

SINLOON®

低阻值厚膜貼片電阻

Resistance: 0.01~0.99Ω

LCR Series

Low Ohm Thick Film Chip Resistor

Application

- ◆ Entertainment: Stereo, TV tuners, Tape recorder.
- ◆ Appliance: Air conditioner, Refrigerator
- ◆ Computer & relative products: Main board, PDA.
- ◆ Communication equipment: Cell phone, Fax machine
- ◆ Power equipment: Power supply, illumination equipment.
- ◆ Measuring instrument: Electric meter, Navigation equipment.

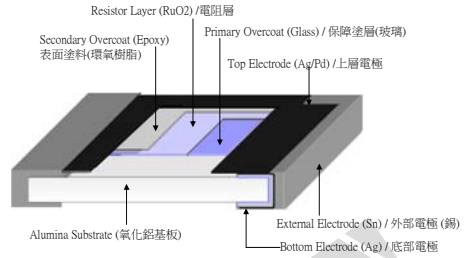
FEATURE

- ◆ Small size and light weight.
- ◆ Reduction of assembly costs matching with placement machines
- ◆ Reliability high quality and fast delivery
- ◆ Smaller Size of 0402 is available.
- ◆ High Power: 0.5W (1218), 1W (1812), 2W (2512).
- ◆ Reduction of assembly costs and matching with placement machines.
- ◆ Reliability, High quality and Fast delivery.
- ◆ Suitable for both reflow soldering and flow soldering.

FIGURE



CONSTRUCTION



ORDERING INFORMATION

Example: S-LCR02FGR010 (1/16W 0402 1% 300ppm 0.01 ohm)

Power	Size	Type	Tolerance	TCR(°C)	Resistance Ω	Packing
1/16W	0402	Y-LCR02	K = ±10%	G=±300ppm	10m = R010	10K/Reel
1/10W	0603	X-LCR03	J = ±5%	H=±400ppm	20m = R020	5K/Reel
1/8W	0805	W-LCR05	G = ±2%	I=±500ppm	100m = R10	5K/Reel
1/4W	1206	V-LCR06	F = ±1%	J=±600ppm	500m = R50	5K/Reel
1/3W	1210	K-LCR10		U=±700ppm		5K/Reel
1/2W	1812	U-LCR18		V=±800ppm	R01 = 0.01	4K/Reel
	2010	U-LCR20			R02 = 0.02	4K/Reel
1W	2512	S-LCR25			R10 = 0.1	4K/Reel
	1218	S-LCR28			R50 = 0.5	4K/Reel
2W	2512	Q-LCR25				4K/Reel

DIMENSION

Power	Size	Type	L	W	H	D1	D2	Figure
1/16W	0402	Y-LCR02	1.0±0.10	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10	Fig. 1
1/10W	0603	X-LCR03	1.6±0.15	0.80±0.10	0.45±0.10	0.30±0.20	0.30±0.20	
1/8W	0805	W-LCR05	2.0±0.15	1.25±0.10	0.50±0.10	0.35±0.20	0.40±0.20	
1/4W	1206	V-LCR06	3.1±0.10	1.55±0.10	0.55±0.10	0.45±0.20	0.40±0.20	
1/3W	1210	K-LCR10	3.1±0.10	2.55±0.10	0.55±0.10	0.50±0.20	0.50±0.20	
1/2W	1812	U-LCR18	4.50 ±0.20	3.00 ±0.20	0.55 ±0.10	0.45±0.20	0.40±0.20	
	2010	U-LCR20	5.0±0.20	2.50±0.20	0.55±0.10	0.60±0.20	0.50±0.20	
1W	2512	S-LCR25	6.3±0.20	3.20±0.20	0.55±0.10	0.60±0.20	0.50±0.20	Fig. 2
	1218	S-LCR28	3.1±0.10	4.60±0.20	0.55±0.10	0.45±0.20	0.40±0.20	
2W	2512	Q-LCR25	6.3±0.20	3.20±0.20	0.55±0.10	0.60±0.20	0.50±0.20	Fig. 1

Fig. 1

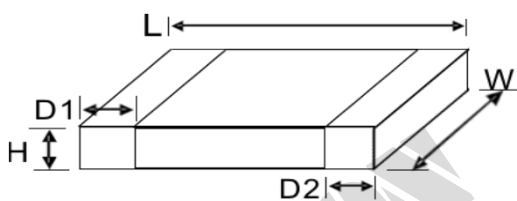
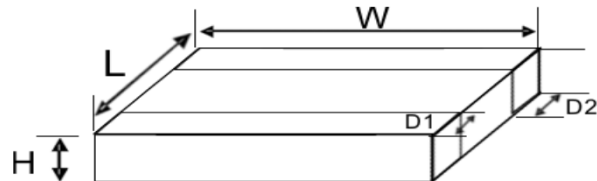


