

1SMB5.0CA  
THRU  
1SMB170CA

BI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
TRANSIENT VOLTAGE SUPPRESSOR  
600 WATTS, 5.0 THRU 170 VOLTS



SMB CASE

Specified by  
STAND-OFF VOLTAGE

#### MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Peak Power Dissipation  
Peak Forward Surge Current (JEDEC Method)  
Operating and Storage  
Junction Temperature

**Central**<sup>TM</sup>  
Semiconductor Corp.

#### DESCRIPTION

The CENTRAL SEMICONDUCTOR 1SMB5.0CA Series types are Surface Mount Bi-Directional Glass Passivated Junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. **THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-directional devices, please refer to the 1SMB5.0A Series data sheet.

#### SYMBOL

#### UNITS

|                                   |             |    |
|-----------------------------------|-------------|----|
| P <sub>DM</sub>                   | 600         | W  |
| I <sub>FSM</sub>                  | 100         | A  |
| T <sub>J</sub> , T <sub>stg</sub> | -65 to +150 | °C |

#### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

| TYPE NO.  | REVERSE<br>STAND-OFF<br>VOLTAGE | BREAKDOWN<br>VOLTAGE |       |                 | MAXIMUM<br>REVERSE<br>LEAKAGE<br>@V <sub>RWM</sub> | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@I <sub>PPM</sub> | MAXIMUM<br>PEAK PULSE<br>CURRENT | MARKING<br>CODE |
|-----------|---------------------------------|----------------------|-------|-----------------|----------------------------------------------------|-----------------------------------------------------|----------------------------------|-----------------|
|           |                                 | V <sub>BR</sub>      |       | @I <sub>T</sub> |                                                    |                                                     |                                  |                 |
|           | V <sub>RWM</sub>                | VOLTS                |       |                 |                                                    |                                                     |                                  |                 |
|           | VOLTS                           | MIN                  | MAX   | mA              | μA                                                 | VOLTS                                               | A                                |                 |
| 1SMB5.0CA | 5.0                             | 6.40                 | 7.25  | 10              | 1600                                               | 9.2                                                 | 65.2                             | CKEC            |
| 1SMB6.0CA | 6.0                             | 6.67                 | 7.67  | 10              | 1600                                               | 10.3                                                | 58.3                             | CKGC            |
| 1SMB6.5CA | 6.5                             | 7.22                 | 8.30  | 10              | 1000                                               | 11.2                                                | 53.6                             | CKKC            |
| 1SMB7.0CA | 7.0                             | 7.78                 | 8.95  | 10              | 400                                                | 12.0                                                | 50.0                             | CKMC            |
| 1SMB7.5CA | 7.5                             | 8.33                 | 9.58  | 1.0             | 200                                                | 12.9                                                | 46.5                             | CKPC            |
| 1SMB8.0CA | 8.0                             | 8.89                 | 10.23 | 1.0             | 100                                                | 13.6                                                | 44.1                             | CKRC            |
| 1SMB8.5CA | 8.5                             | 9.44                 | 10.82 | 1.0             | 20                                                 | 14.4                                                | 41.7                             | CKTC            |
| 1SMB9.0CA | 9.0                             | 10.0                 | 11.5  | 1.0             | 10                                                 | 15.4                                                | 39.0                             | CKVC            |
| 1SMB10CA  | 10                              | 11.1                 | 12.8  | 1.0             | 5.0                                                | 17.0                                                | 35.3                             | CKXC            |
| 1SMB11CA  | 11                              | 12.2                 | 14.0  | 1.0             | 5.0                                                | 18.2                                                | 33.0                             | CKZC            |
| 1SMB12CA  | 12                              | 13.3                 | 15.3  | 1.0             | 5.0                                                | 19.9                                                | 30.2                             | CLEC            |
| 1SMB13CA  | 13                              | 14.4                 | 16.5  | 1.0             | 5.0                                                | 21.5                                                | 27.9                             | CLGC            |

