

# Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC<br>Part Number |           | Reverse<br>Stand-Off<br>Voltage | Breakdown Voltage<br>V <sub>BR</sub> (V) |       | Test<br>Current     | Max.<br>Clamping Voltage<br>@I <sub>PP</sub> | Peak<br>Pulse<br>Current | Reverse<br>Leakage<br>Current@V <sub>wM</sub> | Marking Code |     |
|--------------------|-----------|---------------------------------|--|-------|---------------------|--|--------------------------|---|--------------|-----|
| Uni-Polar          | Bi-Polar  | V <sub>WM</sub> (V)             | Min                                      | Max   | I <sub>⊤</sub> (mA) | V <sub>c</sub> (V)                           | I <sub>PP</sub> (A)      | I <sub>D</sub> (μA)                           | UNI          | BI  |
| SMCJ5.0A           | SMCJ5.0CA | 5                               | 6.4                                      | 7.0   | 10                  | 9.2  | 163.0                    | 800   | GDE          | BDE |
| SMCJ6.0A           | SMCJ6.0CA | 6                               | 6.7                                      | 7.4   | 10                  | 10.3   | 145.7                    | 800   | GDG          | BDG |
| SMCJ6.5A           | SMCJ6.5CA | 6.5                             | 7.2                                      | 8.0   | 10                  | 11.2   | 134.0                    | 500   | GDK          | BDK |
| SMCJ7.0A           | SMCJ7.0CA | 7                               | 7.8                                      | 8.6   | 10                  | 12.0   | 125.0                    | 200   | GDM          | BDM |
| SMCJ7.5A           | SMCJ7.5CA | 7.5                             | 8.3                                      | 9.2   | 1                   | 12.9   | 116.3                    | 100   | GDP          | BDP |
| SMCJ8.0A           | SMCJ8.0CA | 8                               | 8.9                                      | 9.8   | 1                   | 13.6   | 110.3                    | 50  | GDR          | BDR |
| SMCJ8.5A           | SMCJ8.5CA | 8.5                             | 9.4                                      | 10.4  | 1                   | 14.4   | 104.2                    | 20  | GDT          | BDT |
| SMCJ9.0A           | SMCJ9.0CA | 9                               | 10.0                                     | 11.1  | 1                   | 15.4   | 97.4                     | 10  | GDV          | BDV |
| SMCJ10A            | SMCJ10CA  | 10                              | 11.1                                     | 12.3  | 1                   | 17.0   | 88.3                     | 5   | GDX          | BDX |
| SMCJ11A            | SMCJ11CA  | 11                              | 12.2                                     | 13.5  | 1                   | 18.2   | 82.5                     | 1   | GDZ          | BDZ |
| SMCJ12A            | SMCJ12CA  | 12                              | 13.3                                     | 14.7  | 1                   | 19.9   | 75.4                     | 1   | GEE          | BEE |
| SMCJ13A            | SMCJ13CA  | 13                              | 14.4                                     | 15.9  | 1                   | 21.5   | 69.8                     | 1   | GEG          | BEG |
| SMCJ14A            | SMCJ14CA  | 14                              | 15.6                                     | 17.2  | 1                   | 23.2   | 64.7                     | 1   | GEK          | BEK |
| SMCJ15A            | SMCJ15CA  | 15                              | 16.7                                     | 18.5  | 1                   | 24.4   | 61.5                     | 1   | GEM          | BEM |
| SMCJ16A            | SMCJ16CA  | 16                              | 17.8                                     | 19.7  | 1                   | 26.0   | 57.7                     | 1   | GEP          | BEP |
| SMCJ17A            | SMCJ17CA  | 17                              | 18.9                                     | 20.9  | 1                   | 27.6   | 54.4                     | 1   | GER          | BER |
| SMCJ18A            | SMCJ18CA  | 18                              | 20.0                                     | 22.1  | 1                   | 29.2   | 51.4                     | 1   | GET          | BET |
| SMCJ20A            | SMCJ20CA  | 20                              | 22.2                                     | 24.5  | 1                   | 32.4   | 46.3                     | 1   | GEV          | BEV |
| SMCJ22A            | SMCJ22CA  | 22                              | 24.4                                     | 26.9  | 1                   | 35.5   | 42.3                     | 1   | GEX          | BEX |
| SMCJ24A            | SMCJ24CA  | 24                              | 26.7                                     | 29.5  | 1                   | 38.9   | 38.6                     | 1   | GEZ          | BEZ |
| SMCJ26A            | SMCJ26CA  | 26                              | 28.9                                     | 31.9  | 1                   | 42.1   | 35.7                     | 1   | GFE          | BFE |
| SMCJ28A            | SMCJ28CA  | 28                              | 31.1                                     | 34.4  | 1                   | 45.4   | 33.1                     | 1   | GFG          | BFG |