Fig.2



SINLOON®

低阻值厚膜貼片電阻

Resistance: 0.01~0.99Ω

LCR Series

Low Ohm Thick Film Chip Resistor

Low Ohm Chip Resistor - LCR Series (Current Sensing Chip Resistor)

GENERAL ELECTRICAL SPECIFICATION

Power at 70°C	Size	TYPE	Rated Voltage	Working Max. Vol.	Overload Max. Vol.	Resistance Range (m Ω) F(±1%),J(±5%)	T.C.R.	Temp. Range
							(ppm/°C)	
0.063W	0402	Y-LCR02	0.17V~0.25V	0.25V	0.624V	100m ~ 300m	±700	Operating Temperature Range : - 55 °C - 155 °C
						330m ~ 510m	±600	
						511m ~ 990m	±500	
0.1W	0603	X-LCR03	0.1V~0.31	0.31V	0.775V	50m ~ 91m	±1000	
						100m ~ 300m	±800	
						330m ~ 500m	±600	
0.125W	0805	W-LCR05	0.04V~0.35V	0.35V	0.875V	510m ~ 990m	±400	
						10m ~ 50m	±1000	
						51m ~ 100m	±700	
						110m ~ 300m	±600	
0.25W	1206	V-LCR06	0.05V~0.5V	0.5V	1.25V	330m ~ 500m	±400	
						510m ~ 990m	±300	
						10m ~ 50m	±800	
						51m ~ 100m	±600	
0.33W	1210	K-LCR10	0.06V~0.57V	0.57V	1.425V	110m ~ 300m	±500	
						330m ~ 500m	±400	
						510m ~ 990m	±300	
						10m ~ 50m	±800	
0.5W	1812	U-LCR12	0.07V~0.7V	0.7V	1.75V	51m ~ 100m	±600	
						110m ~ 300m	±500	
						330m ~ 500m	±400	
						510m ~ 990m	±400	
0.5W	2010	U-LCR10	0.07V~0.7V	0.7V	1.75V	10m ~ 50m	±800	
						51m ~ 100m	±800	
						110m ~ 300m	±600	
						330m ~ 500m	±400	
1W	1218	S-LCR28	0.1V~0.99V	0.99V	2.475V	510m ~ 990m	±400	
						10m ~ 50m	±800	
1W	2512	S-LCR25	0.1V~0.99V	0.99V	2.475V	51m ~ 100m	±700	
						110m ~ 300m	±500	
						330m ~ 500m	±400	
						510m ~ 990m	±400	
2W	2512	Q-LCR25	0.2V~1.41V	1.41V	3.518V	10m ~ 50m	±800	
						51m ~ 100m	±700	
						110m ~ 300m	±500	
						330m ~ 990m	±400	

VOLTAGE RATING OR CURRENT RATING

Resistance Range: $\geq 1\Omega$

Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as following:

$$E = \sqrt{R \times P} \quad P = \text{Power rating (W)} \quad R = \text{Nominal resistance } (\Omega)$$

