

Approval Sheet

for

Moulded Resistors Low Ohmic & Current Sense Type LCR series

$\pm 1\%$ & $\pm 2\%$ & $\pm 3\%$ & $\pm 5\%$

YAGEO CORPORATION

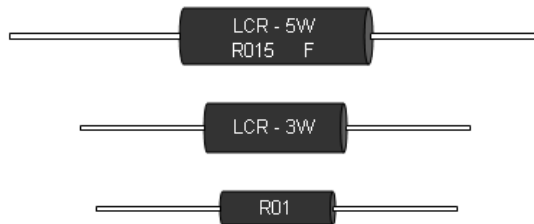
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1. PRODUCT:

Suitable for all types of current sensing applications with features such as excellent load life stability and cooler operation for high power to size ratio.
 Low resistance values.
 Low temperature coefficient.
 Low Inductance.
 Molded structure.



2. PART NUMBER:

Part number of the high power moulded resistor is identified by the name, power, tolerance, packing, temperature coefficient and resistance value.

Example:

LCR	100	F	B	-	0R015
(1)	(2)	(3)	(4)	(5)	(6)
Series Name	Power Rating	Resistance Tolerance	Packing Style	Temperature Coefficient of Resistance	Resistance Value

(1) Style: LCR SERIES

(2) Power Rating: 100=1W 300 = 3W 500 = 5W 10A=10W

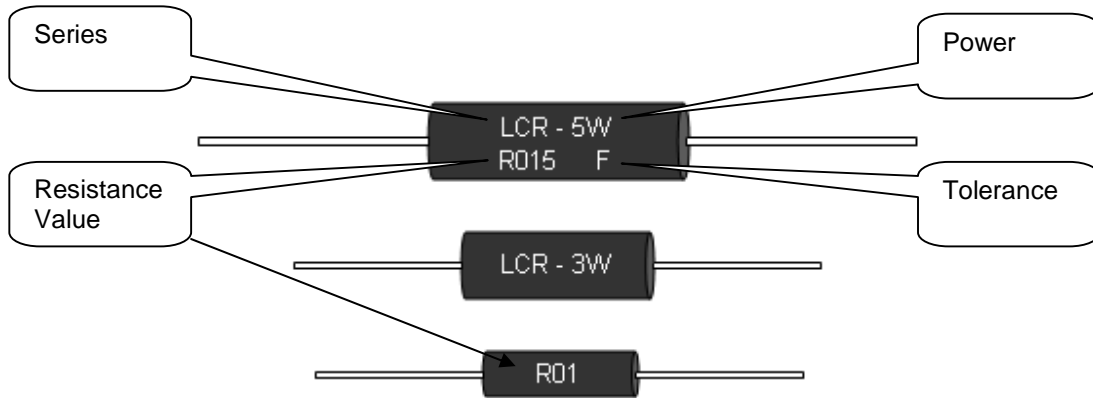
(3) Tolerance: F=±1% G=±2% H=±3% J=±5%

(4) Packaging Type: B=Bulk packing

(5) Temperature Coefficient: "-" = base on spec.

(6) Resistance Value: 0R005=0.005ohm 、 0R015=0.015ohm 、 0R1=0.1 ohm.....

3. MARKING:



Note: Above 3W (include) are printed two lines.
Below 1W (include) are printed one lines, only resistance value.

