

## Features

- For surface mount applications in order to optimize board space
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Fast response time: typical less than 1.0ps from 0 volts to  $V_{BR}$  minimum
- Low inductance
- UL Recognized File # E331408
- Halogen free available upon request by adding suffix "-HF"

## Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode) except Bidirectional
- Maximum soldering temperature: 260°C for 10 seconds

### Maximum Ratings @ 25°C Unless Otherwise Specified

|                                          |                          |                  |            |
|------------------------------------------|--------------------------|------------------|------------|
| Peak Pulse Current on 10/1000us waveform | $I_{PP}$                 | See Table 1      | Note: 2    |
| Peak Pulse Power Dissipation             | $P_{PP}$                 | 600W             | Note: 2, 3 |
| Operation And Storage Temperature Range  | $T_J, T_{STG}$           | -55°C to +175°C  |            |
| Thermal Resistance                       | $R_{thJC}$<br>$R_{thJL}$ | 25°C/W<br>20°C/W |            |

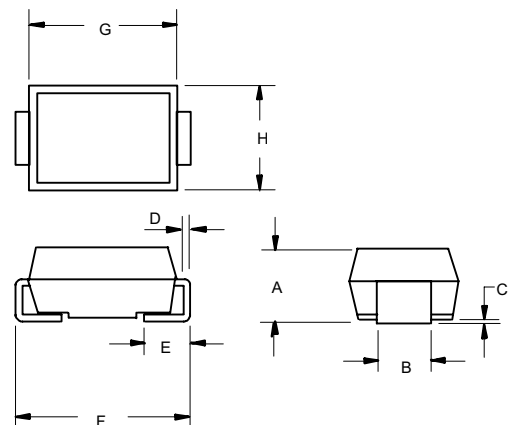
### NOTES:

1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
2. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2.
3. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.
4. Peak pulse current waveform is 10/1000us, with maximum duty Cycle of 0.01%.
5. Unidirectional and bidirectional available, for bidirectional devices add 'C' suffix to the pn#, i.e. SMBJ5.0CA
6. For bi-directional type having  $V_{rwm}$  of 10 Volts and less, the IR limit is double.

# SMBJ5.0 THRU SMBJ440CA

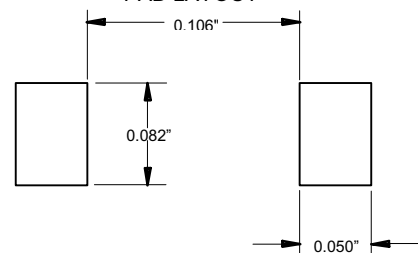
## Transient Voltage Suppressor 5.0 to 440 Volts 600 Watt

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



| DIMENSIONS |        |      |       |       |      |
|------------|--------|------|-------|-------|------|
| DIM        | INCHES |      | MM    |       | NOTE |
|            | MIN    | MAX  | MIN   | MAX   |      |
| A          | .083   | .096 | 2.13  | 2.44  |      |
| B          | .075   | .083 | 1.91  | 2.11  |      |
| C          | .002   | .008 | 0.051 | 0.203 |      |
| D          | .006   | .012 | 0.152 | 0.305 |      |
| E          | .030   | .050 | 0.76  | 1.27  |      |
| F          | .200   | .220 | 5.08  | 5.59  |      |
| G          | .160   | .185 | 4.06  | 4.70  |      |
| H          | .130   | .155 | 3.30  | 3.94  |      |

