



CHENMKO ENTERPRISE CO.,LTD

**1.5SCMJ
SERIES**

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-6.8 TO 200 VOLTS
1500 WATTS PEAK POWER 6.5 WATTS STEADY STATE

Lead free devices

FEATURES

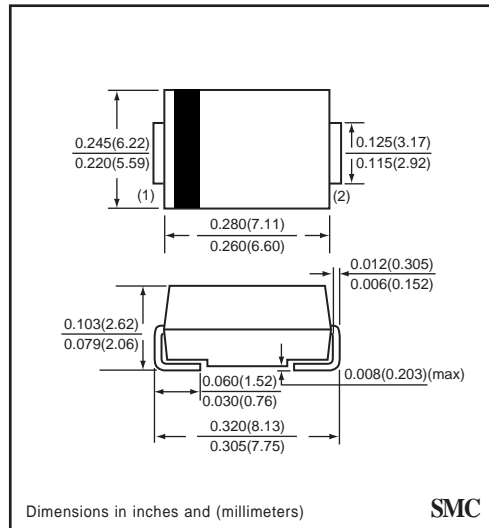
- * Plastic package
- * 1500W surge capability at 1ms
- * Glass passivated chip junction in SMC Package
- * Excellent clamping capability
- * Low Zener Impedance
- * Fast response time: typically less than 1.0ps from 0 volts to BV min.
- * Typical IR less than 1 uA above 10V
- * High temperature soldering guaranteed : 260°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC SMC molded plastic
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.007 ounce 0.25 gram



SMC



Dimensions in inches and (millimeters)

SMC

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SCMJ6.8A thru types 1.5SCMJ200A
 Electrical characteristics apply in both directions.

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS | SYMBOL | VALUE | UNITS |
|--|----------|--------------|-------|
| Peak Power Dissipation at TA = 25°C, Tp = 1ms (Note1) | PPK | Minimum 1500 | Watts |
| Steady State Power Dissipation at TL = 75°C | PD | 6.5 | Watts |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Note 2) | IFSM | 200 | Amps |
| Operating and Storage Temperature Range | TJ, TSTG | -65 to +175 | °C |

NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.
 2. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.
 3. P.C.B. mounted 0.31 x 0.31" (8 x 8mm) copper pad areas

