



Micro Commercial Components



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SMAJ5.0
THRU
SMAJ440CA

Features

- Halogen free available upon request by adding suffix "-HF"
For Surface Mount Applications
Unidirectional And Bidirectional
Low Inductance
High Temp Soldering: 260°C for 10 Seconds At Terminals
For Bidirectional Devices Add "C" To The Suffix of The Part
Number: i.e.SMAJ5.0CA for 5% Tolerance
Lead Free Finish/Rohs Compliant (Note1) ("P"Suffix designates
Compliant. See ordering information)
UL Recognized File # E331408

Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1
Polarity: Indicated by cathode band except bi-directional types

Maximum Rating:

- Operating Temperature: -55°C to +175°C
Storage Temperature: -55°C to +175°C
Typical Thermal Resistance: 100°C/W Junction to Ambient

Table with 4 columns: Parameter, Symbol, Value, and Note. Rows include Peak Pulse Current, Peak Pulse Power Dissipation, Steady State Power Dissipation, and Peak Forward Surge Current.

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

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

400 Watt
Transient Voltage
Suppressors
5.0 to 440 Volts

DO-214AC
(SMA)(LEAD FRAME)



Table titled 'DIMENSIONS' with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. It lists dimensions A through H.

SUGGESTED SOLDER
PAD LAYOUT



SMAJ5.0 thru SMAJ440CA



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



Fig.6-Steady State Power Derating Curve

SMAJ5.0 thru SMAJ440CA

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 |
| SMAJ5.0A | SMAJ5.0CA | 5.0 | 6.40 | 7.00 | 10 | 9.2 | 43.5 | 800 | AE | WE |
| SMAJ6.0A | SMAJ6.0CA | 6.0 | 6.67 | 7.37 | 10 | 10.3 | 38.8 | 800 | AG | WG |
| SMAJ6.5A | SMAJ6.5CA | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 35.7 | 500 | AK | WK |
| SMAJ7.0A | SMAJ7.0CA | 7.0 | 7.78 | 8.60 | 10 | 12.0 | 33.3 | 200 | AM | WM |
| SMAJ7.5A | SMAJ7.5CA | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 31.0 | 100 | AP | WP |
| SMAJ8.0A | SMAJ8.0CA | 8.0 | 8.89 | 9.83 | 1 | 13.6 | 29.4 | 50 | AR | WR |
| SMAJ8.5A | SMAJ8.5CA | 8.5 | 9.44 | 10.4 | 1 | 14.4 | 27.7 | 20 | AT | WT |
| SMAJ9.0A | SMAJ9.0CA | 9.0 | 10.0 | 11.1 | 1 | 15.4 | 26.0 | 10 | AV | WV |
| SMAJ10A | SMAJ10CA | 10 | 11.1 | 12.3 | 1 | 17.0 | 23.5 | 5 | AX | WX |
| SMAJ11A | SMAJ11CA | 11 | 12.2 | 13.5 | 1 | 18.2 | 22.0 | 1 | AZ | WZ |
| SMAJ12A | SMAJ12CA | 12 | 13.3 | 14.7 | 1 | 19.9 | 20.1 | 1 | BE | XE |
| SMAJ13A | SMAJ13CA | 13 | 14.4 | 15.9 | 1 | 21.5 | 18.6 | 1 | BG | XG |
| SMAJ14A | SMAJ14CA | 14 | 15.6 | 17.2 | 1 | 23.2 | 17.2 | 1 | BK | XK |
| SMAJ15A | SMAJ15CA | 15 | 16.7 | 18.5 | 1 | 24.4 | 16.4 | 1 | BM | XM |
| SMAJ16A | SMAJ16CA | 16 | 17.8 | 19.7 | 1 | 26.0 | 15.3 | 1 | BP | XP |
| SMAJ17A | SMAJ17CA | 17 | 18.9 | 20.9 | 1 | 27.6 | 14.5 | 1 | BR | XR |
| SMAJ18A | SMAJ18CA | 18 | 20.0 | 22.1 | 1 | 29.2 | 13.7 | 1 | BT | XT |
