

P4SMAJ Series – 400 Watt Surface Mount



P4SMAJ Series Features

- RoHS Compliance designated by suffix “F”
- 400 watt peak pulse power dissipation
- Available in voltages from 5.0V to 170V
- Unidirectional and bidirectional
- Glass passivated junction
- Low clamping factor
- Available in tape and reel (Reel quantity = 5,000 pieces)
- Each device 100% surge tested
- Tape and Reel to EIA Standard RS-481-A
- UL 497B Recognized, File #E135015

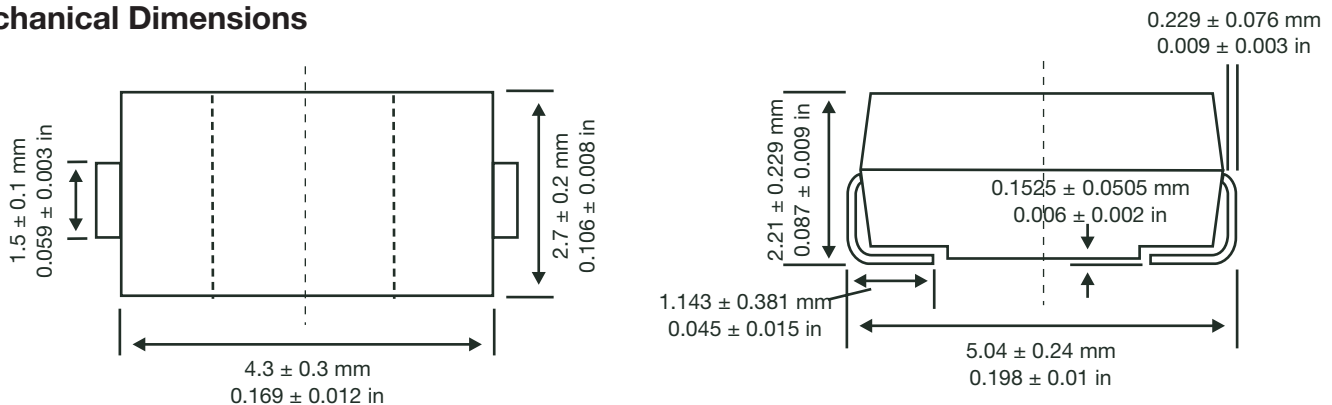
Absolute Maximum Ratings

| Parameter | Value |
|---|------------------|
| Peak pulse power dissipation (PPPM) at 25°C | 400W |
| Operating and storage temperatures | -55°C to + 150°C |

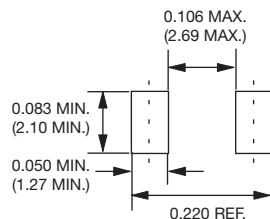
Mechanical Characteristics

- DO214AC package
- UL94V-0 Thermoset Epoxy
- Solder plated terminals
- Solderable per MIL-STD-750 Method 2026

Mechanical Dimensions



Standard Mounting Pad Layout



All dimensions in inches and (millimeters)

