

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

### STAND-OFF VOLTAGE - 5.0 TO 440 Volts

### 400 Watt Peak Pulse Power

\*\* \* 标注为常用型号

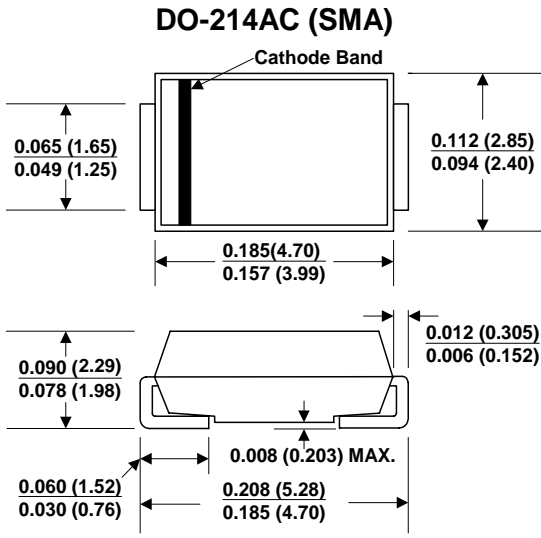
\*\* \* Stand for commonly used models

| SMAJ PART NUMBER |            | DEVICE MARKING CODE |    | REVERSE STAND-OFF VOLTAGE<br>$V_{RWM}(V)$ | BREAKDOWN VOLTAGE<br>$V_{BR}(V)$<br>MIN. @ $I_T$ | BREAKDOWN VOLTAGE<br>$V_{BR}(V)$<br>MAX. @ $I_T$ | TEST CURRENT<br>$I_T$ (mA) | MAXIMUM CLAMPING VOLTAGE<br>@ $I_{pp}$ Vc(V) | PEAK PULSE CURRENT<br>$I_{pp}$ (A) | REVERSE LEAKAGE<br>@ $V_{RWM}$<br>$I_R(\mu A)$ |
|------------------|------------|---------------------|----|---|--|--|----------------------------|--|------------------------------------|--|
| UNI-POLAR        | BI-POLAR   | UNI                 | BI |   |  |  |                            |  |                                    |  |
| SMAJ5.0A         | SMAJ5.0CA  | AE                  | WE | 5.0                                       | 6.40   | 7.00   | 10                         | 9.2  | 43.5                               | 500  |
| *SMAJ6.0A        | *SMAJ6.0CA | AG                  | WG | 6.0                                       | 6.67   | 7.37   | 10                         | 10.3   | 38.8                               | 500  |
| SMAJ6.5A         | SMAJ6.5CA  | AK                  | WK | 6.5                                       | 7.22   | 7.98   | 10                         | 11.2   | 35.7                               | 300  |
| SMAJ7.0A         | SMAJ7.0CA  | AM                  | WM | 7.0                                       | 7.78   | 8.60   | 10                         | 12.0   | 33.3                               | 200  |
| SMAJ7.5A         | SMAJ7.5CA  | AP                  | WP | 7.5                                       | 8.33   | 9.21   | 1                          | 12.9   | 31.0                               | 100  |
| *SMAJ8.0A        | *SMAJ8.0CA | AR                  | WR | 8.0                                       | 8.89   | 9.83   | 1                          | 13.6   | 29.4                               | 50   |
| SMAJ8.5A         | SMAJ8.5CA  | AT                  | WT | 8.5                                       | 9.44   | 10.40  | 1                          | 14.4   | 27.8                               | 20   |
| SMAJ9.0A         | SMAJ9.0CA  | AV                  | WV | 9.0                                       | 10.00  | 11.10  | 1                          | 15.4   | 26.0                               | 10   |
| SMAJ10A          | SMAJ10CA   | AX                  | WX | 10.0                                      | 11.10  | 12.30  | 1                          | 17.0   | 23.5                               | 5  |
| SMAJ11A          | SMAJ11CA   | AZ                  | WZ | 11.0                                      | 12.20  | 13.50  | 1                          | 18.2   | 22.0                               | 1  |
| SMAJ12A          | *SMAJ12CA  | BE                  | XE | 12.0                                      | 13.30  | 14.70  | 1                          | 19.9   | 20.1                               | 1  |
| SMAJ13A          | SMAJ13CA   | BG                  | XG | 13.0                                      | 14.40  | 15.90  | 1                          | 21.5   | 18.6                               | 1  |
| SMAJ14A          | SMAJ14CA   | BK                  | XK | 14.0                                      | 15.60  | 17.20  | 1                          | 23.2   | 17.2                               | 1  |
| SMAJ15A          | *SMAJ15CA  | BM                  | XM | 15.0                                      | 16.70  | 18.50  | 1                          | 24.4   | 16.4                               | 1  |
| SMAJ16A          | SMAJ16CA   | BP                  | XP | 16.0                                      | 17.80  | 19.70  | 1                          | 26.0   | 15.4                               | 1  |
