

3SMC5.0CA  
THRU  
3SMC170CA

SURFACE MOUNT  
BI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
SILICON TRANSIENT  
VOLTAGE SUPPRESSOR  
3000 WATTS, 5.0 THRU 170 VOLTS



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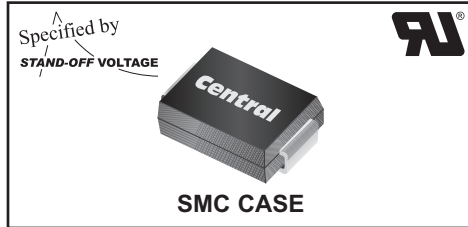
#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3SMC5.0CA 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 3SMC5.0A Series data sheet.

**MARKING CODE: SEE MARKING CODE ON ELECTRICAL CHARACTERISTIC TABLE**



• This series is UL listed, UL file number E130224

#### MAXIMUM RATINGS: ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Peak Power Dissipation (Note 1)

Peak Forward Surge Current (JEDEC Method)

Operating and Storage Junction Temperature

#### SYMBOL

|                |             |                  |
|----------------|-------------|------------------|
| $P_{DM}$       | 3000        | W                |
| $I_{FSM}$      | 200         | A                |
| $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |

#### UNITS

#### ELECTRICAL CHARACTERISTICS: ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| TYPE      | REVERSE<br>STAND-OFF<br>VOLTAGE | BREAKDOWN<br>VOLTAGE |            | TEST<br>CURRENT | MAXIMUM<br>REVERSE<br>LEAKAGE<br>CURRENT<br>@ VRWM | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@ IPP | PEAK<br>PULSE<br>CURRENT<br>(Note 1) | MARKING<br>CODE |
|-----------|---------------------------------|----------------------|------------|-----------------|----------------------------------------------------|-----------------------------------------|--------------------------------------|-----------------|
|           | $V_{RWM}$<br>(V)                | MIN<br>(V)           | MAX<br>(V) |                 |                                                    |                                         |                                      |                 |
| 3SMC5.0CA | 5.0                             | 6.40                 | 7.25       | 10              | 2000                                               | 9.2                                     | 326.0                                | CIDE            |
| 3SMC6.0CA | 6.0                             | 6.67                 | 7.67       | 10              | 2000                                               | 10.3                                    | 291.3                                | CIDG            |
| 3SMC6.5CA | 6.5                             | 7.22                 | 8.30       | 10              | 1000                                               | 11.2                                    | 267.9                                | CIDK            |
| 3SMC7.0CA | 7.0                             | 7.78                 | 8.95       | 10              | 400                                                | 12.0                                    | 250.0                                | CIDM            |
| 3SMC7.5CA | 7.5                             | 8.33                 | 9.58       | 1.0             | 200                                                | 12.9                                    | 232.6                                | CIDP            |
| 3SMC8.0CA | 8.0                             | 8.89                 | 10.23      | 1.0             | 100                                                | 13.6                                    | 220.6                                | CIDR            |
| 3SMC8.5CA | 8.5                             | 9.44                 | 10.82      | 1.0             | 50                                                 | 14.4                                    | 208.4                                | CIDT            |
| 3SMC9.0CA | 9.0                             | 10.0                 | 11.5       | 1.0             | 20                                                 | 15.4                                    | 194.8                                | CIDV            |
| 3SMC10CA  | 10                              | 11.1                 | 12.8       | 1.0             | 5.0                                                | 17.0                                    | 176.4                                | CIDX            |
| 3SMC11CA  | 11                              | 12.2                 | 14.0       | 1.0             | 5.0                                                | 18.2                                    | 184.8                                | CIDZ            |
| 3SMC12CA  | 12                              | 13.3                 | 15.3       | 1.0             | 5.0                                                | 19.9                                    | 150.6                                | CIEE            |
| 3SMC13CA  | 13                              | 14.4                 | 16.5       | 1.0             | 5.0                                                | 21.5                                    | 139.4                                | CIEG            |
| 3SMC14CA  | 14                              | 15.6                 | 17.9       | 1.0             | 5.0                                                | 23.2                                    | 129.4                                | CIEK            |
| 3SMC15CA  | 15                              | 16.7                 | 19.2       | 1.0             | 5.0                                                | 24.4                                    | 123.0                                | CIEM            |
| 3SMC16CA  | 16                              | 17.8                 | 20.5       | 1.0             | 5.0                                                | 26.0                                    | 115.4                                | CIEP            |
| 3SMC17CA  | 17                              | 18.9                 | 21.7       | 1.0             | 5.0                                                | 27.6                                    | 106.6                                | CIER            |
| 3SMC18CA  | 18                              | 20.0                 | 23.3       | 1.0             | 5.0                                                | 29.2                                    | 102.8                                | CIET            |
| 3SMC20CA  | 20                              | 22.2                 | 25.5       | 1.0             | 5.0                                                | 32.4                                    | 92.6                                 | CIEV            |
| 3SMC22CA  | 22                              | 24.4                 | 28.0       | 1.0             | 5.0                                                | 35.5                                    | 84.4                                 | CIEX            |
| 3SMC24CA  | 24                              | 26.7                 | 30.7       | 1.0             | 5.0                                                | 38.9                                    | 77.2                                 | CIEZ            |
| 3SMC26CA  | 26                              | 28.9                 | 33.2       | 1.0             | 5.0                                                | 42.1                                    | 71.2                                 | CIFE            |
| 3SMC28CA  | 28                              | 31.1                 | 35.8       | 1.0             | 5.0                                                | 45.4                                    | 66.0                                 | CIFG            |
| 3SMC30CA  | 30                              | 33.3                 | 38.3       | 1.0             | 5.0                                                | 48.4                                    | 62.0                                 | CIFK            |

