



Micro Commercial Components

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 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

P4SMAJ5.0 THRU P4SMAJ440CA

Features

- For Surface Mount Applications
- Unidirectional And Bidirectional
- Low Inductance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- For Bidirectional Devices Add "C" To The Suffix Of The Part Number: i.e.SMAJ5.0C or P4SMAJ5.0CA for 5% Tolerance
- P4SMAJ5.0~P4SMAJ440CA also can be named as SMAJ5.0~SMAJ440CA and have the same electrical spec
- UL Recognized File # E222849

Mechanical Data

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Polarity: Indicated by cathode band except bi-directional types

Maximum Rating:

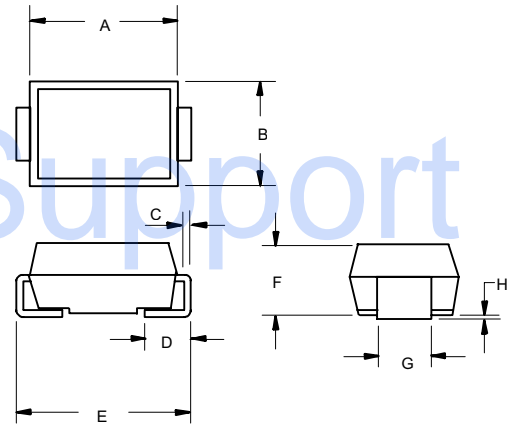
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 25°C/W Junction to Ambient

| | | | |
|--|--------------------|-------------|-----------|
| Peak Pulse Current on 10/1000µs Waveform | I _{PPM} | See Table 1 | Note 1 |
| Peak Pulse Power Dissipation | P _{PPM} | Min 400 W | Note 1, 5 |
| Steady State Power Dissipation | P _{M(AV)} | 1.0 W | Note 2, 4 |
| Peak Forward Surge Current | I _{FSM} | 40A | Note:4 |

- Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
 2. Mounted on 5.0mm² copper pads to each terminal.
 3. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.
 4. Lead temperature at T_L = 75°C.
 5. Peak pulse power waveform is 10/1000µs.

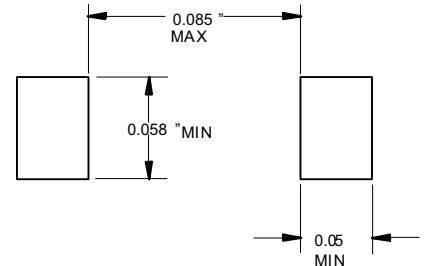
400 Watt Transient Voltage Suppressors 5.0 to 440 Volts

DO-214AC (SMA)(LEAD FRAME)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | .157 | .181 | 4.00 | 4.60 | |
| B | .098 | .114 | 2.50 | 2.90 | |
| C | .006 | .012 | 0.152 | 0.305 | |
| D | .030 | .060 | 0.76 | 1.52 | |
| E | .188 | .208 | 4.80 | 5.28 | |
| F | .078 | .096 | 2.00 | 2.44 | |
| G | .055 | .062 | 1.40 | 1.60 | |
| H | .002 | .008 | 0.051 | 0.203 | |