### SUGGESTED SOLDER PAD LAYOUT



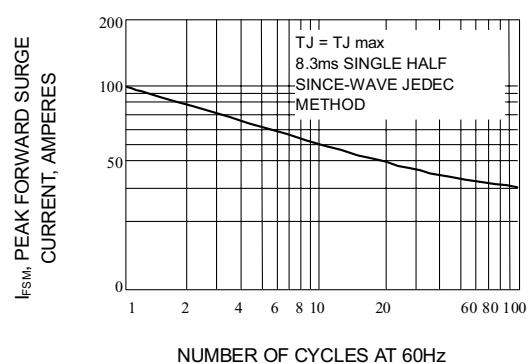
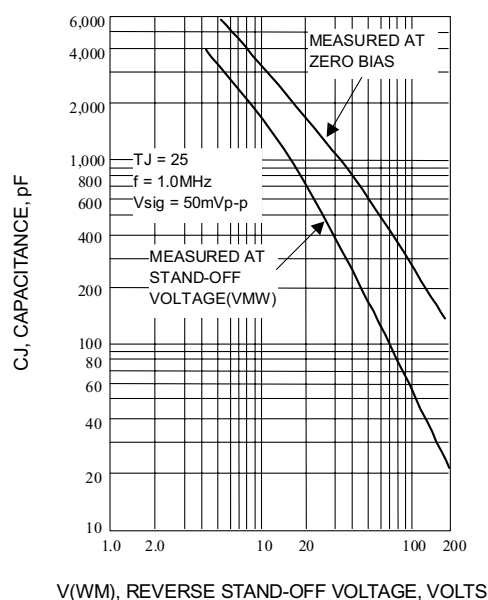
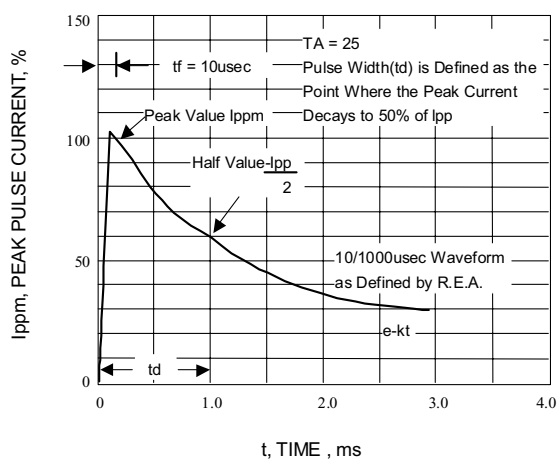
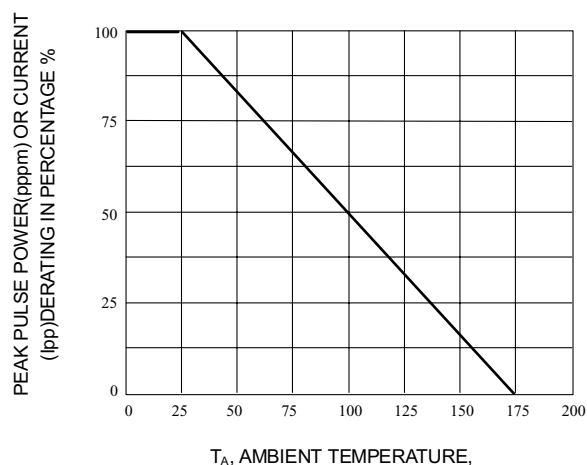
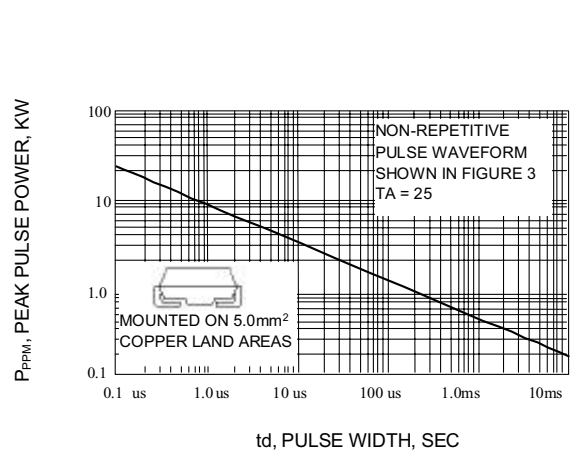


