



3.DATA SHEET

1.5SMCJ SERIES

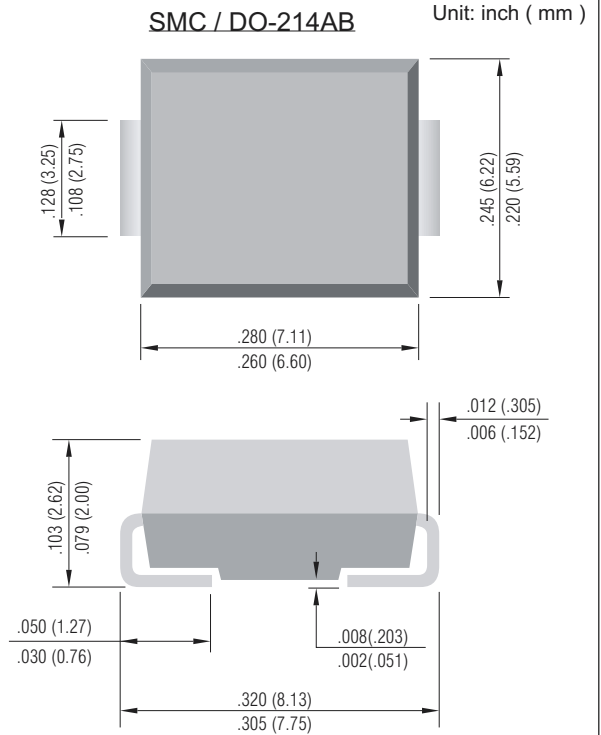
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 5.0 to 220 Volts 1500 Watt Peak Power Pulse

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



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 | °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 5.0mm² (.013mm thick) land areas.
- 3 8.3ms , single half sine-wave or equivalent square wave , duty cycle= 4 pulses per minutes maximum.