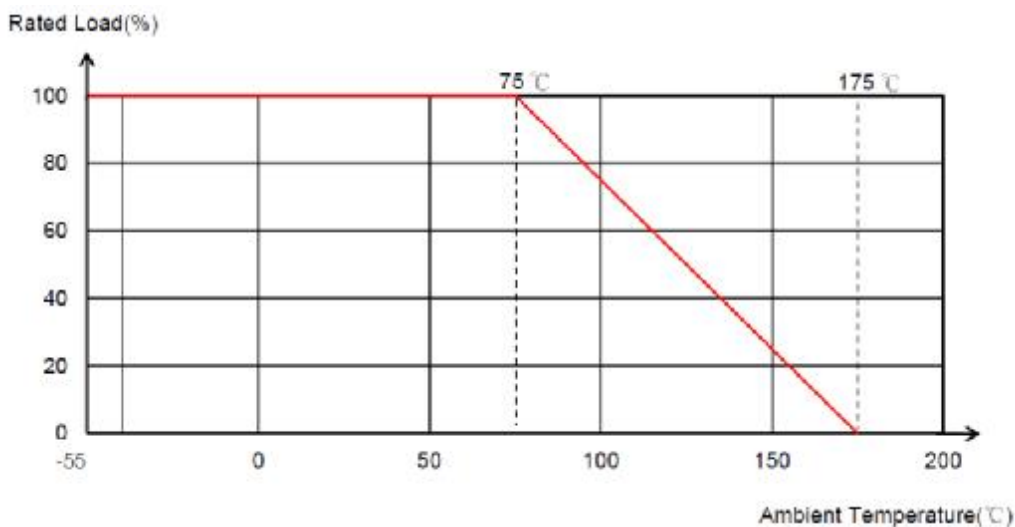
4. ELECTRICAL CHARACTERISTICS

TABLE I

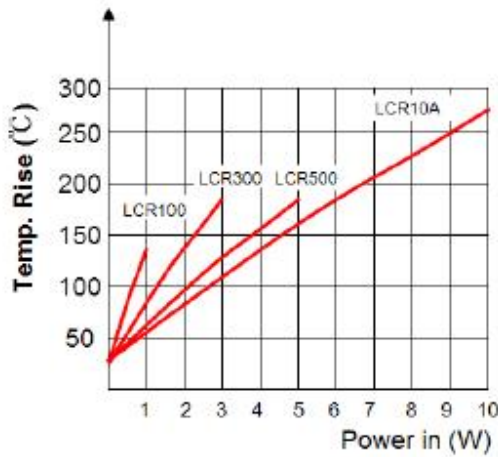
STYLE	LCR100	LCR300	LCR500	LCR10A
Rated Power at 75 °C	1W	3W	5W	10W
Max. Cont. Work. Voltage	$\sqrt{P} * R$			
Voltage proof on Insulation (1min.)	500V			
Insulation Resistance	$\geq 1\ 000M\Omega$			
Resistance Range	0.02 Ω ~0.8 Ω	0.005 Ω ~0.8 Ω	0.01 Ω ~0.8 Ω	0.01 Ω ~0.8 Ω
Operating Temp. Range	- 55 °C to + 175 °C			
Temperature Coefficient	$\leq 200ppm/^{\circ}C$			

* Below or over this resistance on request.

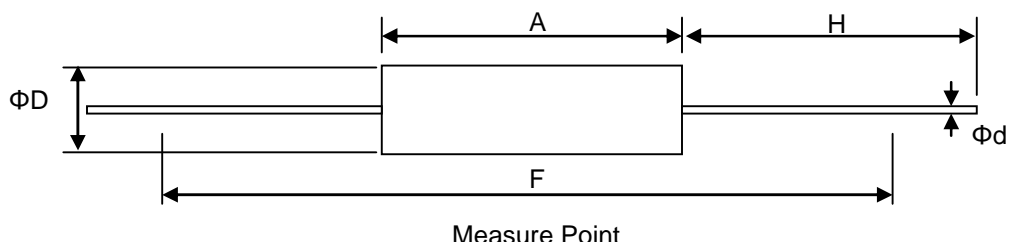
5. DERATING CURVE



6. SURFACE TEMPERATURE VS POWER



7. DIMENSIONS



Type	Power (W)	Dimensions (mm)				
		A±1	ψD±0.5	ψd	H±3	F±2.0
LCR100	1W	11.0	3.0	0.6±0.05	33	31
LCR300	3W	14.0	5.2	0.8±0.05	30	34
LCR500	5W	24.0	8.4	1.0±0.05	30	44
LCR10A	10W	46.5	10.0	1.0±0.05	36	66

8. ENVIRONMENTAL CHARACTERISTICS

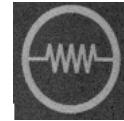
(1) Short Time Over Load Test

At 5 times of the rated power with applied voltage for 5 seconds, the resistor should be free from defects after the resistor is released from load for about 30 minutes

$$\text{Short Time Overload Voltage} = \sqrt{5 \times \text{Power Rating} \times \text{Resistance Value}}$$

The change of the resistance value should be within $\pm (0.5\% + 0.0005\Omega)R$

(2) Voltage Proof on Insulation



The resistor shall be clamped in the trough of a 90° metal V Block. Apply the insulation voltage specified in the "Table I" between the terminals connected together with the block for about 60 seconds. The resistor shall be able to withstand without breakdown or flashover.

