



## 3.DATA SHEET

### 3.0SMCJ SERIES

#### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 5.0 to 220 Volts 3000 Watt Peak Power Pulse

#### FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Low inductance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical IR less than 1μA above 10V
- High temperature soldering : 250°C/10 seconds at terminals.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

#### MECHANICAL DATA

Case: JEDEC DO-214AB, Molded plastic over passivated junction

Terminals: Solder plated , solderable per MIL-STD-750, Method 2026

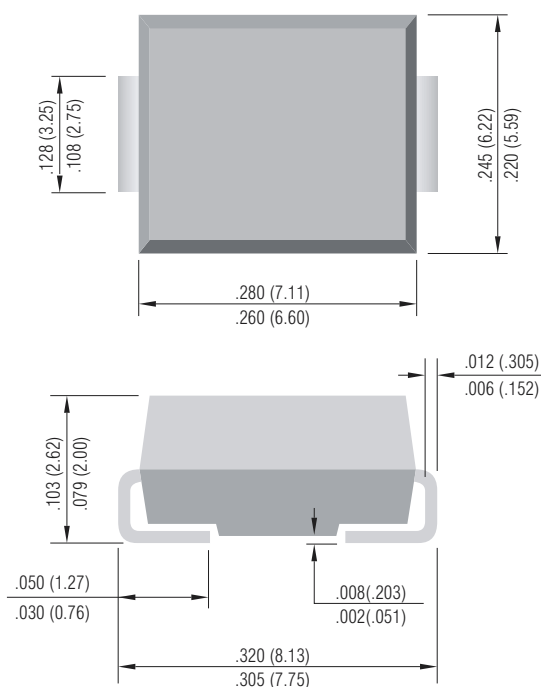
Polarity: Color band denotes positive end ( cathode) except Bidirectional.

Standard Packageing: 16mm tape per (EIA-481)

Weight: 0.007 ounces, 0.21 gram

SMC / DO-214AB

Unit: inch ( mm )



#### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

For Capacitive load derate current by 20%.

| RATING                                                                                        | SYMBOL            | VALUE        | UNITS              |
|-----------------------------------------------------------------------------------------------|-------------------|--------------|--------------------|
| Peak Power Dissipation at $T_A=25^{\circ}\text{C}$ , $T_P=1\text{ms}$ (Note 1,2 ,Fig.1 )      | $P_{PPM}$         | Minimum 1500 | Watts              |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (Note 2,3) | $I_{FSM}$         | 100.0        | Amps               |
| Peak Pulse Current Current on 10/1000μs waveform(Note 1, Fig.3 )                              | $I_{PPM}$         | See Table 1  | Amps               |
| Operating and Storage Temperature Range                                                       | $T_J$ , $T_{STG}$ | -55 to +150  | $^{\circ}\text{C}$ |

#### NOTES:

1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^{\circ}\text{C}$  per Fig. 2.

2.Mounted on 5.0mm<sup>2</sup> ( .013mm thick) land areas.

3.Measured on 8.3ms , single half sine-wave or equivalent square wave , duty cycle= 4 pulses per minutes maximum.



