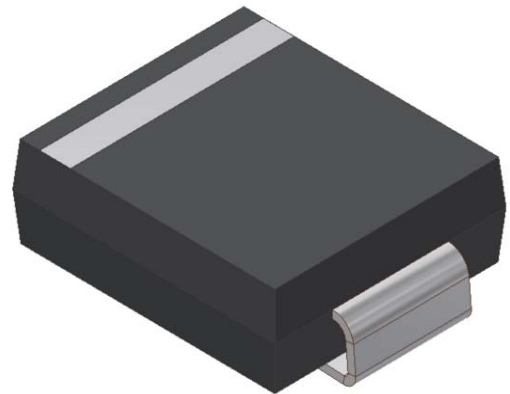


# 5.0SMDJ\*\*\* ASeries

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR  
VOLTAGE 11 TO 170 Volts,5000 Watt Peak Pulse Power

## 1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- 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
- Typical IR less than 1uA above 10V
- High temperature soldering guaranteed:  
260°C/10 seconds,
- Weight: 0.26g



## 2.MECHANICAL DATA

**Case:** JEDEC DO-214AB (SMC)

**Terminals:** Plated leads, solderable per MIL-STD-202, Method 208

**Polarity:** With Color band denoted cathode

**Mounting Position:** Any

## 3. MAXIMUM RATINGS(Ta = 25°C)

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| RATING                                                                         | VALUE       | UNITS |
|--------------------------------------------------------------------------------|-------------|-------|
| Peak Power Dissipation at $T_A=25^{\circ}\text{C}$ , $T_P=1\text{ms}$ (Note 1) | Minimum5000 | Watts |
| Steady State Power Dissipation at $T_L=75^{\circ}\text{C}$ (Note 2)            | 6.5         | Watts |
| Operating Temperature Range                                                    | -55 to +150 | °C    |
| Storage Temperature Range                                                      | -55 to +150 | °C    |

NOTES:

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^{\circ}\text{C}$  per Fig. 2.
2. Mounted on 0.31 x 0.31" (8.0 x 8.0mm) copper pads to each terminal.

