

| Part Number<br>Add C For<br>Bi-Directional<br>(Note 5) | Reverse<br>Standoff<br>Voltage | Breakdown<br>Voltage<br>V <sub>BR</sub> @ I <sub>T</sub> (Note 6) |         | Test<br>Current     | Max. Reverse<br>Leakage @<br>V <sub>RWM</sub> (Note 7) | Max. Clamping<br>Voltage @ I <sub>pp</sub> | Max. Peak Pulse<br>Current<br>I <sub>pp</sub> | Marking Code |      |
|--------------------------------------------------------|--------------------------------|-------------------------------------------------------------------|---------|---------------------|--------------------------------------------------------|--------------------------------------------|-----------------------------------------------|--------------|------|
|                                                        | V <sub>RWM</sub> (V)           | Min (V)                                                           | Max (V) | I <sub>T</sub> (mA) | I <sub>R</sub> (μA)                                    | V <sub>C</sub> (V)                         | (A)                                           | BI-          | UNI- |
| SMCJ5.0(C)A                                            | 5.0                            | 6.40                                                              | 7.25    | 10                  | 1000                                                   | 9.2                                        | 163.0                                         | BDE          | GDE  |
| SMCJ6.0(C)A                                            | 6.0                            | 6.67                                                              | 7.67    | 10                  | 1000                                                   | 10.3                                       | 145.6                                         | BDG          | GDG  |
| SMCJ6.5(C)A                                            | 6.5                            | 7.22                                                              | 8.30    | 10                  | 500                                                    | 11.2                                       | 133.9                                         | BDK          | GDK  |
| SMCJ7.0(C)A                                            | 7.0                            | 7.78                                                              | 8.95    | 10                  | 200                                                    | 12.0                                       | 125.0                                         | BDM          | GDM  |
| SMCJ7.5(C)A                                            | 7.5                            | 8.33                                                              | 9.58    | 1.0                 | 100                                                    | 12.9                                       | 116.3                                         | BDP          | GDP  |
| SMCJ8.0(C)A                                            | 8.0                            | 8.89                                                              | 10.23   | 1.0                 | 50                                                     | 13.6                                       | 110.3                                         | BDR          | GDR  |
| SMCJ8.5(C)A                                            | 8.5                            | 9.44                                                              | 10.82   | 1.0                 | 20                                                     | 14.4                                       | 104.2                                         | BDT          | GDT  |
| SMCJ9.0(C)A                                            | 9.0                            | 10.00                                                             | 11.50   | 1.0                 | 10                                                     | 15.4                                       | 97.4                                          | BDV          | GDV  |
| SMCJ10(C)A                                             | 10.0                           | 11.10                                                             | 12.80   | 1.0                 | 5.0                                                    | 17.0                                       | 88.2                                          | BDX          | GDX  |
| SMCJ11(C)A                                             | 11.0                           | 12.20                                                             | 14.40   | 1.0                 | 5.0                                                    | 18.2                                       | 82.4                                          | BDZ          | GDZ  |
| SMCJ12(C)A                                             | 12.0                           | 13.30                                                             | 15.30   | 1.0                 | 5.0                                                    | 19.9                                       | 75.3                                          | BEE          | GEE  |
| SMCJ13(C)A                                             | 13.0                           | 14.40                                                             | 16.50   | 1.0                 | 5.0                                                    | 21.5                                       | 69.7                                          | BEG          | GEG  |
| SMCJ14(C)A                                             | 14.0                           | 15.60                                                             | 17.90   | 1.0                 | 5.0                                                    | 23.2                                       | 64.7                                          | BEK          | GEK  |
| SMCJ15(C)A                                             | 15.0                           | 16.70                                                             | 19.20   | 1.0                 | 5.0                                                    | 24.4                                       | 61.5                                          | BEM          | GEM  |
| SMCJ16(C)A                                             | 16.0                           | 17.80                                                             | 20.50   | 1.0                 | 5.0                                                    | 26.0                                       | 57.7                                          | BEP          | GEP  |
| SMCJ17(C)A                                             | 17.0                           | 18.90                                                             | 21.70   | 1.0                 | 5.0                                                    | 27.6                                       | 53.3                                          | BER          | GER  |
| SMCJ18(C)A                                             | 18.0                           | 20.00                                                             | 23.30   | 1.0                 | 5.0                                                    | 29.2                                       | 51.4                                          | BET          | GET  |
| SMCJ20(C)A                                             | 20.0                           | 22.20                                                             | 25.50   | 1.0                 | 5.0                                                    | 32.4                                       | 46.3                                          | BEV          | GEV  |
| SMCJ22(C)A                                             | 22.0                           | 24.40                                                             | 28.00   | 1.0                 | 5.0                                                    | 35.5                                       | 42.2                                          | BEX          | GEX  |
| SMCJ24(C)A                                             | 24.0                           | 26.70                                                             | 30.70   | 1.0                 | 5.0                                                    | 38.9                                       | 38.6                                          | BEZ          | GEZ  |
| SMCJ26(C)A                                             | 26.0                           | 28.90                                                             | 33.20   | 1.0                 | 5.0                                                    | 42.1                                       | 35.6                                          | BFE          | GFE  |
