

Transient Voltage Suppressor Diode

1.5SMC18CA

(1.5SMC6.8 thru 1.5SMC220CA Series)

Breakdown-Voltage 6.8 to 220V

Peak Pulse Power 1500W

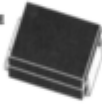

DATASHEET

OEM – Central Semiconductor Corp.

Source: Central Databook 2004

1.5SMC6.8CA
THRU
1.5SMC220CA 

**SURFACE MOUNT
BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
SILICON TRANSIENT
VOLTAGE SUPPRESSOR
1500 WATTS, 6.8 THRU 220 VOLTS**

Specified by
BREAKDOWN VOLTAGE  

SMC CASE

• This series is UL listed, UL file number E130224

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

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

| SYMBOL | | UNITS |
|----------------|-------------|--------------------|
| P_{PM} | 1500 | W |
| I_{FSM} | 200 | A |
| T_J, T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |

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

| TYPE NO. | BREAKDOWN VOLTAGE | | | | Working Peak Reverse Voltage V_{RWM} VOLTS | Maximum Reverse Leakage @ V_{RWM} I_R μA | Maximum Reverse Surge Current I_{RSM} A | Maximum Reverse Voltage @ I_{RSM} V_{RSM} VOLTS | Maximum Temp. Coefficient Of V_{BR} %/ $^{\circ}\text{C}$ | Marking Code |
|-------------|-------------------|-----|------|---------------|---|--|--|--|---|-----------------|
| | V_{BR} | | | @ I_T mA | | | | | | |
| | VOLTS | | | | | | | | | |
| | MIN | NOM | MAX | | | | | | | |
| 1.5SMC6.8CA | 6.45 | 6.8 | 7.14 | 10 | 5.8 | 2000 | 143 | 10.5 | 0.057 | C6V8C |
| 1.5SMC7.5CA | 7.13 | 7.5 | 7.88 | 10 | 6.4 | 1000 | 132 | 11.3 | 0.061 | C7V5C |
| 1.5SMC8.2CA | 7.79 | 8.2 | 8.61 | 10 | 7.02 | 400 | 124 | 12.1 | 0.065 | C8V2C |
| 1.5SMC9.1CA | 8.65 | 9.1 | 9.55 | 1.0 | 7.78 | 100 | 112 | 13.4 | 0.068 | C9V1C |
| 1.5SMC10CA | 9.5 | 10 | 10.5 | 1.0 | 8.55 | 20 | 103 | 14.5 | 0.073 | C10C |
| 1.5SMC11CA | 10.5 | 11 | 11.6 | 1.0 | 9.4 | 5 | 96 | 15.6 | 0.075 | C11C |
| 1.5SMC12CA | 11.4 | 12 | 12.6 | 1.0 | 10.2 | 5 | 90 | 16.7 | 0.078 | C12C |
| 1.5SMC13CA | 12.4 | 13 | 13.7 | 1.0 | 11.1 | 5 | 82 | 18.2 | 0.081 | C13C |
| 1.5SMC15CA | 14.3 | 15 | 15.8 | 1.0 | 12.8 | 5 | 71 | 21.2 | 0.084 | C15C |
| 1.5SMC16CA | 15.2 | 16 | 16.8 | 1.0 | 13.6 | 5 | 67 | 22.5 | 0.086 | C16C |
| 1.5SMC18CA | 17.1 | 18 | 18.9 | 1.0 | 15.3 | 5 | 59.5 | 25.2 | 0.088 | C18C |
| 1.5SMC20CA | 19.0 | 20 | 21.0 | 1.0 | 17.1 | 5 | 54 | 27.7 | 0.090 | C20C |
| 1.5SMC22CA | 20.9 | 22 | 23.1 | 1.0 | 18.8 | 5 | 49 | 30.6 | 0.092 | C22C |
| 1.5SMC24CA | 22.8 | 24 | 25.2 | 1.0 | 20.5 | 5 | 45 | 33.2 | 0.094 | C24C |
| 1.5SMC27CA | 25.7 | 27 | 28.4 | 1.0 | 23.1 | 5 | 40 | 37.5 | 0.096 | C27C |
| 1.5SMC30CA | 28.5 | 30 | 31.5 | 1.0 | 25.6 | 5 | 36 | 41.4 | 0.097 | C30C |
| 1.5SMC33CA | 31.4 | 33 | 34.7 | 1.0 | 28.2 | 5 | 33 | 45.7 | 0.098 | C33C |
| 1.5SMC36CA | 34.2 | 36 | 37.8 | 1.0 | 30.8 | 5 | 30 | 49.9 | 0.099 | C36C |
| 1.5SMC39CA | 37.1 | 39 | 41 | 1.0 | 33.3 | 5 | 28 | 53.9 | 0.100 | C39C |

R2 (13-November 2002)

CentralTM Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.5SMC6.8CA 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 1.5SMC6.8A Series data sheet.