| SMAJ17A          | SMAJ17CA   | BR                  | XR | 17.0                                      | 18.90  | 20.90  | 1                          | 27.6   | 14.5                               | 1  |
| SMAJ18A          | *SMAJ18CA  | BT                  | XT | 18.0                                      | 20.00  | 22.10  | 1                          | 29.2   | 13.7                               | 1  |
| SMAJ20A          | SMAJ20CA   | BV                  | XV | 20.0                                      | 22.20  | 24.50  | 1                          | 32.4   | 12.3                               | 1  |
| SMAJ22A          | SMAJ22CA   | BX                  | XY | 22.0                                      | 24.40  | 26.90  | 1                          | 35.5   | 11.3                               | 1  |
| SMAJ24A          | SMAJ24CA   | BZ                  | XZ | 24.0                                      | 26.70  | 29.50  | 1                          | 38.9   | 10.3                               | 1  |
| SMAJ26A          | SMAJ26CA   | CE                  | YE | 26.0                                      | 28.90  | 31.90  | 1                          | 42.1   | 9.5                                | 1  |
| SMAJ28A          | SMAJ28CA   | CG                  | YG | 28.0                                      | 31.10  | 34.40  | 1                          | 45.4   | 8.8                                | 1  |
| SMAJ30A          | *SMAJ30CA  | CK                  | YK | 30.0                                      | 33.30  | 36.80  | 1                          | 48.4   | 8.3                                | 1  |
| SMAJ33A          | SMAJ33CA   | CM                  | YM | 33.0                                      | 36.70  | 40.60  | 1                          | 53.3   | 7.5                                | 1  |
| SMAJ36A          | SMAJ36CA   | CP                  | YP | 36.0                                      | 40.00  | 44.20  | 1                          | 58.1   | 6.9                                | 1  |
| SMAJ40A          | *SMAJ40CA  | CR                  | YR | 40.0                                      | 44.40  | 49.10  | 1                          | 64.5   | 6.2                                | 1  |
| SMAJ43A          | *SMAJ43CA  | CT                  | YT | 43.0                                      | 47.80  | 52.80  | 1                          | 69.4   | 5.8                                | 1  |
| SMAJ45A          | SMAJ45CA   | CV                  | YV | 45.0                                      | 50.00  | 55.30  | 1                          | 72.7   | 5.5                                | 1  |
| SMAJ48A          | SMAJ48CA   | CX                  | YX | 48.0                                      | 53.30  | 58.90  | 1                          | 77.4   | 5.2                                | 1  |
| SMAJ51A          | SMAJ51CA   | CZ                  | YZ | 51.0                                      | 56.70  | 62.70  | 1                          | 82.4   | 4.9                                | 1  |
| SMAJ54A          | SMAJ54CA   | RE                  | ZE | 54.0                                      | 60.00  | 66.30  | 1                          | 87.1   | 4.6                                | 1  |
| SMAJ58A          | SMAJ58CA   | RG                  | ZG | 58.0                                      | 64.40  | 71.20  | 1                          | 93.6   | 4.3                                | 1  |
| SMAJ60A          | SMAJ60CA   | RK                  | ZK | 60.0                                      | 66.70  | 73.70  | 1                          | 96.8   | 4.1                                | 1  |
| SMAJ64A          | SMAJ64CA   | RM                  | ZM | 64.0                                      | 71.10  | 78.60  | 1                          | 103.0  | 3.9                                | 1  |
| SMAJ70A          | SMAJ70CA   | RP                  | ZP | 70.0                                      | 77.80  | 86.00  | 1                          | 113.0  | 3.5                                | 1  |