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

# SMBJ5.0(A) thru SMBJ440(A)

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART<br>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>$I_b$ | 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                              | 5                                                    | KW              |
| SMBJ10A            | 10                                          | 11.1                                             | 12.3 | 1          | 17.0                                      | 35.3                              | 5                                                    | KX              |
| SMBJ11             | 11                                          | 12.2                                             | 14.9 | 1          | 20.1                                      | 29.9                              | 5                                                    | KY              |
| SMBJ11A            | 11                                          | 12.2                                             | 13.5 | 1          | 18.2                                      | 33.0                              | 5                                                    | KZ              |
| SMBJ12             | 12                                          | 13.3                                             | 16.3 | 1          | 22.0                                      | 27.3                              | 5                                                    | LD              |
| SMBJ12A            | 12                                          | 13.3                                             | 14.7 | 1          | 19.9                                      | 30.2                              | 5                                                    | LE              |
| SMBJ13             | 13                                          | 14.4                                             | 17.6 | 1          | 23.8                                      | 25.2                              | 5                                                    | LF              |
| SMBJ13A            | 13                                          | 14.4                                             | 15.9 | 1          | 21.5                                      | 27.9                              | 5                                                    | LG              |
| SMBJ14             | 14                                          | 15.6                                             | 19.1 | 1          | 25.8                                      | 23.3                              | 5                                                    | LH              |
| SMBJ14A            | 14                                          | 15.6                                             | 17.2 | 1          | 23.2                                      | 25.8                              | 5                                                    | LK              |
| SMBJ15             | 15                                          | 16.7                                             | 20.4 | 1          | 26.9                                      | 22.3                              | 5                                                    | LL              |
| SMBJ15A            | 15                                          | 16.7                                             | 18.5 | 1          | 24.4                                      | 24.0                              | 5                                                    | LM              |
| SMBJ16             | 16                                          | 17.8                                             | 21.8 | 1          | 28.8                                      | 20.8                              | 5                                                    | LN              |
| SMBJ16A            | 16                                          | 17.8                                             | 19.7 | 1          | 26.0                                      | 23.1                              | 5                                                    | LP              |
| SMBJ17             | 17                                          | 18.9                                             | 23.1 | 1          | 30.5                                      | 19.7                              | 5                                                    | LQ              |
| SMBJ17A            | 17                                          | 18.9                                             | 20.9 | 1          | 27.6                                      | 21.7                              | 5                                                    | LR              |
| SMBJ18             | 18                                          | 20.0                                             | 24.4 | 1          | 32.2                                      | 18.6                              | 5                                                    | LS              |
| SMBJ18A            | 18                                          | 20.0                                             | 22.1 | 1          | 29.2                                      | 20.5                              | 5                                                    | LT              |
| SMBJ20             | 20                                          | 22.2                                             | 27.1 | 1          | 35.8                                      | 16.7                              | 5                                                    | LU              |
| SMBJ20A            | 20                                          | 22.2                                             | 24.5 | 1          | 32.4                                      | 18.5                              | 5                                                    | LV              |
| SMBJ22             | 22                                          | 24.4                                             | 29.8 | 1          | 39.4                                      | 15.2                              | 5                                                    | LW              |
| SMBJ22A            | 22                                          | 24.4                                             | 26.9 | 1          | 35.5                                      | 16.9                              | 5                                                    | LX              |
| SMBJ24             | 24                                          | 26.7                                             | 32.6 | 1          | 43.0                                      | 14.0                              | 5                                                    | LY              |
| SMBJ24A            | 24                                          | 26.7                                             | 29.5 | 1          | 38.9                                      | 15.4                              | 5                                                    | LZ              |
| SMBJ26             | 26                                          | 28.9                                             | 35.3 | 1          | 46.6                                      | 12.4                              | 5                                                    | MD              |
| SMBJ26A            | 26                                          | 28.9                                             | 31.9 | 1          | 42.1                                      | 14.2                              | 5                                                    | ME              |