| Part Number | Marking Code | | V _{RWM} | V _{BR} @ I _T | | | I _R @ V _{RWM} | | V _c @ I _{PP} | | PACKAGE |
|---|--------------|-----|------------------|----------------------------------|-------|----------------|-----------------------------------|------|----------------------------------|-------|--------------|
| | UNI- | BI- | | Min. | Max. | I _T | UNI- | BI- | V | A | |
| | | | V | V | mA | uA | uA | | | | |
| 1500W Transient Voltage Suppressor | | | | | | | | | | | |
| 1.5SMCJ5.0(C) | GDD | BDD | 5.0 | 6.40 | 7.55 | 10 | 1000 | 2000 | 9.6 | 156.2 | SMC/DO-214AB |
| 1.5SMCJ5.0(C)A | GDE | BDE | 5.0 | 6.40 | 7.25 | 10 | 1000 | 2000 | 9.2 | 163.0 | SMC/DO-214AB |
| 1.5SMCJ6.0(C) | GDF | BDF | 6.0 | 6.67 | 8.45 | 10 | 1000 | 2000 | 11.4 | 131.6 | SMC/DO-214AB |
| 1.5SMCJ6.0(C)A | GDG | BDG | 6.0 | 6.67 | 7.67 | 10 | 1000 | 2000 | 10.3 | 145.6 | SMC/DO-214AB |
| 1.5SMCJ6.5(C) | GDH | BDH | 6.5 | 7.22 | 9.14 | 10 | 500 | 1000 | 12.3 | 122.0 | SMC/DO-214AB |
| 1.5SMCJ6.5(C)A | GDK | BDK | 6.5 | 7.22 | 8.30 | 10 | 500 | 1000 | 11.2 | 133.9 | SMC/DO-214AB |
| 1.5SMCJ7.0(C) | GDL | BDL | 7.0 | 7.78 | 9.86 | 10 | 200 | 400 | 13.3 | 112.8 | SMC/DO-214AB |
| 1.5SMCJ7.0(C)A | GDM | BDM | 7.0 | 7.78 | 8.95 | 10 | 200 | 400 | 12.0 | 125.0 | SMC/DO-214AB |
| 1.5SMCJ7.5(C) | GDN | BDN | 7.5 | 8.33 | 10.67 | 1.0 | 100 | 200 | 14.3 | 104.9 | SMC/DO-214AB |
| 1.5SMCJ7.5(C)A | GDP | BDP | 7.5 | 8.33 | 9.58 | 1.0 | 100 | 200 | 12.9 | 116.3 | SMC/DO-214AB |
| 1.5SMCJ8.0(C) | GDQ | BDQ | 8.0 | 8.89 | 11.30 | 1.0 | 50 | 100 | 15.0 | 100.0 | SMC/DO-214AB |
| 1.5SMCJ8.0(C)A | GDR | BDR | 8.0 | 8.89 | 10.23 | 1.0 | 50 | 100 | 13.6 | 110.3 | SMC/DO-214AB |
| 1.5SMCJ8.5(C) | GDS | BDS | 8.5 | 9.44 | 11.92 | 1.0 | 10 | 20 | 15.9 | 94.3 | SMC/DO-214AB |