| SMCJ30A            | SMCJ30CA  | 30                              | 33.3                                     | 36.8  | 1                   | 48.4   | 31.0                     | 1   | GFK          | BFK |
| SMCJ33A            | SMCJ33CA  | 33                              | 36.7                                     | 40.6  | 1                   | 53.3   | 28.2                     | 1   | GFM          | BFM |
| SMCJ36A            | SMCJ36CA  | 36                              | 40.0                                     | 44.2  | 1                   | 58.1   | 25.9                     | 1   | GFP          | BFP |
| SMCJ40A            | SMCJ40CA  | 40                              | 44.4                                     | 49.1  | 1                   | 64.5   | 23.3                     | 1   | GFR          | BFR |
| SMCJ43A            | SMCJ43CA  | 43                              | 47.8                                     | 52.8  | 1                   | 69.4   | 21.7                     | 1   | GFT          | BFT |
| SMCJ45A            | SMCJ45CA  | 45                              | 50.0                                     | 55.3  | 1                   | 72.7   | 20.6                     | 1   | GFV          | BFV |
| SMCJ48A            | SMCJ48CA  | 48                              | 53.3                                     | 58.9  | 1                   | 77.4   | 19.4                     | 1   | GFX          | BFX |
| SMCJ51A            | SMCJ51CA  | 51                              | 56.7                                     | 62.7  | 1                   | 82.4   | 18.2                     | 1   | GFZ          | BFZ |
| SMCJ54A            | SMCJ54CA  | 54                              | 60.0                                     | 66.3  | 1                   | 87.1   | 17.3                     | 1   | GGE          | BGE |
| SMCJ58A            | SMCJ58CA  | 58                              | 64.4                                     | 71.2  | 1                   | 93.6   | 16.1                     | 1   | GGG          | BGG |
| SMCJ60A            | SMCJ60CA  | 60                              | 66.7                                     | 73.7  | 1                   | 96.8   | 15.5                     | 1   | GGK          | BGK |
| SMCJ64A            | SMCJ64CA  | 64                              | 71.1                                     | 78.6  | 1                   | 103.0  | 14.6                     | 1   | GGM          | BGM |
| SMCJ70A            | SMCJ70CA  | 70                              | 77.8                                     | 86.0  | 1                   | 113.0  | 13.3                     | 1   | GGP          | BGP |
| SMCJ75A            | SMCJ75CA  | 75                              | 83.3                                     | 92.1  | 1                   | 121.0  | 12.4                     | 1   | GGR          | BGR |
| SMCJ78A            | SMCJ78CA  | 78                              | 86.7                                     | 95.8  | 1                   | 126.0  | 11.9                     | 1   | GGT          | BGT |
| SMCJ85A            | SMCJ85CA  | 85                              | 94.4                                     | 104.0 | 1                   | 137.0  | 11.0                     | 1   | GGV          | BGV |
| SMCJ90A            | SMCJ90CA  | 90                              | 100.0                                    | 111.0 | 1                   | 146.0  | 10.3                     | 1   | GGX          | BGX |
| SMCJ100A           | SMCJ100CA | 100                             | 111.0                                    | 123.0 | 1                   | 162.0  | 9.3                      | 1   | GGZ          | BGZ |
| SMCJ110A           | SMCJ110CA | 110                             | 122.0                                    | 135.0 | 1                   | 177  | 8.5                      | 1   | GHE          | BHE |
| SMCJ120A           | SMCJ120CA | 120                             | 133.0                                    | 147.0 | 1                   | 193  | 7.8                      | 1   | GHG          | BHG |
| SMCJ130A           | SMCJ130CA | 130                             | 144.0                                    | 159.0 | 1                   | 209  | 7.2                      | 1   | GHK          | BHK |
| SMCJ150A           | SMCJ150CA | 150                             | 167.0                                    | 185.0 | 1                   | 243  | 6.2                      | 1   | GHM          | BHM |
| SMCJ160A           | SMCJ160CA | 160                             | 178.0                                    | 197.0 | 1                   | 259  | 5.8                      | 1   | GHP          | BHP |
| SMCJ170A           | SMCJ170CA | 170                             | 189.0                                    | 209.0 | 1                   | 275  | 5.5                      | 1   | GHR          | BHR |
| SMCJ180A           | SMCJ180CA | 180                             | 201.0                                    | 222.0 | 1                   | 292  | 5.1                      | 1   | GHT          | BHT |
| SMCJ200A           | SMCJ200CA | 200                             | 224.0                                    | 247.0 | 1                   | 324  | 4.6                      | 1   | GHV          | BHV |