| SMAJ75A          | SMAJ75CA   | RR                  | ZR | 75.0                                      | 83.30  | 92.10  | 1                          | 121.0  | 3.3                                | 1  |
| SMAJ78A          | SMAJ78CA   | RT                  | ZT | 78.0                                      | 86.70  | 95.80  | 1                          | 126.0  | 3.2                                | 1  |
| SMAJ85A          | SMAJ85CA   | RV                  | ZV | 85.0                                      | 94.40  | 104.00   | 1                          | 137.0  | 2.9                                | 1  |
| SMAJ90A          | SMAJ90CA   | RX                  | ZX | 90.0                                      | 100.00   | 111.00   | 1                          | 146.0  | 2.7                                | 1  |
| SMAJ100A         | SMAJ100CA  | RZ                  | ZZ | 100.0                                     | 111.00   | 123.00   | 1                          | 162.0  | 2.5                                | 1  |
| SMAJ110A         | SMAJ110CA  | SE                  | VE | 110.0                                     | 122.00   | 135.00   | 1                          | 177.0  | 2.3                                | 1  |
| SMAJ120A         | SMAJ120CA  | SG                  | VG | 120.0                                     | 133.00   | 147.00   | 1                          | 193.0  | 2.1                                | 1  |
| SMAJ130A         | SMAJ130CA  | SK                  | VK | 130.0                                     | 144.00   | 159.00   | 1                          | 209.0  | 1.9                                | 1  |
| SMAJ150A         | SMAJ150CA  | SM                  | VM | 150.0                                     | 167.00   | 185.00   | 1                          | 243.0  | 1.6                                | 1  |
| SMAJ160A         | SMAJ160CA  | SP                  | VP | 160.0                                     | 178.00   | 197.00   | 1                          | 259.0  | 1.5                                | 1  |
| SMAJ170A         | SMAJ170CA  | SR                  | VR | 170.0                                     | 189.00   | 209.00   | 1                          | 275.0  | 1.5                                | 1  |
| SMAJ180A         | SMAJ180CA  | ST                  | VT | 180.0                                     | 201.00   | 222.00   | 1                          | 292.0  | 1.4                                | 1  |
| SMAJ200A         | SMAJ200CA  | SV                  | VV | 200.0                                     | 224.00   | 247.00   | 1                          | 324.0  | 1.2                                | 1  |
| SMAJ220A         | SMAJ220CA  | SX                  | VX | 220.0                                     | 246.00   | 272.00   | 1                          | 356.0  | 1.1                                | 1  |
| SMAJ250A         | SMAJ250CA  | SZ                  | VZ | 250.0                                     | 279.00   | 309.00   | 1                          | 405.0  | 1.0                                | 1  |
| SMAJ300A         | SMAJ300CA  | TE                  | UE | 300.0                                     | 335.00   | 371.00   | 1                          | 486.0  | 0.8                                | 1  |
| SMAJ350A         | SMAJ350CA  | TG                  | UG | 350.0                                     | 391.00   | 432.00   | 1                          | 567.0  | 0.7                                | 1  |
| SMAJ400A         | *SMAJ400CA | TK                  | UK | 400.0                                     | 447.00   | 494.00   | 1                          | 648.0  | 0.6                                | 1  |
| SMAJ440A         | *SMAJ440CA | TM                  | UM | 440.0                                     | 492.00   | 543.00   | 1                          | 713.0  | 0.6                                | 1  |