Notes: (1) Non-repetitive 10x1,000 $\mu\text{s}$  pulse

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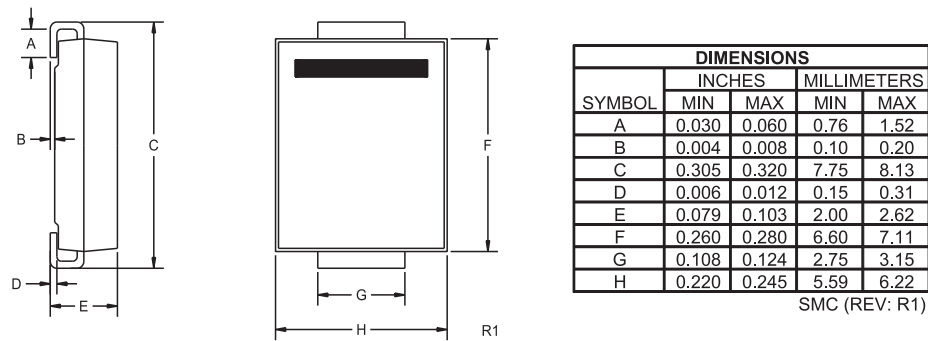
|                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3SMC5.0CA<br>THRU<br>3SMC170CA<br><br>SURFACE MOUNT<br>BI-DIRECTIONAL<br>GLASS PASSIVATED JUNCTION<br>SILICON TRANSIENT<br>VOLTAGE SUPPRESSOR<br>3000 WATTS, 5.0 THRU 170 VOLTS |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



ELECTRICAL CHARACTERISTICS - Continued:

