APPROVAL SHEET

SQM SERIES
RX27-5 SERIES

CEMENT WIRE WOUND RESISTORS

PRODUCE	CHECK AND APPROVE	ACCEPTED BY
EM	CE	HONORABLE CUSTOMER
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1. PRODUCT: WIRE WOUND CEMENT RESISTORS

FEATURES

- Advanced alloy technology
- Low TCR: lower than ±20ppm/℃.
- Tolerance up to ±1.0%
- Excellent overall stability: Class 1.0
- Very low noise and voltage coefficient
- Non-inductance winding available under request
- Perfect pulse loading capability

APPLICATIONS

- Current sensor for test and measuring instruments
- Power supply with high reliability
- Components burn-in devices
- Pulse load and in rush current protector
- Medical equipment
- Military electronics
- Automotive electronics

STANDARD APPLIED:

Q\SLC033-2010

2. PRODUCT: CEMENT RESISTORS AXIAL LEAD TYPE (SQM SERIES = RX27-5 SERIES)

3. PART NUMBER: Part number of the cement resistor is identified by the name, power, tolerance, packing, temperature coefficient, special type and resistance value.

Example：

SQM	5W	J	0	B	121
Series Name	Size Code	Resistance Tolerance	Temperature Coefficient of Resistance	Packing Style	Resistance Value

(1) Series: SQM SERIES CEMENT TYPE RESISTORS

(2) Power Rating: 2W; 3W; 5W; 7W; 10W; 15W; 20W

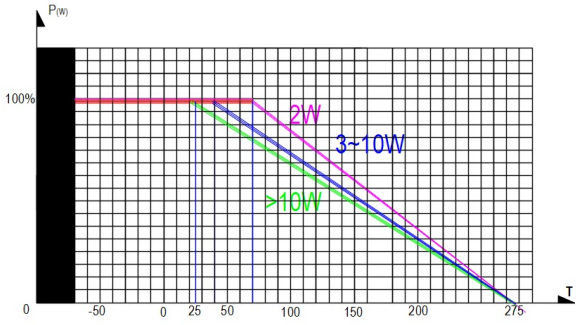
(3) Tolerance: J=±5%

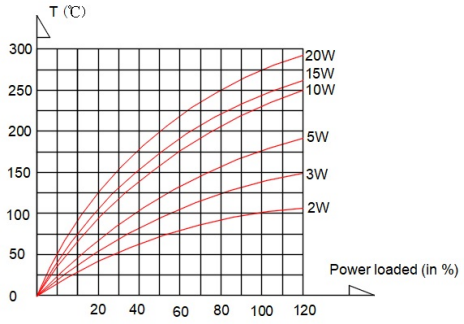
(4) T.C.R: 0=±200ppm/℃

(5) Packaging Type: B＝Bulk Packing

(6) Resistance Value: 200=20Ω 、121=120Ω

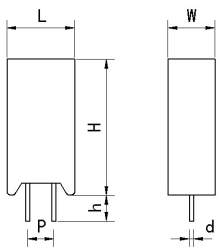
3. DERATING CURVE & TEMPERATURE RISE CURVE





Temperature rising curve

4. DIMENSIONS



TYPE	H±1.5	L±1.0	W±1.0	P±1.0	h±1	d±0.05
2W	20	11	7	5	3.5	0.7
3W	25	12	8	5	3.5	0.7
5W	25	13	9	5	3.5	0.7
7W	39	13	9	5	3.5	0.7
10W	35	16	12	7.5	3.5	0.7

5. ENVIRONMENTAL CHARACTERISTICS

(1) Short Time Over Load Test

At 2.5 times of the rated voltage. (If the voltage exceeds the maximum load voltage, the maximum load voltage will be used as the rated voltage) applied for 5 seconds, the resistor should be free from defects after the resistor is released from load for about 30 minutes and the change of the resistance value should be within ±(1%+0.005Ω) as compared with the value before the test.

(2) Dielectric Withstanding Voltage

The resistor is placed on the metal V Block. Apply a Table I dielectric withstanding between the terminals connected together with the block for about 60 seconds. The resistor shall be able to withstand without breakdown or flashover.

(3) Temperature Coefficient Test

Test of resistors above room temperature 60°C to 100°C (Testing Temperature) at the constant temperature silicon plate for over 4 to 5 minutes. Then measure the resistance. The Temperature Coefficient is calculated by the following equation and its value should be within the range of requested.

$$\text{Resistor Temperature Coefficient} = \frac{R - R_0}{R_0} \times \frac{1}{t - t_0} \times 10^6$$

R = Resistance value under the testing temperature
R_0 = Resistance value at the room temperature
t = The testing temperature
t_o = Room temperature

(4) Insulation Resistance

Apply test terminal on lead and resistor body. The test resistance should be high than 100Mohm.

(5) Solderability

Immerse the specimen into the solder pot at 230±5°C for 5±0.5 seconds. At least 95% solder coverage on the termination.

(6) Resistance to Solvent

The specimen into the appropriate solvent of Methylome Chloride condition of ultrasonic machine for 1 minutes. The specimen is no deterioration of coatings and color code.

(7) Terminal Strength

Direct Load – Resistors shall be held by one terminal and the load shall be gradually applied in the direction of the longitudinal axis of the resistor unit the applied load reacheds 5 pounds. The load shall be held for 10 seconds. The change of the resistance value shall be ≧ 2.5kg(24.5N).

(8) Pulse Overload

Apply 4 times of rated voltage to the specimen at the 1 second on and 25 seconds off cycle, subjected to voltage application cycles specified in 10000. The change of the resistance value shall be within ±(2%+0.005Ω).

(9) Load Life in Humidity

Place the specimen in a test chamber at 40±2°C and 90~95% relative humidity. Apply the rated voltage to the specimen at the 1.5 hours on and 0.5 hour off cycle. The total length of test is 1000 hours. The change of the resistance value shall be within ±(5%+0.005Ω).

(10) Load Life Test

Placed in the constant temperature chamber of 70±3°C the resistor shall be connected to the lead wire at the point of 25mm. Length with each terminal, the resistors shall be arranged not much effected mutually by the temperature of the resistors and the excessive ventilation shall not be performed, for 90 minutes on and 30 minutes off under this condition the rated D.C. voltage is applied continuously for 1000+48/-0 hours then left at no-load for 1hour, the change of the resistance value measured at this time to the value before the test shall be within ±(5%+0.005Ω). There shall be no remarkable change in the appearance and the color code shall be legible after the test.

(11) Temperature Cycling Test

The temperature cycle shown in the following table shall be repeated 5 times consecutively. The measurement of the resistance value is done before the first cycle and after ending the fifth cycle, leaving in the room temperature for about 1 hour, the change shall be within ±(2%+0.005Ω). After the test the resistor shall be free from the electrical or mechanical damage.

Temperature Cycling Conditions:

Step	Temperature(°C)	Time (minute)
1	+25+10/-5	10 to15
2	-65+0/-3	30
3	+25+10/-5	10 to15
4	+150+3/-0	30

(12) Resistance to Soldering Heat

The terminal lead shall be dipped into the solder pot at 350±10°C for 3±0.5 seconds up to 3 mm away from the resistance body. The change of the resistance value shall be within ±(1%+0. 005Ω).