



# THE DATASHEET OF SMBJ58CA-TP



|   |                |
|---|----------------|
|  | <b>E480232</b> |
|---|----------------|

**Features**

- For Surface Mount Applications in Order to Optimize Board Space
- Low Inductance
- Fast Response Time: Typical Less than 1ps From 0V to  $V_{BR}$  min
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMBJ5.0CA for 5% Tolerance

**Mechanical Data**

- Polarity: Color Band Denotes Positive end( cathode) Except Bi-directional Types
- Maximum Soldering Temperature:260°C for 10 Seconds
- Terminals: Solderable Per MIL-STD-750, Method 2026

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance :20°C/W Junction to Lead
- Thermal Resistance :25°C/W Junction to Case
- Thermal Resistance :100°C/W Junction to Ambient

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|  |             |               |  |
|--|-------------|---------------|--|
| Peak Pulse Power Surge Current on 10/1000µs Waveform | $I_{PP}$    | See the Table | Note 3   |
| Peak Pulse Power Dissipation                         | $P_{PP}$    | 600W          | Note 3,4,5                                       |
| Steady State Power Dissipation                       | $P_{M(AV)}$ | 5.0W          | Note 6   |
| Peak Forward Surge Current                           | $I_{FSM}$   | 100A          | 8.3 ms Single Half Sine-Wave Unidirectional Only |

**NOTES:**

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.4
4. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.
5. Peak pulse current waveform is 10/1000us, with maximum duty Cycle of 0.01%.
6. Power dissipation, on infinite heat sink at  $T_L=75^\circ\text{C}$

Pin Configuration:



# 600 Watt TVS

## 5.0 to 440 Volts

### SMB (DO-214AA) (LEAD FRAME)

| DIMENSIONS |        |       |      |      |      |
|------------|--------|-------|------|------|------|
| DIM        | INCHES |       | MM   |      | NOTE |
|            | MIN    | MAX   | MIN  | MAX  |      |
| A          | 0.079  | 0.103 | 2.00 | 2.62 |      |
| B          | 0.075  | 0.087 | 1.91 | 2.21 |      |
| C          | 0.002  | 0.008 | 0.05 | 0.20 |      |
| D          | 0.006  | 0.012 | 0.15 | 0.31 |      |
| E          | 0.030  | 0.060 | 0.76 | 1.52 |      |
| F          | 0.065  | 0.091 | 1.65 | 2.32 |      |
| G          | 0.200  | 0.220 | 5.08 | 5.59 |      |
| H          | 0.160  | 0.191 | 4.06 | 4.85 |      |
| J          | 0.130  | 0.155 | 3.30 | 3.94 |      |