| 1.5SMCJ8.5(C)A | GDT | BDT | 8.5 | 9.44 | 10.82 | 1.0 | 10 | 20 | 14.4 | 104.2 | SMC/DO-214AB |
| 1.5SMCJ9.0(C) | GDU | BDU | 9.0 | 10.0 | 12.6 | 1.0 | 5 | 10 | 16.9 | 88.7 | SMC/DO-214AB |
| 1.5SMCJ9.0(C)A | GDV | BDV | 9.0 | 10.0 | 11.5 | 1.0 | 5 | 10 | 15.4 | 97.4 | SMC/DO-214AB |
| 1.5SMCJ10(C) | GDW | BDW | 10 | 11.1 | 14.1 | 1.0 | 5 | 5 | 18.8 | 79.8 | SMC/DO-214AB |
| 1.5SMCJ10(C)A | GDX | BDX | 10 | 11.1 | 12.8 | 1.0 | 5 | 5 | 17.0 | 88.2 | SMC/DO-214AB |
| 1.5SMCJ11(C) | GDY | BDY | 11 | 12.2 | 15.4 | 1.0 | 5 | 5 | 20.1 | 74.6 | SMC/DO-214AB |
| 1.5SMCJ11(C)A | GDZ | BDZ | 11 | 12.2 | 14.0 | 1.0 | 5 | 5 | 18.2 | 82.4 | SMC/DO-214AB |
| 1.5SMCJ12(C) | GED | BED | 12 | 13.3 | 16.9 | 1.0 | 5 | 5 | 22.0 | 68.2 | SMC/DO-214AB |
| 1.5SMCJ12(C)A | GEE | BEE | 12 | 13.3 | 15.3 | 1.0 | 5 | 5 | 19.9 | 75.3 | SMC/DO-214AB |
| 1.5SMCJ13(C) | GEF | BEF | 13 | 14.4 | 18.2 | 1.0 | 5 | 5 | 23.8 | 63.0 | SMC/DO-214AB |
| 1.5SMCJ13(C)A | GEG | BEG | 13 | 14.4 | 16.5 | 1.0 | 5 | 5 | 21.5 | 69.7 | SMC/DO-214AB |
| 1.5SMCJ14(C) | GEH | BEH | 14 | 15.6 | 19.8 | 1.0 | 5 | 5 | 25.8 | 58.1 | SMC/DO-214AB |
| 1.5SMCJ14(C)A | GEK | BEK | 14 | 15.6 | 17.9 | 1.0 | 5 | 5 | 23.2 | 64.7 | SMC/DO-214AB |
| 1.5SMCJ15(C) | GEL | BEL | 15 | 16.7 | 21.1 | 1.0 | 5 | 5 | 26.9 | 55.8 | SMC/DO-214AB |
| 3.0SMCJ15(C)A | GEM | BEM | 15 | 16.7 | 19.2 | 1.0 | 5 | 5 | 24.4 | 61.5 | SMC/DO-214AB |
| 1.5SMCJ16(C) | GEN | BEN | 16 | 17.8 | 22.6 | 1.0 | 5 | 5 | 28.8 | 52.1 | SMC/DO-214AB |
| 1.5SMCJ16(C)A | GEP | BEP | 16 | 17.8 | 20.5 | 1.0 | 5 | 5 | 26.0 | 57.7 | SMC/DO-214AB |
| 1.5SMCJ17(C) | GEQ | BEQ | 17 | 18.9 | 23.9 | 1.0 | 5 | 5 | 30.5 | 49.2 | SMC/DO-214AB |
| 1.5SMCJ17(C)A | GER | BER | 17 | 18.9 | 21.7 | 1.0 | 5 | 5 | 27.6 | 53.3 | SMC/DO-214AB |
| 1.5SMCJ18(C) | GES | BES | 18 | 20.0 | 25.3 | 1.0 | 5 | 5 | 32.2 | 46.6 | SMC/DO-214AB |
