



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



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.Measured on 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 | V | mA | uA | uA | | | |
| 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 _{RWM} | V _{BR} @ I _T | | | I _R @ V _{RWM} | | V _C @ I _{PP} | | PACKAGE |
|---|--------------|-----|------------------|----------------------------------|--------|-------------------|-----------------------------------|--------|----------------------------------|------|--------------|
| | UNI- | BI- | | Min. V | Max. V | I _T mA | UNI- uA | BI- uA | V | A | |
| | | | V | V | | | | | | | |
| 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 | SMC/DO-214AB |

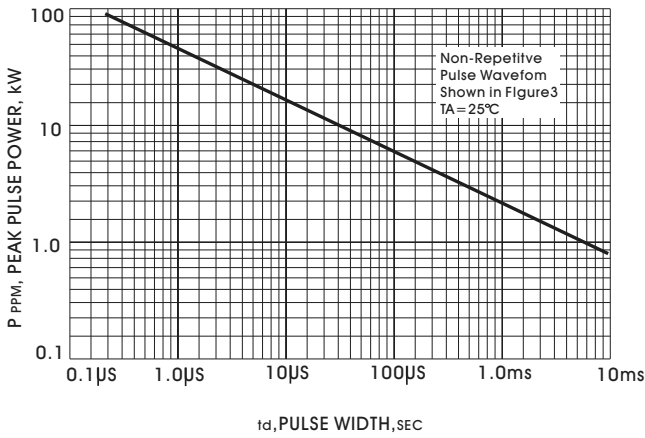


FIGURE 1-PEAK PULSE POWER RATING CURVE



FIGURE 2 DERATING CURVE



FIGURE 3-PULSE WAVEFORM

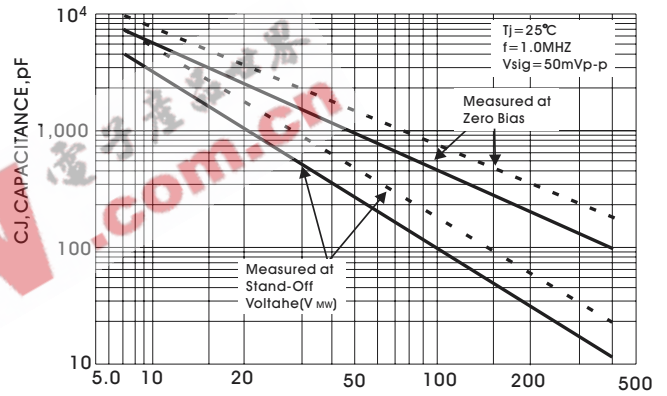


FIGURE 4 TYPICAL CAPACITANCE

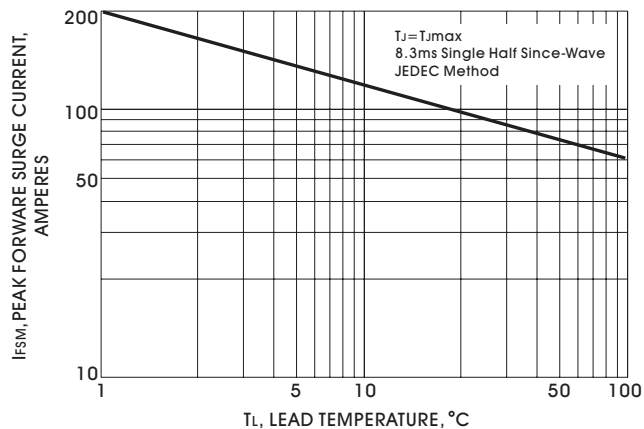


FIG. 5-MAXIMUM NON-REPETITIVE PEAK FOWARD SURGE CURRENT UNIDIRECTIONAL