

# DATASHEET FOR SQP CEMENT RESISTORS



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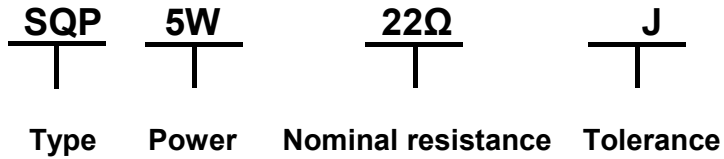
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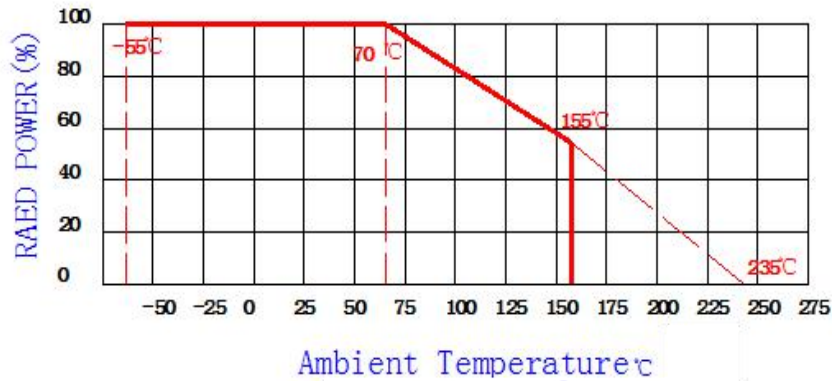
## How to order



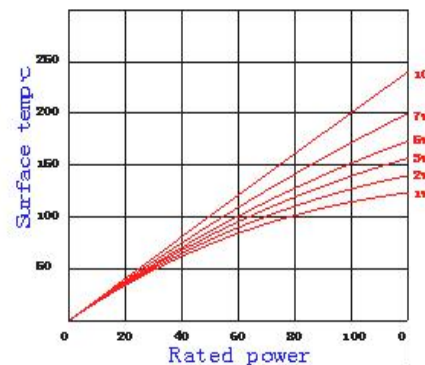
## Dimensions

Power	Dimensions					Resistance value		Construction diagram
	L±1	W±1	H±1	T±2	D±0.5	Wirewound rods	Film rods	
2W	18	7	7	20	0.56	0.1-60Ω	110-22KΩ	
3W	22	8	8	23	0.68	0.1-180Ω	130-33KΩ	
5W	22	10	10	23	0.68	0.1-200Ω	200-50KΩ	
7W	35	10	10	25	0.70	0.1-430Ω	240-50KΩ	
10W	48	10	10	25	0.70	0.1-470Ω	300-50KΩ	
15W	48	13	13	25	0.70	0.1-600Ω	300-100KΩ	
20W	60	13	13	25	0.75	0.1-1KΩ	300-100KΩ	

## Rated power derating curve



## Surface temp. rising curve



## Rated voltage

$$V = \sqrt{P \times R}$$

P=Rating power  
V=Rated voltage  
R=Nominal resistance

## ■ Testing & performance

Test Item	Test method	Performance (acceptance for quality)
Temperature coefficient	$\text{PPM}/^{\circ}\text{C} = \frac{R - R_0}{R_0} * \frac{10^6}{T - T_0}$ <p>                     R = Measured resistance (Ω) at T                      Ro = Measured resistance (Ω) at To                      T = Measured test temperature(°C)                      To = Measured base temperature( °C)                 </p>	± 300PPM/°C
Short time overload	Apply 5 times rated voltage to the resistor for 5 seconds.	≤ ±(1%R + 0.05ohm) Shall be no mechanical breakage
Insulation test	Apply test voltage 500V bearing for 1 minute.	>500MΩ
Voltage endurance	AC1500V for 1minute.	≤ ±(0.5%R + 0.05ohm) Shall be no mechanical breakage
Terminal(lead) strength	Pull 20N forces to the terminal pins in direction of axis for 30s.	Shall be no mechanical breakage
Soldering resistance	Immerse the terminal pins into tin stove for the temperature at 350°C±10°C, retain 3±0.05mm of distance to the resistor body for 5± 0.5s, leave for 1 hour after finished then test it	≤ ± (1%R + 0.5ohm) Shall be no mechanical breakage
Load life test	Power on for 1 hour and then power off for 0.5 hour as a cycle, cycled 1000 hours at 70°C.	≤ ±(5%R + 0.05ohm) Shall be no mechanical breakage
Solderability	Immerse the terminal pins into solder stove of the temperature at 260°C±5°C for 5± 0.5s.	≥95% covered
Humidity load test	In a chamber for the temperature at 40°C± 2°C, HR 90-95%, power on for 1.5 hours and then power off for 0.5 hour as a cycle, cycled 1000 hours, test it after one hour up to finished the cycle test at ambient temperature.	≤± (5% R+ 0.1ohm) Shall be no mechanical breakage
Vibration test	set the resistors at the vibration table and vibrate 10HZ—55HZ 10HZ/s with 1.5mm amplitude in 1 min. when the change of frequency shall be completed uniformly. the vibration shall apply to 3 directions,vertical and horizontal to the axis of resistor each for 3h.	Shall be no mechanical breakage
Nonflammability test	Firing the resistors' body with naked flames for 15min then rest for 5S as cycle, cycled 5 times.	Shall be no mechanical breakage

## ■ Features

1. Good heat dispersing materias filled in the ceramic cases, high safety.
2. High power consumption designed in small-sized dimensions, excellent durability under heavy loading.
3. Unexceptionable heat dissipation.

## ■ Storage conditions

1. Resistor should be stored in the condition of dry and ventilated environment, not be directly shined by sunlight.
2. Resistors should be stored in no acid,alkali and sulfide corrosion and so on environment.
- 3.Product storage time may not exceed two years.