

DATA SHEET

CEMENT RESISTORS

Low Ohmic, Metal Plate

Vertical Mount

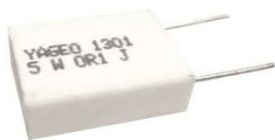
SLR Series

$\pm 5\%$, $\pm 10\%$

2W to 10W

RoHS compliant & Halogen Free





APPLICATIONS

- Home appliance
- Consumer

FEATURES

- Ultra miniature size
- Current detecting resistors
- Flameproof cement 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, resistance value and type code.

PART NUMBER

<u>SLR</u>	<u>500</u>	<u>J</u>	<u>B</u>	<u>-</u>	<u>0R035</u>	<u>U</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) SERIES

SLR Series

(2) POWER RATING

200 = 2W

700 = 7W

300 = 3W

10A = 10W

500 = 5W

(3) TOLERANCE

J = $\pm 5\%$

K = $\pm 10\%$

(4) PACKAGING

B = Bulk

(5) TEMPERATURE COEFFICIENT OF RESISTANCE

- = Based on spec.

(6) RESISTANCE VALUE

Example:

0R035 = 0.035 Ω , 0R1 = 0.1 Ω , 1R = 1 Ω

(7) TYPE CODE

Optional code for different type. .

Example:

Null = Standard type

E = SLR200 & SLR300 / $\varphi d=0.8\pm 0.05$ mm copper wire

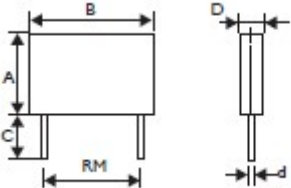
U = SLR500 & SLR700 & SLR10A / $\varphi d=0.6\pm 0.05$ mm copper wire

C = SLR200 & SLR300 / $\varphi d=0.8\pm 0.05$ mm CP- wire

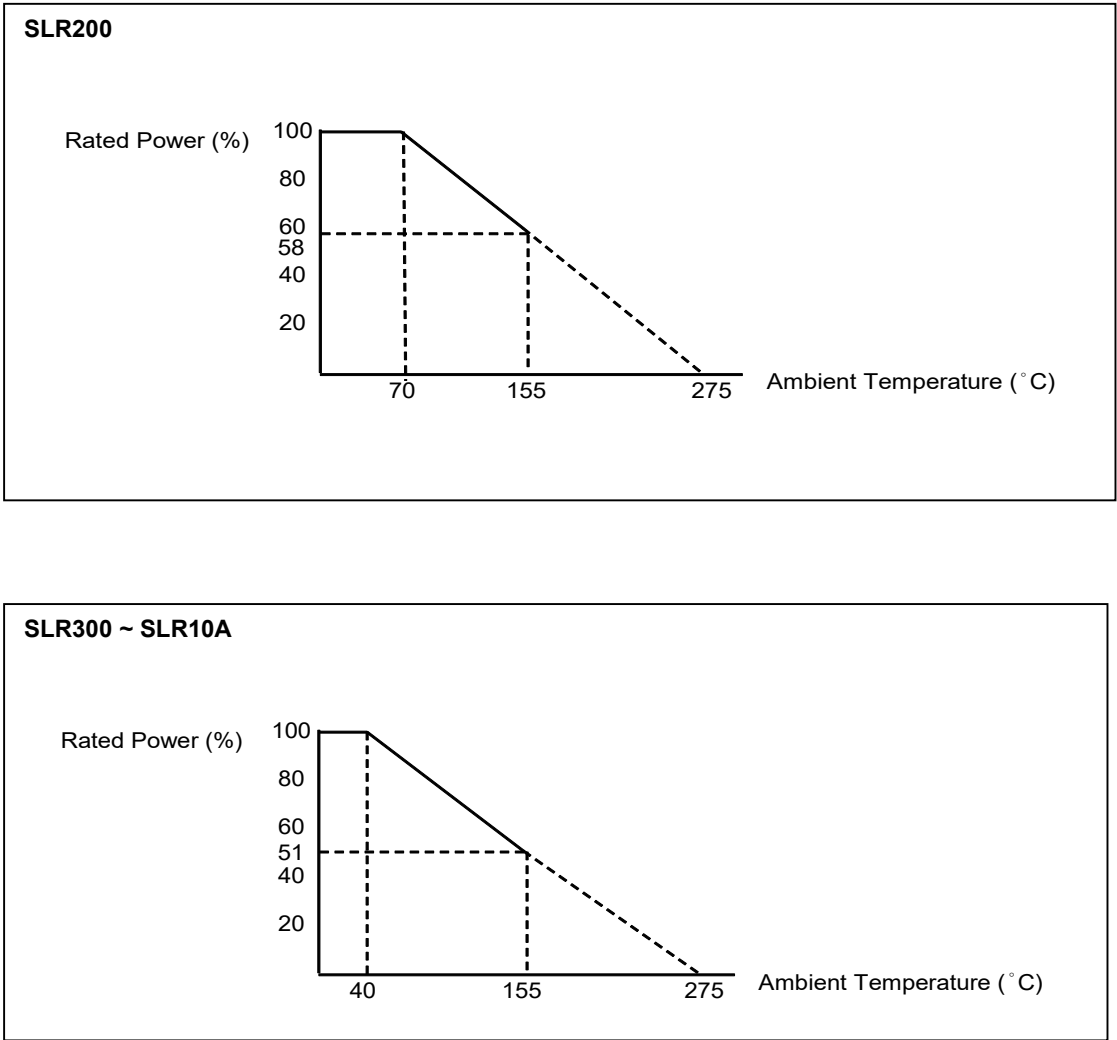
W = SLR500 & SLR700 & SLR10A / $\varphi d=0.6\pm 0.05$ mm CP- wire