| Part Number                        | Marking Code |     | VRWM | VBR @ IT |       |     | IR @ VRWM |      | VC @ IPP |       | PACKAGE      |
|------------------------------------|--------------|-----|------|----------|-------|-----|-----------|------|----------|-------|--------------|
|                                    |              |     |      | Min.     | Max.  | IT  | UNI-      | BI-  |          |       |              |
|                                    | UNI-         | BI- |      | V        | V     | V   | mA        | uA   | uA       | V     |              |
| 3000W Transient Voltage Suppressor |              |     |      |          |       |     |           |      |          |       |              |
| 3.0SMCJ5.0(C)                      | HDD          | IDD | 5.0  | 6.40     | 7.55  | 10  | 1000      | 2000 | 9.6      | 312.5 | SMC/DO-214AB |
| 3.0SMCJ5.0(C)A                     | HDE          | IDE | 5.0  | 6.40     | 7.25  | 10  | 1000      | 2000 | 9.2      | 326.0 | SMC/DO-214AB |
| 3.0SMCJ6.0(C)                      | HDF          | IDF | 6.0  | 6.67     | 8.45  | 10  | 1000      | 2000 | 11.4     | 263.2 | SMC/DO-214AB |
| 3.0SMCJ6.0(C)A                     | HDG          | IDG | 6.0  | 6.67     | 7.67  | 10  | 1000      | 2000 | 10.3     | 291.3 | SMC/DO-214AB |
| 3.0SMCJ6.5(C)                      | HDH          | IDH | 6.5  | 7.22     | 9.14  | 10  | 500       | 1000 | 12.3     | 243.9 | SMC/DO-214AB |
| 3.0SMCJ6.5(C)A                     | HDK          | IDK | 6.5  | 7.22     | 8.30  | 10  | 500       | 1000 | 11.2     | 267.9 | SMC/DO-214AB |
| 3.0SMCJ7.0(C)                      | HDL          | IDL | 7.0  | 7.78     | 9.86  | 10  | 200       | 400  | 13.3     | 225.6 | SMC/DO-214AB |
| 3.0SMCJ7.0(C)A                     | HDM          | IDM | 7.0  | 7.78     | 8.95  | 10  | 200       | 400  | 12.0     | 250.0 | SMC/DO-214AB |
| 3.0SMCJ7.5(C)                      | HDN          | IDN | 7.5  | 8.33     | 10.67 | 1.0 | 100       | 200  | 14.3     | 209.8 | SMC/DO-214AB |
| 3.0SMCJ7.5(C)A                     | HDP          | IDP | 7.5  | 8.33     | 9.58  | 1.0 | 100       | 200  | 12.9     | 232.6 | SMC/DO-214AB |
| 3.0SMCJ8.0(C)                      | HDQ          | IDQ | 8.0  | 8.89     | 11.30 | 1.0 | 50        | 100  | 15.0     | 200.0 | SMC/DO-214AB |
| 3.0SMCJ8.0(C)A                     | HDR          | IDR | 8.0  | 8.89     | 10.23 | 1.0 | 50        | 100  | 13.6     | 220.6 | SMC/DO-214AB |
| 3.0SMCJ8.5(C)                      | HDS          | IDS | 8.5  | 9.44     | 11.92 | 1.0 | 10        | 20   | 15.9     | 188.8 | SMC/DO-214AB |
| 3.0SMCJ8.5(C)A                     | HDT          | IDT | 8.5  | 9.44     | 10.82 | 1.0 | 10        | 20   | 14.4     | 208.4 | SMC/DO-214AB |
| 3.0SMCJ9.0(C)                      | HDU          | IDU | 9.0  | 10.0     | 12.6  | 1.0 | 5         | 10   | 16.9     | 177.4 | SMC/DO-214AB |
| 3.0SMCJ9.0(C)A                     | HDV          | IDV | 9.0  | 10.0     | 11.5  | 1.0 | 5         | 10   | 15.4     | 194.8 | SMC/DO-214AB |
| 3.0SMCJ10(C)                       | HDW          | IDW | 10   | 11.1     | 14.1  | 1.0 | 5         | 5    | 18.8     | 159.6 | SMC/DO-214AB |
| 3.0SMCJ10(C)A                      | HDX          | IDX | 10   | 11.1     | 12.8  | 1.0 | 5         | 5    | 17.0     | 176.4 | SMC/DO-214AB |
| 3.0SMCJ11(C)                       | HDY          | IDY | 11   | 12.2     | 15.4  | 1.0 | 5         | 5    | 20.1     | 149.2 | SMC/DO-214AB |
| 3.0SMCJ11(C)A                      | HDZ          | IDZ | 11   | 12.2     | 14.0  | 1.0 | 5         | 5    | 18.2     | 184.8 | SMC/DO-214AB |
| 3.0SMCJ12(C)                       | HED          | IED | 12   | 13.3     | 16.9  | 1.0 | 5         | 5    | 22.0     | 136.4 | SMC/DO-214AB |
| 3.0SMCJ12(C)A                      | HEE          | IEE | 12   | 13.3     | 15.3  | 1.0 | 5         | 5    | 19.9     | 150.6 | SMC/DO-214AB |
| 3.0SMCJ13(C)                       | HEF          | IEF | 13   | 14.4     | 18.2  | 1.0 | 5         | 5    | 23.8     | 126.0 | SMC/DO-214AB |
| 3.0SMCJ13(C)A                      | HEG          | IEG | 13   | 14.4     | 16.5  | 1.0 | 5         | 5    | 21.5     | 139.4 | SMC/DO-214AB |