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Electrical Characteristics

| Part Number* | Uni Part Marking | Bi Part Marking | Rated Standoff Voltage V _{wm} | Breakdown Voltage | | | Maximum Stand By Current @V _{WM} + I _d | 10/1000 μ s Maximum Clamping Voltage @I _{ppm} # V _c Max | 10/1000 μ s Rated Peak Impulse Current I _{ppm} # |
|--------------|------------------|-----------------|--|-------------------------|------|-----------------|--|---|---|
| | | | | V _{br} (Volts) | | @I _t | | | |
| | | | | (Volts) | Min | Max | | | |
| P4SMAJ5.0 | HD | TD | 5 | 6.4 | 7.3 | 10 | 800 | 9.6 | 41.6 |
| P4SMAJ5.0A | HE | TE | 5 | 6.4 | 7 | 10 | 800 | 9.2 | 43.5 |
| P4SMAJ6.0 | HF | TF | 6 | 6.67 | 8.15 | 10 | 800 | 11.4 | 35.1 |
| P4SMAJ6.0A | HG | TG | 6 | 6.67 | 7.37 | 10 | 800 | 10.3 | 38.8 |
| P4SMAJ6.5 | HH | TH | 6.5 | 7.22 | 8.82 | 10 | 500 | 12.3 | 32.5 |
| P4SMAJ6.5A | HK | TK | 6.5 | 7.22 | 7.98 | 10 | 500 | 11.2 | 35.7 |
| P4SMAJ7.0 | HL | TL | 7 | 7.78 | 9.51 | 10 | 200 | 13.3 | 30.1 |
| P4SMAJ7.0A | HM | TM | 7 | 7.78 | 8.6 | 10 | 200 | 12 | 33.3 |
| P4SMAJ7.5 | HN | TN | 7.5 | 8.33 | 10.3 | 1 | 100 | 14.3 | 28 |
| P4SMAJ7.5A | HP | TP | 7.5 | 8.33 | 9.21 | 1 | 100 | 12.9 | 31 |
| P4SMAJ8.0 | HQ | TQ | 8 | 8.89 | 10.9 | 1 | 50 | 15 | 26.5 |
| P4SMAJ8.0A | HR | TR | 8 | 8.89 | 9.83 | 1 | 50 | 13.6 | 29.4 |
| P4SMAJ8.5 | HS | TS | 8.5 | 9.44 | 11.5 | 1 | 10 | 15.9 | 25.1 |
| P4SMAJ8.5A | HT | TT | 8.5 | 9.44 | 10.4 | 1 | 10 | 14.4 | 27.7 |
| P4SMAJ9.0 | HU | TU | 9 | 10 | 12.2 | 1 | 5 | 16.9 | 23.6 |
| P4SMAJ9.0A | HV | TV | 9 | 10 | 11.1 | 1 | 5 | 15.4 | 26 |
| P4SMAJ10 | HW | TW | 10 | 11.1 | 13.6 | 1 | 5 | 18.8 | 21.2 |
| P4SMAJ10A | HX | TX | 10 | 11.1 | 12.3 | 1 | 5 | 17 | 23.5 |
| P4SMAJ11 | HY | TY | 11 | 12.2 | 14.9 | 1 | 5 | 20.1 | 20 |
| P4SMAJ11A | HZ | TZ | 11 | 12.2 | 13.5 | 1 | 5 | 18.2 | 22 |
| P4SMAJ12 | ID | UD | 12 | 13.3 | 16.3 | 1 | 5 | 22 | 18.1 |
| P4SMAJ12A | IE | UE | 12 | 13.3 | 14.7 | 1 | 5 | 19.9 | 20.1 |
| P4SMAJ13 | IF | UF | 13 | 14.4 | 17.6 | 1 | 5 | 23.8 | 16.8 |
| P4SMAJ13A | IG | UG | 13 | 14.4 | 15.9 | 1 | 5 | 21.5 | 18.6 |
| P4SMAJ14 | IH | UH | 14 | 15.6 | 19.1 | 1 | 5 | 25.8 | 15.5 |
| P4SMAJ14A | IK | UK | 14 | 15.6 | 17.2 | 1 | 5 | 23.2 | 17.2 |

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= See General Information for Impulse Current Waveform.

For Pb-Free add suffix - "F"

