



Micro Commercial Components

Micro Commercial Components
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SMAJP4KE6.8(C)A THRU SMAJP4KE550(C)A

Features

- For surface mount applications in order to optimize board space
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to V_{BR} minimum
- Low inductance
- UL Recognized File # E331408

Mechanical Data

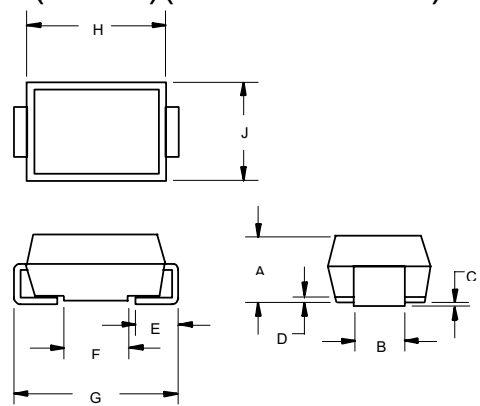
- CASE: JEDEC DO-214AC
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode) except Bidirectional
- Maximum soldering temperature: 250°C for 10 seconds

Maximum Ratings @ 25°C Unless Otherwise Specified

| | | | |
|--|----------------|-----------------|----------|
| Peak Pulse Current on 10/1000us waveform | I_{PP} | See Table 1 | Note: 1 |
| Peak Pulse Power Dissipation | P_{PP} | 400W | Note: 1, |
| Peak Forward Surge Current | I_{FSM} | 40A | Note: 3 |
| Operation And Storage Temperature Range | T_J, T_{STG} | -55°C to +150°C | |

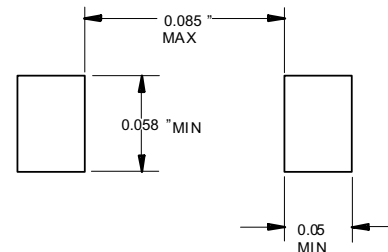
Transient Voltage Suppressor 6.8 to 550 Volts 400 Watt

DO-214AC (SMAJ)(LEAD FRAME)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .079 | .096 | 2.00 | 2.44 | |
| B | .050 | .064 | 1.27 | 1.63 | |
| C | .002 | .008 | .05 | .20 | |
| D | --- | .02 | --- | .51 | |
| E | .030 | .060 | .76 | 1.52 | |
| F | .065 | .091 | 1.65 | 2.32 | |
| G | .189 | .220 | 4.80 | 5.59 | |
| H | .157 | .181 | 4.00 | 4.60 | |
| J | .090 | .115 | 2.25 | 2.92 | |

SUGGESTED SOLDER PAD LAYOUT



NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ 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. Minute maximum.