| 3.0SMCJ14(C)                       | HEH          | IEH | 14   | 15.6     | 19.8  | 1.0 | 5         | 5    | 25.8     | 116.2 | SMC/DO-214AB |
| 3.0SMCJ14(C)A                      | HEK          | IEK | 14   | 15.6     | 17.9  | 1.0 | 5         | 5    | 23.2     | 129.4 | SMC/DO-214AB |
| 3.0SMCJ15(C)                       | HEL          | IEL | 15   | 16.7     | 21.1  | 1.0 | 5         | 5    | 26.9     | 111.6 | SMC/DO-214AB |
| 3.0SMCJ15(C)A                      | HEM          | IEM | 15   | 16.7     | 19.2  | 1.0 | 5         | 5    | 24.4     | 123.0 | SMC/DO-214AB |
| 3.0SMCJ16(C)                       | HEN          | IEN | 16   | 17.8     | 22.6  | 1.0 | 5         | 5    | 28.8     | 104.2 | SMC/DO-214AB |
| 3.0SMCJ16(C)A                      | HEP          | IEP | 16   | 17.8     | 20.5  | 1.0 | 5         | 5    | 26.0     | 115.4 | SMC/DO-214AB |
| 3.0SMCJ17(C)                       | HEQ          | IEQ | 17   | 18.9     | 23.9  | 1.0 | 5         | 5    | 30.5     | 98.4  | SMC/DO-214AB |
| 3.0SMCJ17(C)A                      | HER          | IER | 17   | 18.9     | 21.7  | 1.0 | 5         | 5    | 27.6     | 106.6 | SMC/DO-214AB |
| 3.0SMCJ18(C)                       | HES          | IES | 18   | 20.0     | 25.3  | 1.0 | 5         | 5    | 32.2     | 93.2  | SMC/DO-214AB |
| 3.0SMCJ18(C)A                      | HET          | IET | 18   | 20.0     | 23.3  | 1.0 | 5         | 5    | 29.2     | 102.8 | SMC/DO-214AB |
| 3.0SMCJ20(C)                       | HEU          | IEU | 20   | 22.2     | 28.1  | 1.0 | 5         | 5    | 35.8     | 83.8  | SMC/DO-214AB |
| 3.0SMCJ20(C)A                      | HEV          | IEV | 20   | 22.2     | 25.5  | 1.0 | 5         | 5    | 32.4     | 92.6  | SMC/DO-214AB |
| 3.0SMCJ22(C)                       | HEW          | IEW | 22   | 24.4     | 30.9  | 1.0 | 5         | 5    | 39.4     | 76.2  | SMC/DO-214AB |
| 3.0SMCJ22(C)A                      | HEX          | IEX | 22   | 24.4     | 28.0  | 1.0 | 5         | 5    | 35.5     | 84.4  | SMC/DO-214AB |
| 3.0SMCJ24(C)                       | HEZ          | IEZ | 24   | 26.7     | 33.8  | 1.0 | 5         | 5    | 43.0     | 69.8  | SMC/DO-214AB |
| 3.0SMCJ24(C)A                      | HEY          | IEY | 24   | 26.7     | 30.7  | 1.0 | 5         | 5    | 38.9     | 77.2  | SMC/DO-214AB |
| 3.0SMCJ26(C)                       | HFD          | IFD | 26   | 28.9     | 36.6  | 1.0 | 5         | 5    | 46.6     | 64.4  | SMC/DO-214AB |
| 3.0SMCJ26(C)A                      | HFE          | IFE | 26   | 28.9     | 33.2  | 1.0 | 5         | 5    | 42.1     | 71.2  | SMC/DO-214AB |
| 3.0SMCJ28(C)                       | HFF          | IFF | 28   | 31.1     | 39.4  | 1.0 | 5         | 5    | 50.0     | 60.0  | SMC/DO-214AB |
| 3.0SMCJ28(C)A                      | HFG          | IFG | 28   | 31.1     | 35.8  | 1.0 | 5         | 5    | 45.4     | 66.0  | SMC/DO-214AB |
| 3.0SMCJ30(C)                       | HFH          | IFH | 30   | 33.3     | 42.2  | 1.0 | 5         | 5    | 53.5     | 56.0  | SMC/DO-214AB |
| 3.0SMCJ30(C)A                      | HFK          | IFK | 30   | 33.3     | 38.3  | 1.0 | 5         | 5    | 48.4     | 62.0  | SMC/DO-214AB |
| 3.0SMCJ33(C)                       | HFL          | IFL | 33   | 36.7     | 46.5  | 1.0 | 5         | 5    | 59.0     | 50.4  | SMC/DO-214AB |
| 3.0SMCJ33(C)A                      | HFM          | IFM | 33   | 36.7     | 42.2  | 1.0 | 5         | 5    | 53.3     | 56.2  | SMC/DO-214AB |
| 3.0SMCJ36(C)                       | HFN          | IFN | 36   | 40.0     | 50.7  | 1.0 | 5         | 5    | 64.3     | 46.6  | SMC/DO-214AB |
| 3.0SMCJ36(C)A                      | HFP          | IFP | 36   | 40.0     | 46.0  | 1.0 | 5         | 5    | 58.1     | 51.6  | SMC/DO-214AB |
| 3.0SMCJ40(C)                       | HFQ          | IFQ | 40   | 44.4     | 56.3  | 1.0 | 5         | 5    | 71.4     | 42.0  | SMC/DO-214AB |
| 3.0SMCJ40(C)A                      | HFR          | IFR | 40   | 44.4     | 51.1  | 1.0 | 5         | 5    | 64.5     | 46.4  | SMC/DO-214AB |