| SMAJ20A | SMAJ20CA | 20 | 22.2 | 24.5 | 1 | 32.4 | 12.3 | 1 | BV | XV |
| SMAJ22A | SMAJ22CA | 22 | 24.4 | 26.9 | 1 | 35.5 | 11.2 | 1 | BX | XX |
| SMAJ24A | SMAJ24CA | 24 | 26.7 | 29.5 | 1 | 38.9 | 10.3 | 1 | BZ | XZ |
| SMAJ26A | SMAJ26CA | 26 | 28.9 | 31.9 | 1 | 42.1 | 9.5 | 1 | CE | YE |
| SMAJ28A | SMAJ28CA | 28 | 31.1 | 34.4 | 1 | 45.4 | 8.8 | 1 | CG | YG |
| SMAJ30A | SMAJ30CA | 30 | 33.3 | 36.8 | 1 | 48.4 | 8.3 | 1 | CK | YK |
| SMAJ33A | SMAJ33CA | 33 | 36.7 | 40.6 | 1 | 53.3 | 7.5 | 1 | CM | YM |
| SMAJ36A | SMAJ36CA | 36 | 40.0 | 44.2 | 1 | 58.1 | 6.9 | 1 | CP | YP |
| SMAJ40A | SMAJ40CA | 40 | 44.4 | 49.1 | 1 | 64.5 | 6.2 | 1 | CR | YR |
| SMAJ43A | SMAJ43CA | 43 | 47.8 | 52.8 | 1 | 69.4 | 5.7 | 1 | CT | YT |
| SMAJ45A | SMAJ45CA | 45 | 50.0 | 55.3 | 1 | 72.7 | 5.5 | 1 | CV | YV |
| SMAJ48A | SMAJ48CA | 48 | 53.3 | 58.9 | 1 | 77.4 | 5.2 | 1 | CX | YX |
| SMAJ51A | SMAJ51CA | 51 | 56.7 | 62.7 | 1 | 82.4 | 4.9 | 1 | CZ | YZ |
| SMAJ54A | SMAJ54CA | 54 | 60.0 | 66.3 | 1 | 87.1 | 4.6 | 1 | RE | ZE |
| SMAJ58A | SMAJ58CA | 58 | 64.4 | 71.2 | 1 | 93.6 | 4.3 | 1 | RG | ZG |
| SMAJ60A | SMAJ60CA | 60 | 66.7 | 73.7 | 1 | 96.8 | 4.1 | 1 | RK | ZK |
| SMAJ64A | SMAJ64CA | 64 | 71.1 | 78.6 | 1 | 103 | 3.9 | 1 | RM | ZM |
| SMAJ70A | SMAJ70CA | 70 | 77.8 | 86.0 | 1 | 113 | 3.5 | 1 | RP | ZP |
| SMAJ75A | SMAJ75CA | 75 | 83.3 | 92.1 | 1 | 121 | 3.3 | 1 | RR | ZR |
| SMAJ78A | SMAJ78CA | 78 | 86.7 | 95.8 | 1 | 126 | 2.2 | 1 | RT | ZT |
| SMAJ85A | SMAJ85CA | 85 | 94.4 | 104 | 1 | 137 | 2.9 | 1 | RV | ZV |
| SMAJ90A | SMAJ90CA | 90 | 100 | 111 | 1 | 146 | 2.7 | 1 | RX | ZX |
| SMAJ100A | SMAJ100CA | 100 | 111 | 123 | 1 | 162 | 2.5 | 1 | RZ | ZZ |
| SMAJ110A | SMAJ110CA | 110 | 122 | 135 | 1 | 177 | 2.3 | 1 | SE | VE |
| SMAJ120A | SMAJ120CA | 120 | 133 | 147 | 1 | 193 | 2.1 | 1 | SG | VG |
| SMAJ130A | SMAJ130CA | 130 | 144 | 159 | 1 | 209 | 1.9 | 1 | SK | VK |
| SMAJ150A | SMAJ150CA | 150 | 167 | 185 | 1 | 243 | 1.6 | 1 | SM | VM |
| SMAJ160A | SMAJ160CA | 160 | 178 | 197 | 1 | 259 | 1.5 | 1 | SP | VP |
| SMAJ170A | SMAJ170CA | 170 | 189 | 209 | 1 | 275 | 1.5 | 1 | SR | VR |
| SMAJ180A | SMAJ180CA | 180 | 201 | 222 | 1 | 292 | 1.4 | 1 | ST | VT |
| SMAJ200A | SMAJ200CA | 200 | 224 | 247 | 1 | 324 | 1.2 | 1 | SV | VV |
| SMAJ220A | SMAJ220CA | 220 | 246 | 272 | 1 | 356 | 1.1 | 1 | SX | VX |
| SMAJ250A | SMAJ250CA | 250 | 279 | 309 | 1 | 405 | 1.0 | 1 | SZ | VZ |
| SMAJ300A | SMAJ300CA | 300 | 335 | 371 | 1 | 486 | 0.8 | 1 | TE | UE |
| SMAJ350A | SMAJ350CA | 350 | 391 | 432 | 1 | 567 | 0.7 | 1 | TG | UG |
| SMAJ400A | SMAJ400CA | 400 | 447 | 494 | 1 | 648 | 0.6 | 1 | TK | UK |
| SMAJ440A | SMAJ440CA | 440 | 492 | 543 | 1 | 713 | 0.6 | 1 | TM | UM |

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



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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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