1000us) | P _{PP} ⁽¹⁾⁽²⁾ | 400 | W |
| Power Dissipation on Infinite Heat Sink at T _L =50°C | P _D | 3.3 | W |
| Peak Forward Surge Current(8.3ms single half sine-wave) | I _{FSM} | 40 | A |
| Peak Pulse Current on tp=10/1000us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | A |
| ISO10605(C=330pF, R=330Ω) (Air) | V _{ESD} | ±30 | kV |
| ISO10605(C=330pF, R=330Ω) (Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} ⁽³⁾ | 70 | °C/W |
| Operating Junction Temperature Range | T _J | -55~150 | °C |
| Storage Temperature Range | T _{STG} | -55~150 | °C |

P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

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 |
| 400W Transient Voltage Suppressor | | | | | | | | | | | |
| P4SMAJ5.0A-AU | P4SMAJ5.0CA-AU | 5 | 6.4 | 7 | 10 | 800 | 1600 | 9.2 | 43.5 | HE | TE |
| P4SMAJ6.0A-AU | P4SMAJ6.0CA-AU | 6 | 6.67 | 7.37 | 10 | 800 | 1600 | 10.3 | 38.8 | HG | TG |
| P4SMAJ6.5A-AU | P4SMAJ6.5CA-AU | 6.5 | 7.22 | 7.98 | 10 | 500 | 1000 | 11.2 | 35.7 | HK | TK |
| P4SMAJ7.0A-AU | P4SMAJ7.0CA-AU | 7 | 7.78 | 8.6 | 10 | 200 | 400 | 12 | 33.3 | HM | TM |
| P4SMAJ7.5A-AU | P4SMAJ7.5CA-AU | 7.5 | 8.33 | 9.21 | 1 | 100 | 200 | 12.9 | 31 | HP | TP |
| P4SMAJ8.0A-AU | P4SMAJ8.0CA-AU | 8 | 8.89 | 9.83 | 1 | 50 | 100 | 13.6 | 29.4 | HR | TR |
| P4SMAJ8.5A-AU | P4SMAJ8.5CA-AU | 8.5 | 9.44 | 10.4 | 1 | 10 | 20 | 14.4 | 27.7 | HT | TT |
| P4SMAJ9.0A-AU | P4SMAJ9.0CA-AU | 9 | 10 | 11.1 | 1 | 5 | 5 | 15.4 | 26 | HV | TV |
| P4SMAJ10A-AU | P4SMAJ10CA-AU | 10 | 11.1 | 12.3 | 1 | 5 | 5 | 17 | 23.5 | HX | TX |
| P4SMAJ11A-AU | P4SMAJ11CA-AU | 11 | 12.2 | 13.5 | 1 | 1 | 1 | 18.2 | 22 | HZ | TZ |
| P4SMAJ12A-AU | P4SMAJ12CA-AU | 12 | 13.3 | 14.7 | 1 | 1 | 1 | 19.9 | 20.1 | IE | UE |
| P4SMAJ13A-AU | P4SMAJ13CA-AU | 13 | 14.4 | 15.9 | 1 | 1 | 1 | 21.5 | 18.6 | IG | UG |
| P4SMAJ14A-AU | P4SMAJ14CA-AU | 14 | 15.6 | 17.2 | 1 | 1 | 1 | 23.2 | 17.2 | IK | UK |
| P4SMAJ15A-AU | P4SMAJ15CA-AU | 15 | 16.7 | 18.5 | 1 | 1 | 1 | 24.4 | 16.4 | IM | UM |
| P4SMAJ16A-AU | P4SMAJ16CA-AU | 16 | 17.8 | 19.7 | 1 | 1 | 1 | 26 | 15.3 | IP | UP |
| P4SMAJ17A-AU | P4SMAJ17CA-AU | 17 | 18.9 | 20.9 | 1 | 1 | 1 | 27.6 | 14.5 | IR | UR |
| P4SMAJ18A-AU | P4SMAJ18CA-AU | 18 | 20 | 22.1 | 1 | 1 | 1 | 29.2 | 13.7 | IT | UT |
| P4SMAJ20A-AU | P4SMAJ20CA-AU | 20 | 22.2 | 24.5 | 1 | 1 | 1 | 32.4 | 12.3 | IV | UV |
| P4SMAJ22A-AU | P4SMAJ22CA-AU | 22 | 24.4 | 26.9 | 1 | 1 | 1 | 35.5 | 11.2 | IX | UX |
| P4SMAJ24A-AU | P4SMAJ24CA-AU | 24 | 26.7 | 29.5 | 1 | 1 | 1 | 38.9 | 10.3 | IZ | UZ |
| P4SMAJ26A-AU | P4SMAJ26CA-AU | 26 | 28.9 | 31.9 | 1 | 1 | 1 | 42.1 | 9.5 | JE | VE |
| P4SMAJ28A-AU | P4SMAJ28CA-AU | 28 | 31.1 | 34.4 | 1 | 1 | 1 | 45.4 | 8.8 | JG | VG |
| P4SMAJ30A-AU | P4SMAJ30CA-AU | 30 | 33.3 | 36.8 | 1 | 1 | 1 | 48.4 | 8.3 | JK | VK |
| P4SMAJ33A-AU | P4SMAJ33CA-AU | 33 | 36.7 | 40.6 | 1 | 1 | 1 | 53.3 | 7.5 | JM | VM |
| P4SMAJ36A-AU | P4SMAJ36CA-AU | 36 | 40 | 44.2 | 1 | 1 | 1 | 58.1 | 6.9 | JP | VP |
| P4SMAJ40A-AU | P4SMAJ40CA-AU | 40 | 44.4 | 49.1 | 1 | 1 | 1 | 64.5 | 6.2 | JR | VR |
| P4SMAJ43A-AU | P4SMAJ43CA-AU | 43 | 47.8 | 52.8 | 1 | 1 | 1 | 69.4 | 5.7 | JT | VT |
| P4SMAJ45A-AU | P4SMAJ45CA-AU | 45 | 50 | 55.3 | 1 | 1 | 1 | 72.7 | 5.5 | JV | VV |
| P4SMAJ48A-AU | P4SMAJ48CA-AU | 48 | 53.3 | 58.9 | 1 | 1 | 1 | 77.4 | 5.2 | JX | VX |
| P4SMAJ51A-AU | P4SMAJ51CA-AU | 51 | 56.7 | 62.7 | 1 | 1 | 1 | 82.4 | 4.9 | JZ | VZ |