For bi-directional type having  $V_{\text{nwm}}$  of 10volts and less, the  $I_{\text{R}}$  limit is double. For parts without A, the  $V_{\text{BR}}$  is ±10%

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|--------------------|-----------|---------------------------------|--|-------|-----------------|--|--------------------------|---|--------------|-----|
| SMCJ220A           | SMCJ220CA | 220                             | 246.0                                    | 272.0 | 1               | 356  | 4.2                      | 1   | GHX          | BHX |
| SMCJ250A           | SMCJ250CA | 250                             | 279.0                                    | 309.0 | 1               | 405  | 3.7                      | 1   | GHZ          | BHZ |
| SMCJ300A           | SMCJ300CA | 300                             | 335.0                                    | 371.0 | 1               | 486  | 3.1                      | 1   | GJE          | BJE |
| SMCJ350A           | SMCJ350CA | 350                             | 391.0                                    | 432.0 | 1               | 567  | 2.6                      | 1   | GJG          | BJG |
| SMCJ400A           | SMCJ400CA | 400                             | 447.0                                    | 494.0 | 1               | 648  | 2.3                      | 1   | GJK          | BJK |
| SMCJ440A           | SMCJ440CA | 440                             | 492.0                                    | 543.0 | 1               | 713  | 2.1                      | 1   | GJM          | BJM |

For bi-directional type having V\_{nvm} of 10volts and less, the I\_R limit is double. For parts without A, the V\_{BR} is  $\pm 10\%$ 



# **Curve Characteristics**

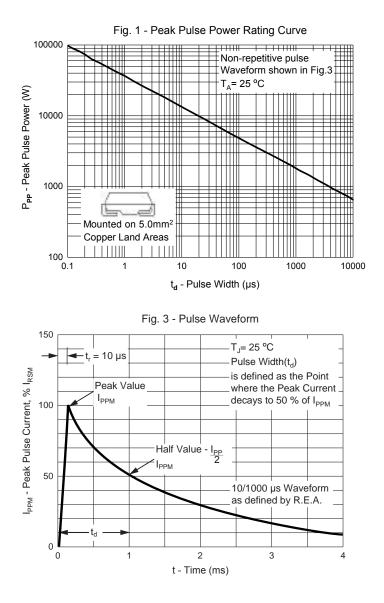
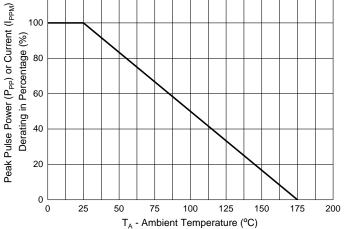


Fig. 2 - Typical Junction Capacitance 100000 C<sub>J</sub> - Junction Capacitance (pF) 10000 Bi-directional at Zero Bias ++++++ Uni-directional at Zero Bias 1000 Uni-directional at V<sub>R</sub> 100 T<sub>J</sub> = 25 °C f = 1.0 MHz Vsig = 50 mVp-p Bi-directional at V<sub>R</sub> | | | | | | 10 10 100 1000 V<sub>BR</sub> - Breakdown Voltage (V) Fig. 4 - Pulse Derating Curve 120 100





# **Ordering Information**

| Device         | Packing              |  |  |  |  |
|----------------|----------------------|--|--|--|--|
| Part Number-TP | Tape&Reel:3Kpcs/Reel |  |  |  |  |

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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