# SMBJ5.0(A) thru SMBJ440(A)

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART<br>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>$I_b$ | MARKING<br>CODE |
|--------------------|---------------------------------------------|----------------------------------------------------|------|------------|-------------------------------------------|-----------------------------------|------------------------------------------------------|-----------------|
|                    | VOLTS                                       | MIN                                                | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)                                           |                 |
| SMBJ28             | 28                                          | 31.1                                               | 38.0 | 1          | 50.0                                      | 12.0                              | 5                                                    | MF              |
| SMBJ28A            | 28                                          | 31.1                                               | 34.4 | 1          | 45.4                                      | 13.2                              | 5                                                    | MG              |
| SMBJ30             | 30                                          | 33.3                                               | 40.7 | 1          | 53.5                                      | 11.2                              | 5                                                    | MH              |
| SMBJ30A            | 30                                          | 33.3                                               | 36.8 | 1          | 48.4                                      | 12.4                              | 5                                                    | MK              |
| SMBJ33             | 33                                          | 36.7                                               | 44.9 | 1          | 59.0                                      | 10.2                              | 5                                                    | ML              |
| SMBJ33A            | 33                                          | 36.7                                               | 40.6 | 1          | 53.3                                      | 11.3                              | 5                                                    | MM              |
| SMBJ36             | 36                                          | 40.0                                               | 48.9 | 1          | 64.3                                      | 9.3                               | 5                                                    | MN              |
| SMBJ36A            | 36                                          | 40.0                                               | 44.2 | 1          | 58.1                                      | 10.3                              | 5                                                    | MP              |
| SMBJ40             | 40                                          | 44.4                                               | 54.3 | 1          | 71.4                                      | 8.4                               | 5                                                    | MQ              |
| SMBJ40A            | 40                                          | 44.4                                               | 49.1 | 1          | 64.5                                      | 9.3                               | 5                                                    | MR              |
| SMBJ43             | 43                                          | 47.8                                               | 58.4 | 1          | 76.7                                      | 7.8                               | 5                                                    | MS              |
| SMBJ43A            | 43                                          | 47.8                                               | 52.8 | 1          | 69.4                                      | 8.6                               | 5                                                    | MT              |
| SMBJ45             | 45                                          | 50.0                                               | 61.1 | 1          | 80.3                                      | 7.5                               | 5                                                    | MU              |
| SMBJ45A            | 45                                          | 50.0                                               | 55.3 | 1          | 72.7                                      | 8.3                               | 5                                                    | MV              |
| SMBJ48             | 48                                          | 53.3                                               | 65.1 | 1          | 85.5                                      | 7.0                               | 5                                                    | MW              |
| SMBJ48A            | 48                                          | 53.3                                               | 58.9 | 1          | 77.4                                      | 7.7                               | 5                                                    | MX              |
| SMBJ51             | 51                                          | 56.7                                               | 69.3 | 1          | 91.1                                      | 6.6                               | 5                                                    | MY              |
| SMBJ51A            | 51                                          | 56.7                                               | 62.7 | 1          | 82.4                                      | 7.3                               | 5                                                    | MZ              |
| SMBJ54             | 54                                          | 60.0                                               | 73.3 | 1          | 96.3                                      | 6.2                               | 5                                                    | ND              |
| SMBJ54A            | 54                                          | 60.0                                               | 66.3 | 1          | 87.1                                      | 6.9                               | 5                                                    | NE              |
| SMBJ58             | 58                                          | 64.4                                               | 78.7 | 1          | 103                                       | 5.8                               | 5                                                    | NF              |
| SMBJ58A            | 58                                          | 64.4                                               | 71.2 | 1          | 93.6                                      | 6.4                               | 5                                                    | NG              |
| SMBJ60             | 60                                          | 66.7                                               | 81.5 | 1          | 107                                       | 5.6                               | 5                                                    | NH              |
| SMBJ60A            | 60                                          | 66.7                                               | 73.7 | 1          | 96.8                                      | 6.2                               | 5                                                    | NK              |
| SMBJ64             | 64                                          | 71.1                                               | 86.9 | 1          | 114                                       | 5.3                               | 5                                                    | NL              |
| SMBJ64A            | 64                                          | 71.1                                               | 78.6 | 1          | 103                                       | 5.8                               | 5                                                    | NM              |
| SMBJ70             | 70                                          | 77.8                                               | 95.1 | 1          | 125                                       | 4.8                               | 5                                                    | NN              |
| SMBJ70A            | 70                                          | 77.8                                               | 86.0 | 1          | 113                                       | 5.3                               | 5                                                    | NP              |
| SMBJ75             | 75                                          | 83.3                                               | 102  | 1          | 134                                       | 4.5                               | 5                                                    | NQ              |
| SMBJ75A            | 75                                          | 83.3                                               | 92.1 | 1          | 121                                       | 4.9                               | 5                                                    | NR              |
| SMBJ78             | 78                                          | 86.7                                               | 106  | 1          | 139                                       | 4.3                               | 5                                                    | NS              |
| SMBJ78A            | 78                                          | 86.7                                               | 95.8 | 1          | 126                                       | 4.7                               | 5                                                    | NT              |
| SMBJ85             | 85                                          | 94.4                                               | 115  | 1          | 151                                       | 3.9                               | 5                                                    | NU              |
| SMBJ85A            | 85                                          | 94.4                                               | 104  | 1          | 137                                       | 4.4                               | 5                                                    | NV              |
| SMBJ90             | 90                                          | 100                                                | 122  | 1          | 160                                       | 3.8                               | 5                                                    | NW              |
| SMBJ90A            | 90                                          | 100                                                | 111  | 1          | 146                                       | 4.1                               | 5                                                    | NX              |
| SMBJ100            | 100                                         | 111                                                | 136  | 1          | 179                                       | 3.4                               | 5                                                    | NY              |
| SMBJ100A           | 100                                         | 111                                                | 123  | 1          | 162                                       | 3.7                               | 5                                                    | NZ              |
| SMBJ110            | 110                                         | 122                                                | 149  | 1          | 196                                       | 3.0                               | 5                                                    | PD              |
| SMBJ110A           | 110                                         | 122                                                | 135  | 1          | 177                                       | 3.4                               | 5                                                    | PE              |
| SMBJ120            | 120                                         | 133                                                | 163  | 1          | 214                                       | 2.8                               | 5                                                    | PF              |
| SMBJ120A           | 120                                         | 133                                                | 147  | 1          | 193                                       | 3.1                               | 5                                                    | PG              |