P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

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} | | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 400W Transient Voltage Suppressor | | | | | | | | | | | |
| P4SMAJ54A-AU | P4SMAJ54CA-AU | 54 | 60 | 66.3 | 1 | 1 | 1 | 87.1 | 4.6 | RE | WE |
| P4SMAJ58A-AU | P4SMAJ58CA-AU | 58 | 64.4 | 71.2 | 1 | 1 | 1 | 93.6 | 4.3 | RG | WG |
| P4SMAJ60A-AU | P4SMAJ60CA-AU | 60 | 66.7 | 73.7 | 1 | 1 | 1 | 96.8 | 4.1 | RK | WK |
| P4SMAJ64A-AU | P4SMAJ64CA-AU | 64 | 71.1 | 78.6 | 1 | 1 | 1 | 103 | 3.9 | RM | WM |
| P4SMAJ70A-AU | P4SMAJ70CA-AU | 70 | 77.8 | 86 | 1 | 1 | 1 | 113 | 3.5 | RP | WP |
| P4SMAJ75A-AU | P4SMAJ75CA-AU | 75 | 83.3 | 92.1 | 1 | 1 | 1 | 121 | 3.3 | RR | WR |
| P4SMAJ78A-AU | P4SMAJ78CA-AU | 78 | 86.7 | 95.8 | 1 | 1 | 1 | 126 | 3.2 | RT | WT |
| P4SMAJ85A-AU | P4SMAJ85CA-AU | 85 | 94.4 | 104 | 1 | 1 | 1 | 137 | 2.9 | RV | WV |
| P4SMAJ90A-AU | P4SMAJ90CA-AU | 90 | 100 | 111 | 1 | 1 | 1 | 146 | 2.7 | RX | WX |
| P4SMAJ100A-AU | P4SMAJ100CA-AU | 100 | 111 | 123 | 1 | 1 | 1 | 162 | 2.5 | RZ | WZ |
| P4SMAJ110A-AU | P4SMAJ110CA-AU | 110 | 122 | 135 | 1 | 1 | 1 | 177 | 2.3 | SE | XE |
| P4SMAJ120A-AU | P4SMAJ120CA-AU | 120 | 133 | 147 | 1 | 1 | 1 | 193 | 2 | SG | XG |
| P4SMAJ130A-AU | P4SMAJ130CA-AU | 130 | 144 | 159 | 1 | 1 | 1 | 209 | 1.9 | SK | XK |
| P4SMAJ150A-AU | P4SMAJ150CA-AU | 150 | 167 | 185 | 1 | 1 | 1 | 243 | 1.6 | SM | XM |
| P4SMAJ160A-AU | P4SMAJ160CA-AU | 160 | 178 | 197 | 1 | 1 | 1 | 259 | 1.5 | SP | XP |
| P4SMAJ170A-AU | P4SMAJ170CA-AU | 170 | 189 | 209 | 1 | 1 | 1 | 275 | 1.4 | SR | XR |
| P4SMAJ180A-AU | P4SMAJ180CA-AU | 180 | 198 | 222 | 1 | 1 | 1 | 292 | 1.3 | ST | YT |
| P4SMAJ190A-AU | P4SMAJ190CA-AU | 190 | 209 | 243.2 | 1 | 1 | 1 | 308 | 1.3 | SV | YV |
| P4SMAJ200A-AU | P4SMAJ200CA-AU | 200 | 220 | 247 | 1 | 1 | 1 | 324 | 1.2 | SX | YX |
| P4SMAJ210A-AU | P4SMAJ210CA-AU | 210 | 231 | 268.8 | 1 | 1 | 1 | 340 | 1.2 | SZ | YZ |
| P4SMAJ220A-AU | P4SMAJ220CA-AU | 220 | 242 | 272 | 1 | 1 | 1 | 356 | 1.1 | GE | ZE |