| SMCJ28(C)A                                             | 28.0                           | 31.10                                                             | 35.80   | 1.0                 | 5.0                                                    | 45.4                                       | 33.0                                          | BFG          | GFG  |
| SMCJ30(C)A                                             | 30.0                           | 33.30                                                             | 38.30   | 1.0                 | 5.0                                                    | 48.4                                       | 31.0                                          | BFK          | GFK  |
| SMCJ33(C)A                                             | 33.0                           | 36.70                                                             | 42.20   | 1.0                 | 5.0                                                    | 53.3                                       | 28.1                                          | BFM          | GFM  |
| SMCJ36(C)A                                             | 36.0                           | 40.00                                                             | 46.00   | 1.0                 | 5.0                                                    | 58.1                                       | 25.8                                          | BFP          | GFP  |
| SMCJ40(C)A                                             | 40.0                           | 44.40                                                             | 51.10   | 1.0                 | 5.0                                                    | 64.5                                       | 23.2                                          | BFR          | GFR  |
| SMCJ43(C)A                                             | 43.0                           | 47.80                                                             | 54.90   | 1.0                 | 5.0                                                    | 69.4                                       | 21.6                                          | BFT          | GFT  |
| SMCJ45(C)A                                             | 45.0                           | 50.00                                                             | 57.50   | 1.0                 | 5.0                                                    | 72.7                                       | 20.6                                          | BFV          | GFV  |
| SMCJ48(C)A                                             | 48.0                           | 53.30                                                             | 61.30   | 1.0                 | 5.0                                                    | 77.4                                       | 19.4                                          | BFX          | GFX  |
| SMCJ51(C)A                                             | 51.0                           | 56.70                                                             | 65.20   | 1.0                 | 5.0                                                    | 82.4                                       | 18.2                                          | BFZ          | GFZ  |
| SMCJ54(C)A                                             | 54.0                           | 60.00                                                             | 69.00   | 1.0                 | 5.0                                                    | 87.1                                       | 17.2                                          | BGE          | GGE  |
| SMCJ58(C)A                                             | 58.0                           | 64.40                                                             | 74.60   | 1.0                 | 5.0                                                    | 93.6                                       | 16.0                                          | BGG          | GGG  |
| SMCJ60(C)A                                             | 60.0                           | 66.70                                                             | 76.70   | 1.0                 | 5.0                                                    | 96.8                                       | 15.5                                          | BGK          | GGK  |
| SMCJ64(C)A                                             | 64.0                           | 71.10                                                             | 81.80   | 1.0                 | 5.0                                                    | 103.0                                      | 14.6                                          | BGM          | GGM  |
| SMCJ70(C)A                                             | 70.0                           | 77.80                                                             | 89.50   | 1.0                 | 5.0                                                    | 113.0                                      | 13.3                                          | BGP          | GGP  |
| SMCJ75(C)A                                             | 75.0                           | 83.30                                                             | 95.80   | 1.0                 | 5.0                                                    | 121.0                                      | 12.4                                          | BGR          | GGR  |
| SMCJ78(C)A                                             | 78.0                           | 86.70                                                             | 99.70   | 1.0                 | 5.0                                                    | 126.0                                      | 11.4                                          | BGT          | GGT  |
| SMCJ85(C)A                                             | 85.0                           | 94.40                                                             | 108.20  | 1.0                 | 5.0                                                    | 137.0                                      | 10.4                                          | BGV          | GGV  |
| SMCJ90(C)A                                             | 90.0                           | 100.00                                                            | 115.50  | 1.0                 | 5.0                                                    | 146.0                                      | 10.3                                          | BGX          | GGX  |
| SMCJ100(C)A                                            | 100.0                          | 111.00                                                            | 128.00  | 1.0                 | 5.0                                                    | 162.0                                      | 9.3                                           | BGZ          | GGZ  |
| SMCJ110(C)A                                            | 110.0                          | 122.00                                                            | 140.50  | 1.0                 | 5.0                                                    | 177.0                                      | 8.4                                           | BHE          | GHE  |
| SMCJ120(C)A                                            | 120.0                          | 133.00                                                            | 153.00  | 1.0                 | 5.0                                                    | 193.0                                      | 7.9                                           | BHG          | GHG  |
| SMCJ130(C)A                                            | 130.0                          | 144.00                                                            | 165.50  | 1.0                 | 5.0                                                    | 209.0                                      | 7.2                                           | BHK          | GHK  |
| SMCJ150(C)A                                            | 150.0                          | 167.00                                                            | 192.50  | 1.0                 | 5.0                                                    | 243.0                                      | 6.2                                           | BHM          | GHM  |
| SMCJ160(C)A                                            | 160.0                          | 178.00                                                            | 205.00  | 1.0                 | 5.0                                                    | 259.0                                      | 5.8                                           | BHP          | GHP  |
| SMCJ170(C)A                                            | 170.0                          | 189.00                                                            | 217.50  | 1.0                 | 5.0                                                    | 275.0                                      | 5.5                                           | BHR          | GHR  |