## SMBJ5.0(A) THRU SMBJ440(A)

## ELECTRICAL CHARACTERISTICS @25°C

| 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 @<br>$I_{PP}$ | 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)                            | ( $\mu A$ )                                          |                 |
| SMBJ130            | 130                                         | 144                                                | 176 | 1          | 231                                          | 2.6                               | 5                                                    | PH              |
| SMBJ130A           | 130                                         | 144                                                | 159 | 1          | 209                                          | 2.9                               | 5                                                    | PK              |
| SMBJ150            | 150                                         | 167                                                | 204 | 1          | 268                                          | 2.2                               | 5                                                    | PL              |
| SMBJ150A           | 150                                         | 167                                                | 185 | 1          | 243                                          | 2.5                               | 5                                                    | PM              |
| SMBJ160            | 160                                         | 178                                                | 218 | 1          | 287                                          | 2.1                               | 5                                                    | PN              |
| SMBJ160A           | 160                                         | 178                                                | 197 | 1          | 259                                          | 2.3                               | 5                                                    | PP              |
| SMBJ170            | 170                                         | 189                                                | 231 | 1          | 304                                          | 2.0                               | 5                                                    | PQ              |
| SMBJ170A           | 170                                         | 189                                                | 209 | 1          | 275                                          | 2.2                               | 5                                                    | PR              |
| SMBJ180A           | 180                                         | 201                                                | 222 | 1          | 292                                          | 2.1                               | 5                                                    | PT              |
| SMBJ200A           | 200                                         | 224                                                | 247 | 1          | 324                                          | 1.9                               | 5                                                    | PV              |
| SMBJ220A           | 220                                         | 246                                                | 272 | 1          | 356                                          | 1.7                               | 5                                                    | PX              |
| SMBJ250A           | 250                                         | 279                                                | 309 | 1          | 405                                          | 1.5                               | 5                                                    | PZ              |
| SMBJ300A           | 300                                         | 335                                                | 371 | 1          | 486                                          | 1.3                               | 5                                                    | QE              |
| SMBJ350A           | 350                                         | 391                                                | 432 | 1          | 567                                          | 1.1                               | 5                                                    | QG              |
| SMBJ400A           | 400                                         | 447                                                | 494 | 1          | 648                                          | 0.9                               | 5                                                    | QK              |
| SMBJ440A           | 440                                         | 492                                                | 543 | 1          | 713                                          | 0.9                               | 5                                                    | QM              |