## 5.0SMDJ\*\*\* ASeries

| Uni-<br>Directional<br>Part<br>Number | Device marking<br>code | Reverse<br>Stand-off<br>Voltage<br>VRWM (V) | Breakdown<br>Voltage<br>VBR (V)<br>Min. @IT | Breakdown<br>Voltage<br>VBR (V)<br>Max. @IT | Test<br>Current<br>IT<br>(mA) | Maximum<br>Clamping<br>Voltage<br>@IPP VC (V) | Peak<br>Pulse<br>Current<br>Ipp (A) | Reverse<br>Leakage<br>@VRWM<br>IR (uA) |
|---------------------------------------|------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|-------------------------------|-----------------------------------------------|-------------------------------------|----------------------------------------|
| 5.0SMDJ11A                            | 5.0SMDJ11A             | 11                                          | 12.2                                        | 13.5                                        | 10                            | 18.2                                          | 275.0                               | 800                                    |
| 5.0SMDJ12A                            | 5.0SMDJ12A             | 12                                          | 13.3                                        | 14.7                                        | 10                            | 19.9                                          | 252.0                               | 800                                    |
| 5.0SMDJ13A                            | 5.0SMDJ13A             | 13                                          | 14.4                                        | 15.9                                        | 10                            | 21.5                                          | 233.0                               | 500                                    |
| 5.0SMDJ14A                            | 5.0SMDJ14A             | 14                                          | 15.6                                        | 17.2                                        | 10                            | 23.2                                          | 216.0                               | 200                                    |
| 5.0SMDJ15A                            | 5.0SMDJ15A             | 15                                          | 16.7                                        | 18.5                                        | 1                             | 24.4                                          | 205.0                               | 100                                    |
| 5.0SMDJ16A                            | 5.0SMDJ16A             | 16                                          | 17.8                                        | 19.7                                        | 1                             | 26                                            | 193.0                               | 50                                     |
| 5.0SMDJ17A                            | 5.0SMDJ17A             | 17                                          | 18.9                                        | 20.9                                        | 1                             | 27.6                                          | 181.0                               | 20                                     |
| 5.0SMDJ18A                            | 5.0SMDJ18A             | 18                                          | 20                                          | 22.1                                        | 1                             | 29.2                                          | 172.0                               | 10                                     |
| 5.0SMDJ20A                            | 5.0SMDJ20A             | 20                                          | 22.2                                        | 24.5                                        | 1                             | 32.4                                          | 155.0                               | 5                                      |
| 5.0SMDJ22A                            | 5.0SMDJ22A             | 22                                          | 24.4                                        | 26.9                                        | 1                             | 35.5                                          | 141.0                               | 5                                      |
| 5.0SMDJ24A                            | 5.0SMDJ24A             | 24                                          | 26.7                                        | 29.5                                        | 1                             | 38.9                                          | 129.0                               | 2                                      |
| 5.0SMDJ26A                            | 5.0SMDJ26A             | 26                                          | 28.9                                        | 31.9                                        | 1                             | 42.1                                          | 119.0                               | 2                                      |
| 5.0SMDJ28A                            | 5.0SMDJ28A             | 28                                          | 31.1                                        | 34.4                                        | 1                             | 45.4                                          | 110.0                               | 2                                      |
| 5.0SMDJ30A                            | 5.0SMDJ30A             | 30                                          | 33.3                                        | 36.8                                        | 1                             | 48.4                                          | 103.0                               | 2                                      |
| 5.0SMDJ33A                            | 5.0SMDJ33A             | 33                                          | 36.7                                        | 40.6                                        | 1                             | 53.3                                          | 93.9                                | 2                                      |
| 5.0SMDJ36A                            | 5.0SMDJ36A             | 36                                          | 40                                          | 44.2                                        | 1                             | 58.1                                          | 86.1                                | 2                                      |
| 5.0SMDJ40A                            | 5.0SMDJ40A             | 40                                          | 44.4                                        | 49.1                                        | 1                             | 64.5                                          | 77.6                                | 2                                      |
| 5.0SMDJ43A                            | 5.0SMDJ43A             | 43                                          | 47.8                                        | 52.8                                        | 1                             | 69.4                                          | 72.1                                | 2                                      |