| 1.5SMCJ18(C)A | GET | BET | 18 | 20.0 | 23.3 | 1.0 | 5 | 5 | 29.2 | 51.4 | SMC/DO-214AB |
| 1.5SMCJ20(C) | GEU | BEU | 20 | 22.2 | 28.1 | 1.0 | 5 | 5 | 35.8 | 41.9 | SMC/DO-214AB |
| 1.5SMCJ20(C)A | GEV | BEV | 20 | 22.2 | 25.5 | 1.0 | 5 | 5 | 32.4 | 46.3 | SMC/DO-214AB |
| 1.5SMCJ22(C) | GEW | BEW | 22 | 24.4 | 30.9 | 1.0 | 5 | 5 | 39.4 | 38.1 | SMC/DO-214AB |
| 1.5SMCJ22(C)A | GEX | BEX | 22 | 24.4 | 28.0 | 1.0 | 5 | 5 | 35.5 | 42.2 | SMC/DO-214AB |
| 1.5SMCJ24(C) | GEZ | BEZ | 24 | 26.7 | 33.8 | 1.0 | 5 | 5 | 43.0 | 34.9 | SMC/DO-214AB |
| 1.5SMCJ24(C)A | GEY | BEY | 24 | 26.7 | 30.7 | 1.0 | 5 | 5 | 38.9 | 38.6 | SMC/DO-214AB |
| 1.5SMCJ26(C) | GFD | BFD | 26 | 28.9 | 36.6 | 1.0 | 5 | 5 | 46.6 | 32.2 | SMC/DO-214AB |
| 1.5SMCJ26(C)A | GFE | BFE | 26 | 28.9 | 33.2 | 1.0 | 5 | 5 | 42.1 | 35.6 | SMC/DO-214AB |
| 1.5SMCJ28(C) | GFF | BFF | 28 | 31.1 | 39.4 | 1.0 | 5 | 5 | 50.0 | 30.0 | SMC/DO-214AB |
| 1.5SMCJ28(C)A | GFG | BFG | 28 | 31.1 | 35.8 | 1.0 | 5 | 5 | 45.4 | 33.0 | SMC/DO-214AB |
| 1.5SMCJ30(C) | GFH | BFH | 30 | 33.3 | 42.2 | 1.0 | 5 | 5 | 53.5 | 28.0 | SMC/DO-214AB |
| 1.5SMCJ30(C)A | GFK | BFK | 30 | 33.3 | 38.3 | 1.0 | 5 | 5 | 48.4 | 31.0 | SMC/DO-214AB |
| 1.5SMCJ33(C) | GFL | BFL | 33 | 36.7 | 46.5 | 1.0 | 5 | 5 | 59.0 | 25.2 | SMC/DO-214AB |
| 1.5SMCJ33(C)A | GFM | BFM | 33 | 36.7 | 42.2 | 1.0 | 5 | 5 | 53.3 | 28.1 | SMC/DO-214AB |
| 1.5SMCJ36(C) | GFN | BFN | 36 | 40.0 | 50.7 | 1.0 | 5 | 5 | 64.3 | 23.3 | SMC/DO-214AB |
| 1.5SMCJ36(C)A | GFP | BFP | 36 | 40.0 | 46.0 | 1.0 | 5 | 5 | 58.1 | 25.8 | SMC/DO-214AB |
| 1.5SMCJ40(C) | GFQ | BFQ | 40 | 44.4 | 56.3 | 1.0 | 5 | 5 | 71.4 | 21.0 | SMC/DO-214AB |
| 1.5SMCJ40(C)A | GFR | BFR | 40 | 44.4 | 51.1 | 1.0 | 5 | 5 | 64.5 | 23.2 | SMC/DO-214AB |



