Innovative Service Around the Globe YAGEO

DATA SHEET

CEMENT RESISTORS

High Power, Radial Terminal

SQZ Series

NSZ Series

±1%, ±5%

5W to 20W

RoHS compliant & Halogen Free

YAGEO

Product specification – August 13, 2021 V.0

APPLICATIONS

- Power applications
- Home appliance
- Industry

FEATURES

- High power rating
- Excellent pulse load capability
- Radial terminal
- Flameproof ceramic case
- RoHS compliant and halogen free

ORDERING INFORMATION

Part number of the cement resistor is identified by the series, power rating, tolerance, packing, temperature coefficient and resistance value.

PART NUMBER

SQZ	500	J	B	-	100R
(1)	(2)	(3)	(4)	(5)	(6)

(1) SERIES NAME

SQZ Series = General purpose
NSZ Series = Non inductive

(2) POWER RATING

500 = 5W
700 = 7W
10A = 10W
15A = 15W
20A = 20W

(3) TOLERANCE

F = ±1% (Wirewound),
J = ±5%

(4) PACKAGING

B = Bulk for wirewound or metal oxide or fiberglass element
W = Bulk for wirewound element
M = Bulk for metal oxide element
F = Bulk for fiberglass element

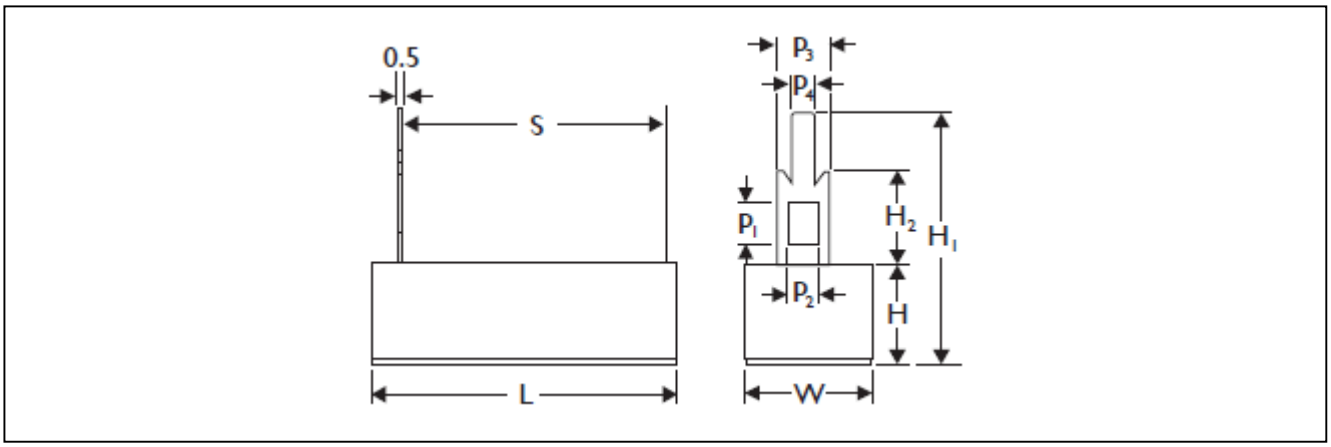
(5) TEMPERATURE COEFFICIENT OF RESISTANCE

F=±100ppm/°C (Wirewound)
- = Based on spec.