| 5.0SMDJ45A                            | 5.0SMDJ45A             | 45                                          | 50                                          | 55.3                                        | 1                             | 72.7                                          | 68.8                                | 2                                      |
| 5.0SMDJ48A                            | 5.0SMDJ48A             | 48                                          | 53.3                                        | 58.9                                        | 1                             | 77.4                                          | 64.7                                | 2                                      |
| 5.0SMDJ51A                            | 5.0SMDJ51A             | 51                                          | 56.7                                        | 62.7                                        | 1                             | 82.4                                          | 60.7                                | 2                                      |
| 5.0SMDJ54A                            | 5.0SMDJ54A             | 54                                          | 60                                          | 66.3                                        | 1                             | 87.1                                          | 57.5                                | 2                                      |
| 5.0SMDJ58A                            | 5.0SMDJ58A             | 58                                          | 64.4                                        | 71.2                                        | 1                             | 93.6                                          | 53.5                                | 2                                      |
| 5.0SMDJ60A                            | 5.0SMDJ60A             | 60                                          | 66.7                                        | 73.7                                        | 1                             | 96.8                                          | 51.7                                | 2                                      |
| 5.0SMDJ64A                            | 5.0SMDJ64A             | 64                                          | 71.1                                        | 78.6                                        | 1                             | 103                                           | 48.6                                | 2                                      |
| 5.0SMDJ70A                            | 5.0SMDJ70A             | 70                                          | 77.8                                        | 86                                          | 1                             | 113                                           | 44.3                                | 2                                      |
| 5.0SMDJ75A                            | 5.0SMDJ75A             | 75                                          | 83.3                                        | 92.1                                        | 1                             | 121                                           | 41.4                                | 2                                      |
| 5.0SMDJ78A                            | 5.0SMDJ78A             | 78                                          | 86.7                                        | 95.8                                        | 1                             | 126                                           | 39.7                                | 2                                      |
| 5.0SMDJ85A                            | 5.0SMDJ85A             | 85                                          | 94.4                                        | 104                                         | 1                             | 137                                           | 36.5                                | 2                                      |
| 5.0SMDJ90A                            | 5.0SMDJ90A             | 90                                          | 100                                         | 111                                         | 1                             | 146                                           | 34.3                                | 2                                      |
| 5.0SMDJ100A                           | 5.0SMDJ100A            | 100                                         | 111                                         | 123                                         | 1                             | 162                                           | 30.9                                | 2                                      |
| 5.0SMDJ110A                           | 5.0SMDJ110A            | 110                                         | 122                                         | 135                                         | 1                             | 177                                           | 28.3                                | 2                                      |
| 5.0SMDJ120A                           | 5.0SMDJ120A            | 120                                         | 133                                         | 147                                         | 1                             | 193                                           | 26.0                                | 2                                      |
| 5.0SMDJ130A                           | 5.0SMDJ130A            | 130                                         | 144                                         | 159                                         | 1                             | 209                                           | 24.0                                | 2                                      |
| 5.0SMDJ150A                           | 5.0SMDJ150A            | 150                                         | 167                                         | 185                                         | 1                             | 243                                           | 20.6                                | 2                                      |
| 5.0SMDJ160A                           | 5.0SMDJ160A            | 160                                         | 178                                         | 197                                         | 1                             | 259                                           | 19.3                                | 2                                      |
| 5.0SMDJ170A                           | 5.0SMDJ170A            | 170                                         | 189                                         | 209                                         | 1                             | 275                                           | 18.2                                | 2                                      |