| Part Number | Marking Code | | V _{VRWM} | V _{BR} @ I _T | | | I _R @ V _{VRWM} | | V _C @ I _{PP} | | PACKAGE |
|---|--------------|-----|-------------------|----------------------------------|--------|-------------------|------------------------------------|--------|----------------------------------|------|--------------|
| | UNI- | BI- | | Min. V | Max. V | I _T mA | UNI- uA | BI- uA | V | A | |
| | | | V | V | | | | | | | |
| 1500W Transient Voltage Suppressor | | | | | | | | | | | |
| 1.5SMCJ43(C) | GFS | BFS | 43 | 47.8 | 60.5 | 1.0 | 5 | 5 | 76.7 | 19.6 | SMC/DO-214AB |
| 1.5SMCJ43(C)A | GFT | BFT | 43 | 47.8 | 54.9 | 1.0 | 5 | 5 | 69.4 | 21.6 | SMC/DO-214AB |
| 1.5SMCJ45(C) | GFU | BFU | 45 | 50.0 | 63.3 | 1.0 | 5 | 5 | 80.3 | 18.7 | SMC/DO-214AB |
| 1.5SMCJ45(C)A | GFV | BFV | 45 | 50.0 | 57.5 | 1.0 | 5 | 5 | 72.7 | 20.6 | SMC/DO-214AB |
| 1.5SMCJ48(C) | GFW | BFW | 48 | 53.3 | 67.5 | 1.0 | 5 | 5 | 85.5 | 17.5 | SMC/DO-214AB |
| 1.5SMCJ48(C)A | GFX | BFX | 48 | 53.3 | 61.3 | 1.0 | 5 | 5 | 77.4 | 19.4 | SMC/DO-214AB |
| 1.5SMCJ51(C) | GFY | BFY | 51 | 56.7 | 71.8 | 1.0 | 5 | 5 | 91.1 | 18.5 | SMC/DO-214AB |
| 1.5SMCJ51(C)A | GFZ | BFZ | 51 | 56.7 | 65.2 | 1.0 | 5 | 5 | 82.4 | 18.2 | SMC/DO-214AB |
| 1.5SMCJ54(C) | GGD | BGD | 54 | 60.0 | 76.0 | 1.0 | 5 | 5 | 96.3 | 15.6 | SMC/DO-214AB |
| 1.5SMCJ54(C)A | GGE | BGE | 54 | 60.0 | 69.0 | 1.0 | 5 | 5 | 87.1 | 17.2 | SMC/DO-214AB |
| 1.5SMCJ58(C) | GGF | BGF | 58 | 64.4 | 81.6 | 1.0 | 5 | 5 | 103 | 14.6 | SMC/DO-214AB |
| 1.5SMCJ58(C)A | GGG | BGG | 58 | 64.4 | 74.1 | 1.0 | 5 | 5 | 93.6 | 16.0 | SMC/DO-214AB |
| 1.5SMCJ60(C) | GGH | BGH | 60 | 66.7 | 84.5 | 1.0 | 5 | 5 | 107 | 14.0 | SMC/DO-214AB |
| 1.5SMCJ60(C)A | GGK | BGK | 60 | 66.7 | 76.7 | 1.0 | 5 | 5 | 96.8 | 15.5 | SMC/DO-214AB |
| 1.5SMCJ64(C) | GGL | BGL | 64 | 71.1 | 90.1 | 1.0 | 5 | 5 | 114 | 13.2 | SMC/DO-214AB |
| 1.5SMCJ64(C)A | GGM | BGM | 64 | 71.1 | 81.8 | 1.0 | 5 | 5 | 103 | 14.6 | SMC/DO-214AB |
| 1.5SMCJ70(C) | GGN | BGN | 70 | 77.8 | 98.6 | 1.0 | 5 | 5 | 125 | 12.0 | SMC/DO-214AB |
| 1.5SMCJ70(C)A | GGP | BGP | 70 | 77.8 | 89.5 | 1.0 | 5 | 5 | 113 | 13.3 | SMC/DO-214AB |
| 1.5SMCJ75(C) | GGQ | BGQ | 75 | 83.3 | 105.7 | 1.0 | 5 | 5 | 134 | 11.2 | SMC/DO-214AB |
| 1.5SMCJ75(C)A | GGR | BGR | 75 | 83.3 | 95.8 | 1.0 | 5 | 5 | 121 | 12.4 | SMC/DO-214AB |
| 1.5SMCJ78(C) | GGS | BGS | 78 | 86.7 | 109.8 | 1.0 | 5 | 5 | 139 | 10.8 | SMC/DO-214AB |
| 1.5SMCJ78(C)A | GGT | BGT | 78 | 86.7 | 99.7 | 1.0 | 5 | 5 | 126 | 11.4 | SMC/DO-214AB |