DIMENSIONS

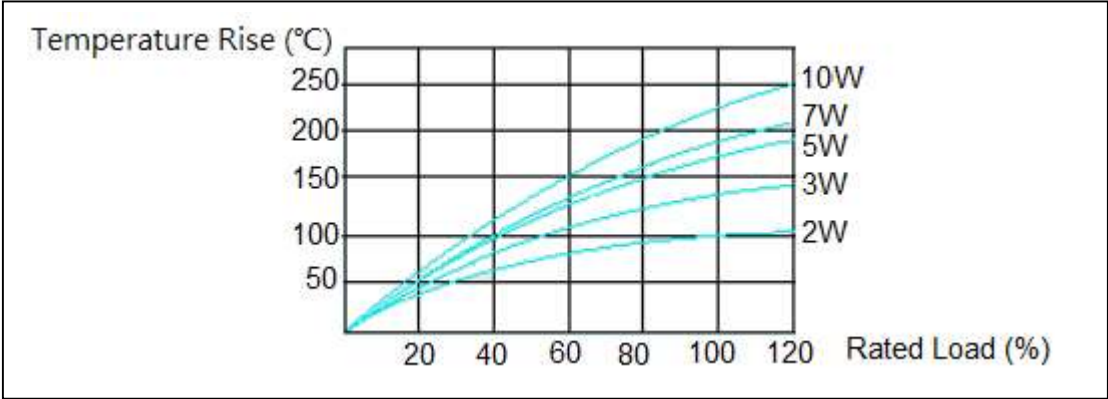
Unit: mm

	Normal	A	B	C	D	ψd	RM
	SLR200	8±1	13±1	3.5±1	5±1	0.60±0.05	9±1
	SLR300	13±1	13±1	3.5±1	5±1	0.60±0.05	9±1
	SLR500	18±1	14±1	3.5±1	5±1	0.80±0.05	10±1
	SLR700	18±1	26±1	3.5±1	5±1	0.80±0.05	20±1
	SLR10A	20±1	26±1	3.5±1	5±1	0.80±0.05	20±1

DERATING CURVE



TEMPERATURE CURVE



ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SLR200	SLR300	SLR500	SLR700	SLR10A
Power Rating at 70 °C	2W				
Power Rating at 40 °C		3W	5W	7W	10W
Voltage Proof on Insulation	500V	700V	700V	1000V	1000V
Resistance Range	0.01Ω ~ 0.5Ω	0.005Ω ~ 1Ω	0.005Ω ~ 1Ω	0.005Ω ~ 1Ω	0.009Ω ~ 2Ω
Maximum Working Voltage	$\sqrt{P \times R}$				
Operating Temp. Range	- 55°C to +155°C				
Temperature Coefficient	±250ppm/°C				

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

TABLE I MATERIALS OF LEAD WIRE

TYPE	Resistance Value	
SLR Series	≤0.05Ω	>0.05Ω
	Copper Wire	CP Wire

TEST AND REQUIREMENTS

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)	$\pm 2.0\% + 0.05\Omega$
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.	>1,000M Ω
Solderability	IEC 60115-1 4.17	245 $\pm 5^\circ\text{C}$ 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
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	$\geq 2.5\text{Kg}(24.5\text{N})\text{D}$
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec.off)	$\pm 2.0\% + 0.05\Omega$
Damp Heat Steady State	IEC 60115-1 4.24	40 $\pm 2^\circ\text{C}$, 90-95% RH for 56 days, loaded with 0.1 times RCWV	$\pm 5.0\% + 0.05\Omega$
Endurance at 70°C	IEC 60115-1 4.25	70 $\pm 2^\circ\text{C}$ at RCWV(or Umax., whichever less) for 1,000 Hr.(1.5 Hr.on, 0.5 Hr. off)	$\pm 5.0\% + 0.05\Omega$
Temperature Cycling	IEC 60115-1 4.19	➔ -55°C ➔ Room Temp. ➔ +155°C Room Temp.(5 cycles)	$\pm 2.0\% + 0.05\Omega$
Resistance to Soldering Heat	IEC 60115-1 4.18	260 $\pm 3^\circ\text{C}$ for 10 ± 1 Sec., immersed to a point 3 $\pm 0.5\text{mm}$ from the body	$\pm 1.0\% + 0.05\Omega$

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

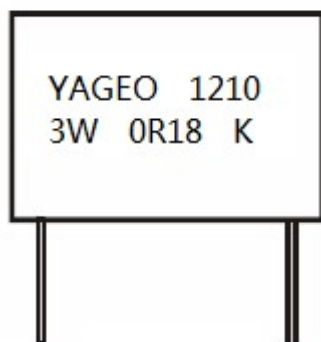
V=Continuous rated DC or

AC (rms) working voltage (V)

P=Rated power (W)

R=Resistance value (Ω)

MARKING



Example:

YAGEO	= Brand
1210	= Date code
3W	= Power rating
0R18	= Resistance
K	= Tolerance

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 2	Aug.12, 2024	-	- Update resistance range
Version 1	Aug.31, 2023	-	- Revised LEGAL DISCLAIMER
Version 0	Aug.2, 2021	-	- First issue of this specification

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