**Suggested Solder Pad Layout**

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

| MCC<br>PART NUMBER | REVERSE<br>STAND-OFF<br>VOLTAGE<br>$V_{WM}$ | BREAKDOWN VOLTAGE<br>$V_{(BR)} @ I_T$<br>(VOLTS) |      |            | MAXIMUM<br>CLAMPING<br>VOLTAGE @ $I_{PP}$ | PEAK PULSE<br>CURRENT<br>$I_{PP}$ | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@ $V_{WM}$<br>$I_D$ | MARKING<br>CODE |
|--------------------|---|--|------|------------|---|-----------------------------------|--|-----------------|
|                    | VOLTS                                       | MIN  | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)   |                 |
| SMBJ5.0            | 5.0   | 6.40   | 7.30 | 10         | 9.6                                       | 62.5                              | 800  | KD              |
| SMBJ5.0A           | 5.0   | 6.40   | 7.00 | 10         | 9.2                                       | 65.2                              | 800  | KE              |
| SMBJ6.0            | 6.0   | 6.67   | 8.15 | 10         | 11.4                                      | 52.6                              | 800  | KF              |
| SMBJ6.0A           | 6.0   | 6.67   | 7.37 | 10         | 10.3                                      | 58.3                              | 800  | KG              |
| SMBJ6.5            | 6.5   | 7.22   | 8.82 | 10         | 12.3                                      | 48.7                              | 500  | KH              |
| SMBJ6.5A           | 6.5   | 7.22   | 7.98 | 10         | 11.2                                      | 53.6                              | 500  | KK              |
| SMBJ7.0            | 7.0   | 7.78   | 9.51 | 10         | 13.3                                      | 45.1                              | 200  | KL              |
| SMBJ7.0A           | 7.0   | 7.78   | 8.60 | 10         | 12.0                                      | 50.0                              | 200  | KM              |
| SMBJ7.5            | 7.5   | 8.33   | 10.2 | 1          | 14.3                                      | 42.0                              | 100  | KN              |
| SMBJ7.5A           | 7.5   | 8.33   | 9.21 | 1          | 12.9                                      | 46.5                              | 100  | KP              |
| SMBJ8.0            | 8.0   | 8.89   | 10.9 | 1          | 15.0                                      | 40.0                              | 50   | KQ              |
| SMBJ8.0A           | 8.0   | 8.89   | 9.83 | 1          | 13.6                                      | 44.1                              | 50   | KR              |
| SMBJ8.5            | 8.5   | 9.44   | 11.5 | 1          | 15.9                                      | 37.7                              | 10   | KS              |
| SMBJ8.5A           | 8.5   | 9.44   | 10.4 | 1          | 14.4                                      | 41.7                              | 10   | KT              |
| SMBJ9.0            | 9.0   | 10.0   | 12.2 | 1          | 16.9                                      | 35.5                              | 5  | KU              |
| SMBJ9.0A           | 9.0   | 10.0   | 11.1 | 1          | 15.4                                      | 39.0                              | 5  | KV              |
| SMBJ10             | 10  | 11.1   | 13.6 | 1          | 18.8                                      | 31.9                              | 1  | KW              |
| SMBJ10A            | 10  | 11.1   | 12.3 | 1          | 17.0                                      | 35.3                              | 1  | KX              |
| SMBJ11             | 11  | 12.2   | 14.9 | 1          | 20.1                                      | 29.9                              | 1  | KY              |
| SMBJ11A            | 11  | 12.2   | 13.5 | 1          | 18.2                                      | 33.0                              | 1  | KZ              |
| SMBJ12             | 12  | 13.3   | 16.3 | 1          | 22.0                                      | 27.3                              | 1  | LD              |
