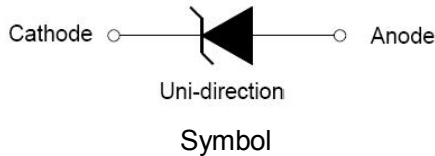
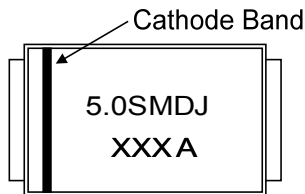


**SMC**

**Features**

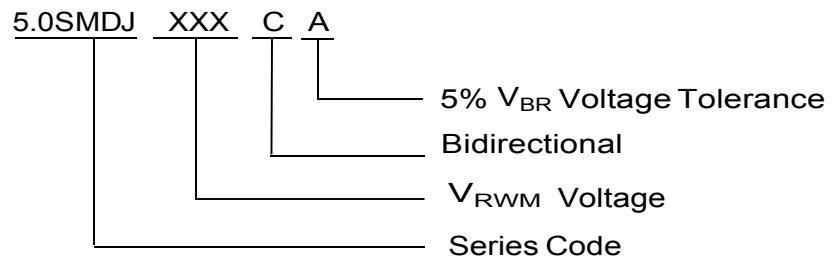
- Peak power dissipation 5000W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Low leakage current
- Halogen free and RoHS compliant

**Mechanical Data**

- CASE: SMCJ(DO-214AB) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position:Any

**Making Code & information**


| Package | Packing Description | Packing Quantity |
|---------|---------------------|------------------|
| SMC     | Tape/Reel,13" reel  | 3000             |


**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter                                      | Symbol          | Value      | Units | Remarks        |
|--|-----------------|------------|-------|----------------|
| Peak Pulse Power Dissipation                   | $P_{PPM}$       | 5000       | W     | (Note1)(Note2) |
| Steady State Power Dissipation                 | $P_D$           | 6.5        | W     | (Note3)        |
| Peak Forward Surge Current                     | $I_{FSM}$       | 300        | A     | (Note4)        |
| Maximum Instantaneous Forward Voltage at 100A  | $V_{FM}$        | 5          | V     | (Note5)        |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta JL}$ | 15         | °C/W  |                |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 75         | °C/W  |                |
| Operating Temperature Range                    | $T_J$           | -55 to 150 | °C    |                |
| Storage Temperature Range                      | $T_{STG}$       | -55 to 150 | °C    |                |

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 8×8mm to each terminal.

Notes3: Infinite HeatSink at  $T_A=50^\circ\text{C}$

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

Notes5: For UnidirectionalOnly,  $V_{FM}<3.5\text{V}$  for  $V_{BR}\leq 200\text{V}$  and  $V_{FM}<5.0\text{V}$  for  $V_{BR}\geq 201\text{V}$ .