2003-01

| PRODUCT NO. | Breakdown Voltage | | | | Working Peak Reverse Voltage | Maximum Reverse Leakage at Vrwm | Maximum Reverse Current (NOTE 2) | Maximum Reverse Voltage at Irsm (clamping) | Maximum Temperature Coefficient of Vbr |
|---------------|-------------------------|------|------|----------------|------------------------------|---------------------------------|------------------------------------|--|--|
| | VBR Volts (NOTE 1) | | | @ IT (mA) | | | | | |
| | MIN. | NOM. | MAX. | | Vrwm (V) | Ir (uA) | Irsm (A) | Vrsm (V) | (%C) |
| 1.5SCMJ6.8APT | 6.45 | 6.8 | 7.14 | 10 | 5.80 | 1000 | 143 | 10.5 | 0.057 |
| 1.5SCMJ7.5APT | 7.13 | 7.5 | 7.88 | 10 | 6.40 | 500 | 132 | 11.3 | 0.061 |
| 1.5SCMJ8.2APT | 7.79 | 8.2 | 8.61 | 10 | 7.02 | 200 | 124 | 12.1 | 0.065 |
| 1.5SCMJ9.1APT | 8.65 | 9.1 | 9.55 | 1.0 | 7.78 | 50 | 112 | 13.4 | 0.068 |
| 1.5SCMJ10APT | 9.5 | 10 | 10.5 | 1.0 | 8.55 | 10 | 103 | 14.5 | 0.073 |
| 1.5SCMJ11APT | 10.5 | 11 | 11.6 | 1.0 | 9.40 | 5.0 | 96.0 | 15.6 | 0.075 |
| 1.5SCMJ12APT | 11.4 | 12 | 12.6 | 1.0 | 10.2 | 5.0 | 90.0 | 16.7 | 0.078 |
| 1.5SCMJ13APT | 12.4 | 13 | 13.7 | 1.0 | 11.1 | 5.0 | 82.0 | 18.2 | 0.081 |
| 1.5SCMJ15APT | 14.3 | 15 | 15.8 | 1.0 | 12.8 | 5.0 | 71.0 | 21.2 | 0.084 |
| 1.5SCMJ16APT | 15.2 | 16 | 16.8 | 1.0 | 13.6 | 5.0 | 67.0 | 22.5 | 0.086 |
| 1.5SCMJ18APT | 17.1 | 18 | 18.9 | 1.0 | 15.3 | 5.0 | 59.5 | 25.2 | 0.088 |
| 1.5SCMJ20APT | 19.0 | 20 | 21.0 | 1.0 | 17.1 | 5.0 | 54.0 | 27.7 | 0.090 |
| 1.5SCMJ22APT | 20.9 | 22 | 23.1 | 1.0 | 18.8 | 5.0 | 49.0 | 30.6 | 0.092 |
| 1.5SCMJ24APT | 22.8 | 24 | 25.2 | 1.0 | 20.5 | 5.0 | 45.0 | 33.2 | 0.094 |
| 1.5SCMJ27APT | 25.7 | 27 | 28.4 | 1.0 | 23.1 | 5.0 | 40.0 | 37.5 | 0.096 |
| 1.5SCMJ30APT | 28.5 | 30 | 31.5 | 1.0 | 25.6 | 5.0 | 36.0 | 41.4 | 0.097 |
| 1.5SCMJ33APT | 31.4 | 33 | 34.7 | 1.0 | 28.2 | 5.0 | 33.0 | 45.7 | 0.098 |
| 1.5SCMJ36APT | 34.2 | 36 | 37.8 | 1.0 | 30.8 | 5.0 | 30.0 | 49.9 | 0.099 |
| 1.5SCMJ39APT | 37.1 | 39 | 41.0 | 1.0 | 33.3 | 5.0 | 28.0 | 53.9 | 0.100 |
| 1.5SCMJ43APT | 40.9 | 43 | 45.2 | 1.0 | 36.8 | 5.0 | 25.3 | 59.3 | 0.101 |
| 1.5SCMJ47APT | 44.7 | 47 | 49.4 | 1.0 | 40.2 | 5.0 | 23.2 | 64.8 | 0.101 |
| 1.5SCMJ51APT | 48.5 | 51 | 53.6 | 1.0 | 43.6 | 5.0 | 21.4 | 70.1 | 0.102 |
| 1.5SCMJ56APT | 53.2 | 56 | 58.8 | 1.0 | 47.8 | 5.0 | 19.5 | 77.0 | 0.103 |
| 1.5SCMJ62APT | 58.9 | 62 | 65.1 | 1.0 | 53.0 | 5.0 | 17.7 | 85.0 | 0.104 |
| 1.5SCMJ68APT | 64.6 | 68 | 71.4 | 1.0 | 58.0 | 5.0 | 16.3 | 92.0 | 0.104 |
| 1.5SCMJ75APT | 71.3 | 75 | 78.8 | 1.0 | 64.1 | 5.0 | 14.6 | 103 | 0.105 |
| 1.5SCMJ82APT | 77.9 | 82 | 86.1 | 1.0 | 70.1 | 5.0 | 13.3 | 113 | 0.105 |
| 1.5SCMJ91APT | 86.5 | 91 | 95.5 | 1.0 | 77.8 | 5.0 | 12.0 | 125 | 0.106 |
| 1.5SCMJ100APT | 95.0 | 100 | 105 | 1.0 | 85.5 | 5.0 | 11.0 | 137 | 0.106 |
| 1.5SCMJ110APT | 105 | 110 | 116 | 1.0 | 94.0 | 5.0 | 9.9 | 152 | 0.107 |
| 1.5SCMJ120APT | 114 | 120 | 126 | 1.0 | 102 | 5.0 | 9.1 | 165 | 0.107 |
| 1.5SCMJ130APT | 124 | 130 | 137 | 1.0 | 111 | 5.0 | 8.4 | 179 | 0.107 |
| 1.5SCMJ150APT | 143 | 150 | 158 | 1.0 | 128 | 5.0 | 7.2 | 207 | 0.108 |
| 1.5SCMJ160APT | 152 | 160 | 168 | 1.0 | 136 | 5.0 | 6.8 | 219 | 0.108 |
| 1.5SCMJ170APT | 162 | 170 | 179 | 1.0 | 145 | 5.0 | 6.4 | 234 | 0.108 |
| 1.5SCMJ180APT | 171 | 180 | 189 | 1.0 | 154 | 5.0 | 6.1 | 246 | 0.108 |
| 1.5SCMJ200APT | 190 | 200 | 210 | 1.0 | 171 | 5.0 | 5.5 | 274 | 0.108 |

RATING CHARACTERISTIC CURVES (1.5SCMJ6.8APT ~ 1.5SCMJ200APT)

