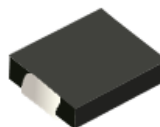


**Transient Voltage Suppressor  
5.0SMDJ Series****1. Features**

- Low profile package
- Ideal for automated placement
- 5000 Watt peak pulse power capability with a 10/1000 $\mu$ s waveform
- For surface mounted applications to optimize board space
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- RoHS and HF Compliant

**DO-214AB(SMC)**

DO-214AB(SMC)



Uni-directional



Bi-directional

**2. Applications**

- Power supply protection
- Automotive application
- Industrial application
- Power management

**3. Maximum Ratings and Thermal Considerations (T<sub>A</sub>=25°C)**

| Parameter                                                                               | Symbol           | Value       | Units |
|-----------------------------------------------------------------------------------------|------------------|-------------|-------|
| Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (Note1,Note2)                  | P <sub>PPM</sub> | 5000        | W     |
| Steady State Power Dissipation at T <sub>L</sub> =50°C,Lead lengths.375"(9.5mm) (Note2) | P <sub>D</sub>   | 6.5         | W     |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)                        | I <sub>FSM</sub> | 300         | A     |
| Maximum Instantaneous Forward Voltage at 100A for Unidirectional Only                   | V <sub>F</sub>   | 5.0         | V     |
| Operating Junction Temperature                                                          | T <sub>J</sub>   | -65 to +150 | °C    |
| Storage Temperature Range                                                               | T <sub>STG</sub> | -65 to +150 | °C    |
| Junction to Ambient on printed circuit                                                  | R <sub>θJA</sub> | 75          | °C/W  |

Notes :

1. Non-repetitive current pulse, T<sub>A</sub> =25°C.
2. Mounted on 5.0mm\*5.0mm (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional component only, duty cycle = 4per minute maximum

|                                                                                                                      |  |  |  |  |  |                |                       |             |            |
|----------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|----------------|-----------------------|-------------|------------|
|  <b>FUZETEC TECHNOLOGY CO., LTD.</b> |  |  |  |  |  | <b>NO.</b>     | <b>5.0SMDJ Series</b> |             |            |
| <b>Product Specification and Approval Sheet</b>                                                                      |  |  |  |  |  | <b>Version</b> | <b>P4</b>             | <b>Page</b> | <b>2/6</b> |

