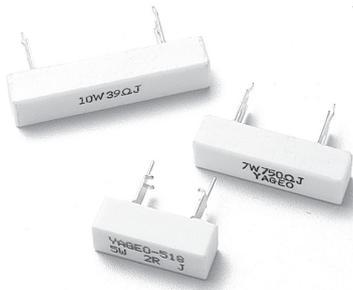


# Cement Resistors

# Radial Terminal Type

Normal Style [ SQZ Series ]

Non-Inductive Style [ NSZ Series ]



## INTRODUCTION

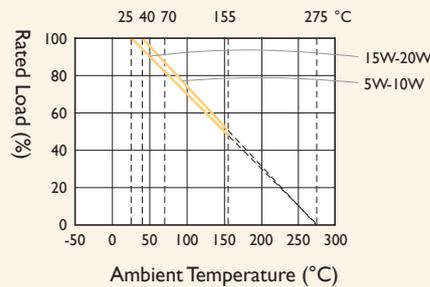
The materials used and the construction techniques ensure excellent flame resistance, arc resistance and moisture resistance as well as self-extinguishing capabilities. They will withstand the most rigorous loading test.

As resistors in radio and television receivers, hazardous conditions such as smoking and redheat can be completely prevented by the proper choice of power resistors.

## FEATURES

Power Rating	5W, 7W, 10W, 15W, 20W
Resistance Tolerance	Wirewound: $\pm 1\%$ , $\pm 5\%$ , Film: $\pm 5^\circ\text{C}$
T.C.R.	Wirewound: $\pm 100\text{ppm}/^\circ\text{C}$ , $\pm 300\text{ppm}/^\circ\text{C}$ , Film: $\pm 300\text{ppm}/^\circ\text{C}$

## DERATING CURVE

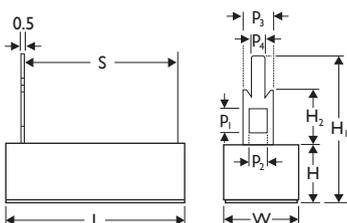


## TEMPERATURE RISE



## DIMENSIONS

Unit: mm



STYLE	DIMENSION	DIMENSION											
		L	H	W	S	H <sub>1</sub>	H <sub>2</sub>	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>		
Normal	Non-Ind.												
SQZ500	NSZ500	28.0±1.5	10.0±1.0	10.0±1.0	15.0±1.5	25.0±1.5	10.0±1.0	4.0±0.2	2.0±0.2	5.0±0.2	1.5±0.2		
SQZ700	NSZ700	35.0±1.5	10.0±1.0	10.0±1.0	22.5±1.5	25.0±1.5	10.0±1.0	4.0±0.2	2.0±0.2	5.0±0.2	1.5±0.2		
SQZ10A	NSZ10A	48.0±1.5	9.5±1.0	10.0±1.0	32.0±1.5	25.0±1.5	10.5±1.0	4.0±0.2	2.0±0.2	5.0±0.2	1.5±0.2		
SQZ15A	NSZ15A	48.0±1.5	12.5±1.0	13.0±1.0	32.0±1.5	35.0±1.5	15.0±1.5	7.0±0.2	4.0±0.2	10.0±0.5	3.0±0.2		
SQZ20A	NSZ20A	63.0±1.5	12.5±1.0	12.5±1.0	42.5±1.5	35.0±1.5	15.0±1.5	7.0±0.2	4.0±0.2	10.0±0.5	3.0±0.2		

## ELECTRICAL CHARACTERISTICS

### NORMAL STYLE

STYLE	SQZ500	SQZ700	SQZI0A	SQZI5A	SQZ20A
Power Rating at 25°C				15W	20W
Power Rating at 40°C	5W	7W	10W		
Maximum Working Voltage	350V	500V			
Maximum Overload Voltage	700V	1,000V			
Voltage Proof on Insulation	700V	1,000V			
Resistance Range (Wirewound)	0.36Ω - 200Ω		0.56Ω - 430Ω	1Ω - 560Ω	1.5Ω - 750Ω
Resistance Range (Film)	220Ω - 1MΩ	300Ω - 1MΩ	470Ω - 1MΩ	750Ω - 1MΩ	820Ω - 1MΩ
Operating Temp. Range	-55°C to +155°C				
Temperature Coefficient	Wirewound: ±100ppm/°C, ±300ppm/°C, Film:±300ppm/°C				

### NON-INDUCTIVE STYLE

STYLE	NSZ500	NSZ700	NSZI0A	NSZI5A	NSZ20A
Power Rating at 25°C				15W	20W
Power Rating at 40°C	5W	7W	10W		
Maximum Working Voltage	$\sqrt{P \times R}$				
Voltage Proof on Insulation	700V	1,000V			
Resistance Range (Wirewound)	0.1Ω - 10Ω		0.1Ω - 20Ω		0.1Ω - 30Ω
Operating Temp. Range	-55°C to +155°C				
Temperature Coefficient	±300ppm/°C				

Note: Special value is available on request

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	IEC 60115-1 4.13 2.5 times RCWV for 5 sec. (Not more than maximum Overload Voltage)	±2.0%+0.05Ω
Voltage Proof on Insulation	IEC 60115-1 4.7 In V-Block for 60 sec., test voltage as above table	No Breakdown
Temperature Coefficient	IEC 60115-1 4.8 Between -40°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6 in V-block for 60 Sec.	>1,000MΩ
Solderability	IEC 60115-1 4.17 245±5°C for 3±0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30 IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Periodic-pulse Overload	IEC 60115-1 4.39 4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±2.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24 40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	±5.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25 70±2°C at RCWV (or Umax., Whichever less) for 1,000 Hr. (1.5Hr:on, 0.5Hr: Off)	±5.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19 -55°C ⇌ Room Temp. ⇌ +155°C ⇌ Room Temp. (5 cycles)	±2.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18 260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±1.0%+0.05Ω

Note: Rated Continuous Working Voltage (RCWV) =  $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$  or Max. working voltage listed above, whichever less.

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