| TYPE      | REVERSE<br>STAND-OFF<br>VOLTAGE | BREAKDOWN<br>VOLTAGE |            | TEST<br>CURRENT | MAXIMUM<br>REVERSE<br>LEAKAGE<br>CURRENT<br>@ VRWM | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@ IPP | PEAK<br>PULSE<br>CURRENT<br>(Note 1) | MARKING<br>CODE |
|-----------|---------------------------------|----------------------|------------|-----------------|----------------------------------------------------|-----------------------------------------|--------------------------------------|-----------------|
|           | VRWM<br>(V)                     | MIN<br>(V)           | MAX<br>(V) | IT<br>(mA)      | IR<br>(μA)                                         | VC<br>(V)                               | IPP<br>(A)                           |                 |
| 3SMC33CA  | 33                              | 36.7                 | 42.2       | 1.0             | 5.0                                                | 53.3                                    | 56.2                                 | CIFM            |
| 3SMC36CA  | 36                              | 40.0                 | 46.0       | 1.0             | 5.0                                                | 58.1                                    | 51.6                                 | CIFP            |
| 3SMC40CA  | 40                              | 44.4                 | 51.1       | 1.0             | 5.0                                                | 64.5                                    | 46.4                                 | CIFR            |
| 3SMC43CA  | 43                              | 47.8                 | 54.9       | 1.0             | 5.0                                                | 69.4                                    | 43.2                                 | CIFT            |
| 3SMC45CA  | 45                              | 50.0                 | 57.5       | 1.0             | 5.0                                                | 72.7                                    | 41.2                                 | CIFV            |
| 3SMC48CA  | 48                              | 53.3                 | 61.3       | 1.0             | 5.0                                                | 77.4                                    | 38.8                                 | CIFX            |
| 3SMC51CA  | 51                              | 56.7                 | 65.2       | 1.0             | 5.0                                                | 82.4                                    | 36.4                                 | CIFZ            |
| 3SMC54CA  | 54                              | 60.0                 | 69.0       | 1.0             | 5.0                                                | 87.1                                    | 34.4                                 | CIGE            |
| 3SMC58CA  | 58                              | 64.4                 | 74.1       | 1.0             | 5.0                                                | 93.6                                    | 32.0                                 | CIGG            |
| 3SMC60CA  | 60                              | 66.7                 | 76.7       | 1.0             | 5.0                                                | 96.8                                    | 31.0                                 | CIGK            |
| 3SMC64CA  | 64                              | 71.1                 | 81.8       | 1.0             | 5.0                                                | 103                                     | 29.2                                 | CIGM            |
| 3SMC70CA  | 70                              | 77.8                 | 89.5       | 1.0             | 5.0                                                | 113                                     | 26.6                                 | CIGP            |
| 3SMC75CA  | 75                              | 83.3                 | 95.8       | 1.0             | 5.0                                                | 121                                     | 24.8                                 | CIGR            |
| 3SMC78CA  | 78                              | 86.7                 | 99.7       | 1.0             | 5.0                                                | 126                                     | 22.8                                 | CIGT            |
| 3SMC85CA  | 85                              | 94.4                 | 108.2      | 1.0             | 5.0                                                | 137                                     | 20.8                                 | CIGV            |
| 3SMC90CA  | 90                              | 100.0                | 115.5      | 1.0             | 5.0                                                | 146                                     | 20.6                                 | CIGX            |
| 3SMC100CA | 100                             | 111.0                | 128.0      | 1.0             | 5.0                                                | 162                                     | 18.6                                 | CIGZ            |
| 3SMC110CA | 110                             | 122.0                | 140.5      | 1.0             | 5.0                                                | 177                                     | 16.8                                 | CIHE            |
| 3SMC120CA | 120                             | 133.0                | 153.0      | 1.0             | 5.0                                                | 193                                     | 15.6                                 | CIHG            |
| 3SMC130CA | 130                             | 144.0                | 165.5      | 1.0             | 5.0                                                | 209                                     | 14.4                                 | CIHK            |
| 3SMC150CA | 150                             | 167.0                | 192.5      | 1.0             | 5.0                                                | 243                                     | 12.4                                 | CIHM            |
| 3SMC160CA | 160                             | 178.0                | 205.0      | 1.0             | 5.0                                                | 259                                     | 11.6                                 | CIHP            |
| 3SMC170CA | 170                             | 189.0                | 217.5      | 1.0             | 5.0                                                | 275                                     | 11.0                                 | CIHR            |

SMC CASE - MECHANICAL OUTLINE



R8 (20-November 2009)

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TYPICAL ELECTRICAL CHARACTERISTICS