 For bidirectional type having  $V_{RWM}$  of 10 volts and less, the IR limit is double.

 For parts with A, the VBR is  $\pm 5\%$

**SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR**  
**STAND-OFF VOLTAGE - 5.0 TO 440 Volts**  
**400 Watt Peak Pulse Power**



Dimensions in inches and(millimeters)

**FEATURES**

- ⊙ For surface mounted applications in order to optimize board space
- ⊙ Low profile package
- ⊙ Built-in strain relief
- ⊙ Glass passivated junction
- ⊙ Low inductance
- ⊙ Excellent clamping capability
- ⊙ Repetition Rate (duty cycle):0.01%
- ⊙ Fast response time: typically less than 1.0ps from 0 Volts to V(BR) for unidirectional types
- ⊙ Typical IR less than 1μA above 10V
- ⊙ High Temperature soldering: 260°C/10 seconds at terminals
- ⊙ Plastic package has Underwriters Laboratory Flammability 94V-O
- ⊙ Pb-free plated

**MECHANICAL DATA**

**Case:** JEDEC DO-214AC. Molded plastic over glass passivated junction

**Terminal:** Solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denoted positive end (cathode) except Bidirectional

**Standard Packaging:** 12mm tape (EIA STD RS-481)

**Weight:** 0.002 ounce, 0.061 gram

**DEVICES FOR BIPOLAR APPLICATION**

For Bidirectional use C or CA Suffix for types SMAJ5.0 thru types SMAJ170 (e.g. SMAJ5.0C , SMAJ170CA)  
Electrical characteristics apply in both directions

**MAXIMUM RATINGS AND CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING   | SYMBOL                            | VALUE       | UNITS |
|--|-----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2 ,FIG.1)                                       | P <sub>PPM</sub>                  | Minimum 400 | Watts |
| Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)   | I <sub>PPM</sub>                  | SEE TABLE 1 | Amps  |
| Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2,3) | I <sub>FSM</sub>                  | 40          | Amps  |
| Operating junction and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 | °C    |

Notes :

1.Non-repetitive current pulse , per Fig. 3 and derated above T<sub>A</sub> = 25°C per Fig. 2 .