# SMBJ5.0C(A) thru SMBJ440C(A)

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART<br>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>$I_b$ | MARKING<br>CODE |
|--------------------|---------------------------------------------|----------------------------------------------------|------|------------|-------------------------------------------|-----------------------------------|------------------------------------------------------|-----------------|
|                    | VOLTS                                       | MIN                                                | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)                                           |                 |
| SMBJ5.0C           | 5.0                                         | 6.40                                               | 7.30 | 10         | 9.6                                       | 62.5                              | 1600                                                 | AD              |
| SMBJ5.0CA          | 5.0                                         | 6.40                                               | 7.00 | 10         | 9.2                                       | 65.2                              | 1600                                                 | AE              |
| SMBJ6.0C           | 6.0                                         | 6.67                                               | 8.15 | 10         | 11.4                                      | 52.6                              | 1600                                                 | AF              |
| SMBJ6.0CA          | 6.0                                         | 6.67                                               | 7.37 | 10         | 10.3                                      | 58.3                              | 1600                                                 | AG              |
| SMBJ6.5C           | 6.5                                         | 7.22                                               | 8.82 | 10         | 12.3                                      | 48.7                              | 1000                                                 | AH              |
| SMBJ6.5CA          | 6.5                                         | 7.22                                               | 7.98 | 10         | 11.2                                      | 53.6                              | 1000                                                 | AK              |
| SMBJ7.0C           | 7.0                                         | 7.78                                               | 9.51 | 10         | 13.3                                      | 45.1                              | 400                                                  | AL              |
| SMBJ7.0CA          | 7.0                                         | 7.78                                               | 8.60 | 10         | 12.0                                      | 50.0                              | 400                                                  | AM              |
| SMBJ7.5C           | 7.5                                         | 8.33                                               | 10.2 | 1          | 14.3                                      | 42.0                              | 200                                                  | AN              |
| SMBJ7.5CA          | 7.5                                         | 8.33                                               | 9.21 | 1          | 12.9                                      | 46.5                              | 200                                                  | AP              |
| SMBJ8.0C           | 8.0                                         | 8.89                                               | 10.9 | 1          | 15.0                                      | 40.0                              | 100                                                  | AQ              |
| SMBJ8.0CA          | 8.0                                         | 8.89                                               | 9.83 | 1          | 13.6                                      | 44.1                              | 100                                                  | AR              |
| SMBJ8.5C           | 8.5                                         | 9.44                                               | 11.5 | 1          | 15.9                                      | 37.7                              | 20                                                   | AS              |
| SMBJ8.5CA          | 8.5                                         | 9.44                                               | 10.4 | 1          | 14.4                                      | 41.7                              | 20                                                   | AT              |
| SMBJ9.0C           | 9.0                                         | 10.0                                               | 12.2 | 1          | 16.9                                      | 35.5                              | 10                                                   | AU              |
| SMBJ9.0CA          | 9.0                                         | 10.0                                               | 11.1 | 1          | 15.4                                      | 39.0                              | 10                                                   | AV              |
| SMBJ10C            | 10                                          | 11.1                                               | 13.6 | 1          | 18.8                                      | 31.9                              | 5                                                    | AW              |
| SMBJ10CA           | 10                                          | 11.1                                               | 12.3 | 1          | 17.0                                      | 35.3                              | 5                                                    | AX              |
| SMBJ11C            | 11                                          | 12.2                                               | 14.9 | 1          | 20.1                                      | 29.9                              | 5                                                    | AY              |
| SMBJ11CA           | 11                                          | 12.2                                               | 13.5 | 1          | 18.2                                      | 33.0                              | 5                                                    | AZ              |
| SMBJ12C            | 12                                          | 13.3                                               | 16.3 | 1          | 22.0                                      | 27.3                              | 5                                                    | BD              |
| SMBJ12CA           | 12                                          | 13.3                                               | 14.7 | 1          | 19.9                                      | 30.2                              | 5                                                    | BE              |
| SMBJ13C            | 13                                          | 14.4                                               | 17.6 | 1          | 23.8                                      | 25.2                              | 5                                                    | BF              |
| SMBJ13CA           | 13                                          | 14.4                                               | 15.9 | 1          | 21.5                                      | 27.9                              | 5                                                    | BG              |
| SMBJ14C            | 14                                          | 15.6                                               | 19.1 | 1          | 25.8                                      | 23.3                              | 5                                                    | BH              |
| SMBJ14CA           | 14                                          | 15.6                                               | 17.2 | 1          | 23.2                                      | 25.8                              | 5                                                    | BK              |
| SMBJ15C            | 15                                          | 16.7                                               | 20.4 | 1          | 26.9                                      | 22.3                              | 5                                                    | BL              |
| SMBJ15CA           | 15                                          | 16.7                                               | 18.5 | 1          | 24.4                                      | 24.0                              | 5                                                    | BM              |
| SMBJ16C            | 16                                          | 17.8                                               | 21.8 | 1          | 28.8                                      | 20.8                              | 5                                                    | BN              |
| SMBJ16CA           | 16                                          | 17.8                                               | 19.7 | 1          | 26.0                                      | 23.1                              | 5                                                    | BP              |
| SMBJ17C            | 17                                          | 18.9                                               | 23.1 | 1          | 30.5                                      | 19.7                              | 5                                                    | BQ              |
| SMBJ17CA           | 17                                          | 18.9                                               | 20.9 | 1          | 27.6                                      | 21.7                              | 5                                                    | BR              |
| SMBJ18C            | 18                                          | 20.0                                               | 24.4 | 1          | 32.2                                      | 18.6                              | 5                                                    | BS              |
| SMBJ18CA           | 18                                          | 20.0                                               | 22.1 | 1          | 29.2                                      | 20.5                              | 5                                                    | BT              |
| SMBJ20C            | 20                                          | 22.2                                               | 27.1 | 1          | 35.8                                      | 16.7                              | 5                                                    | BU              |
| SMBJ20CA           | 20                                          | 22.2                                               | 24.5 | 1          | 32.4                                      | 18.5                              | 5                                                    | BV              |
| SMBJ22C            | 22                                          | 24.4                                               | 29.8 | 1          | 39.4                                      | 15.2                              | 5                                                    | BW              |
| SMBJ22CA           | 22                                          | 24.4                                               | 26.9 | 1          | 35.5                                      | 16.9                              | 5                                                    | BX              |
| SMBJ24C            | 24                                          | 26.7                                               | 32.6 | 1          | 43.0                                      | 14.0                              | 5                                                    | BY              |
| SMBJ24CA           | 24                                          | 26.7                                               | 29.5 | 1          | 38.9                                      | 15.4                              | 5                                                    | BZ              |
| SMBJ26C            | 26                                          | 28.9                                               | 35.3 | 1          | 46.6                                      | 12.4                              | 5                                                    | CD              |
| SMBJ26CA           | 26                                          | 28.9                                               | 31.9 | 1          | 42.1                                      | 14.2                              | 5                                                    | CE              |