P4SMAJ Series – 400 Watt Surface Mount**Electrical Characteristics (continued)**

| Part Number* | Uni Part Marking | Bi Part Marking | Rated Standoff Voltage V _{wm} | Breakdown Voltage | | | Maximum Stand By Current @V _{WM} + I _d | 10/1000 μ s Maximum Clamping Voltage @I _{ppm} # V _c Max | 10/1000 μ s Rated Peak Impulse Current I _{ppm} # |
|--------------|------------------|-----------------|--|-------------------------|------|-----------------|--|---|---|
| | | | | V _{br} (Volts) | | @I _t | | | |
| | | | | (Volts) | Min | Max | | | |
| P4SMAJ15 | IL | UL | 15 | 16.7 | 20.4 | 1 | 5 | 26.9 | 14.8 |
| P4SMAJ15A | IM | UM | 15 | 16.7 | 18.5 | 1 | 5 | 24.4 | 16.4 |
| P4SMAJ16 | IN | UN | 16 | 17.8 | 21.8 | 1 | 5 | 28.8 | 13.8 |
| P4SMAJ16A | IP | UP | 16 | 17.8 | 19.7 | 1 | 5 | 26 | 15.3 |
| P4SMAJ17 | IQ | UQ | 17 | 18.9 | 23.1 | 1 | 5 | 30.5 | 13.1 |
| P4SMAJ17A | IR | UR | 17 | 18.9 | 20.9 | 1 | 5 | 27.6 | 14.5 |
| P4SMAJ18 | IS | US | 18 | 20 | 24.4 | 1 | 5 | 32.2 | 12.4 |
| P4SMAJ18A | IT | UT | 18 | 20 | 22.1 | 1 | 5 | 29.2 | 13.7 |
| P4SMAJ20 | IU | UU | 20 | 22.2 | 27.1 | 1 | 5 | 35.8 | 11.1 |
| P4SMAJ20A | IV | UV | 20 | 22.2 | 24.5 | 1 | 5 | 32.4 | 12.3 |
| P4SMAJ22 | IW | UW | 22 | 24.4 | 29.8 | 1 | 5 | 39.4 | 10.1 |
| P4SMAJ22A | IX | UX | 22 | 24.4 | 26.9 | 1 | 5 | 35.5 | 11.2 |
| P4SMAJ24 | IY | UY | 24 | 26.7 | 32.6 | 1 | 5 | 43 | 9.3 |
| P4SMAJ24A | IZ | UZ | 24 | 26.7 | 29.5 | 1 | 5 | 38.9 | 10.3 |
| P4SMAJ26 | JD | VD | 26 | 28.9 | 35.3 | 1 | 5 | 46.6 | 8.6 |
| P4SMAJ26A | JE | VE | 26 | 28.9 | 31.9 | 1 | 5 | 42.1 | 9.5 |
| P4SMAJ28 | JF | VF | 28 | 31.1 | 38 | 1 | 5 | 50 | 8 |
| P4SMAJ28A | JG | VG | 28 | 31.1 | 34.4 | 1 | 5 | 45.4 | 8.8 |
| P4SMAJ30 | JH | VH | 30 | 33.3 | 40.7 | 1 | 5 | 53.5 | 7.5 |
| P4SMAJ30A | JK | VK | 30 | 33.3 | 36.8 | 1 | 5 | 48.4 | 8.3 |
| P4SMAJ33 | JL | VL | 33 | 36.7 | 44.9 | 1 | 5 | 59 | 6.8 |
| P4SMAJ33A | JM | VM | 33 | 36.7 | 40.6 | 1 | 5 | 53.3 | 7.5 |
| P4SMAJ36 | JN | VN | 36 | 40 | 48.9 | 1 | 5 | 64.3 | 6.2 |
| P4SMAJ36A | JP | VP | 36 | 40 | 44.2 | 1 | 5 | 58.1 | 6.9 |
| P4SMAJ40 | JQ | VQ | 40 | 44.4 | 54.3 | 1 | 5 | 71.4 | 5.6 |
| P4SMAJ40A | JR | VR | 40 | 44.4 | 49.1 | 1 | 5 | 64.5 | 6.2 |

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P4SMAJ Series – 400 Watt Surface Mount**Electrical Characteristics (continued)**