| SMBJ12A            | 12  | 13.3   | 14.7 | 1          | 19.9                                      | 30.2                              | 1  | LE              |
| SMBJ13             | 13  | 14.4   | 17.6 | 1          | 23.8                                      | 25.2                              | 1  | LF              |
| SMBJ13A            | 13  | 14.4   | 15.9 | 1          | 21.5                                      | 27.9                              | 1  | LG              |
| SMBJ14             | 14  | 15.6   | 19.1 | 1          | 25.8                                      | 23.3                              | 1  | LH              |
| SMBJ14A            | 14  | 15.6   | 17.2 | 1          | 23.2                                      | 25.8                              | 1  | LK              |
| SMBJ15             | 15  | 16.7   | 20.4 | 1          | 26.9                                      | 22.3                              | 1  | LL              |
| SMBJ15A            | 15  | 16.7   | 18.5 | 1          | 24.4                                      | 24.0                              | 1  | LM              |
| SMBJ16             | 16  | 17.8   | 21.8 | 1          | 28.8                                      | 20.8                              | 1  | LN              |
| SMBJ16A            | 16  | 17.8   | 19.7 | 1          | 26.0                                      | 23.1                              | 1  | LP              |
| SMBJ17             | 17  | 18.9   | 23.1 | 1          | 30.5                                      | 19.7                              | 1  | LQ              |
| SMBJ17A            | 17  | 18.9   | 20.9 | 1          | 27.6                                      | 21.7                              | 1  | LR              |
| SMBJ18             | 18  | 20.0   | 24.4 | 1          | 32.2                                      | 18.6                              | 1  | LS              |
| SMBJ18A            | 18  | 20.0   | 22.1 | 1          | 29.2                                      | 20.5                              | 1  | LT              |
| SMBJ20             | 20  | 22.2   | 27.1 | 1          | 35.8                                      | 16.7                              | 1  | LU              |
| SMBJ20A            | 20  | 22.2   | 24.5 | 1          | 32.4                                      | 18.5                              | 1  | LV              |
| SMBJ22             | 22  | 24.4   | 29.8 | 1          | 39.4                                      | 15.2                              | 1  | LW              |
| SMBJ22A            | 22  | 24.4   | 26.9 | 1          | 35.5                                      | 16.9                              | 1  | LX              |
| SMBJ24             | 24  | 26.7   | 32.6 | 1          | 43.0                                      | 14.0                              | 1  | LY              |
| SMBJ24A            | 24  | 26.7   | 29.5 | 1          | 38.9                                      | 15.4                              | 1  | LZ              |
| SMBJ26             | 26  | 28.9   | 35.3 | 1          | 46.6                                      | 12.4                              | 1  | MD              |
| SMBJ26A            | 26  | 28.9   | 31.9 | 1          | 42.1                                      | 14.2                              | 1  | ME              |
| SMBJ28             | 28  | 31.1   | 38.0 | 1          | 50.0                                      | 12.0                              | 1  | MF              |
| SMBJ28A            | 28  | 31.1   | 34.4 | 1          | 45.4                                      | 13.2                              | 1  | MG              |
| SMBJ30             | 30  | 33.3   | 40.7 | 1          | 53.5                                      | 11.2                              | 1  | MH              |
| SMBJ30A            | 30  | 33.3   | 36.8 | 1          | 48.4                                      | 12.4                              | 1  | MK              |