# SMBJ5.0C(A) thru SMBJ440C(A)

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART<br>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>$I_b$ | MARKING<br>CODE |
|--------------------|---------------------------------------------|----------------------------------------------------|------|------------|-------------------------------------------|-----------------------------------|------------------------------------------------------|-----------------|
|                    | VOLTS                                       | MIN                                                | MAX  | $I_T$ (mA) | VOLTS                                     | (AMPS)                            | ( $\mu$ A)                                           |                 |
| SMBJ28C            | 28                                          | 31.1                                               | 38.0 | 1          | 50.0                                      | 12.0                              | 5                                                    | CF              |
| SMBJ28CA           | 28                                          | 31.1                                               | 34.4 | 1          | 45.4                                      | 13.2                              | 5                                                    | CG              |
| SMBJ30C            | 30                                          | 33.3                                               | 40.7 | 1          | 53.5                                      | 11.2                              | 5                                                    | CH              |
| SMBJ30CA           | 30                                          | 33.3                                               | 36.8 | 1          | 48.4                                      | 12.4                              | 5                                                    | CK              |
| SMBJ33C            | 33                                          | 36.7                                               | 44.9 | 1          | 59.0                                      | 10.2                              | 5                                                    | CL              |
| SMBJ33CA           | 33                                          | 36.7                                               | 40.6 | 1          | 53.3                                      | 11.3                              | 5                                                    | CM              |
| SMBJ36C            | 36                                          | 40.0                                               | 48.9 | 1          | 64.3                                      | 9.3                               | 5                                                    | CN              |
| SMBJ36CA           | 36                                          | 40.0                                               | 44.2 | 1          | 58.1                                      | 10.3                              | 5                                                    | CP              |
| SMBJ40C            | 40                                          | 44.4                                               | 54.3 | 1          | 71.4                                      | 8.4                               | 5                                                    | CQ              |
| SMBJ40CA           | 40                                          | 44.4                                               | 49.1 | 1          | 64.5                                      | 9.3                               | 5                                                    | CR              |
| SMBJ43C            | 43                                          | 47.8                                               | 58.4 | 1          | 76.7                                      | 7.8                               | 5                                                    | CS              |
| SMBJ43CA           | 43                                          | 47.8                                               | 52.8 | 1          | 69.4                                      | 8.6                               | 5                                                    | CT              |
| SMBJ45C            | 45                                          | 50.0                                               | 61.1 | 1          | 80.3                                      | 7.5                               | 5                                                    | CU              |
| SMBJ45CA           | 45                                          | 50.0                                               | 55.3 | 1          | 72.7                                      | 8.3                               | 5                                                    | CV              |
| SMBJ48C            | 48                                          | 53.3                                               | 65.1 | 1          | 85.5                                      | 7.0                               | 5                                                    | CW              |
| SMBJ48CA           | 48                                          | 53.3                                               | 58.9 | 1          | 77.4                                      | 7.7                               | 5                                                    | CX              |
| SMBJ51C            | 51                                          | 56.7                                               | 69.3 | 1          | 91.1                                      | 6.6                               | 5                                                    | CY              |
| SMBJ51CA           | 51                                          | 56.7                                               | 62.7 | 1          | 82.4                                      | 7.3                               | 5                                                    | CZ              |
| SMBJ54C            | 54                                          | 60.0                                               | 73.3 | 1          | 96.3                                      | 6.2                               | 5                                                    | DD              |
| SMBJ54CA           | 54                                          | 60.0                                               | 66.3 | 1          | 87.1                                      | 6.9                               | 5                                                    | DE              |
| SMBJ58C            | 58                                          | 64.4                                               | 78.7 | 1          | 103                                       | 5.8                               | 5                                                    | DF              |
| SMBJ58CA           | 58                                          | 64.4                                               | 71.2 | 1          | 93.6                                      | 6.4                               | 5                                                    | DG              |
| SMBJ60C            | 60                                          | 66.7                                               | 81.5 | 1          | 107                                       | 5.6                               | 5                                                    | DH              |
| SMBJ60CA           | 60                                          | 66.7                                               | 73.7 | 1          | 96.8                                      | 6.2                               | 5                                                    | DK              |
| SMBJ64C            | 64                                          | 71.1                                               | 86.9 | 1          | 114                                       | 5.3                               | 5                                                    | DL              |
| SMBJ64CA           | 64                                          | 71.1                                               | 78.6 | 1          | 103                                       | 5.8                               | 5                                                    | DM              |
| SMBJ70C            | 70                                          | 77.8                                               | 95.1 | 1          | 125                                       | 4.8                               | 5                                                    | DN              |
| SMBJ70CA           | 70                                          | 77.8                                               | 86.0 | 1          | 113                                       | 5.3                               | 5                                                    | DP              |
| SMBJ75C            | 75                                          | 83.3                                               | 102  | 1          | 134                                       | 4.5                               | 5                                                    | DQ              |
| SMBJ75CA           | 75                                          | 83.3                                               | 92.1 | 1          | 121                                       | 4.9                               | 5                                                    | DR              |
| SMBJ78C            | 78                                          | 86.7                                               | 106  | 1          | 139                                       | 4.3                               | 5                                                    | DS              |
| SMBJ78CA           | 78                                          | 86.7                                               | 95.8 | 1          | 126                                       | 4.7                               | 5                                                    | DT              |
| SMBJ85C            | 85                                          | 94.4                                               | 115  | 1          | 151                                       | 3.9                               | 5                                                    | DU              |
| SMBJ85CA           | 85                                          | 94.4                                               | 104  | 1          | 137                                       | 4.4                               | 5                                                    | DV              |
| SMBJ90C            | 90                                          | 100                                                | 122  | 1          | 160                                       | 3.8                               | 5                                                    | DW              |
| SMBJ90CA           | 90                                          | 100                                                | 111  | 1          | 146                                       | 4.1                               | 5                                                    | DX              |
| SMBJ100C           | 100                                         | 111                                                | 136  | 1          | 179                                       | 3.4                               | 5                                                    | DY              |
| SMBJ100CA          | 100                                         | 111                                                | 123  | 1          | 162                                       | 3.7                               | 5                                                    | DZ              |
| SMBJ110C           | 110                                         | 122                                                | 149  | 1          | 196                                       | 3.0                               | 5                                                    | ED              |
| SMBJ110CA          | 110                                         | 122                                                | 135  | 1          | 177                                       | 3.4                               | 5                                                    | EE              |
| SMBJ120C           | 120                                         | 133                                                | 163  | 1          | 214                                       | 2.8                               | 5                                                    | EF              |
| SMBJ120CA          | 120                                         | 133                                                | 147  | 1          | 193                                       | 3.1                               | 5                                                    | EG              |