2.Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal

3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

## RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Peak Pulse Power Rating

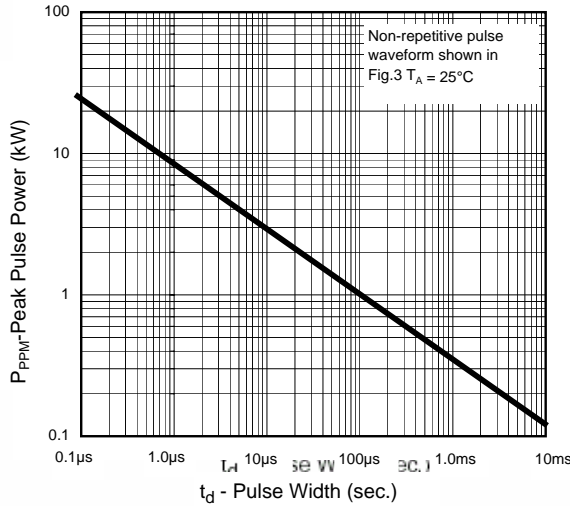


Fig.2 - Pulse Derating Curve

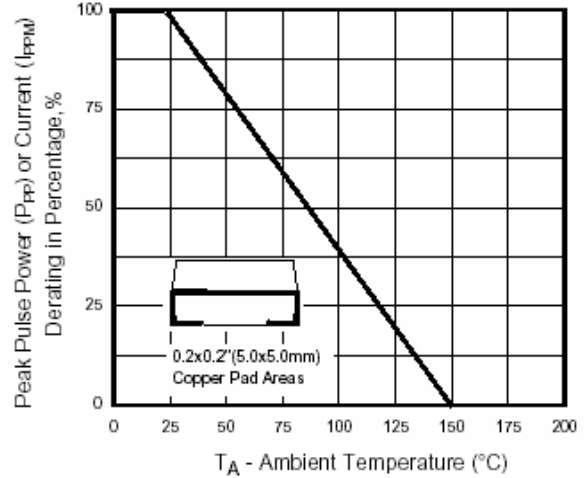


Fig.3 - Pulse Waveform

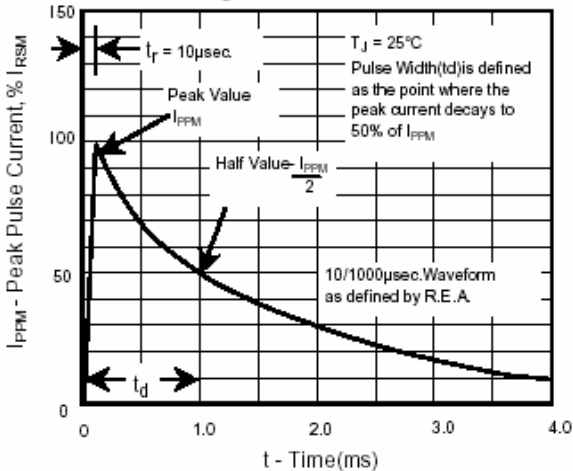


Fig.4 - Typical Junction Capacitance

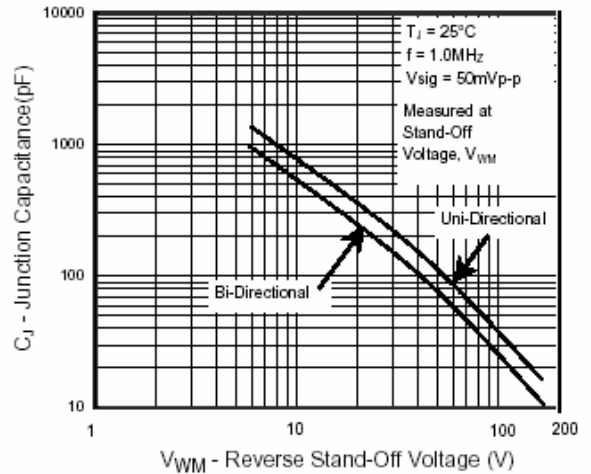


Fig. 5 - Typ. Transient Thermal Impedance

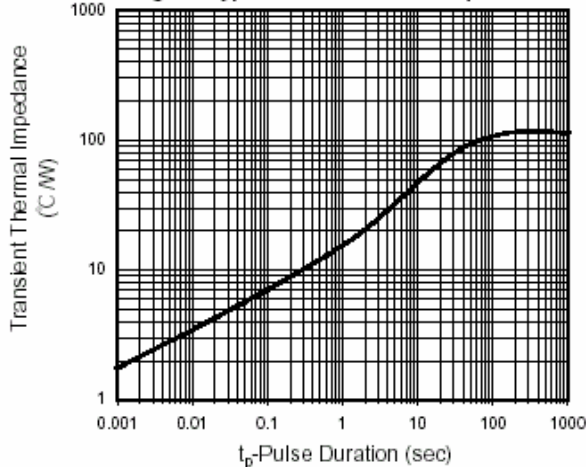
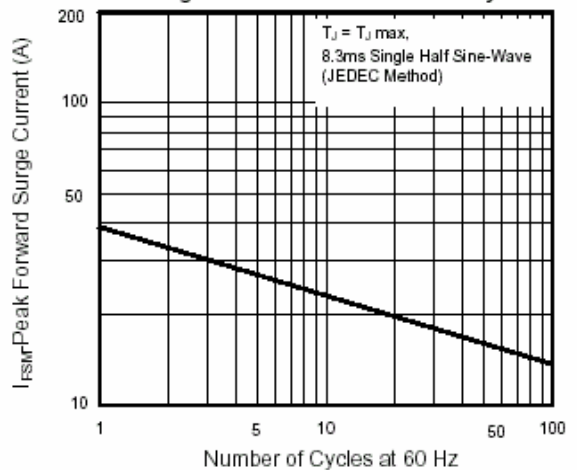


Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



单击下面可查看定价，库存，交付和生命周期等信息

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