

# Cement Resistors

# VERTICAL LEAD TYPE

Standard Style [SQM Series]

Non-Inductive Style [NSM Series]



## INTRODUCTION

- The materials used and the construction techniques ensure excellent flame resistance, arc resistance and moisture resistances as well as self-extinguishing capabilities. They will withstand the most rigorous loading test
- As resistors in radio and television receivers, the hazardous conditions of smoking and redheat can be completely prevented by the proper choice of power resistors

## FEATURES

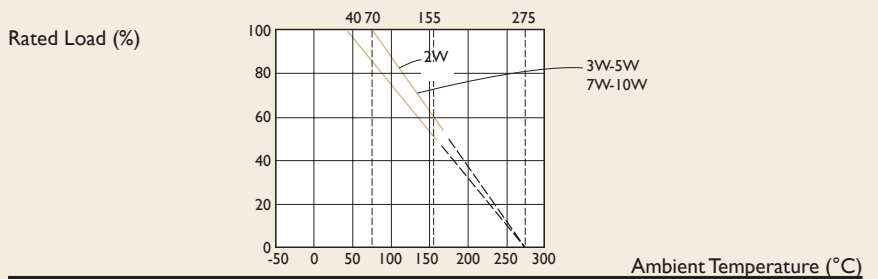
Space Saving Stand-Off Type

Small Size, High Power Capacity

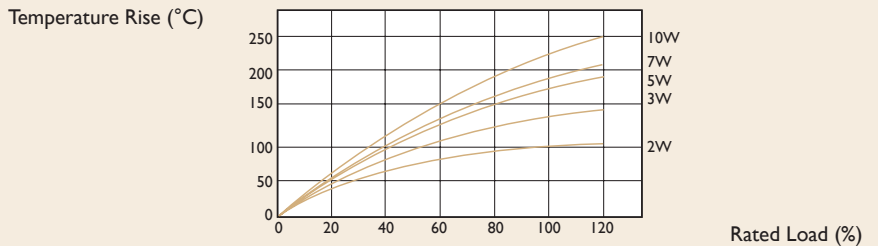
Resistance Tolerance:  $\pm 5\%$

Completely Unflamable

## DERATING CURVE

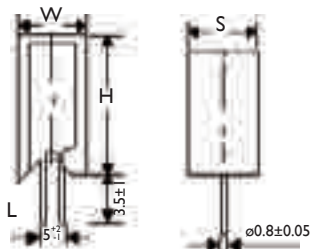


## TEMPERATURE RISE



Unit : mm

## DIMENSIONS



STYLE		DIMENSION		
STD	Non-Ind.	H	W	S
SQM200	NSM200	20 $\pm$ 1.5	11.0 $\pm$ 1.0	7.0 $\pm$ 1.0
SQM300	NSM300	25 $\pm$ 1.5	12.0 $\pm$ 1.0	8.0 $\pm$ 1.0
SQM500	NSM500	25 $\pm$ 1.5	13.0 $\pm$ 1.0	9.0 $\pm$ 1.0
SQM700	NSM700	39 $\pm$ 1.5	13.0 $\pm$ 1.0	9.0 $\pm$ 1.0
SQM10A	NSM10A	51 $\pm$ 1.5	13.0 $\pm$ 1.0	9.0 $\pm$ 1.0
SQM10S	NSM10S	35 $\pm$ 1.5	16.0 $\pm$ 1.0	12.0 $\pm$ 1.0



Note :

## ELECTRICAL CHARACTERISTICS

STYLE	SQM200	SQM300	SQM500	SQM700	SQM10A	SQM10S
Power Rating	2W	3W	5W	7W	10W	
Operating Temp. Range	-55°C to +155°C					
Maximum Working Voltage	250V	350V	350V	500V	500V	500V
Maximum Overload Voltage	500V	700V	700V	1000V	1000V	1000V
Dielectric Withstanding Voltage	500V	700V	700V	1000V	1000V	1000V
Value Range ±5% (Ceramic Core)	0.15Ω~100Ω	0.24Ω~120Ω	0.3Ω~180Ω	0.51Ω~220Ω	1Ω~270Ω	
Value Range ±5% (Metal Oxide Film)	110Ω~10KΩ	130Ω~22KΩ	200Ω~33KΩ	240Ω~10KΩ	300Ω~10KΩ	
Temperature Coefficient	±300ppm/°C					

\* 1. Standard resistance is as the above list, below or over this resistance on request.

\* 2. Non-Inductive type up to 50Ω only.

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	JIS-C-5202 5.5	2.5 Times RCWV for 5 Seconds	±(2%+0.05Ω)
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Seconds	by Type
Temperature Coefficient of Resistance	JIS-C-5202 5.2	-55°C to +155°C	±300ppm/°C
Insulation Resistance	JIS-C-5202 5.6	in V-Block	>100MΩ
Solderability	JIS-C-5202 6.5	235±5°C for 5±0.5 Seconds	95% Min. Coverage
Resistance to Solvent	JIS-C-5202 6.9	IPA for 1 Min. with Ultrasonic	No Deterioration of Coatings and Markings
Terminal Strength	Direct Load for 10 Sec. in The Direction of The Terminal Leads		≥2.5kg (24.5N)
Pulse Overload	JIS-C-5202 5.8	4 Times RCWV 10000 Cycles (1 Sec. on , 25 Sec. off)	±(2%+0.05Ω)
Load Life in Humidity	JIS-C-5202 7.9	40±2°C, 90~95% RH at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off )	±(5%+0.05Ω)
Load Life	JIS-C-5202 7.10	70°C at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off)	±(5%+0.05Ω)
Temperature Cycling	JIS-C-5202 7.4	-55°C→Room Temp.→+155°C→Room Temp. for 5 Cycles	±(2%+0.05Ω)
Resistance to Soldering Heat	JIS-C-5202 6.4	350°C±10°C for 3±0.5 Seconds	±(1%+0.05Ω)

\* Rated Continuous Working Voltage (RCWV)= $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$