| Part Number* | Uni Part Marking | Bi Part Marking | Rated Standoff Voltage V _{wm} | Breakdown Voltage | | | Maximum Stand By Current @V _{WM} + I _d | 10/1000 μ s Maximum Clamping Voltage @I _{ppm} # V _c Max | 10/1000 μ s Rated Peak Impulse Current I _{ppm} # |
|--------------|------------------|-----------------|--|-------------------------|------|-----------------|--|---|---|
| | | | | V _{br} (Volts) | | @I _t | | | |
| | | | | (Volts) | Min | Max | | | |
| P4SMAJ43 | JS | VS | 43 | 47.8 | 58.4 | 1 | 5 | 76.7 | 5.2 |
| P4SMAJ43A | JT | VT | 43 | 47.8 | 52.8 | 1 | 5 | 69.4 | 5.7 |
| P4SMAJ45 | JU | VU | 45 | 50 | 61.1 | 1 | 5 | 80.3 | 5.0 |
| P4SMAJ45A | JV | VV | 45 | 50 | 55.3 | 1 | 5 | 72.7 | 5.5 |
| P4SMAJ48 | JW | VW | 48 | 53.3 | 65.1 | 1 | 5 | 85.5 | 4.7 |
| P4SMAJ48A | JX | VX | 48 | 53.3 | 58.9 | 1 | 5 | 77.4 | 5.2 |
| P4SMAJ51 | JY | VY | 51 | 56.7 | 69.3 | 1 | 5 | 91.1 | 4.4 |
| P4SMAJ51A | JZ | VZ | 51 | 56.7 | 62.7 | 1 | 5 | 82.4 | 4.9 |
| P4SMAJ54 | RD | WD | 54 | 60 | 73.3 | 1 | 5 | 96.3 | 4.2 |
| P4SMAJ54A | RE | WE | 54 | 60 | 66.3 | 1 | 5 | 87.1 | 4.6 |
| P4SMAJ58 | RF | WF | 58 | 64.4 | 78.7 | 1 | 5 | 103 | 3.9 |
| P4SMAJ58A | RG | WG | 58 | 64.4 | 71.2 | 1 | 5 | 93.6 | 4.3 |
| P4SMAJ60 | RH | WH | 60 | 66.7 | 81.5 | 1 | 5 | 107 | 3.7 |
| P4SMAJ60A | RK | WK | 60 | 66.7 | 73.7 | 1 | 5 | 96.8 | 4.1 |
| P4SMAJ64 | RL | WL | 64 | 71.1 | 86.4 | 1 | 5 | 114 | 3.5 |
| P4SMAJ64A | RM | WM | 64 | 71.1 | 78.6 | 1 | 5 | 103 | 3.9 |
| P4SMAJ70 | RN | WN | 70 | 77.8 | 95.1 | 1 | 5 | 125 | 3.2 |
| P4SMAJ70A | RP | WP | 70 | 77.8 | 86 | 1 | 5 | 113 | 3.5 |
| P4SMAJ75 | RQ | WQ | 75 | 83.3 | 102 | 1 | 5 | 134 | 3.0 |
| P4SMAJ75A | RR | WR | 75 | 83.3 | 92.1 | 1 | 5 | 121 | 3.3 |
| P4SMAJ78 | RS | WS | 78 | 86.7 | 106 | 1 | 5 | 139 | 2.9 |
| P4SMAJ78A | RT | WT | 78 | 86.7 | 95.8 | 1 | 5 | 126 | 2.2 |
| P4SMAJ85 | RU | WU | 85 | 94.4 | 115 | 1 | 5 | 151 | 2.6 |
| P4SMAJ85A | RV | WV | 85 | 94.4 | 104 | 1 | 5 | 137 | 2.9 |
| P4SMAJ90 | RW | WW | 90 | 100 | 122 | 1 | 5 | 160 | 2.5 |
| P4SMAJ90A | RX | WX | 90 | 100 | 111 | 1 | 5 | 146 | 2.7 |

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P4SMAJ Series – 400 Watt Surface Mount**Electrical Characteristics (continued)**

| Part Number* | Uni Part Marking | Bi Part Marking | Rated Standoff Voltage VWM | Breakdown Voltage | | | Maximum Stand By Current @VWM+ ID | 10/1000µs Maximum Clamping Voltage @IPPM# Vc Max | 10/1000µs Rated Peak Impulse Current IPPM# |
|--------------|------------------|-----------------|----------------------------|-------------------|-----|-----|-----------------------------------|--|--|
| | | | | Vbr (Volts) | | @IT | | | |
| | | | | (Volts) | Min | Max | | | |
| P4SMAJ100 | RY | WY | 100 | 111 | 136 | 1 | 5 | 179 | 2.2 |
| P4SMAJ100A | RZ | WZ | 100 | 111 | 123 | 1 | 5 | 162 | 2.5 |
| P4SMAJ110 | SD | XD | 110 | 122 | 149 | 1 | 5 | 196 | 2 |
| P4SMAJ110A | SE | XE | 110 | 122 | 135 | 1 | 5 | 177 | 2.3 |
| P4SMAJ120 | SF | XF | 120 | 133 | 163 | 1 | 5 | 214 | 1.9 |
| P4SMAJ120A | SG | XG | 120 | 133 | 147 | 1 | 5 | 193 | 2 |
| P4SMAJ130 | SH | XH | 130 | 144 | 176 | 1 | 5 | 231 | 1.7 |
| P4SMAJ130A | SK | XK | 130 | 144 | 159 | 1 | 5 | 209 | 1.9 |
| P4SMAJ150 | SL | XL | 150 | 167 | 204 | 1 | 5 | 268 | 1.5 |
| P4SMAJ150A | SM | XM | 150 | 167 | 185 | 1 | 5 | 243 | 1.6 |
| P4SMAJ160 | SN | XN | 160 | 178 | 218 | 1 | 5 | 287 | 1.4 |
| P4SMAJ160A | SP | XP | 160 | 178 | 197 | 1 | 5 | 259 | 1.5 |
| P4SMAJ170 | SQ | XQ | 170 | 189 | 231 | 1 | 5 | 304 | 1.3 |
| P4SMAJ170A | SR | XR | 170 | 189 | 209 | 1 | 5 | 275 | 1.4 |

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