#### 4. Electrical Characteristics (TA=25°C)

| Part Number |              | Device Marking Code |      | Reverse Stand-off Voltage | Breakdown Voltage Min. @I <sub>r</sub> | Breakdown Voltage Max. @I <sub>r</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @ V <sub>RWM</sub> |
|-------------|--------------|---------------------|------|---------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------------|---------------------|------------------------------------|
| Uni-Polar   | Bi-Polar     | Uni                 | Bi   | V <sub>RWM</sub> (V)      | V <sub>BR</sub> (V)                    | V <sub>BR</sub> (V)                    | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>r</sub> (uA)                |
| 5.0SMDJ11A  | 5.0SMDJ11CA  | 5PEN                | 5BEN | 11.0                      | 12.2                                   | 13.5                                   | 10                  | 18.2                                      | 275.0               | 800                                |
| 5.0SMDJ12A  | 5.0SMDJ12CA  | 5PEP                | 5BEP | 12.0                      | 13.2                                   | 14.7                                   | 10                  | 19.9                                      | 252.0               | 800                                |
| 5.0SMDJ13A  | 5.0SMDJ13CA  | 5PEQ                | 5BEQ | 13.0                      | 14.4                                   | 15.9                                   | 10                  | 21.5                                      | 233.0               | 500                                |
| 5.0SMDJ14A  | 5.0SMDJ14CA  | 5PER                | 5BER | 14.0                      | 15.6                                   | 17.2                                   | 10                  | 23.2                                      | 216.0               | 200                                |
| 5.0SMDJ15A  | 5.0SMDJ15CA  | 5PES                | 5BES | 15.0                      | 16.7                                   | 18.5                                   | 1                   | 24.4                                      | 205.0               | 100                                |
| 5.0SMDJ16A  | 5.0SMDJ16CA  | 5PET                | 5BET | 16.0                      | 17.8                                   | 19.7                                   | 1                   | 26.0                                      | 193.0               | 50                                 |
| 5.0SMDJ17A  | 5.0SMDJ17CA  | 5PEU                | 5BEU | 17.0                      | 18.9                                   | 20.9                                   | 1                   | 27.6                                      | 181.0               | 20                                 |
| 5.0SMDJ18A  | 5.0SMDJ18CA  | 5PEV                | 5BEV | 18.0                      | 20.0                                   | 22.1                                   | 1                   | 29.2                                      | 172.0               | 10                                 |
| 5.0SMDJ20A  | 5.0SMDJ20CA  | 5PEW                | 5BEW | 20.0                      | 22.2                                   | 24.5                                   | 1                   | 32.4                                      | 155.0               | 5                                  |
| 5.0SMDJ22A  | 5.0SMDJ22CA  | 5PEX                | 5BEX | 22.0                      | 24.4                                   | 26.9                                   | 1                   | 35.5                                      | 141.0               | 5                                  |
| 5.0SMDJ24A  | 5.0SMDJ24CA  | 5PEZ                | 5BEZ | 24.0                      | 26.7                                   | 29.5                                   | 1                   | 38.9                                      | 129.0               | 5                                  |
| 5.0SMDJ26A  | 5.0SMDJ26CA  | 5PFE                | 5BFE | 26.0                      | 28.9                                   | 31.9                                   | 1                   | 42.1                                      | 119.0               | 5                                  |
| 5.0SMDJ28A  | 5.0SMDJ28CA  | 5PFG                | 5BFG | 28.0                      | 31.1                                   | 34.4                                   | 1                   | 45.4                                      | 110.0               | 5                                  |
| 5.0SMDJ30A  | 5.0SMDJ30CA  | 5PFK                | 5BFK | 30.0                      | 33.3                                   | 36.8                                   | 1                   | 48.4                                      | 103.0               | 5                                  |
| 5.0SMDJ33A  | 5.0SMDJ33CA  | 5PFM                | 5BFM | 33.0                      | 36.7                                   | 40.6                                   | 1                   | 53.3                                      | 93.9                | 5                                  |
| 5.0SMDJ36A  | 5.0SMDJ36CA  | 5PFP                | 5BFP | 36.0                      | 40.0                                   | 44.2                                   | 1                   | 58.1                                      | 86.1                | 5                                  |
| 5.0SMDJ40A  | 5.0SMDJ40CA  | 5PFR                | 5BFR | 40.0                      | 44.4                                   | 49.1                                   | 1                   | 64.5                                      | 77.6                | 5                                  |
| 5.0SMDJ43A  | 5.0SMDJ43CA  | 5PFT                | 5BFT | 43.0                      | 47.8                                   | 52.8                                   | 1                   | 69.4                                      | 72.1                | 5                                  |
| 5.0SMDJ45A  | 5.0SMDJ45CA  | 5PFV                | 5BFV | 45.0                      | 50.0                                   | 55.3                                   | 1                   | 72.7                                      | 68.8                | 5                                  |
| 5.0SMDJ48A  | 5.0SMDJ48CA  | 5PFX                | 5BFX | 48.0                      | 53.3                                   | 58.9                                   | 1                   | 77.4                                      | 64.7                | 5                                  |
| 5.0SMDJ51A  | 5.0SMDJ51CA  | 5PFZ                | 5BFZ | 51.0                      | 56.7                                   | 62.7                                   | 1                   | 82.4                                      | 60.7                | 5                                  |
| 5.0SMDJ54A  | 5.0SMDJ54CA  | 5PGE                | 5BGE | 54.0                      | 60.0                                   | 66.3                                   | 1                   | 87.1                                      | 57.5                | 5                                  |
| 5.0SMDJ58A  | 5.0SMDJ58CA  | 5PGG                | 5BGG | 58.0                      | 64.4                                   | 71.2                                   | 1                   | 93.6                                      | 53.5                | 5                                  |
| 5.0SMDJ60A  | 5.0SMDJ60CA  | 5PGK                | 5BGK | 60.0                      | 66.7                                   | 73.7                                   | 1                   | 96.8                                      | 51.7                | 5                                  |
| 5.0SMDJ64A  | 5.0SMDJ64CA  | 5PGM                | 5BGM | 64.0                      | 71.1                                   | 78.6                                   | 1                   | 103.0                                     | 48.6                | 5                                  |
| 5.0SMDJ70A  | 5.0SMDJ70CA  | 5PGP                | 5BGP | 70.0                      | 77.8                                   | 86.0                                   | 1                   | 113.0                                     | 44.3                | 5                                  |
| 5.0SMDJ75A  | 5.0SMDJ75CA  | 5PGR                | 5BGR | 75.0                      | 83.3                                   | 92.1                                   | 1                   | 121.0                                     | 41.4                | 5                                  |
| 5.0SMDJ78A  | 5.0SMDJ78CA  | 5PGT                | 5BGT | 78.0                      | 86.7                                   | 95.8                                   | 1                   | 126.0                                     | 39.7                | 5                                  |
| 5.0SMDJ85A  | 5.0SMDJ85CA  | 5PGV                | 5BGV | 85.0                      | 94.4                                   | 104.0                                  | 1                   | 137.0                                     | 36.5                | 5                                  |
| 5.0SMDJ90A  | 5.0SMDJ90CA  | 5PGX                | 5BGX | 90.0                      | 100.0                                  | 111.0                                  | 1                   | 146.0                                     | 34.3                | 5                                  |
| 5.0SMDJ100A | 5.0SMDJ100CA | 5PGZ                | 5BGZ | 100.0                     | 111.0                                  | 123.0                                  | 1                   | 162.0                                     | 30.9                | 5                                  |