(3) Temperature Coefficient Test

Test of resistors above room temperature 100°C ± 2°C (Testing Temperature 115°C to 130°C) at the constant temperature silicon plate for over 5 minutes. Then measure the resistance value. The Temperature Coefficient is calculated by the following equation and its value should be within the range of requested.

$$\text{Resistor Temperature Coefficient} = \frac{R - R_0}{R_0} \cdot \frac{1}{t - t_0} \cdot 10^6$$

R = Resistance value under the testing temperature

R₀ = Resistance value at the room temperature

t = The testing temperature

t₀ = Room temperature

(4) Insulation Resistance

Apply "measuring voltage" between protective coating and termination for 1 min., then measure. The measuring voltage shall be either 100V±15V d.c. for resistors with an insulation voltage lower than 500V or 500V±50V d.c. for resistors with an insulation voltage equal to or greater than 500V. The test resistance should be high than 10 000M ohm.

(5) Solderability

Immerse the specimen into the solder pot at 245± 5 °C for 3± 0.5 seconds. At least 95% solder coverage on the termination.

(6) Biased Humidity

Place the specimen in a test chamber at 40 ± 2 °C and 90%~95% relative humidity. Apply the 0.1 times rated voltage to the specimen at the 1.5 hours on and 0.5 hour off cycle. The total length of test is 1000 hours.

The change of the resistance value shall be within ± (1.0%+0.0005Ω)R

(7) Endurance at 70 °C

Placed in the constant temperature chamber of 25 ± 3 °C the resistor shall be connected to the lead wire at the point of 25mm. Length with each terminal, the resistors shall be arranged not much effected mutually by the temperature of the resistors and the excessive ventilation shall not be performed, for 90 minutes on and 30 minutes off under this condition the rated D.C. voltage is applied continuously for 2000+48/-0 hours then left at no-load for 1hour, measured at this time the resistance value.

The change of the resistance value shall be within ± (2.0%+0.0005Ω)R

There shall be no remarkable change in the appearance and the color code shall be legible after the test.

(8) Endurance at upper category temperature

Placed in the constant temperature chamber of 275 ± 3 °C(+175°C for LCR100) for 250 hours, The change of the resistance value shall be within ± (2.0%+0.0005Ω)R

(9) Endurance at lower category temperature

Placed in the constant temperature chamber of -65 ± 3 °C for 24 hours, The change of the resistance value shall be within ± (0.2%+0.0005Ω)R



(10) Temperature Cycling Test

The temperature cycle shown in the following table shall be repeated 5 times consecutively. The measurement of the resistance value is done before the first cycle and after ending the fifth cycle, leaving in the room temperature for about 1 hour.

Temperature Cycling Conditions:

Step	Temperature(°C)	Time (minute)
1	-55±3	15
2	+125±3	15

The change of the resistance value shall be within $\pm (0.2\%+0.0005\Omega)R$
After the test the resistor shall be free from the electrical or mechanical damage.

9. Plant Address

- A. China Dongguan Plant
7-1, Gaoli Road, Gaoli Industrial Zone
Tangxia Zhen, Dongguan, Guangdong, China
(廣東省東莞市塘廈鎮高麗工業區高麗路 7-1 號)
Tel. 86-769-8772 0275
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- B. China Suzhou Plant
No.158, Jinchang Road, No.1 Building of NanBangIND.Zone,
Mu Du New District, Suzhou, China
(江蘇省蘇州市木瀆新區金長路 158 號南濱工業區 1 號)
Tel. 86-512-66518889
Fax. 86-512-66519889

单击下面可查看定价，库存，交付和生命周期等信息

[>>Yageo\(国巨\)](#)