SUGGESTED SOLDER
 PAD LAYOUT



P4SMAJ5.0 thru P4SMAJ440CA

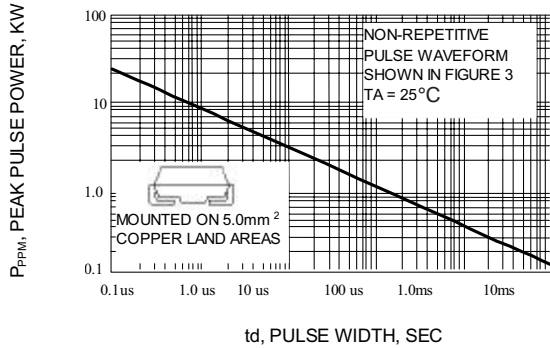


Fig. 1-PEAK PULSE POWER RATING CURVE

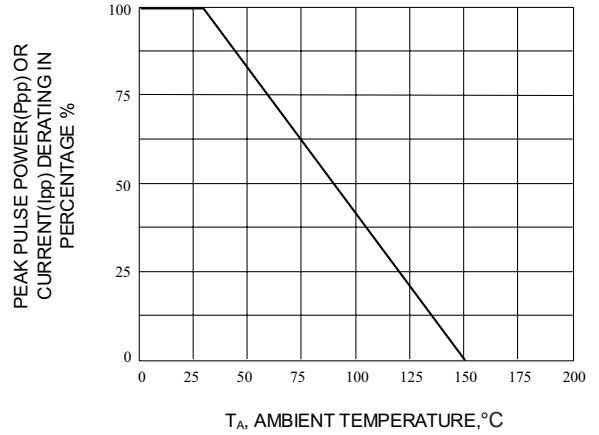


Fig. 2-PULSE RATING CURVE

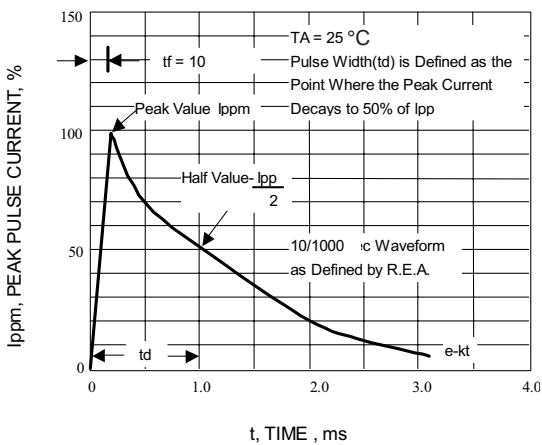


Fig. 3-PULSE WAVEFORM

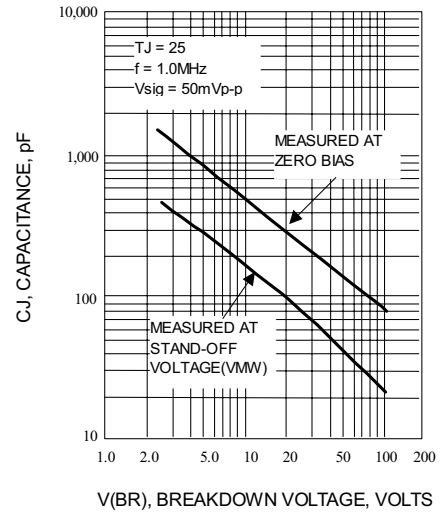


Fig. 4-TYPICAL JUNCTION CAPACITANCE

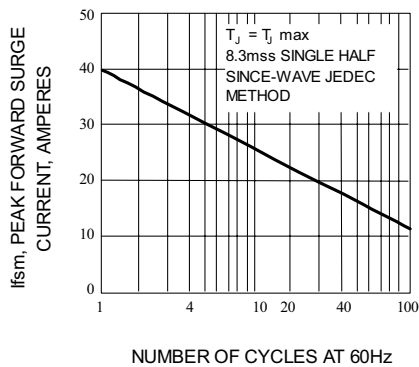


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

P4SMAJ5.0 thru P4SMAJ440CA

ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | | REVERSE STAND-OFF VOLTAGE V_{WM} | BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) | | | MAXIMUM CLAMPING VOLTAGE @ I_{PP} | PEAK PULSE CURRENT I_{PP} | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D | MARKING CODE | |
|-----------------|-------------|------------------------------------|--|------|------------|-------------------------------------|-----------------------------|--|--------------|----|
| UNI-POLAR | BI-POLAR | (VOLTS) | MIN | MAX | I_T (mA) | (VOLTS) | (AMPS) | (μ A) | 1 | 2 |
| P4SMAJ5.0A | P4SMAJ5.0CA | 5.0 | 6.40 | 7.00 | 10 | 9.2 | 43.5 | 800 | AE | WE |
| P4SMAJ6.0A | P4SMAJ6.0CA | 6.0 | 6.67 | 7.37 | 10 | 10.3 | 38.8 | 800 | AG | WG |
| P4SMAJ6.5A | P4SMAJ6.5CA | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 35.7 | 500 | AK | WK |
| P4SMAJ7.0A | P4SMAJ7.0CA | 7.0 | 7.78 | 8.60 | 10 | 12.0 | 33.3 | 200 | AM | WM |
| P4SMAJ7.5A | P4SMAJ7.5CA | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 31.0 | 100 | AP | WP |
| P4SMAJ8.0A | P4SMAJ8.0CA | 8.0 | 8.89 | 9.83 | 1 | 13.6 | 29.4 | 50 | AR | WR |
| P4SMAJ8.5A | P4SMAJ8.5CA | 8.5 | 9.44 | 10.4 | 1 | 14.4 | 27.7 | 10 | AT | WT |
| P4SMAJ9.0A | P4SMAJ9.0CA | 9.0 | 10.0 | 11.1 | 1 | 15.4 | 26.0 | 5 | AV | WV |
| P4SMAJ10A | P4SMAJ10CA | 10 | 11.1 | 12.3 | 1 | 17.0 | 23.5 | 5 | AX | WX |