For parts without A, the VBR is +10%.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC<br>PART NUMBER | REVERSE<br>STAND-OFF<br>VOLTAGE<br>$V_{WM}$ | BREAKDOWN VOLTAGE<br>$V_{(BR)} @ I_T$<br>(VOLTS) |      |            | MAXIMUM<br>CLAMPING<br>VOLTAGE @ $I_{PP}$ | PEAK PULSE<br>CURRENT<br>$I_{PP}$ | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@ $V_{WM}$<br>$I_D$ | MARKING<br>CODE |
|--------------------|---|--|------|------------|---|-----------------------------------|--|-----------------|
|                    | VOLTS                                       | MIN  | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)   |                 |
| SMBJ33             | 33  | 36.7   | 44.9 | 1          | 59.0                                      | 10.2                              | 1  | ML              |
| SMBJ33A            | 33  | 36.7   | 40.6 | 1          | 53.3                                      | 11.3                              | 1  | MM              |
| SMBJ36             | 36  | 40.0   | 48.9 | 1          | 64.3                                      | 9.3                               | 1  | MN              |
| SMBJ36A            | 36  | 40.0   | 44.2 | 1          | 58.1                                      | 10.3                              | 1  | MP              |
| SMBJ40             | 40  | 44.4   | 54.3 | 1          | 71.4                                      | 8.4                               | 1  | MQ              |
| SMBJ40A            | 40  | 44.4   | 49.1 | 1          | 64.5                                      | 9.3                               | 1  | MR              |
| SMBJ43             | 43  | 47.8   | 58.4 | 1          | 76.7                                      | 7.8                               | 1  | MS              |
| SMBJ43A            | 43  | 47.8   | 52.8 | 1          | 69.4                                      | 8.6                               | 1  | MT              |
| SMBJ45             | 45  | 50.0   | 61.1 | 1          | 80.3                                      | 7.5                               | 1  | MU              |
| SMBJ45A            | 45  | 50.0   | 55.3 | 1          | 72.7                                      | 8.3                               | 1  | MV              |
| SMBJ48             | 48  | 53.3   | 65.1 | 1          | 85.5                                      | 7.0                               | 1  | MW              |
| SMBJ48A            | 48  | 53.3   | 58.9 | 1          | 77.4                                      | 7.7                               | 1  | MX              |
| SMBJ51             | 51  | 56.7   | 69.3 | 1          | 91.1                                      | 6.6                               | 1  | MY              |
| SMBJ51A            | 51  | 56.7   | 62.7 | 1          | 82.4                                      | 7.3                               | 1  | MZ              |
| SMBJ54             | 54  | 60.0   | 73.3 | 1          | 96.3                                      | 6.2                               | 1  | ND              |
| SMBJ54A            | 54  | 60.0   | 66.3 | 1          | 87.1                                      | 6.9                               | 1  | NE              |
| SMBJ58             | 58  | 64.4   | 78.7 | 1          | 103                                       | 5.8                               | 1  | NF              |
| SMBJ58A            | 58  | 64.4   | 71.2 | 1          | 93.6                                      | 6.4                               | 1  | NG              |
| SMBJ60             | 60  | 66.7   | 81.5 | 1          | 107                                       | 5.6                               | 1  | NH              |
| SMBJ60A            | 60  | 66.7   | 73.7 | 1          | 96.8                                      | 6.2                               | 1  | NK              |
| SMBJ64             | 64  | 71.1   | 86.9 | 1          | 114                                       | 5.3                               | 1  | NL              |
| SMBJ64A            | 64  | 71.1   | 78.6 | 1          | 103                                       | 5.8                               | 1  | NM              |
| SMBJ70             | 70  | 77.8   | 95.1 | 1          | 125                                       | 4.8                               | 1  | NN              |
| SMBJ70A            | 70  | 77.8   | 86.0 | 1          | 113                                       | 5.3                               | 1  | NP              |
| SMBJ75             | 75  | 83.3   | 102  | 1          | 134                                       | 4.5                               | 1  | NQ              |
| SMBJ75A            | 75  | 83.3   | 92.1 | 1          | 121                                       | 4.9                               | 1  | NR              |
| SMBJ78             | 78  | 86.7   | 106  | 1          | 139                                       | 4.3                               | 1  | NS              |
| SMBJ78A            | 78  | 86.7   | 95.8 | 1          | 126                                       | 4.7                               | 1  | NT              |
| SMBJ85             | 85  | 94.4   | 115  | 1          | 151                                       | 3.9                               | 1  | NU              |
| SMBJ85A            | 85  | 94.4   | 104  | 1          | 137                                       | 4.4                               | 1  | NV              |
| SMBJ90             | 90  | 100  | 122  | 1          | 160                                       | 3.8                               | 1  | NW              |
| SMBJ90A            | 90  | 100  | 111  | 1          | 146                                       | 4.1                               | 1  | NX              |
| SMBJ100            | 100   | 111  | 136  | 1          | 179                                       | 3.4                               | 1  | NY              |
| SMBJ100A           | 100   | 111  | 123  | 1          | 162                                       | 3.7                               | 1  | NZ              |
| SMBJ110            | 110   | 122  | 149  | 1          | 196                                       | 3.0                               | 1  | PD              |
| SMBJ110A           | 110   | 122  | 135  | 1          | 177                                       | 3.4                               | 1  | PE              |
| SMBJ120            | 120   | 133  | 163  | 1          | 214                                       | 2.8                               | 1  | PF              |
| SMBJ120A           | 120   | 133  | 147  | 1          | 193                                       | 3.1                               | 1  | PG              |
| SMBJ130            | 130   | 144  | 176  | 1          | 231                                       | 2.6                               | 1  | PH              |
| SMBJ130A           | 130   | 144  | 159  | 1          | 209                                       | 2.9                               | 1  | PK              |
| SMBJ150            | 150   | 167  | 204  | 1          | 268                                       | 2.2                               | 1  | PL              |
| SMBJ150A           | 150   | 167  | 185  | 1          | 243                                       | 2.5                               | 1  | PM              |
| SMBJ160            | 160   | 178  | 218  | 1          | 287                                       | 2.1                               | 1  | PN              |
| SMBJ160A           | 160   | 178  | 197  | 1          | 259                                       | 2.3                               | 1  | PP              |
| SMBJ170            | 170   | 189  | 231  | 1          | 304                                       | 2.0                               | 1  | PQ              |
| SMBJ170A           | 170   | 189  | 209  | 1          | 275                                       | 2.2                               | 1  | PR              |
| SMBJ180A           | 180   | 201  | 222  | 1          | 292                                       | 2.1                               | 1  | PT              |