SMAJP4KE6.8(C)A THRU SMAJP4KE550(C)A

ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS) | BREAKDOWN VOLTAGE V_{BR} @ I_T (VOLTS) | | | MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS) | PEAK PULSE CURRENT I_{PP} (AMPS) | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D (μ A) | MARKING CODE |
|-----------------|--|--|--------|------------|---|------------------------------------|---|--------------|
| | | MIN | MAX | I_T (mA) | | | | |
| SMAJP4KE6.8A | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 39.0 | 1000 | 6V8A |
| SMAJP4KE7.5A | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 36.3 | 500 | 7V5A |
| SMAJP4KE8.2A | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 33.9 | 200 | 8V2A |
| SMAJP4KE9.1A | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 30.6 | 50 | 9V1A |
| SMAJP4KE10A | 8.55 | 9.50 | 10.50 | 1 | 14.5 | 28.3 | 10 | 10A |
| SMAJP4KE11A | 9.40 | 10.50 | 11.60 | 1 | 15.6 | 26.3 | 5 | 11A |
| SMAJP4KE12A | 10.20 | 11.40 | 12.60 | 1 | 16.7 | 24.6 | 5 | 12A |
| SMAJP4KE13A | 11.10 | 12.40 | 13.70 | 1 | 18.2 | 22.5 | 5 | 13A |
| SMAJP4KE15A | 12.80 | 14.30 | 15.80 | 1 | 21.2 | 19.3 | 5 | 15A |
| SMAJP4KE16A | 13.60 | 15.20 | 16.80 | 1 | 22.5 | 18.2 | 5 | 16A |
| SMAJP4KE18A | 15.30 | 17.10 | 18.90 | 1 | 25.5 | 16.1 | 5 | 18A |
| SMAJP4KE20A | 17.10 | 19.00 | 21.00 | 1 | 27.7 | 14.8 | 5 | 20A |
| SMAJP4KE22A | 18.80 | 20.90 | 23.10 | 1 | 30.6 | 13.4 | 5 | 22A |
| SMAJP4KE24A | 20.50 | 22.80 | 25.20 | 1 | 33.2 | 12.3 | 5 | 24A |
| SMAJP4KE27A | 23.10 | 25.70 | 28.40 | 1 | 37.5 | 10.9 | 5 | 27A |
| SMAJP4KE30A | 25.60 | 28.50 | 31.50 | 1 | 41.4 | 9.9 | 5 | 30A |
| SMAJP4KE33A | 28.20 | 31.40 | 34.70 | 1 | 45.7 | 9.0 | 5 | 33A |
| SMAJP4KE36A | 30.80 | 34.20 | 37.80 | 1 | 49.9 | 8.2 | 5 | 36A |
| SMAJP4KE39A | 33.30 | 37.10 | 41.00 | 1 | 53.9 | 7.6 | 5 | 39A |
| SMAJP4KE43A | 36.80 | 40.90 | 45.20 | 1 | 59.3 | 6.9 | 5 | 43A |
| SMAJP4KE47A | 40.20 | 44.70 | 49.40 | 1 | 64.8 | 6.3 | 5 | 47A |
| SMAJP4KE51A | 43.60 | 48.50 | 53.60 | 1 | 70.1 | 5.8 | 5 | 51A |
| SMAJP4KE56A | 47.80 | 53.20 | 58.80 | 1 | 77.0 | 5.3 | 5 | 56A |
| SMAJP4KE62A | 53.00 | 58.90 | 65.10 | 1 | 85.0 | 4.8 | 5 | 62A |
| SMAJP4KE68A | 58.10 | 64.60 | 71.40 | 1 | 92.0 | 4.5 | 5 | 68A |
| SMAJP4KE75A | 64.10 | 71.30 | 78.80 | 1 | 103.0 | 4.0 | 5 | 75A |
| SMAJP4KE82A | 70.10 | 77.90 | 86.10 | 1 | 113.0 | 3.6 | 5 | 82A |
| SMAJP4KE91A | 77.80 | 86.50 | 95.50 | 1 | 125.0 | 3.3 | 5 | 91A |
| SMAJP4KE100A | 85.50 | 95.00 | 105.00 | 1 | 137.0 | 3.0 | 5 | 100A |
| SMAJP4KE110A | 94.00 | 105.00 | 116.00 | 1 | 152.0 | 2.7 | 5 | 110A |
| SMAJP4KE120A | 102.00 | 114.00 | 126.00 | 1 | 165.0 | 2.5 | 5 | 120A |
| SMAJP4KE130A | 111.00 | 124.00 | 137.00 | 1 | 179.0 | 2.3 | 5 | 130A |
| SMAJP4KE150A | 128.00 | 143.00 | 158.00 | 1 | 207.0 | 2.0 | 5 | 150A |
| SMAJP4KE160A | 136.00 | 152.00 | 168.00 | 1 | 219.0 | 1.9 | 5 | 160A |
| SMAJP4KE170A | 145.00 | 162.00 | 179.00 | 1 | 234.0 | 1.8 | 5 | 170A |
| SMAJP4KE180A | 154.00 | 171.00 | 189.00 | 1 | 246.0 | 1.7 | 5 | 180A |
| SMAJP4KE200A | 171.00 | 190.00 | 210.00 | 1 | 274.0 | 1.5 | 5 | 200A |
| SMAJP4KE220A | 185.00 | 209.00 | 231.00 | 1 | 328.0 | 1.3 | 5 | 220A |
| SMAJP4KE250A | 214.00 | 237.00 | 263.00 | 1 | 344.0 | 1.2 | 5 | 250A |
| SMAJP4KE300A | 256.00 | 285.00 | 315.00 | 1 | 414.0 | 1.0 | 5 | 300A |
| SMAJP4KE350A | 300.00 | 332.00 | 368.00 | 1 | 482.0 | 0.9 | 5 | 350A |
| SMAJP4KE400A | 342.00 | 380.00 | 420.00 | 1 | 548.0 | 0.8 | 5 | 400A |
| SMAJP4KE440A | 376.00 | 418.00 | 462.00 | 1 | 602.0 | 0.7 | 5 | 440A |
| SMAJP4KE480A | 408.00 | 456.00 | 504.00 | 1 | 658.0 | 0.6 | 5 | 480A |
| SMAJP4KE510A | 434.00 | 485.00 | 535.00 | 1 | 698.0 | 0.6 | 5 | 510A |
| SMAJP4KE530A | 477.00 | 503.50 | 556.50 | 1 | 725.0 | 0.6 | 5 | 530A |
| SMAJP4KE540A | 459.00 | 513.00 | 567.00 | 1 | 740.0 | 0.5 | 5 | 540A |
| SMAJP4KE550A | 495.00 | 522.50 | 577.50 | 1 | 760.0 | 0.5 | 5 | 550A |