**NOTE : Specification subject to change without notice.**

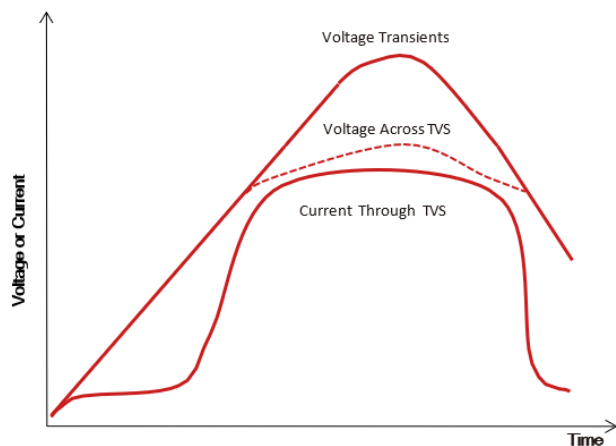
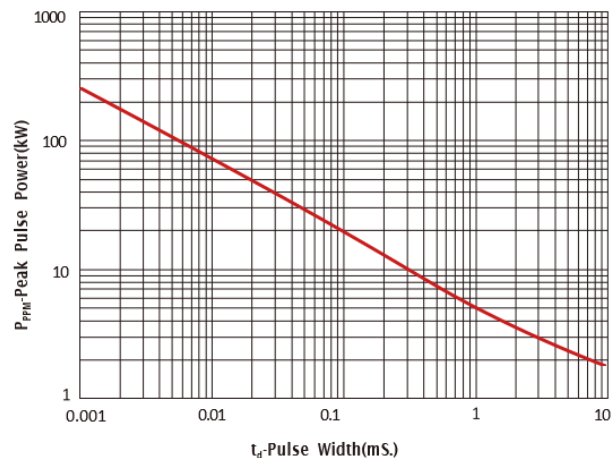
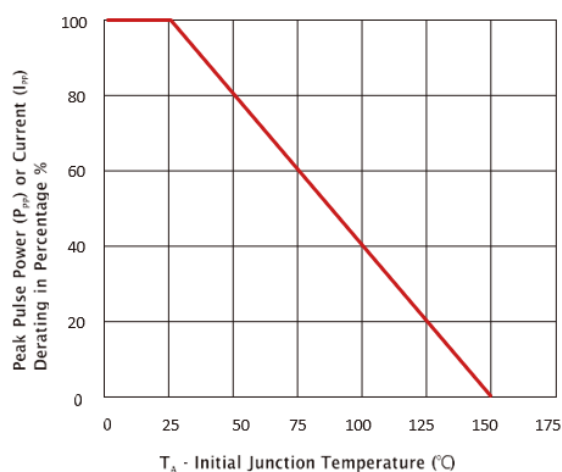
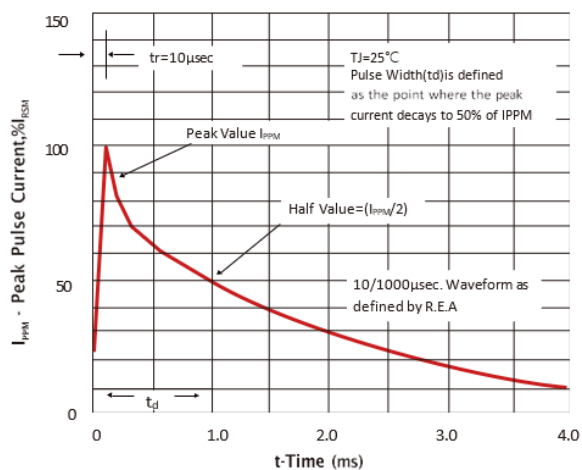
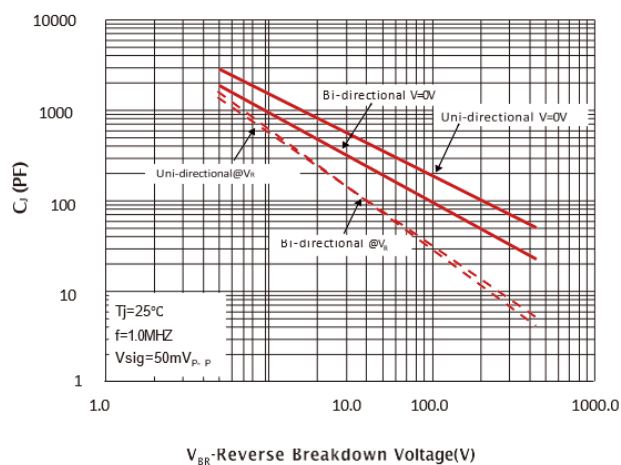
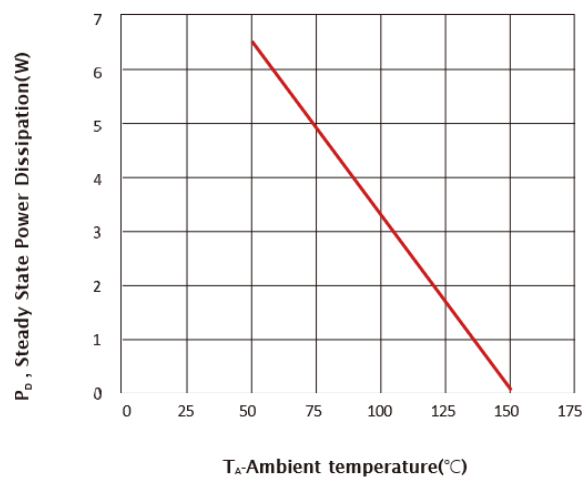
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| Part Number |              | Device Marking Code |      | Reverse Stand-off Voltage | Breakdown Voltage Min. @I <sub>r</sub> | Breakdown Voltage Max. @I <sub>r</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @ V <sub>RWM</sub> |
|-------------|--------------|---------------------|------|---------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------------|---------------------|------------------------------------|
| Uni-Polar   | Bi-Polar     | Uni                 | Bi   | V <sub>RWM</sub> (V)      | V <sub>BR</sub> (V)                    | V <sub>BR</sub> (V)                    | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> (uA)                |
| 5.0SMDJ110A | 5.0SMDJ110CA | 5PHE                | 5BHE | 110.0                     | 122.0                                  | 135.0                                  | 1                   | 177.0                                     | 28.3                | 5                                  |
| 5.0SMDJ120A | 5.0SMDJ120CA | 5PHG                | 5BHG | 120.0                     | 133.0                                  | 147.0                                  | 1                   | 193.0                                     | 26.0                | 5                                  |
| 5.0SMDJ130A | 5.0SMDJ130CA | 5PHK                | 5BHK | 130.0                     | 144.0                                  | 159.0                                  | 1                   | 209.0                                     | 24.0                | 5                                  |
| 5.0SMDJ150A | 5.0SMDJ150CA | 5PHM                | 5BHM | 150.0                     | 155.0                                  | 171.0                                  | 1                   | 226.8                                     | 22.3                | 5                                  |
| 5.0SMDJ160A | 5.0SMDJ160CA | 5PHP                | 5BHP | 160.0                     | 167.0                                  | 185.0                                  | 1                   | 243.0                                     | 20.8                | 5                                  |
| 5.0SMDJ170A | 5.0SMDJ170CA | 5PHR                | 5BHR | 170.0                     | 178.0                                  | 197.0                                  | 1                   | 259.0                                     | 19.5                | 5                                  |