For parts without A, the VBR is +10%.

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

| MCC<br>PART NUMBER | REVERSE<br>STAND-OFF<br>VOLTAGE<br>$V_{WM}$ | BREAKDOWN VOLTAGE<br>$V_{(BR)} @ I_T$<br>(VOLTS) |      |            | MAXIMUM<br>CLAMPING<br>VOLTAGE @ $I_{PP}$ | PEAK PULSE<br>CURRENT<br>$I_{PP}$ | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@ $V_{WM}$<br>$I_D$ | MARKING<br>CODE |
|--------------------|---|--|------|------------|---|-----------------------------------|--|-----------------|
|                    | VOLTS                                       | MIN  | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)   |                 |
| SMBJ200A           | 200   | 224  | 247  | 1          | 324                                       | 1.9                               | 1  | PV              |
| SMBJ220A           | 220   | 246  | 272  | 1          | 356                                       | 1.7                               | 1  | PX              |
| SMBJ250A           | 250   | 279  | 309  | 1          | 405                                       | 1.5                               | 1  | PZ              |
| SMBJ300A           | 300   | 335  | 371  | 1          | 486                                       | 1.3                               | 1  | QE              |
| SMBJ350A           | 350   | 391  | 432  | 1          | 567                                       | 1.1                               | 1  | QG              |
| SMBJ400A           | 400   | 447  | 494  | 1          | 648                                       | 0.9                               | 1  | QK              |
| SMBJ440A           | 440   | 492  | 543  | 1          | 713                                       | 0.9                               | 1  | QM              |
| SMBJ5.0C           | 5.0   | 6.40   | 7.30 | 10         | 9.6                                       | 62.5                              | 800  | AD              |
| SMBJ5.0CA          | 5.0   | 6.40   | 7.00 | 10         | 9.2                                       | 65.2                              | 800  | AE              |
| SMBJ6.0C           | 6.0   | 6.67   | 8.15 | 10         | 11.4                                      | 52.6                              | 800  | AF              |
| SMBJ6.0CA          | 6.0   | 6.67   | 7.37 | 10         | 10.3                                      | 58.3                              | 800  | AG              |
| SMBJ6.5C           | 6.5   | 7.22   | 8.82 | 10         | 12.3                                      | 48.7                              | 500  | AH              |
| SMBJ6.5CA          | 6.5   | 7.22   | 7.98 | 10         | 11.2                                      | 53.6                              | 500  | AK              |
| SMBJ7.0C           | 7.0   | 7.78   | 9.51 | 10         | 13.3                                      | 45.1                              | 200  | AL              |
| SMBJ7.0CA          | 7.0   | 7.78   | 8.60 | 10         | 12.0                                      | 50.0                              | 200  | AM              |
| SMBJ7.5C           | 7.5   | 8.33   | 10.2 | 1          | 14.3                                      | 42.0                              | 100  | AN              |
| SMBJ7.5CA          | 7.5   | 8.33   | 9.21 | 1          | 12.9                                      | 46.5                              | 100  | AP              |
| SMBJ8.0C           | 8.0   | 8.89   | 10.9 | 1          | 15.0                                      | 40.0                              | 50   | AQ              |
| SMBJ8.0CA          | 8.0   | 8.89   | 9.83 | 1          | 13.6                                      | 44.1                              | 50   | AR              |
| SMBJ8.5C           | 8.5   | 9.44   | 11.5 | 1          | 15.9                                      | 37.7                              | 10   | AS              |
| SMBJ8.5CA          | 8.5   | 9.44   | 10.4 | 1          | 14.4                                      | 41.7                              | 10   | AT              |