| P4SMAJ11A | P4SMAJ11CA | 11 | 12.2 | 13.5 | 1 | 18.2 | 22.0 | 5 | AZ | WZ |
| P4SMAJ12A | P4SMAJ12CA | 12 | 13.3 | 14.7 | 1 | 19.9 | 20.1 | 5 | BE | XE |
| P4SMAJ13A | P4SMAJ13CA | 13 | 14.4 | 15.9 | 1 | 21.5 | 18.6 | 5 | BG | XG |
| P4SMAJ14A | P4SMAJ14CA | 14 | 15.6 | 17.2 | 1 | 23.2 | 17.2 | 5 | BK | XK |
| P4SMAJ15A | P4SMAJ15CA | 15 | 16.7 | 18.5 | 1 | 24.4 | 16.4 | 5 | BM | XM |
| P4SMAJ16A | P4SMAJ16CA | 16 | 17.8 | 19.7 | 1 | 26.0 | 15.3 | 5 | BP | XP |
| P4SMAJ17A | P4SMAJ17CA | 17 | 18.9 | 20.9 | 1 | 27.6 | 14.5 | 5 | BR | XR |
| P4SMAJ18A | P4SMAJ18CA | 18 | 20.0 | 22.1 | 1 | 29.2 | 13.7 | 5 | BT | XT |
| P4SMAJ20A | P4SMAJ20CA | 20 | 22.2 | 24.5 | 1 | 32.4 | 12.3 | 5 | BV | XV |
| P4SMAJ22A | P4SMAJ22CA | 22 | 24.4 | 26.9 | 1 | 35.5 | 11.2 | 5 | BX | XX |
| P4SMAJ24A | P4SMAJ24CA | 24 | 26.7 | 29.5 | 1 | 38.9 | 10.3 | 5 | BZ | XZ |
| P4SMAJ26A | P4SMAJ26CA | 26 | 28.9 | 31.9 | 1 | 42.1 | 9.5 | 5 | CE | YE |
| P4SMAJ28A | P4SMAJ28CA | 28 | 31.1 | 34.4 | 1 | 45.4 | 8.8 | 5 | CG | YG |
| P4SMAJ30A | P4SMAJ30CA | 30 | 33.3 | 36.8 | 1 | 48.4 | 8.3 | 5 | CK | YK |
| P4SMAJ33A | P4SMAJ33CA | 33 | 36.7 | 40.6 | 1 | 53.3 | 7.5 | 5 | CM | YM |
| P4SMAJ36A | P4SMAJ36CA | 36 | 40.0 | 44.2 | 1 | 58.1 | 6.9 | 5 | CP | YP |
| P4SMAJ40A | P4SMAJ40CA | 40 | 44.4 | 49.1 | 1 | 64.5 | 6.2 | 5 | CR | YR |
| P4SMAJ43A | P4SMAJ43CA | 43 | 47.8 | 52.8 | 1 | 69.4 | 5.7 | 5 | CT | YT |
| P4SMAJ45A | P4SMAJ45CA | 45 | 50.0 | 55.3 | 1 | 72.7 | 5.5 | 5 | CV | YV |
| P4SMAJ48A | P4SMAJ48CA | 48 | 53.3 | 58.9 | 1 | 77.4 | 5.2 | 5 | CX | YX |
| P4SMAJ51A | P4SMAJ51CA | 51 | 56.7 | 62.7 | 1 | 82.4 | 4.9 | 5 | CZ | YZ |
| P4SMAJ54A | P4SMAJ54CA | 54 | 60.0 | 66.3 | 1 | 87.1 | 4.6 | 5 | RE | ZE |
| P4SMAJ58A | P4SMAJ58CA | 58 | 64.4 | 71.2 | 1 | 93.6 | 4.3 | 5 | RG | ZG |
