

# SMBJ5.0 THRU SMBJ440CA

## 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

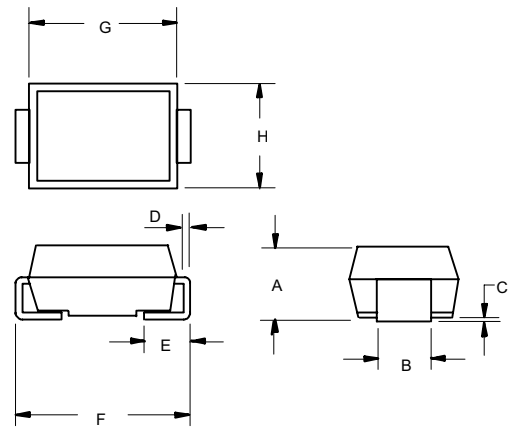
|  |                          |                  |             |
|--|--------------------------|------------------|-------------|
| Peak Pulse Current on 10/1000us waveform | $I_{PP}$                 | See Table 1      | Note: 2     |
| Peak Pulse Power Dissipation             | $P_{PP}$                 | 600W             | Note: 2, 3  |
| Peak Forward Surge Current               | $I_{FSM}$                | 100A             | Note: 3 4,5 |
| 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  $T_A=25^\circ C$  per Fig.2.
3. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.
4. 8.3ms, single half sine wave duty cycle=4 pulses per. Minute maximum.
5. Peak pulse current waveform is 10/1000us, with maximum duty Cycle of 0.01%.
6. Unidirectional and bidirectional available, for bidirectional devices add 'C' suffix to the pn#, i.e.SMBJ5.0CA
7. For bi-directional type having  $V_{rwm}$  of 10 Volts and less, the IR limit is double.

## Transient Voltage Suppressor 5.0 to 440 Volts 600 Watt

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



| 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

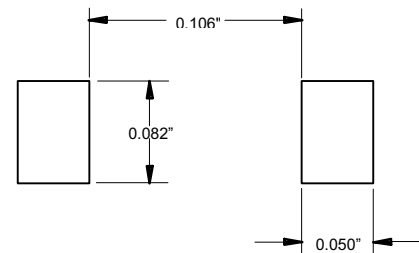




Fig. 1-PEAK PULSE POWER RATING CURVE



Fig. 2-PULSE DERATING CURVE

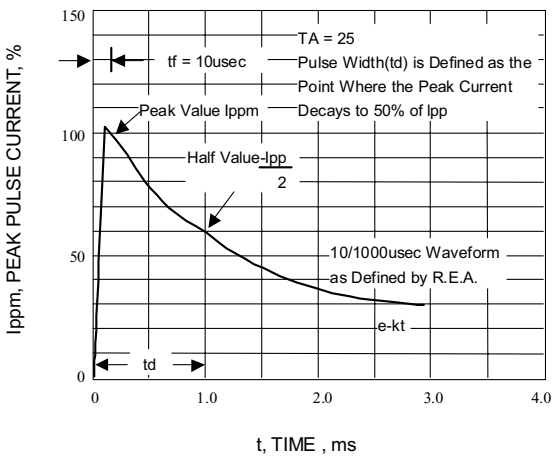


Fig. 3-PULSE WAVEFORM



Fig. 4-TYPICAL JUNCTION CAPACITANCE



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

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

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE | BREAKDOWN VOLTAGE  |      |            | MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$ | PEAK PULSE CURRENT $I_{PP}$ | MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ | MARKING CODE |
|-----------------|---------------------------|--------------------|------|------------|------------------------------------|-----------------------------|------------------------------------|--------------|
|                 | $V_{WM}$                  | $V_{(BR)}$ @ $I_T$ |      | $I_T$ (mA) |                                    |                             |                                    |              |
|                 | VOLTS                     | MIN                | MAX  |            |                                    |                             |                                    |              |
| 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 NUMBER | REVERSE STAND-OFF VOLTAGE | BREAKDOWN VOLTAGE  |      |            | MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$ | PEAK PULSE CURRENT $I_{PP}$ | MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ | MARKING CODE |
|-----------------|---------------------------|--------------------|------|------------|------------------------------------|-----------------------------|------------------------------------|--------------|
|                 | $V_{WM}$                  | $V_{(BR)}$ @ $I_T$ |      | $I_T$ (mA) |                                    |                             |                                    |              |
|                 | VOLTS                     | MIN                | MAX  |            |                                    |                             |                                    |              |
| 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           |



Micro Commercial Components

SMBJ5.0(A) THRU SMBJ440(A)

**ELECTRICAL CHARACTERISTICS @25°C**

| MCC<br>PART NUMBER | REVERSE<br>STAND-OFF<br>VOLTAGE<br>$V_{WM}$<br>(VOLTS) | BREAKDOWN VOLTAGE<br>$V_{(BR)}$ @ $I_T$<br>(VOLTS) |     |            | MAXIMUM<br>CLAMPING<br>VOLTAGE @<br>$I_{PP}$<br>(VOLTS) | PEAK PULSE<br>CURRENT<br>$I_{PP}$<br>(AMPS) | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@ $V_{WM}$<br>$I_D$<br>( $\mu$ A) | MARKING<br>CODE |
|--------------------|--|--|-----|------------|---|---|--|-----------------|
|                    |  | MIN  | MAX | $I_T$ (mA) |   |   |  |                 |
| 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 NUMBER | REVERSE STAND-OFF VOLTAGE<br>$V_{WM}$<br>VOLTS | BREAKDOWN VOLTAGE<br>$V_{(BR)}@I_T$<br>(VOLTS) |      |            | MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$<br>VOLTS | PEAK PULSE CURRENT<br>$I_{PP}$<br>(AMPS) | MAXIMUM REVERSE LEAKAGE<br>@ $V_{WM}$<br>$I_b$<br>( $\mu$ A) | MARKING CODE |
|-----------------|--|--|------|------------|---|--|--|--------------|
|                 |  | MIN  | MAX  | $I_T$ (mA) |   |  |  |              |
| 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 NUMBER | REVERSE STAND-OFF VOLTAGE | BREAKDOWN VOLTAGE                 |      |                     | MAXIMUM CLAMPING VOLTAGE@I <sub>PP</sub> | PEAK PULSE CURRENT I <sub>PP</sub> | MAXIMUM REVERSE LEAKAGE @V <sub>WM</sub> | MARKING CODE |
|-----------------|---------------------------|-----------------------------------|------|---------------------|--|------------------------------------|--|--------------|
|                 | V <sub>WM</sub>           | V <sub>(BR)</sub> @I <sub>T</sub> |      | I <sub>T</sub> (mA) |  |                                    |  |              |
|                 | VOLTS                     | MIN                               | MAX  |                     |  |                                    |  |              |
| 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>$V_{WM}$<br>(VOLTS) | BREAKDOWN VOLTAGE<br>$V_{(BR)}$ @ $I_T$<br>(VOLTS) |     |            | MAXIMUM<br>CLAMPING<br>VOLTAGE @<br>$I_{PP}$<br>(VOLTS) | PEAK PULSE<br>CURRENT<br>$I_{PP}$<br>(AMPS) | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@ $V_{WM}$<br>$I_D$<br>( $\mu$ A) | MARKING<br>CODE |
|--------------------|--|--|-----|------------|---|---|--|-----------------|
|                    |  | MIN  | MAX | $I_T$ (mA) |   |   |  |                 |
| 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              |





Micro Commercial Components

### 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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