| SMBJ9.0C           | 9.0   | 10.0   | 12.2 | 1          | 16.9                                      | 35.5                              | 5  | AU              |
| SMBJ9.0CA          | 9.0   | 10.0   | 11.1 | 1          | 15.4                                      | 39.0                              | 5  | AV              |
| SMBJ10C            | 10  | 11.1   | 13.6 | 1          | 18.8                                      | 31.9                              | 1  | AW              |
| SMBJ10CA           | 10  | 11.1   | 12.3 | 1          | 17.0                                      | 35.3                              | 1  | AX              |
| SMBJ11C            | 11  | 12.2   | 14.9 | 1          | 20.1                                      | 29.9                              | 1  | AY              |
| SMBJ11CA           | 11  | 12.2   | 13.5 | 1          | 18.2                                      | 33.0                              | 1  | AZ              |
| SMBJ12C            | 12  | 13.3   | 16.3 | 1          | 22.0                                      | 27.3                              | 1  | BD              |
| SMBJ12CA           | 12  | 13.3   | 14.7 | 1          | 19.9                                      | 30.2                              | 1  | BE              |
| SMBJ13C            | 13  | 14.4   | 17.6 | 1          | 23.8                                      | 25.2                              | 1  | BF              |
| SMBJ13CA           | 13  | 14.4   | 15.9 | 1          | 21.5                                      | 27.9                              | 1  | BG              |
| SMBJ14C            | 14  | 15.6   | 19.1 | 1          | 25.8                                      | 23.3                              | 1  | BH              |
| SMBJ14CA           | 14  | 15.6   | 17.2 | 1          | 23.2                                      | 25.8                              | 1  | BK              |
| SMBJ15C            | 15  | 16.7   | 20.4 | 1          | 26.9                                      | 22.3                              | 1  | BL              |
| SMBJ15CA           | 15  | 16.7   | 18.5 | 1          | 24.4                                      | 24.0                              | 1  | BM              |
| SMBJ16C            | 16  | 17.8   | 21.8 | 1          | 28.8                                      | 20.8                              | 1  | BN              |
| SMBJ16CA           | 16  | 17.8   | 19.7 | 1          | 26.0                                      | 23.1                              | 1  | BP              |
| SMBJ17C            | 17  | 18.9   | 23.1 | 1          | 30.5                                      | 19.7                              | 1  | BQ              |
| SMBJ17CA           | 17  | 18.9   | 20.9 | 1          | 27.6                                      | 21.7                              | 1  | BR              |
| SMBJ18C            | 18  | 20.0   | 24.4 | 1          | 32.2                                      | 18.6                              | 1  | BS              |
| SMBJ18CA           | 18  | 20.0   | 22.1 | 1          | 29.2                                      | 20.5                              | 1  | BT              |
| SMBJ20C            | 20  | 22.2   | 27.1 | 1          | 35.8                                      | 16.7                              | 1  | BU              |
| SMBJ20CA           | 20  | 22.2   | 24.5 | 1          | 32.4                                      | 18.5                              | 1  | BV              |
| SMBJ22C            | 22  | 24.4   | 29.8 | 1          | 39.4                                      | 15.2                              | 1  | BW              |
| SMBJ22CA           | 22  | 24.4   | 26.9 | 1          | 35.5                                      | 16.9                              | 1  | BX              |
| SMBJ24C            | 24  | 26.7   | 32.6 | 1          | 43.0                                      | 14.0                              | 1  | BY              |
| SMBJ24CA           | 24  | 26.7   | 29.5 | 1          | 38.9                                      | 15.4                              | 1  | BZ              |