Note :

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Mounted on 5mm² copper pads to each terminal.
3. Mounted on a FR4 PCB, single-sided copper, mini pad.

P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

TYPICAL CHARACTERISTIC CURVES

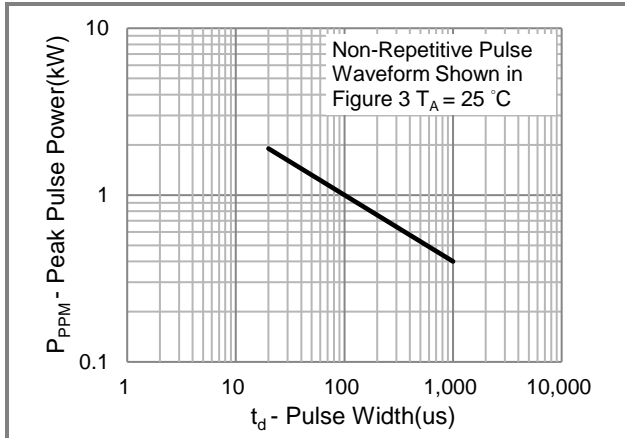


Fig.1 Pulse Power Rating Curve

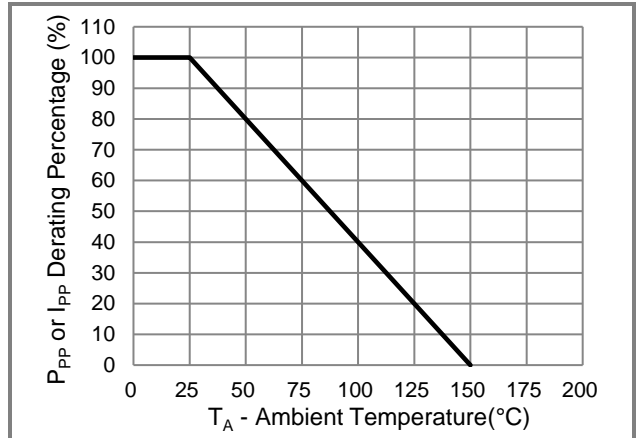


Fig.2 Derating Curve

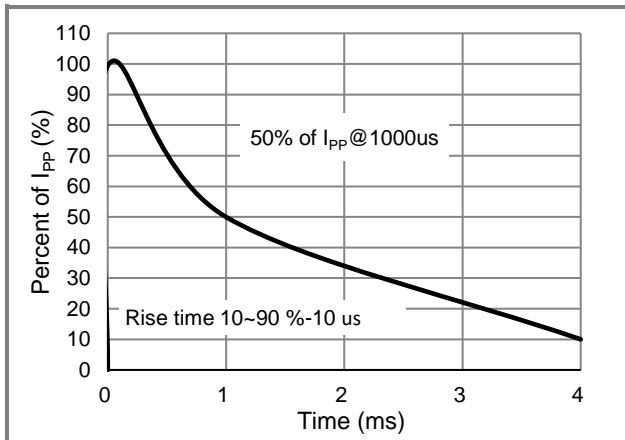


Fig.3 10/1000us Pulse Waveform

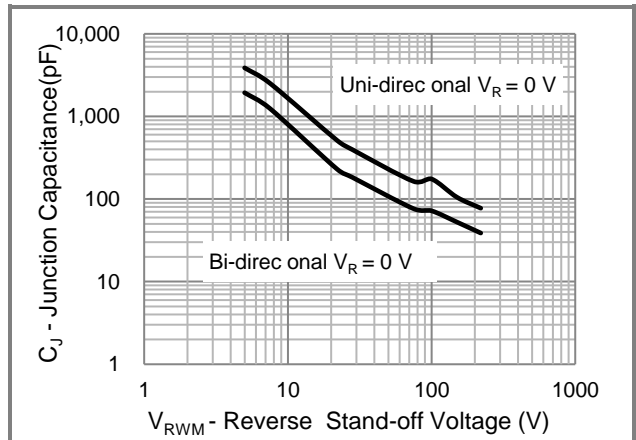