| P4SMAJ60A | P4SMAJ60CA | 60 | 66.7 | 73.7 | 1 | 96.8 | 4.1 | 5 | RK | ZK |
| P4SMAJ64A | P4SMAJ64CA | 64 | 71.1 | 78.6 | 1 | 103 | 3.9 | 5 | RM | ZM |
| P4SMAJ70A | P4SMAJ70CA | 70 | 77.8 | 86.0 | 1 | 113 | 3.5 | 5 | RP | ZP |
| P4SMAJ75A | P4SMAJ75CA | 75 | 83.3 | 92.1 | 1 | 121 | 3.3 | 5 | RR | ZR |
| P4SMAJ78A | P4SMAJ78CA | 78 | 86.7 | 95.8 | 1 | 126 | 2.2 | 5 | RT | ZT |
| P4SMAJ85A | P4SMAJ85CA | 85 | 94.4 | 104 | 1 | 137 | 2.9 | 5 | RV | ZV |
| P4SMAJ90A | P4SMAJ90CA | 90 | 100 | 111 | 1 | 146 | 2.7 | 5 | RX | ZX |
| P4SMAJ100A | P4SMAJ100CA | 100 | 111 | 123 | 1 | 162 | 2.5 | 5 | RZ | ZZ |
| P4SMAJ110A | P4SMAJ110CA | 110 | 122 | 135 | 1 | 177 | 2.3 | 5 | SE | VE |
| P4SMAJ120A | P4SMAJ120CA | 120 | 133 | 147 | 1 | 193 | 2.1 | 5 | SG | VG |
| P4SMAJ130A | P4SMAJ130CA | 130 | 144 | 159 | 1 | 209 | 1.9 | 5 | SK | VK |
| P4SMAJ150A | P4SMAJ150CA | 150 | 167 | 185 | 1 | 243 | 1.6 | 5 | SM | VM |
| P4SMAJ160A | P4SMAJ160CA | 160 | 178 | 197 | 1 | 259 | 1.5 | 5 | SP | VP |
| P4SMAJ170A | P4SMAJ170CA | 170 | 189 | 209 | 1 | 275 | 1.5 | 5 | SR | VR |
| P4SMAJ180A | P4SMAJ180CA | 180 | 201 | 222 | 1 | 292 | 1.4 | 5 | ST | VT |
| P4SMAJ200A | P4SMAJ200CA | 200 | 224 | 247 | 1 | 324 | 1.2 | 5 | SV | VV |
| P4SMAJ220A | P4SMAJ220CA | 220 | 246 | 272 | 1 | 356 | 1.1 | 5 | SX | VX |
| P4SMAJ250A | P4SMAJ250CA | 250 | 279 | 309 | 1 | 405 | 1.0 | 5 | SZ | VZ |
| P4SMAJ300A | P4SMAJ300CA | 300 | 335 | 371 | 1 | 486 | 0.8 | 5 | TE | UE |
| P4SMAJ350A | P4SMAJ350CA | 350 | 391 | 432 | 1 | 567 | 0.7 | 5 | TG | UG |
| P4SMAJ400A | P4SMAJ400CA | 400 | 447 | 494 | 1 | 648 | 0.6 | 5 | TK | UK |
| P4SMAJ440A | P4SMAJ440CA | 440 | 492 | 543 | 1 | 713 | 0.6 | 5 | TM | UM |

For bi-directional type having V_{rwm} of 10 Volts and less, the IR limit is double.
For parts without A, the VBR is +10%.



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