| Part Number                        | Marking Code |     | V <sub>VRWM</sub> | V <sub>BR</sub> @ I <sub>T</sub> |       |                | I <sub>R</sub> @ V <sub>VRWM</sub> |     | V <sub>C</sub> @ I <sub>PP</sub> |      | PACKAGE       |
|------------------------------------|--------------|-----|-------------------|----------------------------------|-------|----------------|------------------------------------|-----|----------------------------------|------|---------------|
|                                    |              |     |                   | Min.                             | Max.  | I <sub>T</sub> | UNI-                               | BI- |                                  |      |               |
|                                    | UNI-         | BI- | V                 | V                                | V     | mA             | uA                                 | uA  | V                                | A    |               |
| 3000W Transient Voltage Suppressor |              |     |                   |                                  |       |                |                                    |     |                                  |      |               |
| 3.0SMCJ43(C)                       | HFS          | IFS | 43                | 47.8                             | 60.5  | 1.0            | 5                                  | 5   | 76.7                             | 39.2 | SMC/DO-214AB  |
| 3.0SMCJ43(C)A                      | HFT          | IFT | 43                | 47.8                             | 54.9  | 1.0            | 5                                  | 5   | 69.4                             | 43.2 | SMC/DO-214AB  |
| 3.0SMCJ45(C)                       | HFU          | IFU | 45                | 50.0                             | 63.3  | 1.0            | 5                                  | 5   | 80.3                             | 37.4 | SMC/DO-214AB  |
| 3.0SMCJ45(C)A                      | HFV          | IFV | 45                | 50.0                             | 57.5  | 1.0            | 5                                  | 5   | 72.7                             | 41.2 | SMC/DO-214AB  |
| 3.0SMCJ48(C)                       | HFW          | IFW | 48                | 53.3                             | 67.5  | 1.0            | 5                                  | 5   | 85.5                             | 35.0 | SMC/DO-214AB  |
| 3.0SMCJ48(C)A                      | HFX          | IFX | 48                | 53.3                             | 61.3  | 1.0            | 5                                  | 5   | 77.4                             | 38.8 | SMC/DO-214AB  |
| 3.0SMCJ51(C)                       | HFY          | IFY | 51                | 56.7                             | 71.8  | 1.0            | 5                                  | 5   | 91.1                             | 37.0 | SMC/DO-214AB  |
| 3.0SMCJ51(C)A                      | HFZ          | IFZ | 51                | 56.7                             | 65.2  | 1.0            | 5                                  | 5   | 82.4                             | 36.4 | SMC/DO-214AB  |
| 3.0SMCJ54(C)                       | HGD          | IGD | 54                | 60.0                             | 76.0  | 1.0            | 5                                  | 5   | 96.3                             | 31.2 | SMC/DO-214AB  |
| 3.0SMCJ54(C)A                      | HGE          | IGE | 54                | 60.0                             | 69.0  | 1.0            | 5                                  | 5   | 87.1                             | 34.4 | SMC/DO-214AB  |
| 3.0SMCJ58(C)                       | HGF          | IGF | 58                | 64.4                             | 81.6  | 1.0            | 5                                  | 5   | 103                              | 39.2 | SMC/DO-214AB  |
| 3.0SMCJ58(C)A                      | HGG          | IGG | 58                | 64.4                             | 74.1  | 1.0            | 5                                  | 5   | 93.6                             | 32.0 | SMC/DO-214AB  |
| 3.0SMCJ60(C)                       | HGH          | IGH | 60                | 66.7                             | 84.5  | 1.0            | 5                                  | 5   | 107                              | 28.0 | SMC/DO-214AB  |