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

| Part Number |              | Reverse Stand off Voltage $V_R$ (V) | Breakdown Voltage $V_{BR}$ @ $I_T$ (V) |      | Test Current $I_T$ (mA) | Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V) | Maximum Peak Pulse Current $I_{PP}$ (A) | Maximum Reverse Leakage $I_R$ @ $V_R$ ( $\mu$ A) |
|-------------|--------------|-------------------------------------|--|------|-------------------------|---|---|--|
| Uni         | Bi           |                                     | Min                                    | Max  |                         |   |   |  |
| 5.0SMDJ12A  | 5.0SMDJ12CA  | 12                                  | 13.3                                   | 14.7 | 10                      | 19.9  | 252                                     | 800  |
| 5.0SMDJ13A  | 5.0SMDJ13CA  | 13                                  | 14.4                                   | 15.9 | 10                      | 21.5  | 233                                     | 500  |
| 5.0SMDJ14A  | 5.0SMDJ14CA  | 14                                  | 15.6                                   | 17.2 | 10                      | 23.2  | 216                                     | 200  |
| 5.0SMDJ15A  | 5.0SMDJ15CA  | 15                                  | 16.7                                   | 18.5 | 1                       | 24.4  | 205                                     | 100  |
| 5.0SMDJ16A  | 5.0SMDJ16CA  | 16                                  | 17.8                                   | 19.7 | 1                       | 26  | 193                                     | 50   |
| 5.0SMDJ17A  | 5.0SMDJ17CA  | 17                                  | 18.9                                   | 20.9 | 1                       | 27.6  | 181                                     | 20   |
| 5.0SMDJ18A  | 5.0SMDJ18CA  | 18                                  | 20                                     | 22.1 | 1                       | 29.2  | 172                                     | 10   |
| 5.0SMDJ20A  | 5.0SMDJ20CA  | 20                                  | 22.2                                   | 24.5 | 1                       | 32.4  | 155                                     | 5  |
| 5.0SMDJ22A  | 5.0SMDJ22CA  | 22                                  | 24.4                                   | 26.9 | 1                       | 35.5  | 141                                     | 5  |
| 5.0SMDJ24A  | 5.0SMDJ24CA  | 24                                  | 26.7                                   | 29.5 | 1                       | 38.9  | 129                                     | 5  |
| 5.0SMDJ26A  | 5.0SMDJ26CA  | 26                                  | 28.9                                   | 31.9 | 1                       | 42.1  | 119                                     | 5  |
| 5.0SMDJ28A  | 5.0SMDJ28CA  | 28                                  | 31.1                                   | 34.4 | 1                       | 45.4  | 110                                     | 5  |
| 5.0SMDJ30A  | 5.0SMDJ30CA  | 30                                  | 33.3                                   | 36.8 | 1                       | 48.4  | 103                                     | 5  |
| 5.0SMDJ33A  | 5.0SMDJ33CA  | 33                                  | 36.7                                   | 40.6 | 1                       | 53.3  | 93.9                                    | 5  |
| 5.0SMDJ36A  | 5.0SMDJ36CA  | 36                                  | 40                                     | 44.2 | 1                       | 58.1  | 86.1                                    | 5  |
| 5.0SMDJ40A  | 5.0SMDJ40CA  | 40                                  | 44.4                                   | 49.1 | 1                       | 64.5  | 77.6                                    | 5  |
| 5.0SMDJ43A  | 5.0SMDJ43CA  | 43                                  | 47.8                                   | 52.8 | 1                       | 69.4  | 72.1                                    | 5  |
| 5.0SMDJ45A  | 5.0SMDJ45CA  | 45                                  | 50                                     | 55.3 | 1                       | 72.7  | 68.8                                    | 5  |
| 5.0SMDJ48A  | 5.0SMDJ48CA  | 48                                  | 53.3                                   | 58.9 | 1                       | 77.4  | 64.7                                    | 5  |
| 5.0SMDJ51A  | 5.0SMDJ51CA  | 51                                  | 56.7                                   | 62.7 | 1                       | 82.4  | 60.7                                    | 5  |
| 5.0SMDJ54A  | 5.0SMDJ54CA  | 54                                  | 60                                     | 66.3 | 1                       | 87.1  | 57.5                                    | 5  |
| 5.0SMDJ58A  | 5.0SMDJ58CA  | 58                                  | 64.4                                   | 71.2 | 1                       | 93.6  | 53.5                                    | 5  |
| 5.0SMDJ60A  | 5.0SMDJ60CA  | 60                                  | 66.7                                   | 73.7 | 1                       | 96.8  | 51.7                                    | 5  |
| 5.0SMDJ64A  | 5.0SMDJ64CA  | 64                                  | 71.1                                   | 78.6 | 1                       | 103   | 48.6                                    | 5  |
| 5.0SMDJ70A  | 5.0SMDJ70CA  | 70                                  | 77.8                                   | 86   | 1                       | 113   | 44.3                                    | 5  |
| 5.0SMDJ75A  | 5.0SMDJ75CA  | 75                                  | 83.3                                   | 92.1 | 1                       | 121   | 41.4                                    | 5  |
| 5.0SMDJ78A  | 5.0SMDJ78CA  | 78                                  | 86.7                                   | 95.8 | 1                       | 126   | 39.7                                    | 5  |
| 5.0SMDJ85A  | 5.0SMDJ85CA  | 85                                  | 94.4                                   | 104  | 1                       | 137   | 36.5                                    | 5  |
| 5.0SMDJ90A  | 5.0SMDJ90CA  | 90                                  | 100                                    | 111  | 1                       | 146   | 34.3                                    | 5  |
| 5.0SMDJ100A | 5.0SMDJ100CA | 100                                 | 111                                    | 123  | 1                       | 162   | 30.9                                    | 5  |
| 5.0SMDJ110A | 5.0SMDJ110CA | 110                                 | 122                                    | 135  | 1                       | 177   | 28.3                                    | 5  |
| 5.0SMDJ120A | 5.0SMDJ120CA | 120                                 | 133                                    | 147  | 1                       | 193   | 26                                      | 5  |
| 5.0SMDJ130A | 5.0SMDJ130CA | 130                                 | 144                                    | 159  | 1                       | 209   | 24                                      | 5  |
| 5.0SMDJ150A | 5.0SMDJ150CA | 150                                 | 167                                    | 185  | 1                       | 243   | 20.6                                    | 5  |
| 5.0SMDJ160A | 5.0SMDJ160CA | 160                                 | 178                                    | 197  | 1                       | 259   | 19.3                                    | 5  |
| 5.0SMDJ170A | 5.0SMDJ170CA | 170                                 | 189                                    | 209  | 1                       | 275   | 18.2                                    | 5  |

## Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

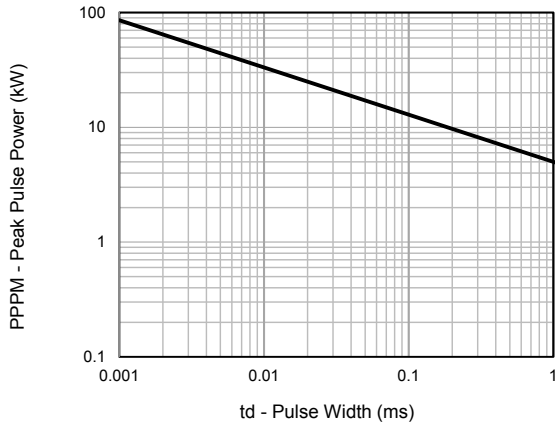


Fig.1 - Peak Pulse Power Rating

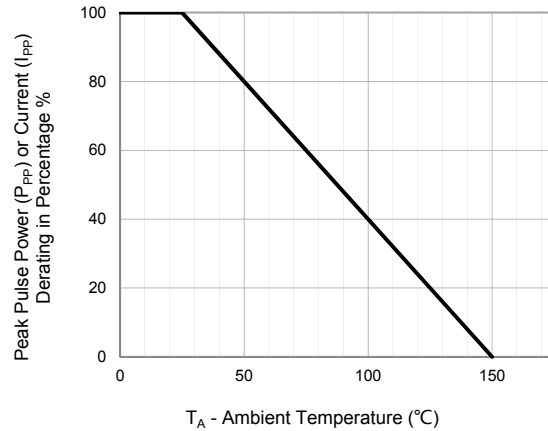


Fig.2 - Pulse Derating Curve

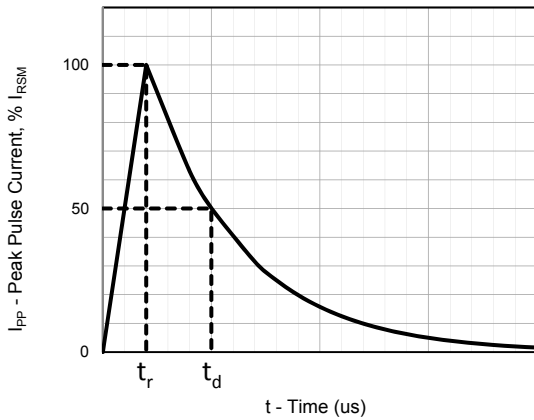


Fig.3 - Pulse Waveform

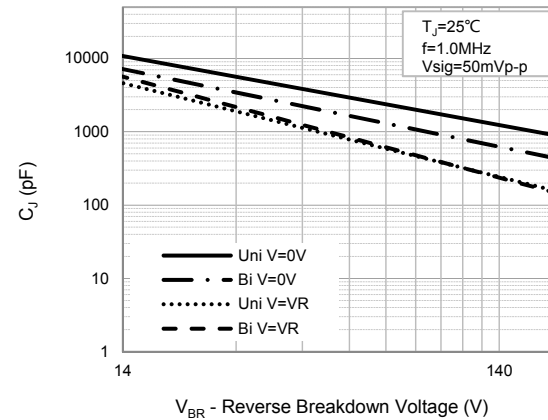


Fig.4 - Typical Junction Capacitance

## Package Outline Dimensions: SMC(DO-214AB)

| Dim | Millimeters |      | Inches |       |
|-----|-------------|------|--------|-------|
|     | Min         | Max  | Min    | Max   |
| L   | 6.75        | 6.95 | 0.265  | 0.274 |
| D   | 5.75        | 5.95 | 0.226  | 0.234 |
| D1  | 2.9         | 3.1  | 0.114  | 0.122 |
| T   | 7.9         | 8.1  | 0.311  | 0.319 |
| T1  | 0.85        | 1.3  | 0.034  | 0.051 |
| d   | -           | 0.2  | -      | 0.008 |
| H   | 2.45        | 2.65 | 0.096  | 0.104 |
| H1  | 2.3         | 2.5  | 0.09   | 0.098 |