For bi-directional type having V_{WM} of 10 volts and less, the I_R limit is double.
 The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

SMAJP4KE6.8(C)A THRU SMAJP4KE550(C)A

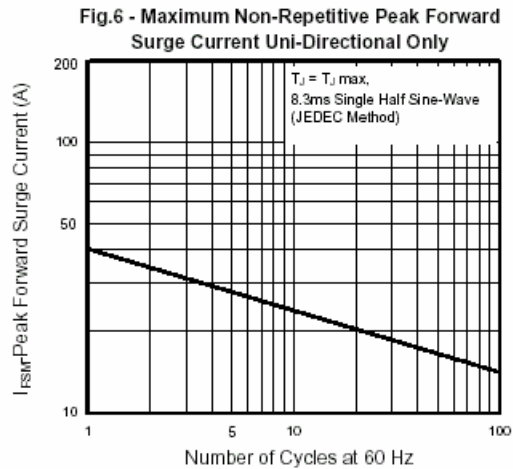
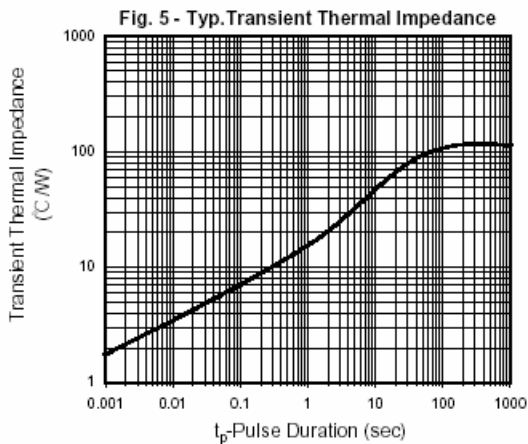
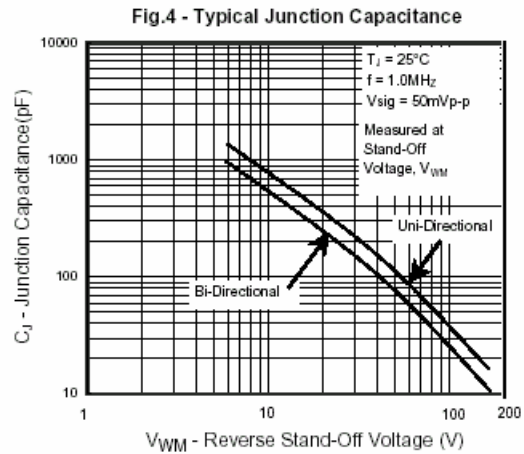
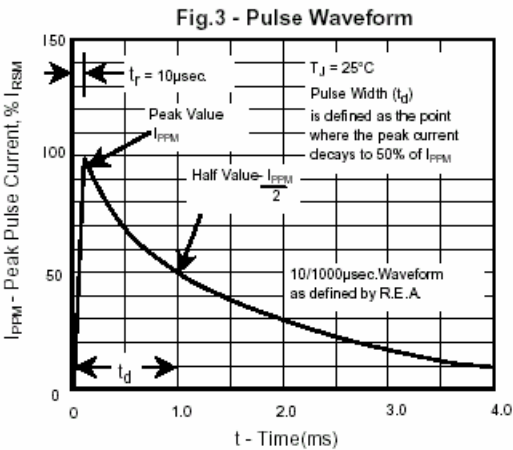
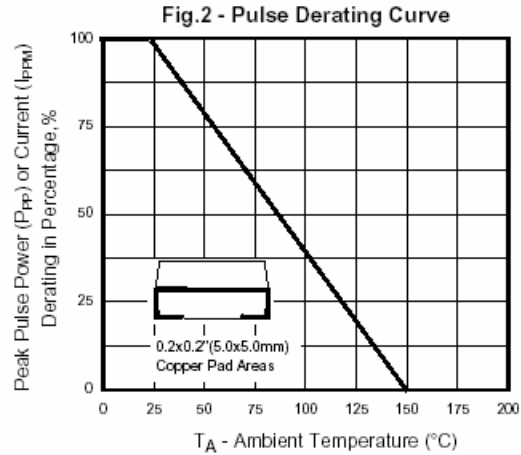
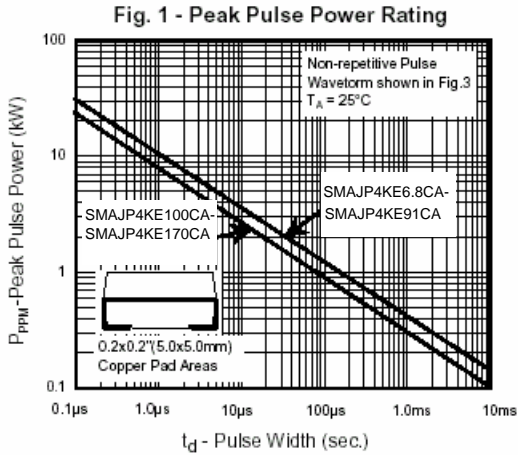
ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS) | BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) | | | MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS) | PEAK PULSE CURRENT I_{PP} (AMPS) | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_b (μ A) | MARKING CODE |
|-----------------|--|--|--------|------------|---|------------------------------------|---|--------------|
| | | MIN | MAX | I_T (mA) | | | | |
| SMAJP4KE6.8CA | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 39.0 | 1000 | 6V8C |
| SMAJP4KE7.5CA | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 36.3 | 500 | 7V5C |
| SMAJP4KE8.2CA | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 33.9 | 200 | 8V2C |
| SMAJP4KE9.1CA | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 30.6 | 50 | 9V1C |
| SMAJP4KE10CA | 8.55 | 9.50 | 10.50 | 1 | 14.5 | 28.3 | 10 | 10C |
| SMAJP4KE11CA | 9.40 | 10.50 | 11.60 | 1 | 15.6 | 26.3 | 5 | 11C |
| SMAJP4KE12CA | 10.20 | 11.40 | 12.60 | 1 | 16.7 | 24.6 | 5 | 12C |
| SMAJP4KE13CA | 11.10 | 12.40 | 13.70 | 1 | 18.2 | 22.5 | 5 | 13C |
| SMAJP4KE15CA | 12.80 | 14.30 | 15.80 | 1 | 21.2 | 19.3 | 5 | 15C |