| 1.5SMCJ85(C) | GGU | BGU | 85 | 94.4 | 119.2 | 1.0 | 5 | 5 | 151 | 9.9 | SMC/DO-214AB |
| 1.5SMCJ85(C)A | GGV | BGV | 85 | 94.4 | 108.2 | 1.0 | 5 | 5 | 137 | 10.4 | SMC/DO-214AB |
| 1.5SMCJ90(C) | GGW | BGW | 90 | 100 | 126.5 | 1.0 | 5 | 5 | 160 | 9.4 | SMC/DO-214AB |
| 1.5SMCJ90(C)A | GGX | BGX | 90 | 100 | 115.5 | 1.0 | 5 | 5 | 146 | 10.3 | SMC/DO-214AB |
| 1.5SMCJ100(C) | GGZ | BGZ | 100 | 111 | 141.0 | 1.0 | 5 | 5 | 179 | 8.4 | SMC/DO-214AB |
| 1.5SMCJ100(C)A | GGY | BGY | 100 | 111 | 128.0 | 1.0 | 5 | 5 | 162 | 9.3 | SMC/DO-214AB |
| 1.5SMCJ110(C) | GHD | BHD | 110 | 122 | 154.5 | 1.0 | 5 | 5 | 196 | 7.7 | SMC/DO-214AB |
| 1.5SMCJ110(C)A | GHE | BHE | 110 | 122 | 140.5 | 1.0 | 5 | 5 | 177 | 8.4 | SMC/DO-214AB |
| 1.5SMCJ120(C) | GHF | BHF | 120 | 133 | 169.0 | 1.0 | 5 | 5 | 214 | 7.0 | SMC/DO-214AB |
| 1.5SMCJ120(C)A | GHG | BHG | 120 | 133 | 153.0 | 1.0 | 5 | 5 | 193 | 7.9 | SMC/DO-214AB |
| 1.5SMCJ130(C) | GHH | BHH | 130 | 144 | 182.5 | 1.0 | 5 | 5 | 231 | 6.5 | SMC/DO-214AB |
| 1.5SMCJ130(C)A | GHK | BHK | 130 | 144 | 165.5 | 1.0 | 5 | 5 | 209 | 7.2 | SMC/DO-214AB |
| 1.5SMCJ150(C) | GHL | BHL | 150 | 167 | 211.5 | 1.0 | 5 | 5 | 268 | 5.6 | SMC/DO-214AB |
| 1.5SMCJ150(C)A | GHM | BHM | 150 | 167 | 192.5 | 1.0 | 5 | 5 | 243 | 6.2 | SMC/DO-214AB |
| 1.5SMCJ160(C) | GHN | BHN | 160 | 178 | 226.0 | 1.0 | 5 | 5 | 287 | 5.2 | SMC/DO-214AB |
| 1.5SMCJ160(C)A | GHP | BHP | 160 | 178 | 205.0 | 1.0 | 5 | 5 | 259 | 5.8 | SMC/DO-214AB |
| 1.5SMCJ170(C) | GHQ | BHQ | 170 | 189 | 239.5 | 1.0 | 5 | 5 | 304 | 4.9 | SMC/DO-214AB |
| 1.5SMCJ170(C)A | GHR | BHR | 170 | 189 | 217.5 | 1.0 | 5 | 5 | 275 | 5.5 | SMC/DO-214AB |
| 1.5SMCJ180(C) | GHS | BHS | 180 | 198 | 253.8 | 1.0 | 5 | 5 | 322 | 4.7 | SMC/DO-214AB |
| 1.5SMCJ180(C)A | GHT | BHT | 180 | 198 | 230.4 | 1.0 | 5 | 5 | 292 | 5.1 | SMC/DO-214AB |
| 1.5SMCJ190(C) | GHU | BHU | 190 | 209 | 267.9 | 1.0 | 5 | 5 | 340 | 4.4 | SMC/DO-214AB |
| 1.5SMCJ190(C)A | GHV | BHV | 190 | 209 | 243.2 | 1.0 | 5 | 5 | 308 | 4.8 | SMC/DO-214AB |
| 1.5SMCJ200(C) | GHW | BHW | 200 | 220 | 282.0 | 1.0 | 5 | 5 | 358 | 4.1 | SMC/DO-214AB |
| 1.5SMCJ200(C)A | GHX | BHX | 200 | 220 | 256.0 | 1.0 | 5 | 5 | 324 | 4.6 | SMC/DO-214AB |
| 1.5SMCJ210(C) | GHY | BHY | 210 | 231 | 296.1 | 1.0 | 5 | 5 | 376 | 4.0 | SMC/DO-214AB |
| 1.5SMCJ210(C)A | GHZ | BHZ | 210 | 231 | 268.8 | 1.0 | 5 | 5 | 340 | 4.4 | SMC/DO-214AB |
| 1.5SMCJ220(C) | GID | BID | 220 | 242 | 310.2 | 1.0 | 5 | 5 | 394 | 3.8 | SMC/DO-214AB |
| 1.5SMCJ220(C)A | GIE | BIE | 220 | 242 | 281.6 | 1.0 | 5 | 5 | 356 | 4.2 | SMC/DO-214AB |