MARKING CODE: SEE MARKING CODE ON ELECTRICAL CHARACTERISTIC TABLE



1.5SMC6.8CA
THRU
1.5SMC220CA

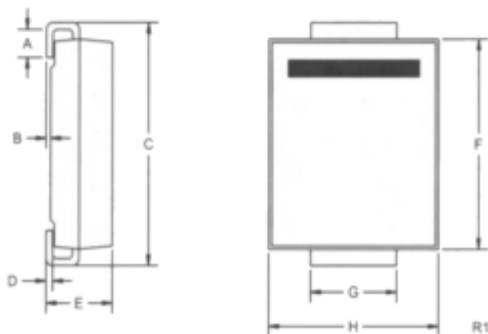
SURFACE MOUNT
BI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
SILICON TRANSIENT
VOLTAGE SUPPRESSOR
1500 WATTS, 6.8 THRU 220 VOLTS

ELECTRICAL CHARACTERISTICS CONTINUED:

| TYPE NO. | BREAKDOWN VOLTAGE | | | | Working Peak Reverse Voltage @ I_T | Maximum Reverse Leakage @ V_{RWM} | Maximum Reverse Surge Current | Maximum Reverse Voltage @ I_{RSM} | Maximum Temp. Coefficient Of V_{BR} | Marking Code |
|-------------|-------------------|-----|-------|-------|--------------------------------------|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------|--------------|
| | V_{BR} | | | I_T | | | | | | |
| | VOLTS | | | | | | | | | |
| | MIN | NOM | MAX | | | | | | | |
| 1.5SMC43CA | 40.9 | 43 | 45.2 | 1.0 | 36.8 | 5 | 25.3 | 59.3 | 0.101 | C43C |
| 1.5SMC47CA | 44.7 | 47 | 49.4 | 1.0 | 40.2 | 5 | 23.2 | 64.8 | 0.101 | C47C |
| 1.5SMC51CA | 48.5 | 51 | 53.6 | 1.0 | 43.6 | 5 | 21.4 | 70.1 | 0.102 | C51C |
| 1.5SMC56CA | 53.2 | 56 | 58.8 | 1.0 | 47.8 | 5 | 19.5 | 77 | 0.103 | C56C |
| 1.5SMC62CA | 58.9 | 62 | 65.1 | 1.0 | 53.0 | 5 | 17.7 | 85 | 0.104 | C62C |
| 1.5SMC68CA | 64.6 | 68 | 71.4 | 1.0 | 58.1 | 5 | 16.3 | 92 | 0.104 | C68C |
| 1.5SMC75CA | 71.3 | 75 | 78.8 | 1.0 | 64.1 | 5 | 14.6 | 103 | 0.105 | C75C |
| 1.5SMC82CA | 77.9 | 82 | 86.1 | 1.0 | 70.1 | 5 | 13.3 | 113 | 0.105 | C82C |
| 1.5SMC91CA | 86.5 | 91 | 95.5 | 1.0 | 77.8 | 5 | 12 | 125 | 0.106 | C91C |
| 1.5SMC100CA | 95.0 | 100 | 105 | 1.0 | 85.5 | 5 | 11 | 137 | 0.106 | C100C |
| 1.5SMC110CA | 104.5 | 110 | 115.5 | 1.0 | 94.0 | 5 | 9.9 | 152 | 0.107 | C110C |
| 1.5SMC120CA | 114 | 120 | 126 | 1.0 | 102 | 5 | 9.1 | 165 | 0.107 | C120C |
| 1.5SMC130CA | 123.5 | 130 | 136.5 | 1.0 | 111 | 5 | 8.4 | 179 | 0.107 | C130C |
| 1.5SMC150CA | 142.5 | 150 | 157.5 | 1.0 | 128 | 5 | 7.2 | 207 | 0.108 | C150C |
| 1.5SMC160CA | 152 | 160 | 168 | 1.0 | 136 | 5 | 6.8 | 219 | 0.108 | C160C |
| 1.5SMC170CA | 161.5 | 170 | 178.5 | 1.0 | 145 | 5 | 6.4 | 234 | 0.108 | C170C |
| 1.5SMC180CA | 171 | 180 | 189 | 1.0 | 154 | 5 | 6.1 | 246 | 0.108 | C180C |
| 1.5SMC200CA | 190 | 200 | 210 | 1.0 | 171 | 5 | 5.5 | 274 | 0.108 | C200C |
| 1.5SMC220CA | 209 | 220 | 231 | 1.0 | 185 | 5 | 4.6 | 328 | 0.108 | C220C |

DATA SHEETS

SMC CASE - MECHANICAL OUTLINE



| SYMBOL | INCHES | | MILLIMETERS | |
|--------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.030 | 0.060 | 0.76 | 1.52 |
| B | 0.004 | 0.008 | 0.10 | 0.20 |
| C | 0.305 | 0.320 | 7.75 | 8.13 |
| D | 0.006 | 0.012 | 0.15 | 0.31 |
| E | 0.079 | 0.103 | 2.00 | 2.62 |
| F | 0.260 | 0.280 | 6.60 | 7.11 |
| G | 0.108 | 0.124 | 2.75 | 3.15 |
| H | 0.220 | 0.245 | 5.59 | 6.22 |

SMC (REV: R1)

R2 (13-November 2002)