| SMAJP4KE16CA | 13.60 | 15.20 | 16.80 | 1 | 22.5 | 18.2 | 5 | 16C |
| SMAJP4KE18CA | 15.30 | 17.10 | 18.90 | 1 | 25.5 | 16.1 | 5 | 18C |
| SMAJP4KE20CA | 17.10 | 19.00 | 21.00 | 1 | 27.7 | 14.8 | 5 | 20C |
| SMAJP4KE22CA | 18.80 | 20.90 | 23.10 | 1 | 30.6 | 13.4 | 5 | 22C |
| SMAJP4KE24CA | 20.50 | 22.80 | 25.20 | 1 | 33.2 | 12.3 | 5 | 24C |
| SMAJP4KE27CA | 23.10 | 25.70 | 28.40 | 1 | 37.5 | 10.9 | 5 | 27C |
| SMAJP4KE30CA | 25.60 | 28.50 | 31.50 | 1 | 41.4 | 9.9 | 5 | 30C |
| SMAJP4KE33CA | 28.20 | 31.40 | 34.70 | 1 | 45.7 | 9.0 | 5 | 33C |
| SMAJP4KE36CA | 30.80 | 34.20 | 37.80 | 1 | 49.9 | 8.2 | 5 | 36C |
| SMAJP4KE39CA | 33.30 | 37.10 | 41.00 | 1 | 53.9 | 7.6 | 5 | 39C |
| SMAJP4KE43CA | 36.80 | 40.90 | 45.20 | 1 | 59.3 | 6.9 | 5 | 43C |
| SMAJP4KE47CA | 40.20 | 44.70 | 49.40 | 1 | 64.8 | 6.3 | 5 | 47C |
| SMAJP4KE51CA | 43.60 | 48.50 | 53.60 | 1 | 70.1 | 5.8 | 5 | 51C |
| SMAJP4KE56CA | 47.80 | 53.20 | 58.80 | 1 | 77.0 | 5.3 | 5 | 56C |
| SMAJP4KE62CA | 53.00 | 58.90 | 65.10 | 1 | 85.0 | 4.8 | 5 | 62C |
| SMAJP4KE68CA | 58.10 | 64.60 | 71.40 | 1 | 92.0 | 4.5 | 5 | 68C |
| SMAJP4KE75CA | 64.10 | 71.30 | 78.80 | 1 | 103.0 | 4.0 | 5 | 75C |
| SMAJP4KE82CA | 70.10 | 77.90 | 86.10 | 1 | 113.0 | 3.6 | 5 | 82C |
| SMAJP4KE91CA | 77.80 | 86.50 | 95.50 | 1 | 125.0 | 3.3 | 5 | 91C |
| SMAJP4KE100CA | 85.50 | 95.00 | 105.00 | 1 | 137.0 | 3.0 | 5 | 100C |
| SMAJP4KE110CA | 94.00 | 105.00 | 116.00 | 1 | 152.0 | 2.7 | 5 | 110C |
| SMAJP4KE120CA | 102.00 | 114.00 | 126.00 | 1 | 165.0 | 2.5 | 5 | 120C |
| SMAJP4KE130CA | 111.00 | 124.00 | 137.00 | 1 | 179.0 | 2.3 | 5 | 130C |