| 3.0SMCJ60(C)A                      | HGK          | IGK | 60                | 66.7                             | 76.7  | 1.0            | 5                                  | 5   | 96.8                             | 31.0 | SMC/DO-214AB  |
| 3.0SMCJ64(C)                       | HGL          | IGL | 64                | 71.1                             | 90.1  | 1.0            | 5                                  | 5   | 114                              | 26.4 | SMC/DO-214AB  |
| 3.0SMCJ64(C)A                      | HGM          | IGM | 64                | 71.1                             | 81.8  | 1.0            | 5                                  | 5   | 103                              | 29.2 | SMC/DO-214AB  |
| 3.0SMCJ70(C)                       | HGN          | IGN | 70                | 77.8                             | 98.6  | 1.0            | 5                                  | 5   | 125                              | 24.0 | SMC/DO-214AB  |
| 3.0SMCJ70(C)A                      | HGP          | IGP | 70                | 77.8                             | 89.5  | 1.0            | 5                                  | 5   | 113                              | 26.6 | SMC/DO-214AB  |
| 3.0SMCJ75(C)                       | HGQ          | IGQ | 75                | 83.3                             | 105.7 | 1.0            | 5                                  | 5   | 134                              | 22.4 | SMC/DO-214AB  |
| 3.0SMCJ75(C)A                      | HGR          | IGR | 75                | 83.3                             | 95.8  | 1.0            | 5                                  | 5   | 121                              | 24.8 | SMC/DO-214AB  |
| 3.0SMCJ78(C)                       | HGS          | IGS | 78                | 86.7                             | 109.8 | 1.0            | 5                                  | 5   | 139                              | 21.6 | SMC/DO-214AB  |
| 3.0SMCJ78(C)A                      | HGT          | IGT | 78                | 86.7                             | 99.7  | 1.0            | 5                                  | 5   | 126                              | 22.8 | SMC/DO-214AB  |
| 3.0SMCJ85(C)                       | HGU          | IGU | 85                | 94.4                             | 119.2 | 1.0            | 5                                  | 5   | 151                              | 19.8 | SMC/DO-214AB  |
| 3.0SMCJ85(C)A                      | HGV          | IGV | 85                | 94.4                             | 108.2 | 1.0            | 5                                  | 5   | 137                              | 20.8 | SMC/DO-214AB  |
| 3.0SMCJ90(C)                       | HGW          | IGW | 90                | 100                              | 126.5 | 1.0            | 5                                  | 5   | 160                              | 18.8 | SMC/DO-214AB  |
| 3.0SMCJ90(C)A                      | HGX          | IGX | 90                | 100                              | 115.5 | 1.0            | 5                                  | 5   | 146                              | 20.6 | SMC/DO-214AB  |
| 3.0SMCJ100(C)                      | HGZ          | IGZ | 100               | 111                              | 141.0 | 1.0            | 5                                  | 5   | 179                              | 16.6 | SMC/DO-214AB  |
| 3.0SMCJ100(C)A                     | HGY          | IGY | 100               | 111                              | 128.0 | 1.0            | 5                                  | 5   | 162                              | 18.6 | SMC/DO-214AB  |
| 3.0SMCJ110(C)                      | HHD          | IHD | 110               | 122                              | 154.5 | 1.0            | 5                                  | 5   | 196                              | 15.4 | SMC/DO-214AB  |
| 3.0SMCJ110(C)A                     | HHE          | IHE | 110               | 122                              | 140.5 | 1.0            | 5                                  | 5   | 177                              | 16.8 | SMC/DO-214AB  |
| 3.0SMCJ120(C)                      | HHF          | IHF | 120               | 133                              | 169.0 | 1.0            | 5                                  | 5   | 214                              | 14.0 | SMC/DO-214AB  |
| 3.0SMCJ120(C)A                     | HHG          | IHG | 120               | 133                              | 153.0 | 1.0            | 5                                  | 5   | 193                              | 15.6 | SMC/DO-214AB  |