SINLOON®

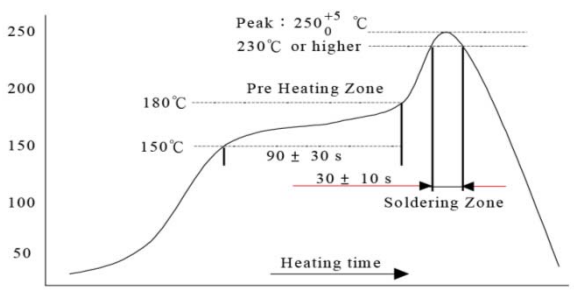
低阻值厚膜貼片電阻

LCR Series

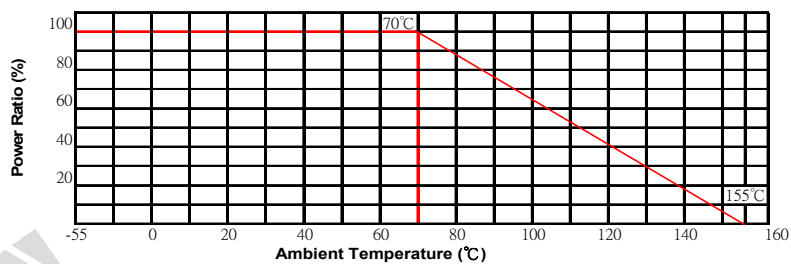
Resistance: 0.01~0.99Ω

Low Ohm Thick Film Chip Resistor

Test Procedures and Requirements

Test Item	Procedue	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R)	-55°C ~ +155°C, 20°C is the reference temperature	Refer to Rating	JIS C 5201-1 clause 4.8
Short Time Overload	General: 2.5 time RCWV or Max. Overload voltage for 5 seconds. Hifh Power: 2.5 times RCWV of Mac. Overload voltage for 2 seconds.	±1=±(1.0% +0.05Ω) ±5=±(2.0% +0.1Ω)	JIS C 5201-1 clause 4.13
IR Reflow		±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	SONY SS-00254
Leaching	260±5°C for 30 seconds	>95% Coverage	SONY SS-00254-9
Soldering Heat	260±5°C for 10 seconds	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	JIS C 5201-2 clause 4.18
Temperature Cycling	-55°C to +155°C 5 cycles	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(0.1%+0.01Ω)	JIS C 5201-2 clause 4.19
Electric Iron	Preheating temperature : 350±5°C Electric iron preheating time: 3+1/-0 second	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	SONY SS-00254-5
Resistance Solcent	The tested resistor be immersed into isproply alcohol of 20 ~ 25°C for 60 secs. Then the resistor is left in the room for 48 hours.	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	JIS C 5201-1 clause 4.29
Load life in Humidity	40±2°C, 90-95% R.H. or Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(2%+0.05Ω)	JIS C 5201-1 clause 4.24
Load life (Endurance)	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(2%+0.05Ω)	JIS C 5201-1 clause 4.24
Insulation Resistance	Max. Overload voltage for 1 mimute	≥ 10G Ω	JIS C 5201-1 clause 4.6

POWER DERATING CURVE



In case resistors operating ambient temperature in excess of the temperature range -55°C ~+155°C power ratio will be derated in accordance with the figure as shown on the right.

SINLOON®

低阻值厚膜貼片電阻

Resistance: 0.01~0.99Ω

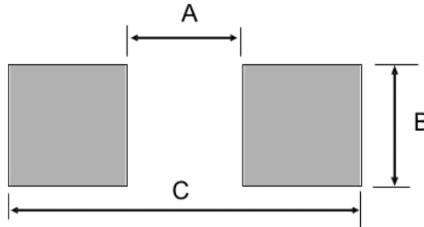
LCR Series

Low Ohm Thick Film Chip Resistor

RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Unit: mm

Type \ Dim.	LCR02	LCR03	LCR05	LCR06	LCR10	LCR12	LCR20	LCR28	LCR25	LCR30
A	0.60	0.80	1.30	2.20	2.00	3.11	3.80	2.04	4.90	3.50
B	0.70	1.00	1.40	1.70	2.70	3.00	2.70	4.50	3.40	7.80
C	1.60	2.40	2.90	4.20	4.40	5.91	6.60	4.24	8.10	7.50

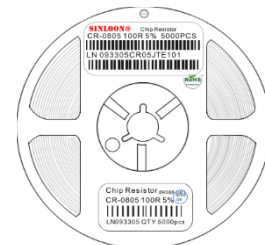


PACKAGE SPECIFICATION

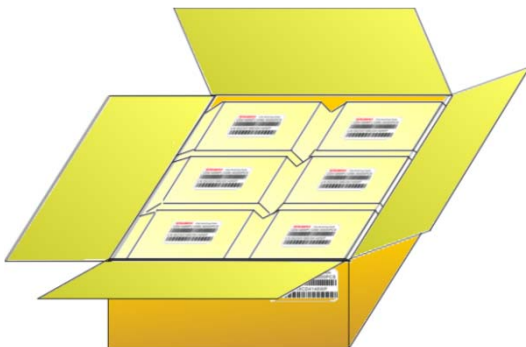
Power	Size	Type	Quantity(ea)			SINLOON® RoHS Compliant 品質承諾標誌 QUALITY COMMITMENT
			Paper Reel Tape	In Box	Carton	
1/16W	0402	Y-LCR02	10,000 Pcs 7" Reel	100K pcs	600K pcs	
1/10W	0603	X-LCR03	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/8W	0805	W-LCR05	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/4W	1206	V-LCR06	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/3W	1210	K-LCR10	5,000 Pcs 7" Reel	50K pcs	300K pcs	
	1812	U-LCR18	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1/2W	2010	U-LCR20	4,000 Pcs 7" Reel	40K pcs	240K pcs	
	2512	S-LCR25	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1W	1218	S-LCR28	4,000 Pcs 7" Reel	40K pcs	240K pcs	
	2512	Q-LCR25	4,000 Pcs 7" Reel	40K pcs	240K pcs	
2W	2512	Q-LCR25	4,000 Pcs 7" Reel	40K pcs	240K pcs	



Paper Reel Tape



Reel Tape Label



Carton Pack



In Box

※ 美隆電子產品規格特性參數的改變或更新,將不會另行通知。

※ Mayloon characteristic parameters of electronic product specification changes or updates without prior notice。