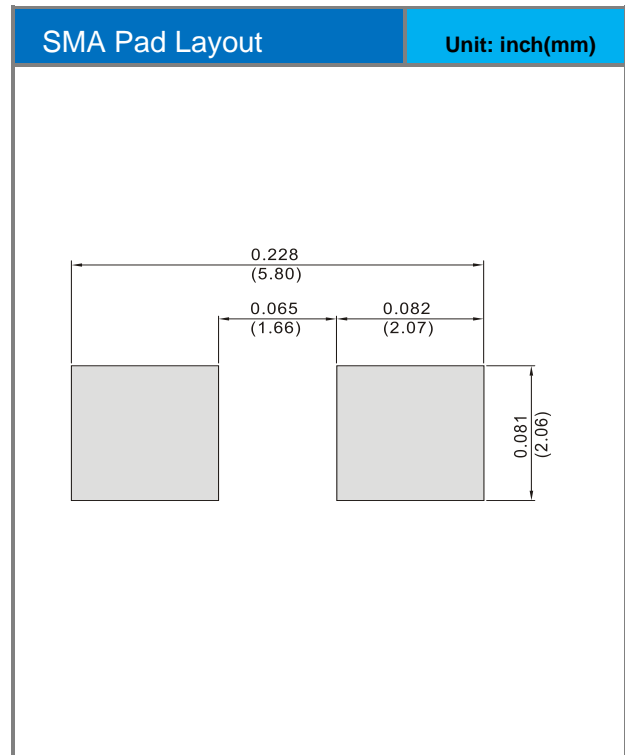
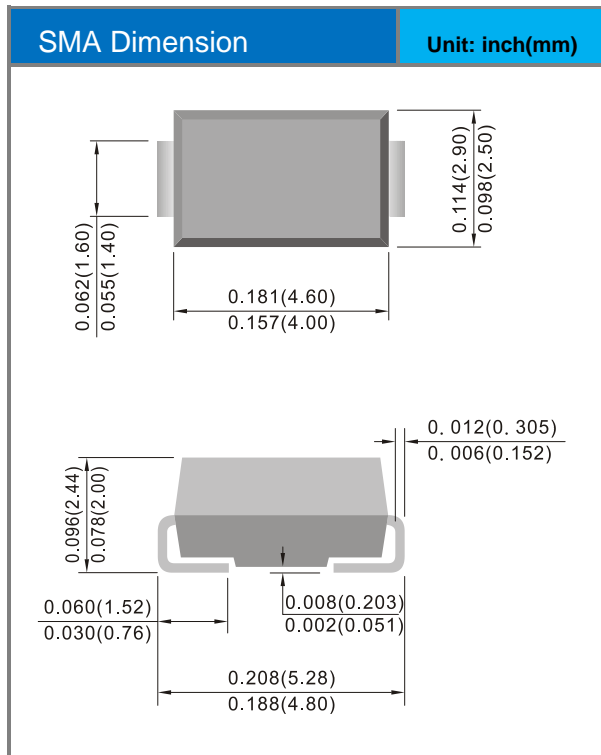
Fig.4 Typical Capacitance

P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

Product and Packing Information

| Part No. | Package Type | Packing Type | Marking |
|----------------|--------------|---------------------|-----------|
| P4SMAJxxxxA-AU | SMA | 7.5K pcs / 13" reel | See Table |

Packaging Information & Mounting Pad Layout



P4SMAJ5.0A-AU ~ P4SMAJ220CA-AU Series

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