| 3.0SMCJ130(C)                      | HHH          | IHH | 130               | 144                              | 182.5 | 1.0            | 5                                  | 5   | 231                              | 13.0 | SMC/DO-214AB  |
| 3.0SMCJ130(C)A                     | HHK          | IHK | 130               | 144                              | 165.5 | 1.0            | 5                                  | 5   | 209                              | 14.4 | SMC/DO-214AB  |
| 3.0SMCJ150(C)                      | HHL          | IHL | 150               | 167                              | 211.5 | 1.0            | 5                                  | 5   | 268                              | 11.2 | SMC/DO-214AB  |
| 3.0SMCJ150(C)A                     | HHM          | IHM | 150               | 167                              | 192.5 | 1.0            | 5                                  | 5   | 243                              | 12.4 | SMC/DO-214AB  |
| 3.0SMCJ160(C)                      | HHN          | IHN | 160               | 178                              | 226.0 | 1.0            | 5                                  | 5   | 287                              | 10.4 | SMC/DO-214AB  |
| 3.0SMCJ160(C)A                     | HHP          | IHP | 160               | 178                              | 205.0 | 1.0            | 5                                  | 5   | 259                              | 11.6 | SMC/DO-214AB  |
| 3.0SMCJ170(C)                      | HHQ          | IHQ | 170               | 189                              | 239.5 | 1.0            | 5                                  | 5   | 304                              | 9.8  | SMC/DO-214AB  |
| 3.0SMCJ170(C)A                     | HHR          | IHR | 170               | 189                              | 217.5 | 1.0            | 5                                  | 5   | 275                              | 11.0 | SMC/DO-214AB  |
| 3.0SMCJ180(C)                      | HHS          | IHS | 180               | 198                              | 253.8 | 1.0            | 5                                  | 5   | 322                              | 9.3  | SMC/DO-214AB  |
| 3.0SMCJ180(C)A                     | HHT          | IHT | 180               | 198                              | 230.4 | 1.0            | 5                                  | 5   | 292                              | 10.3 | SMC/DO-214AB  |
| 3.0SMCJ190(C)                      | HHU          | IHU | 190               | 209                              | 267.9 | 1.0            | 5                                  | 5   | 340                              | 8.8  | SMC/DO-214AB  |
| 3.0SMCJ190(C)A                     | HHV          | IHV | 190               | 209                              | 243.2 | 1.0            | 5                                  | 5   | 308                              | 9.7  | SMC/DO-214AB  |
| 3.0SMCJ200(C)                      | HHW          | IHW | 200               | 220                              | 282.0 | 1.0            | 5                                  | 5   | 358                              | 8.4  | SMC/DO-214AB  |
| 3.0SMCJ200(C)A                     | HHX          | IHX | 200               | 220                              | 256.0 | 1.0            | 5                                  | 5   | 324                              | 9.3  | SMC/DO-214AB  |
| 3.0SMCJ210(C)                      | HHY          | IHY | 210               | 231                              | 296.1 | 1.0            | 5                                  | 5   | 376                              | 7.8  | SMC/DO-214AB  |
| 3.0SMCJ210(C)A                     | HHZ          | IHZ | 210               | 231                              | 268.8 | 1.0            | 5                                  | 5   | 340                              | 8.8  | SMC/DO-214AB  |
| 3.0SMCJ220(C)                      | HID          | IID | 220               | 242                              | 310.2 | 1.0            | 5                                  | 5   | 394                              | 7.6  | SMC/DO-214AB  |
| 3.0SMCJ220(C)A                     | HIE          | IIE | 220               | 242                              | 281.6 | 1.0            | 5                                  | 5   | 356                              | 8.4  | ISMC/DO-214AB |