## 5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1-Peak Pulse Power Rating Curve

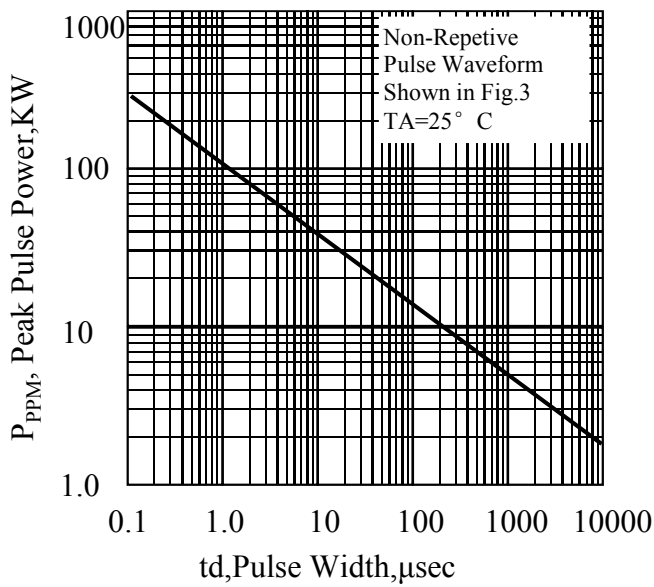


Fig. 2-Pulse Derating Curve

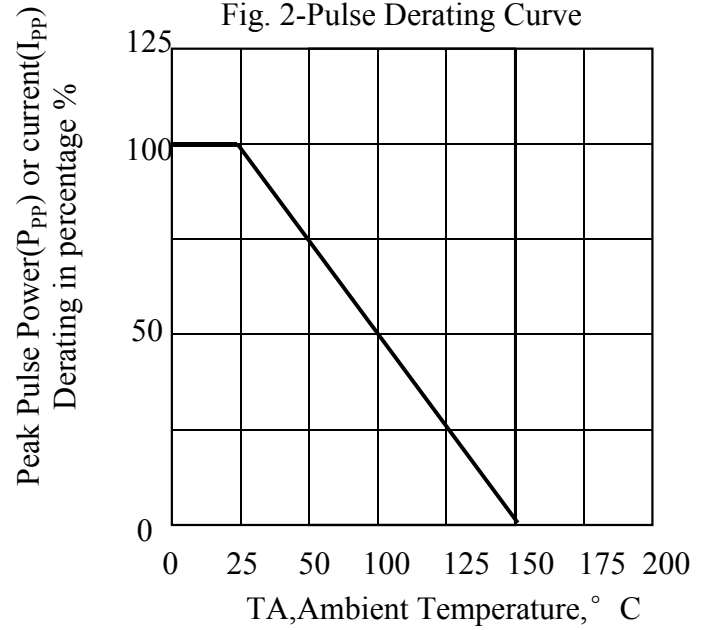
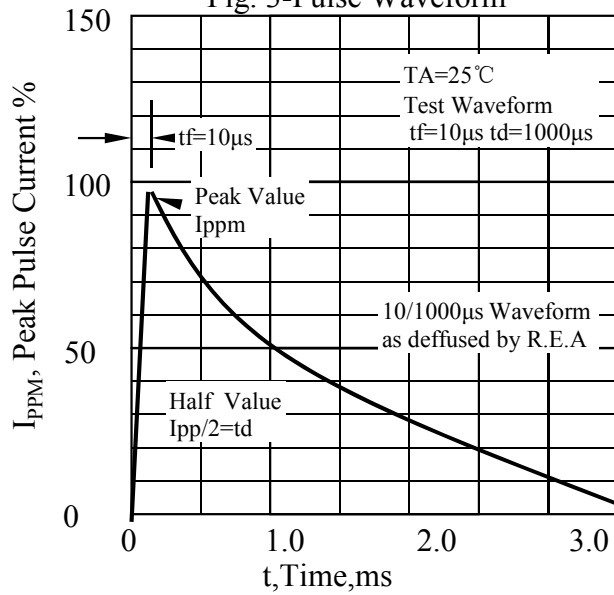
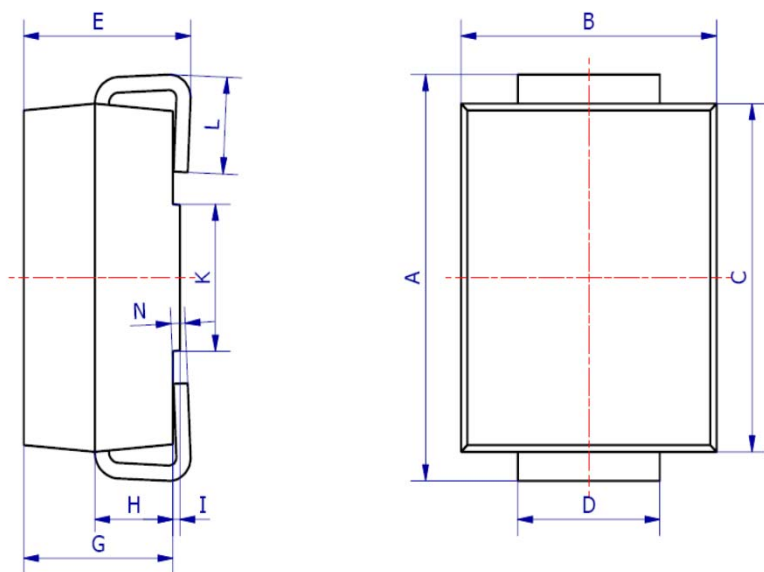


Fig. 3-Pulse Waveform

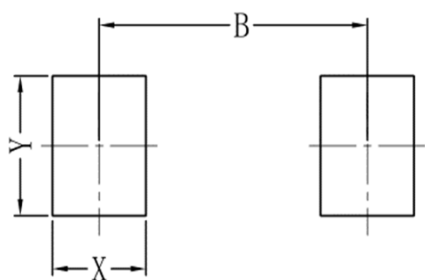


## 6.OUTLINE AND DIMENSIONS



| SMC                  |      |      |      |
|----------------------|------|------|------|
| DIM                  | Min  | Max  | Typ. |
| A                    | 7.70 | 8.30 | 8.00 |
| B                    | 5.85 | 6.25 | 6.05 |
| C                    | 6.65 | 7.05 | 6.85 |
| D                    | 2.80 | 3.20 | 3.00 |
| E                    | 2.45 | 2.85 | 2.65 |
| G                    | 2.10 | 2.50 | 2.30 |
| H                    | 1.00 | 1.40 | 1.20 |
| I                    | 0.05 | 0.15 | 0.10 |
| K                    | 4.30 | 4.70 | 4.50 |
| L                    | 1.00 | 1.50 | 1.25 |
| N                    | 0.10 | 0.30 | 0.20 |
| All Dimensions in mm |      |      |      |

## 7.SOLDERING FOOTPRINT



| SMC |      |
|-----|------|
| DIM | (mm) |
| X   | 1.60 |
| Y   | 3.30 |
| B   | 6.60 |