| 5.0SMDJ180A | 5.0SMDJ180CA | 5PHT                | 5BHT | 180.0                     | 189.0                                  | 209.0                                  | 1                   | 275.0                                     | 18.4                | 5                                  |
| 5.0SMDJ190A | 5.0SMDJ190CA | 5PHV                | 5DHV | 190.0                     | 200.0                                  | 220.0                                  | 1                   | 291.6                                     | 17.3                | 5                                  |
| 5.0SMDJ200A | 5.0SMDJ200CA | 5PHX                | 5DHX | 200.0                     | 211.0                                  | 232.0                                  | 1                   | 307.8                                     | 16.4                | 5                                  |
| 5.0SMDJ210A | 5.0SMDJ210CA | 5PHZ                | 5DHz | 210.0                     | 224.0                                  | 247.0                                  | 1                   | 324.0                                     | 15.6                | 5                                  |
| 5.0SMDJ220A | 5.0SMDJ220CA | 5PIE                | 5DIE | 220.0                     | 246.0                                  | 272.0                                  | 1                   | 356.0                                     | 14.2                | 5                                  |
| 5.0SMDJ250A | 5.0SMDJ250CA | 5PIG                | 5DIG | 250.0                     | 279.0                                  | 309.0                                  | 1                   | 405.0                                     | 12.5                | 5                                  |
| 5.0SMDJ300A | 5.0SMDJ300CA | 5PIK                | 5DIK | 300.0                     | 335.0                                  | 371.0                                  | 1                   | 486.0                                     | 10.4                | 5                                  |
| 5.0SMDJ350A | 5.0SMDJ350CA | 5PIM                | 5DIM | 350.0                     | 391.0                                  | 432.0                                  | 1                   | 567.0                                     | 8.9                 | 5                                  |
| 5.0SMDJ400A | 5.0SMDJ400CA | 5PIP                | 5DIP | 400.0                     | 447.0                                  | 494.0                                  | 1                   | 648.0                                     | 7.8                 | 5                                  |