For parts without A, the VBR is +10%.

Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE $V_{WM}$ | BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS) |      |            | MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ | PEAK PULSE CURRENT $I_{PP}$ | MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$ | MARKING CODE |
|-----------------|------------------------------------|--|------|------------|-------------------------------------|-----------------------------|--|--------------|
|                 | VOLTS                              | MIN  | MAX  | $I_T$ (mA) | VOLTS                               | (AMPS)                      | ( $\mu$ A)                               |              |
| SMBJ26C         | 26                                 | 28.9                                       | 35.3 | 1          | 46.6                                | 12.4                        | 1  | CD           |
| SMBJ26CA        | 26                                 | 28.9                                       | 31.9 | 1          | 42.1                                | 14.2                        | 1  | CE           |
| SMBJ28C         | 28                                 | 31.1                                       | 38.0 | 1          | 50.0                                | 12.0                        | 1  | CF           |
| SMBJ28CA        | 28                                 | 31.1                                       | 34.4 | 1          | 45.4                                | 13.2                        | 1  | CG           |
| SMBJ30C         | 30                                 | 33.3                                       | 40.7 | 1          | 53.5                                | 11.2                        | 1  | CH           |
| SMBJ30CA        | 30                                 | 33.3                                       | 36.8 | 1          | 48.4                                | 12.4                        | 1  | CK           |
| SMBJ33C         | 33                                 | 36.7                                       | 44.9 | 1          | 59.0                                | 10.2                        | 1  | CL           |
| SMBJ33CA        | 33                                 | 36.7                                       | 40.6 | 1          | 53.3                                | 11.3                        | 1  | CM           |
| SMBJ36C         | 36                                 | 40.0                                       | 48.9 | 1          | 64.3                                | 9.3                         | 1  | CN           |
| SMBJ36CA        | 36                                 | 40.0                                       | 44.2 | 1          | 58.1                                | 10.3                        | 1  | CP           |
| SMBJ40C         | 40                                 | 44.4                                       | 54.3 | 1          | 71.4                                | 8.4                         | 1  | CQ           |
| SMBJ40CA        | 40                                 | 44.4                                       | 49.1 | 1          | 64.5                                | 9.3                         | 1  | CR           |
| SMBJ43C         | 43                                 | 47.8                                       | 58.4 | 1          | 76.7                                | 7.8                         | 1  | CS           |
| SMBJ43CA        | 43                                 | 47.8                                       | 52.8 | 1          | 69.4                                | 8.6                         | 1  | CT           |
| SMBJ45C         | 45                                 | 50.0                                       | 61.1 | 1          | 80.3                                | 7.5                         | 1  | CU           |
| SMBJ45CA        | 45                                 | 50.0                                       | 55.3 | 1          | 72.7                                | 8.3                         | 1  | CV           |
| SMBJ48C         | 48                                 | 53.3                                       | 65.1 | 1          | 85.5                                | 7.0                         | 1  | CW           |
| SMBJ48CA        | 48                                 | 53.3                                       | 58.9 | 1          | 77.4                                | 7.7                         | 1  | CX           |
| SMBJ51C         | 51                                 | 56.7                                       | 69.3 | 1          | 91.1                                | 6.6                         | 1  | CY           |
| SMBJ51CA        | 51                                 | 56.7                                       | 62.7 | 1          | 82.4                                | 7.3                         | 1  | CZ           |
| SMBJ54C         | 54                                 | 60.0                                       | 73.3 | 1          | 96.3                                | 6.2                         | 1  | DD           |
| SMBJ54CA        | 54                                 | 60.0                                       | 66.3 | 1          | 87.1                                | 6.9                         | 1  | DE           |
| SMBJ58C         | 58                                 | 64.4                                       | 78.7 | 1          | 103                                 | 5.8                         | 1  | DF           |
| SMBJ58CA        | 58                                 | 64.4                                       | 71.2 | 1          | 93.6                                | 6.4                         | 1  | DG           |
| SMBJ60C         | 60                                 | 66.7                                       | 81.5 | 1          | 107                                 | 5.6                         | 1  | DH           |
| SMBJ60CA        | 60                                 | 66.7                                       | 73.7 | 1          | 96.8                                | 6.2                         | 1  | DK           |
| SMBJ64C         | 64                                 | 71.1                                       | 86.9 | 1          | 114                                 | 5.3                         | 1  | DL           |
| SMBJ64CA        | 64                                 | 71.1                                       | 78.6 | 1          | 103                                 | 5.8                         | 1  | DM           |
| SMBJ70C         | 70                                 | 77.8                                       | 95.1 | 1          | 125                                 | 4.8                         | 1  | DN           |
| SMBJ70CA        | 70                                 | 77.8                                       | 86.0 | 1          | 113                                 | 5.3                         | 1  | DP           |
| SMBJ75C         | 75                                 | 83.3                                       | 102  | 1          | 134                                 | 4.5                         | 1  | DQ           |
| SMBJ75CA        | 75                                 | 83.3                                       | 92.1 | 1          | 121                                 | 4.9                         | 1  | DR           |
| SMBJ78C         | 78                                 | 86.7                                       | 106  | 1          | 139                                 | 4.3                         | 1  | DS           |
| SMBJ78CA        | 78                                 | 86.7                                       | 95.8 | 1          | 126                                 | 4.7                         | 1  | DT           |
| SMBJ85C         | 85                                 | 94.4                                       | 115  | 1          | 151                                 | 3.9                         | 1  | DU           |
| SMBJ85CA        | 85                                 | 94.4                                       | 104  | 1          | 137                                 | 4.4                         | 1  | DV           |
| SMBJ90C         | 90                                 | 100  | 122  | 1          | 160                                 | 3.8                         | 1  | DW           |
| SMBJ90CA        | 90                                 | 100  | 111  | 1          | 146                                 | 4.1                         | 1  | DX           |
| SMBJ100C        | 100                                | 111  | 136  | 1          | 179                                 | 3.4                         | 1  | DY           |
| SMBJ100CA       | 100                                | 111  | 123  | 1          | 162                                 | 3.7                         | 1  | DZ           |
| SMBJ110C        | 110                                | 122  | 149  | 1          | 196                                 | 3.0                         | 1  | ED           |
| SMBJ110CA       | 110                                | 122  | 135  | 1          | 177                                 | 3.4                         | 1  | EE           |
| SMBJ120C        | 120                                | 133  | 163  | 1          | 214                                 | 2.8                         | 1  | EF           |
| SMBJ120CA       | 120                                | 133  | 147  | 1          | 193                                 | 3.1                         | 1  | EG           |
| SMBJ130C        | 130                                | 144  | 176  | 1          | 231                                 | 2.6                         | 1  | EH           |
| SMBJ130CA       | 130                                | 144  | 159  | 1          | 209                                 | 2.9                         | 1  | EK           |
| SMBJ150C        | 150                                | 167  | 204  | 1          | 268                                 | 2.2                         | 1  | EL           |

For parts without A, the VBR is +10%.

Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE $V_{WM}$ | BREAKDOWN VOLTAGE $V_{(BR)}@I_T$ (VOLTS) |     |            | MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$ | PEAK PULSE CURRENT $I_{PP}$ | MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$ | MARKING CODE |
|-----------------|------------------------------------|--|-----|------------|------------------------------------|-----------------------------|--|--------------|
|                 | VOLTS                              | MIN                                      | MAX | $I_T$ (mA) | VOLTS                              | (AMPS)                      | ( $\mu$ A)                               |              |
| SMBJ150CA       | 150                                | 167                                      | 185 | 1          | 243                                | 2.5                         | 1  | EM           |
| SMBJ160C        | 160                                | 178                                      | 218 | 1          | 287                                | 2.1                         | 1  | EN           |
| SMBJ160CA       | 160                                | 178                                      | 197 | 1          | 259                                | 2.3                         | 1  | EP           |
| SMBJ170C        | 170                                | 189                                      | 231 | 1          | 304                                | 2.0                         | 1  | EQ           |
| SMBJ170CA       | 170                                | 189                                      | 209 | 1          | 275                                | 2.2                         | 1  | ER           |
| SMBJ180CA       | 180                                | 201                                      | 222 | 1          | 292                                | 2.1                         | 1  | ET           |
| SMBJ200CA       | 200                                | 224                                      | 247 | 1          | 324                                | 1.9                         | 1  | EV           |
| SMBJ220CA       | 220                                | 246                                      | 272 | 1          | 356                                | 1.7                         | 1  | EX           |
| SMBJ250CA       | 250                                | 279                                      | 309 | 1          | 405                                | 1.5                         | 1  | EZ           |
| SMBJ300CA       | 300                                | 335                                      | 371 | 1          | 486                                | 1.3                         | 1  | FE           |
| SMBJ350CA       | 350                                | 391                                      | 432 | 1          | 567                                | 1.1                         | 1  | FG           |
| SMBJ400CA       | 400                                | 447                                      | 494 | 1          | 648                                | 0.9                         | 1  | FK           |
| SMBJ440CA       | 440                                | 492                                      | 543 | 1          | 713                                | 0.9                         | 1  | FM           |

For parts without A, the VBR is +10%.

**Curve Characteristics**

Fig. 1 - Peak Pulse Power Rating Curve



Fig. 2 - Typical Junction Capacitance



Fig. 3 - Pulse Waveform



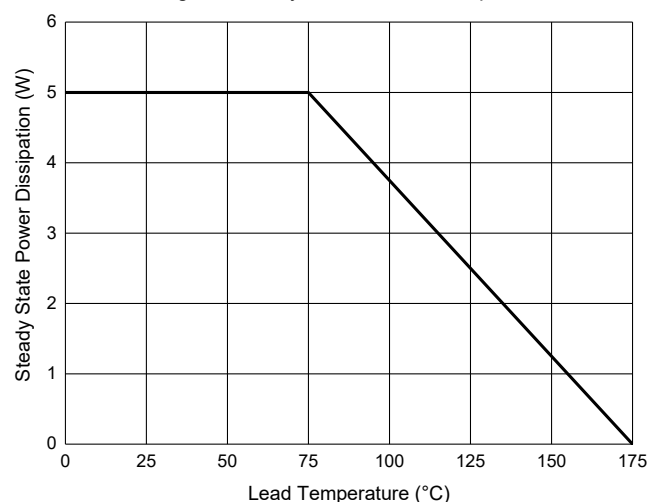
Fig. 4 - Pulse Derating Curve



Fig. 5 - Maximum Non-Repetitive Peak Forward Surge Current



Fig. 6 - Steady State Power Dissipation



## Ordering Information

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

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