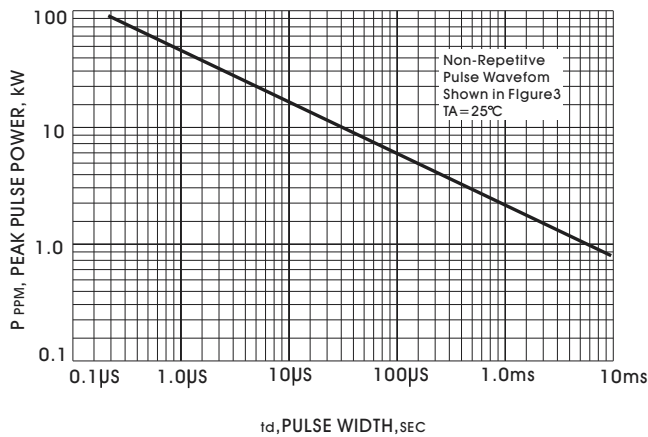


FIGURE 1-PEAK PULSE POWER RATING CURVE

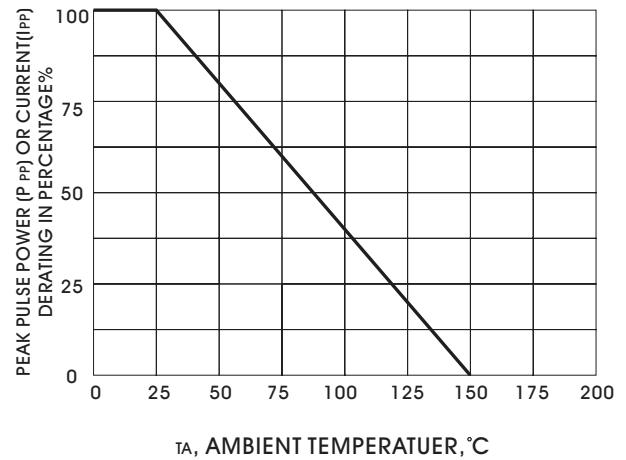


FIGURE 2 DERATING CURVE

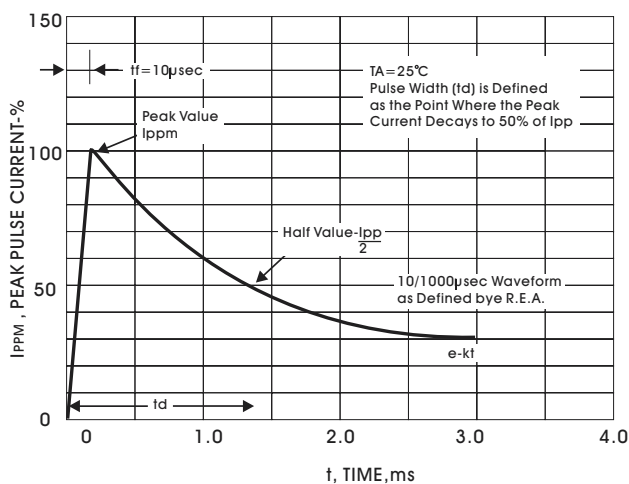


FIGURE 3-PULSE WAVEFORM

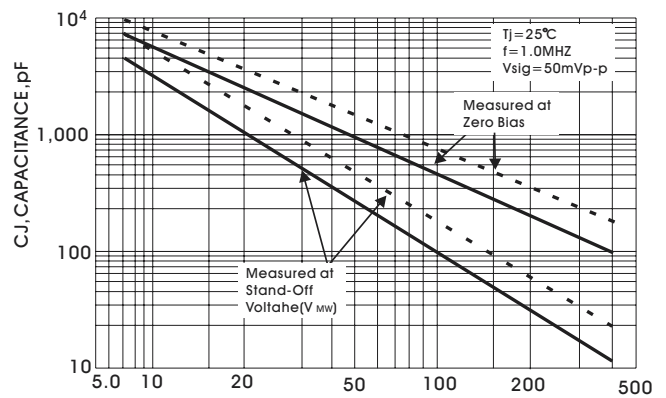


FIGURE 4 TYPICAL CAPACITANCE

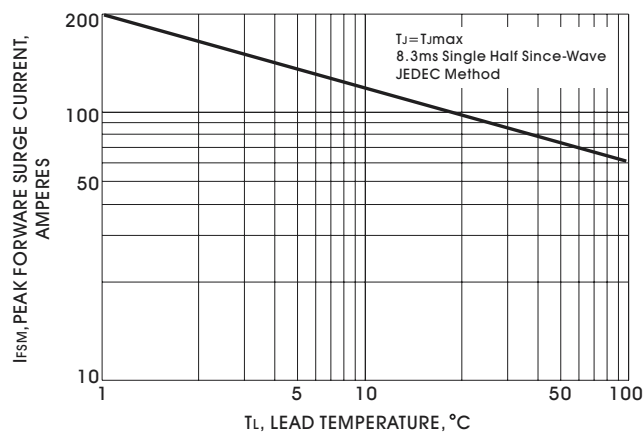


FIG. 5-MAXIMUM NON-REPETITIVE PEAK FOWARD SURGE CURRENT UNIDIRECTIONAL