FIG. 1 - PULSE POWER RATING CURVE

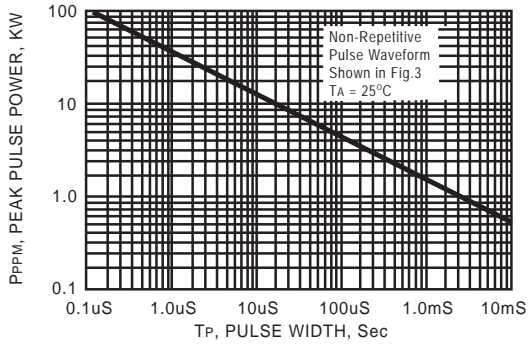


FIG. 2 - PULSE DERATING CURVE

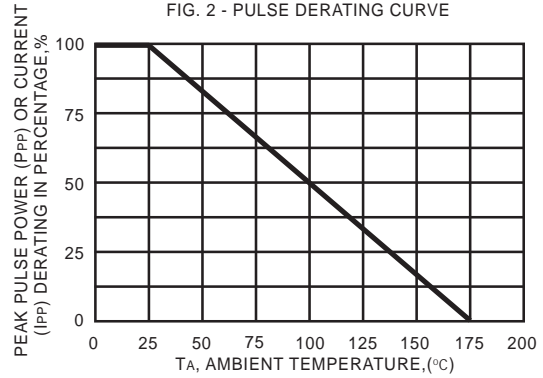


FIG. 3 - PULSE WAVEFORM

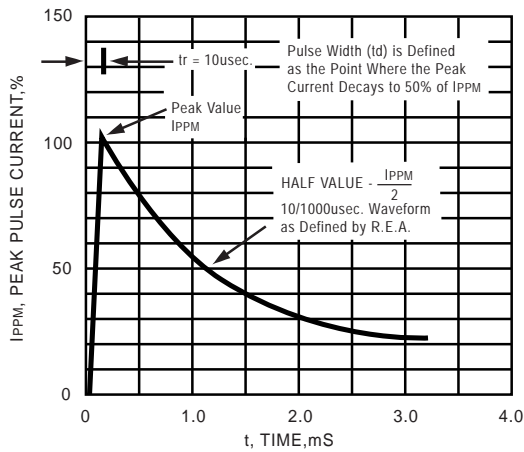


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

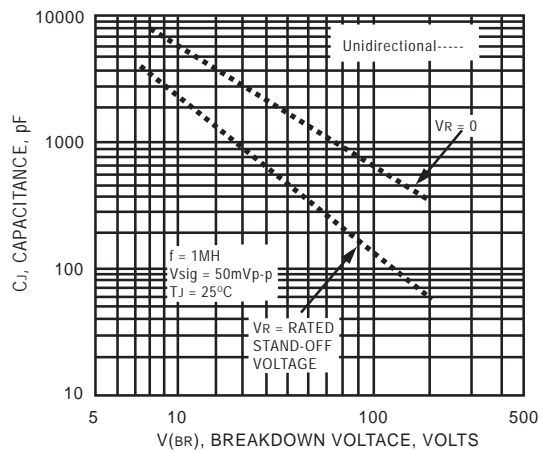


FIG. 5 - STEADY STATE POWER DERATING CURVE

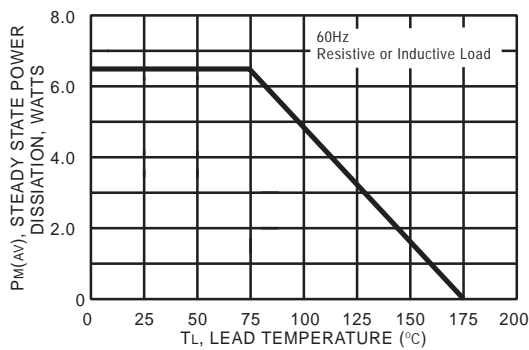
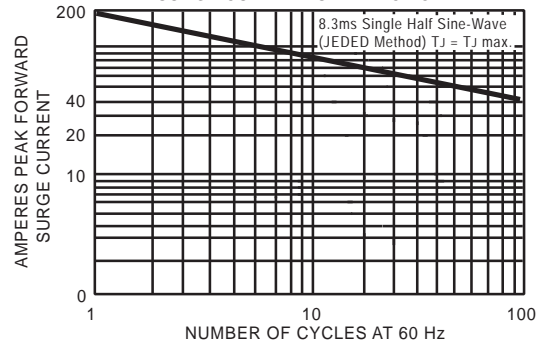


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



RATING CHARACTERISTIC CURVES (1.5SCMJ6.8APT ~ 1.5SCMJ200APT)