Notes: 5. Suffix C denotes Bi-directional device.  
6. V<sub>BR</sub> measured with I<sub>T</sub> current pulse = 300μs  
7. For Bi-Directional devices having V<sub>RWM</sub> of 10V and under, the I<sub>R</sub> is doubled.

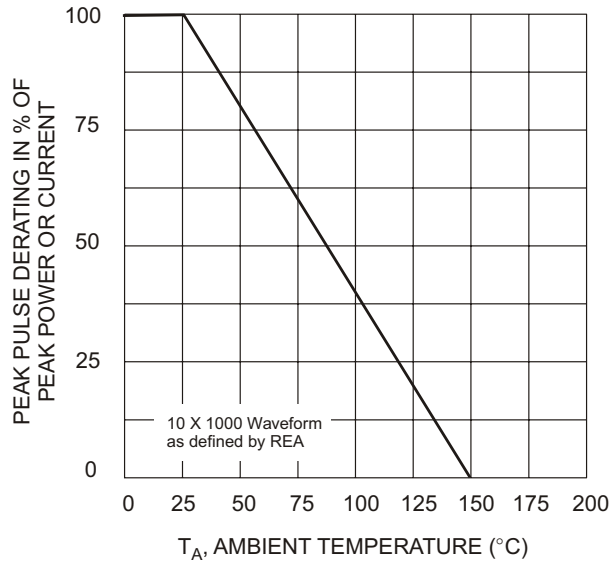


Fig. 1 Pulse Derating Curve

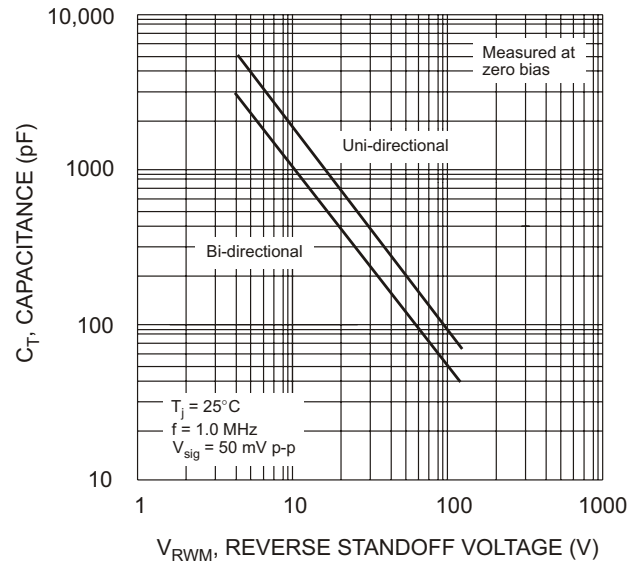


Fig. 2 Typical Total Capacitance

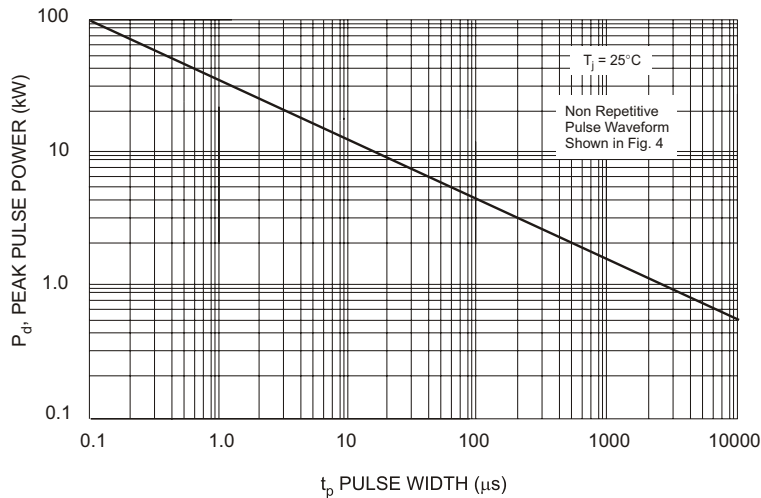


Fig. 3 Pulse Rating Curve

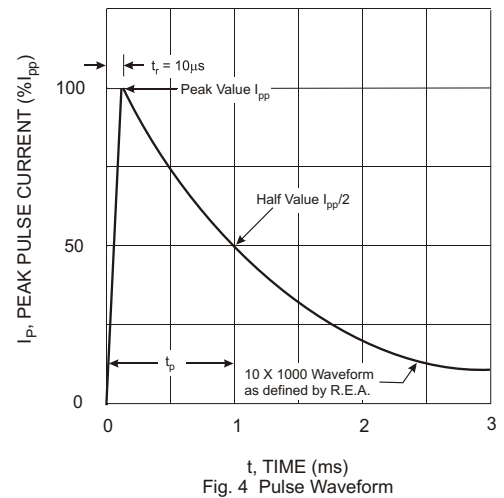


Fig. 4 Pulse Waveform

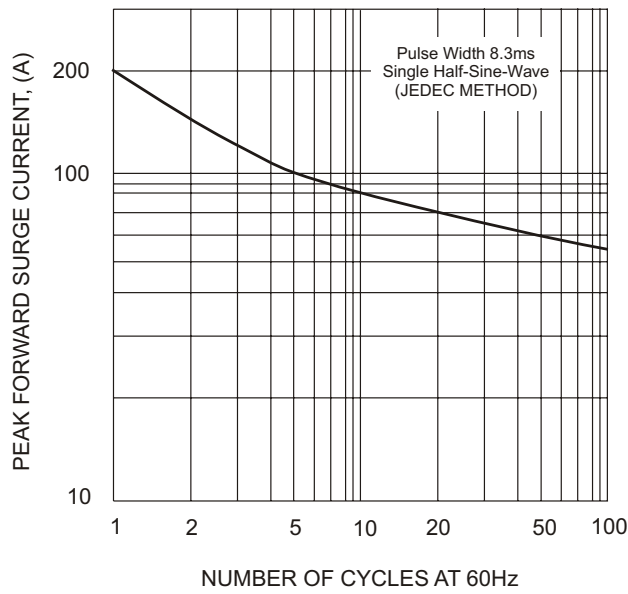


Fig. 5, Maximum Non-Repetitive Surge Current

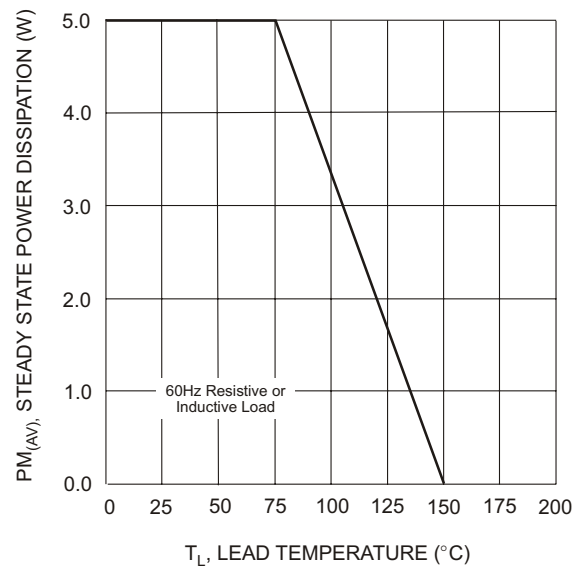
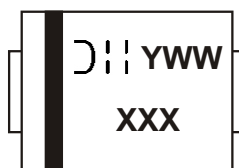


Fig. 6 Steady State Power Derating Curve

**Ordering Information** (Note 8)

| Device         | Packaging | Shipping         |
|----------------|-----------|------------------|
| SMCJXXX(C)A-13 | SMC       | 5000/Tape & Reel |

Notes: 8. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
9. For Lead Free Finish/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: SMCJ170A-13-F.

**Marking Information**

XXX = Product type marking code (See Page 2)  
D11 = Manufacturers' code marking  
YWW = Date code marking  
Y = Last digit of year ex: 2 for 2002  
WW = Week code 01 to 52