(6) RESISTANCE VALUE

E24 & E96 Series
Example:
100R = 100Ω, 10K = 10,000Ω, 1M = 1,000,000Ω

DIMENSIONS

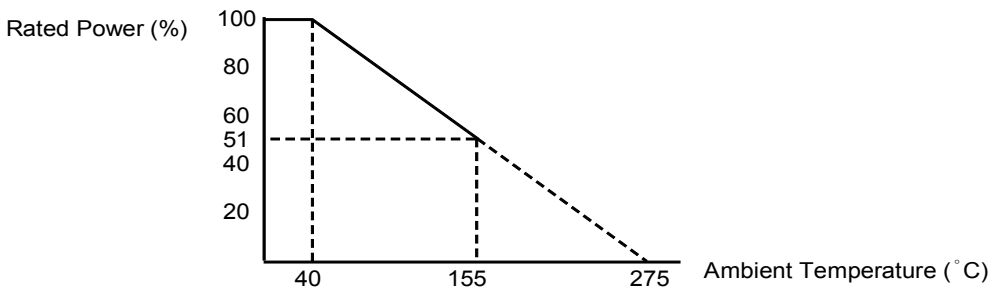


TYPE DIMENSIONS Unit: mm

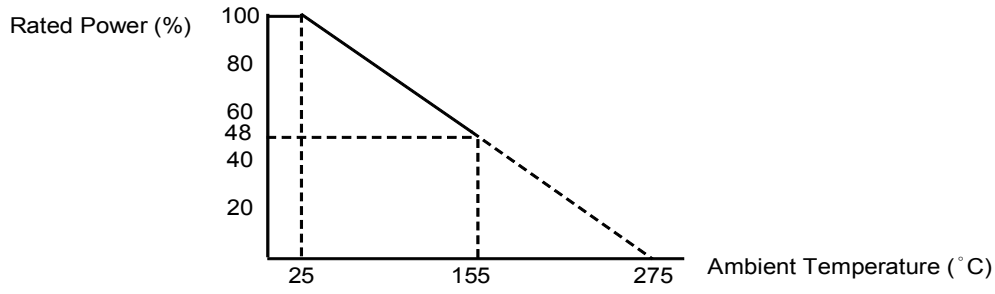
Normal	Non-Inductive	L	H	W	S	H1	H2	P1	P2	P3	P4
SQZ500	NSZ500	28.0±1.5	10.0±1.0	10.0±1.0	15.0±1.5	25.0±1.5	10.0±1.0	4.0± 0.2	2.0±0.2	5.0±0.2	1.5±0.2
SQZ700	NSZ700	35.0±1.5	10.0±1.0	10.0±1.0	22.5±1.5	25.0±1.5	10.0±1.0	4.0± 0.2	2.0±0.2	5.0±0.2	1.5±0.2
SQZ10A	NSZ10A	48.0±1.5	9.5±1.0	10.0±1.0	32.0±1.5	25.0±1.5	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

DERATING CURVE

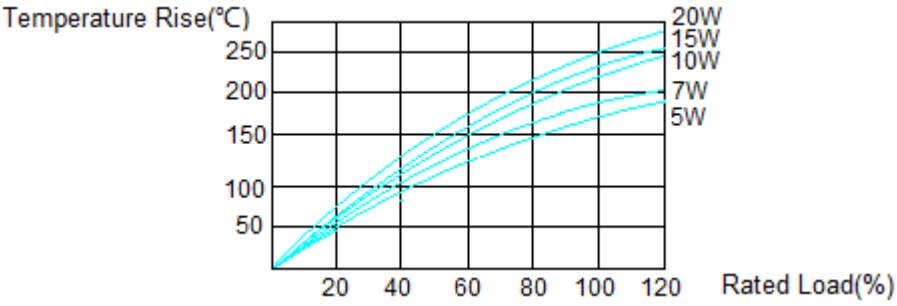
SQZ500 ~ SQZ10A
NSZ500 ~ NSZ10A



SQZ15A ~ SQZ20A
NSZ15A ~ NSZ20A



TEMPERATURE CURVE



ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SQZ500	SQZ700	SQZ10A	SQZ15A	SQZ20A
Power Rating at 25 °C				15W	20W
Power Rating at 40 °C	5W	7W	10W		
Maximum Working Voltage	350V	500V	500V	500V	500V
Maximum Overload Voltage	700V	1000V	1000V	1000V	1000V
Voltage Proof on Insulation	700V	1000V	1000V	1000V	1000V
Resistance Range(Wirewound)	0.36Ω ~ 200Ω	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				

Note: For resistance value out of above range is by request.

CHARACTERISTICS	NSZ500	NSZ700	NSZ10A	NSZ15A	NSZ20A
Power Rating at 25 °C				15W	20W
Power Rating at 40 °C	5W	7W	10W		
Voltage Proof on Insulation	700V	1000V	1000V	1000V	1000V
Resistance Range(Wirewound)	0.1Ω ~ 10Ω	0.1Ω ~ 10Ω	0.1Ω ~ 20Ω	0.1Ω ~ 20Ω	0.1Ω ~ 30Ω
Maximum Working Voltage	√(P X R)				
Operating Temp. Range	- 55°C to +155°C				
Temperature Coefficient	±300ppm/°C				

Note: For resistance value out of above range is by request.

TEST AND REQUIRMENTS

TEST	TEST METHOD	PROCEDURE	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 -55°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.(1.5 Hr.on,0.5 Hr. 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:

RCWV (Rated Continuous Working Voltage):

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$V=\sqrt{(P \times R)}$
or max. working voltage whichever is less

Where

V=Continuous rated DC or
AC (rms) working voltage (V)

P=Rated power (W)

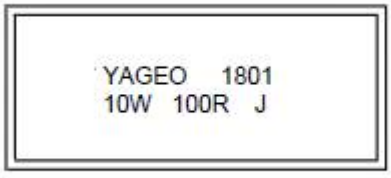
R=Resistance value (Ω)

BULK PACKING

Unit: Piece

Normal	Non-Inductive	PACKAGE	Quantity
SQZ500	NSZ500	Bulk	150
SQZ700	NSZ700	Bulk	150
SQZ10A	NSZ10A	Bulk	150
SQZ15A	NSZ15A	Bulk	50
SQZ20A	NSZ20A	Bulk	50

MARKING



Example:

YAGEO	= Brand
1801	= Date code
10W	= Power rating
100R	= Resistance
J	= Tolerance

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Aug.2, 2021	-	- First issue of this specification

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