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| SMAJP4KE160CA | 136.00 | 152.00 | 168.00 | 1 | 219.0 | 1.9 | 5 | 160C |
| SMAJP4KE170CA | 145.00 | 162.00 | 179.00 | 1 | 234.0 | 1.8 | 5 | 170C |
| SMAJP4KE180CA | 154.00 | 171.00 | 189.00 | 1 | 246.0 | 1.7 | 5 | 180C |
| SMAJP4KE200CA | 171.00 | 190.00 | 210.00 | 1 | 274.0 | 1.5 | 5 | 200C |
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| SMAJP4KE250CA | 214.00 | 237.00 | 263.00 | 1 | 344.0 | 1.2 | 5 | 250C |
| SMAJP4KE300CA | 256.00 | 285.00 | 315.00 | 1 | 414.0 | 1.0 | 5 | 300C |
| SMAJP4KE350CA | 300.00 | 332.00 | 368.00 | 1 | 482.0 | 0.9 | 5 | 350C |
| SMAJP4KE400CA | 342.00 | 380.00 | 420.00 | 1 | 548.0 | 0.8 | 5 | 400C |
| SMAJP4KE440CA | 376.00 | 418.00 | 462.00 | 1 | 602.0 | 0.7 | 5 | 440C |
| SMAJP4KE480CA | 408.00 | 456.00 | 504.00 | 1 | 658.0 | 0.6 | 5 | 480C |
| SMAJP4KE510CA | 434.00 | 485.00 | 535.00 | 1 | 698.0 | 0.6 | 5 | 510C |
| SMAJP4KE530CA | 477.00 | 503.50 | 556.50 | 1 | 725.0 | 0.6 | 5 | 530C |
| SMAJP4KE540CA | 459.00 | 513.00 | 567.00 | 1 | 740.0 | 0.5 | 5 | 540C |
| SMAJP4KE550CA | 495.00 | 522.50 | 577.50 | 1 | 760.0 | 0.5 | 5 | 550C |

For bi-directional type having V_{rwm} of 10 volts and less, the I_R limit is double.
The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

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Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)





Micro Commercial Components

Ordering Information

| | |
|------------------|-----------------------|
| Device | Packing |
| (Part Number)-TP | Tape&Reel; 5Kpcs/Reel |

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