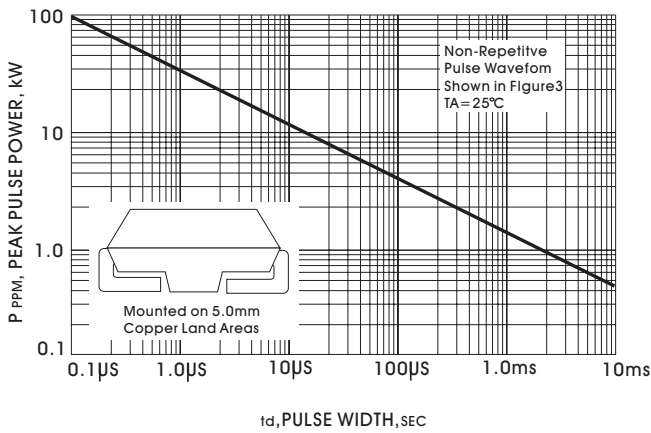


FIGURE 1-PEAK PULSE POWER RATING CURVE

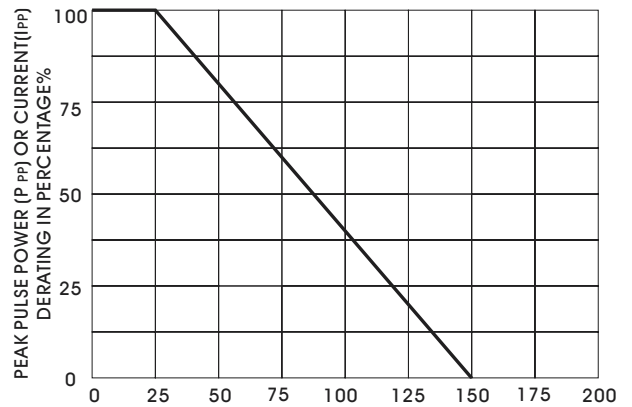


FIGURE 2 DERATING CURVE

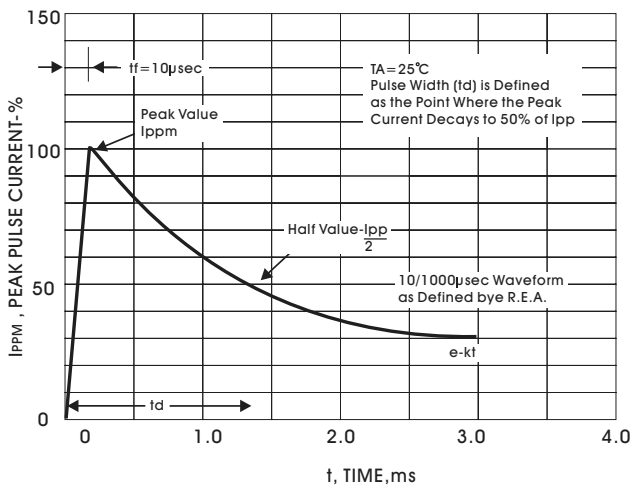


FIGURE 3-PULSE WAVEFORM

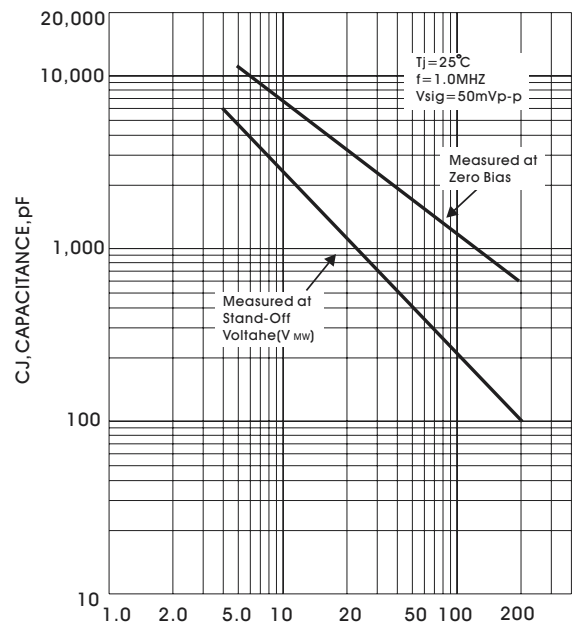


FIGURE 4 TYPICAL CAPACITANCE

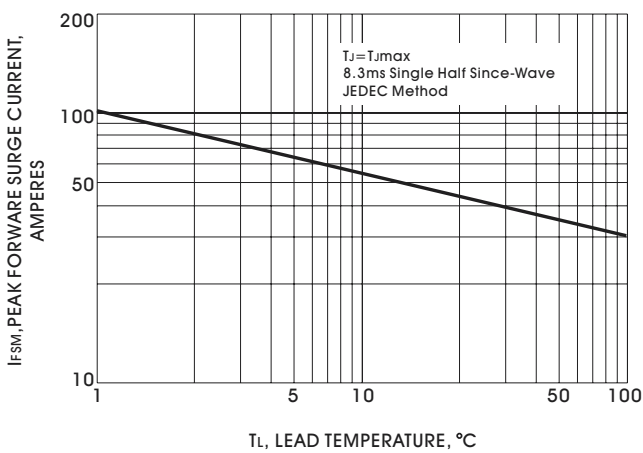


FIG. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL



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