## 5. Ratings and Characteristic Curves

**TVS Transients Clamping Waveform****Peak Pulse Power Rating Curve****Pulse Derating Curve****Pulse Waveform****Typical Junction Capacitance****Steady State Power Dissipation Derating Curve**

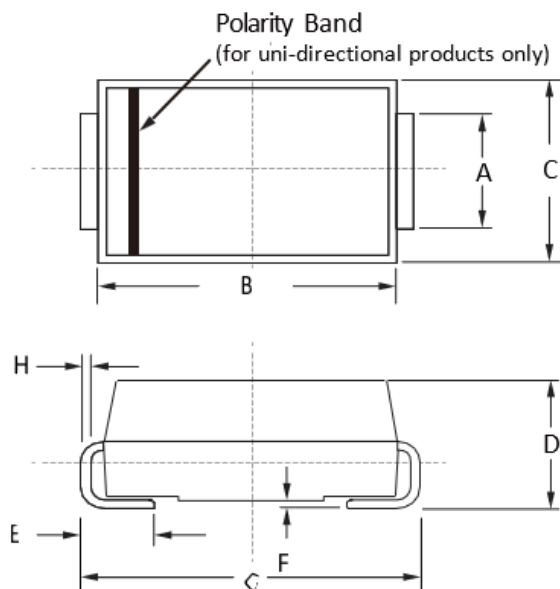
**NOTE : Specification subject to change without notice.**

**2025/7/11 Y**





## 9. DO-214AB(SMC) Package Information



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 2.80        | 3.20 | 0.110  | 0.126 |
| B    | 6.60        | 7.20 | 0.260  | 0.283 |
| C    | 5.70        | 6.10 | 0.224  | 0.240 |
| D    | 2.15        | 2.75 | 0.085  | 0.108 |
| E    | 1.00        | 1.60 | 0.039  | 0.063 |
| F    | 0.02        | 0.20 | 0.000  | 0.008 |
| G    | 7.60        | 8.00 | 0.299  | 0.315 |
| H    | 0.15        | 0.30 | 0.006  | 0.012 |

## 10. Packaging Specification

| Part Number   | Quantity | Reel Size |
|---------------|----------|-----------|
| 5.0SMDJxx(CA) | 3000     | 13" inch  |