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|-----------|---------------------------------|----------------------|-------|-----------------|----------------------------------------------------|-----------------------------------------------------|----------------------------------|-----------------|
|           |                                 | V <sub>BR</sub>      |       | @I <sub>T</sub> |                                                    |                                                     |                                  |                 |
|           |                                 |                      |       |                 |                                                    |                                                     |                                  |                 |
|           |                                 | V <sub>RWM</sub>     |       |                 |                                                    |                                                     |                                  |                 |
|           | VOLTS                           | MIN                  | MAX   | mA              | μA                                                 | VOLTS                                               | A                                |                 |
| 1SMB14CA  | 14                              | 15.6                 | 17.9  | 1.0             | 5.0                                                | 23.2                                                | 25.8                             | CLKC            |
| 1SMB15CA  | 15                              | 16.7                 | 19.2  | 1.0             | 5.0                                                | 24.4                                                | 24.0                             | CLMC            |
| 1SMB16CA  | 16                              | 17.8                 | 20.5  | 1.0             | 5.0                                                | 26.0                                                | 23.1                             | CLPC            |
| 1SMB17CA  | 17                              | 18.9                 | 21.7  | 1.0             | 5.0                                                | 27.6                                                | 21.7                             | CLRC            |
| 1SMB18CA  | 18                              | 20.0                 | 23.3  | 1.0             | 5.0                                                | 29.2                                                | 20.5                             | CLTC            |
| 1SMB20CA  | 20                              | 22.2                 | 25.5  | 1.0             | 5.0                                                | 32.4                                                | 18.5                             | CLVC            |
| 1SMB22CA  | 22                              | 24.4                 | 28.0  | 1.0             | 5.0                                                | 35.5                                                | 16.9                             | CLXC            |
| 1SMB24CA  | 24                              | 26.7                 | 30.7  | 1.0             | 5.0                                                | 38.9                                                | 15.4                             | CLZC            |
| 1SMB26CA  | 26                              | 28.9                 | 33.2  | 1.0             | 5.0                                                | 42.1                                                | 14.2                             | CMEC            |
| 1SMB28CA  | 28                              | 31.1                 | 35.8  | 1.0             | 5.0                                                | 45.4                                                | 13.2                             | CMGC            |
| 1SMB30CA  | 30                              | 33.3                 | 38.3  | 1.0             | 5.0                                                | 48.4                                                | 12.4                             | CMKC            |
| 1SMB33CA  | 33                              | 36.7                 | 42.2  | 1.0             | 5.0                                                | 53.3                                                | 11.3                             | CMMC            |
| 1SMB36CA  | 36                              | 40.0                 | 46.0  | 1.0             | 5.0                                                | 58.1                                                | 10.3                             | CMPC            |
| 1SMB40CA  | 40                              | 44.4                 | 51.1  | 1.0             | 5.0                                                | 64.5                                                | 9.3                              | CMRC            |
| 1SMB43CA  | 43                              | 47.8                 | 54.9  | 1.0             | 5.0                                                | 69.4                                                | 8.6                              | CMTC            |
| 1SMB45CA  | 45                              | 50.0                 | 57.5  | 1.0             | 5.0                                                | 72.7                                                | 8.3                              | CMVC            |
| 1SMB48CA  | 48                              | 53.3                 | 61.3  | 1.0             | 5.0                                                | 77.4                                                | 7.7                              | CMXC            |
| 1SMB51CA  | 51                              | 56.7                 | 65.2  | 1.0             | 5.0                                                | 82.4                                                | 7.3                              | CMZC            |
| 1SMB54CA  | 54                              | 60.0                 | 69.0  | 1.0             | 5.0                                                | 87.1                                                | 6.9                              | CNEC            |
| 1SMB58CA  | 58                              | 64.4                 | 74.1  | 1.0             | 5.0                                                | 93.6                                                | 6.4                              | CNGC            |
| 1SMB60CA  | 60                              | 66.7                 | 76.7  | 1.0             | 5.0                                                | 96.8                                                | 6.2                              | CNKC            |
| 1SMB64CA  | 64                              | 71.1                 | 81.8  | 1.0             | 5.0                                                | 103                                                 | 5.8                              | CNMC            |
| 1SMB70CA  | 70                              | 77.8                 | 89.5  | 1.0             | 5.0                                                | 113                                                 | 5.3                              | CNPC            |
| 1SMB75CA  | 75                              | 83.3                 | 95.8  | 1.0             | 5.0                                                | 121                                                 | 4.9                              | CNRC            |
| 1SMB78CA  | 78                              | 86.7                 | 99.7  | 1.0             | 5.0                                                | 126                                                 | 4.7                              | CNTC            |
| 1SMB85CA  | 85                              | 94.4                 | 108.2 | 1.0             | 5.0                                                | 137                                                 | 4.4                              | CNVC            |
| 1SMB90CA  | 90                              | 100.0                | 115.5 | 1.0             | 5.0                                                | 146                                                 | 4.1                              | CNXC            |
| 1SMB100CA | 100                             | 111.0                | 128.0 | 1.0             | 5.0                                                | 162                                                 | 3.7                              | CNZC            |
| 1SMB110CA | 110                             | 122.0                | 140.5 | 1.0             | 5.0                                                | 177                                                 | 3.4                              | CPEC            |
| 1SMB120CA | 120                             | 133.0                | 153.0 | 1.0             | 5.0                                                | 193                                                 | 3.1                              | CPGC            |
| 1SMB130CA | 130                             | 144.0                | 165.5 | 1.0             | 5.0                                                | 209                                                 | 2.9                              | CPKC            |
| 1SMB150CA | 150                             | 167.0                | 192.5 | 1.0             | 5.0                                                | 243                                                 | 2.5                              | CPMC            |
| 1SMB160CA | 160                             | 178.0                | 205.0 | 1.0             | 5.0                                                | 259                                                 | 2.3                              | CPPC            |
| 1SMB170CA | 170                             | 189.0                | 217.5 | 1.0             | 5.0                                                | 275                                                 | 2.2                              | CPRC            |

All Dimensions in inches (mm).