## SMBJ5.0C(A) THRU SMBJ440C(A)

## ELECTRICAL CHARACTERISTICS @25°C

| 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 @<br>$I_{PP}$ | 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)                            | ( $\mu A$ )                                          |                 |
| SMBJ130C           | 130                                         | 144                                                | 176 | 1          | 231                                          | 2.6                               | 5                                                    | EH              |
| SMBJ130CA          | 130                                         | 144                                                | 159 | 1          | 209                                          | 2.9                               | 5                                                    | EK              |
| SMBJ150C           | 150                                         | 167                                                | 204 | 1          | 268                                          | 2.2                               | 5                                                    | EL              |
| SMBJ150CA          | 150                                         | 167                                                | 185 | 1          | 243                                          | 2.5                               | 5                                                    | EM              |
| SMBJ160C           | 160                                         | 178                                                | 218 | 1          | 287                                          | 2.1                               | 5                                                    | EN              |
| SMBJ160CA          | 160                                         | 178                                                | 197 | 1          | 259                                          | 2.3                               | 5                                                    | EP              |
| SMBJ170C           | 170                                         | 189                                                | 231 | 1          | 304                                          | 2.0                               | 5                                                    | EQ              |
| SMBJ170CA          | 170                                         | 189                                                | 209 | 1          | 275                                          | 2.2                               | 5                                                    | ER              |
| SMBJ180CA          | 180                                         | 201                                                | 222 | 1          | 292                                          | 2.1                               | 5                                                    | ET              |
| SMBJ200CA          | 200                                         | 224                                                | 247 | 1          | 324                                          | 1.9                               | 5                                                    | EV              |
| SMBJ220CA          | 220                                         | 246                                                | 272 | 1          | 356                                          | 1.7                               | 5                                                    | EX              |
| SMBJ250CA          | 250                                         | 279                                                | 309 | 1          | 405                                          | 1.5                               | 5                                                    | EZ              |
| SMBJ300CA          | 300                                         | 335                                                | 371 | 1          | 486                                          | 1.3                               | 5                                                    | FE              |
| SMBJ350CA          | 350                                         | 391                                                | 432 | 1          | 567                                          | 1.1                               | 5                                                    | FG              |
| SMBJ400CA          | 400                                         | 447                                                | 494 | 1          | 648                                          | 0.9                               | 5                                                    | FK              |
| SMBJ440CA          | 440                                         | 492                                                | 543 | 1          | 713                                          | 0.9                               | 5                                                    | FM              |



## 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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