

SINLOON®

超高阻貼片電阻

Resistance: 10M ~ 100G Ω

UCR Series

Ultra-high resistance value chip resistor

FEATURE

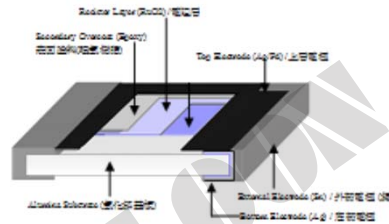
- ◆ Resistance Range: 10M Ω ~ 100G Ω
- ◆ Standard Size of 0402 - 1610 Available .
- ◆ Small size and light weight.
- ◆ Reliability high quality and fast delivery
- ◆ wraparound terminals
- ◆ Reliability, High quality and Fast Delivery
- ◆ Reduction of assembly costs matching with placement machines
- ◆ Reduction of assembly costs and matching with placement mact

◆ Figure:



Application

- ◆ Suitable for compact instrumentation, Infrared rays, Sensor , etc
- ◆ Power equipment: Power supply, illumination equipment.
- ◆ Measuring instrument: Electric meter, Navigation equipment.
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- ◆ Measuring instrument: Electric meter, Navigation equipment



The body coating: Glass

ORDERING INFORMATION

Example: UCR04MK10G (0402 10G ±10% R)

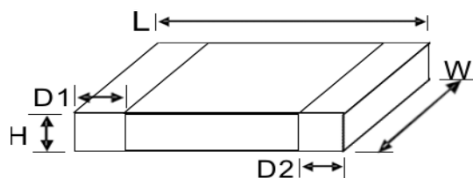
Part No.	Type Size	Tolerance	TCR(°C)	Resistance	Package
UCR04	0402	K = ±10% M = ±20%	I = ±500ppm Z = -2000ppm	10M = 106 100M = 107 1G = 1G 10G = 10G 100G = 100G	R = Reel type 10K Reel
UCR06	0603				R = Reel type 5K Reel
UCR08	0805				R = Reel type 5K Reel
UCR12	1206				R = Reel type 5K Reel
UCR16	1610				R = Reel type 4K Reel



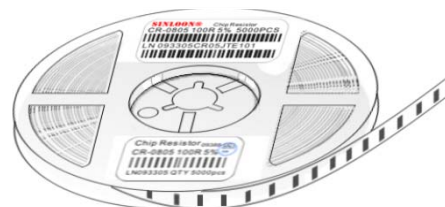
DIMENSION

Part No.	Type Size	L	W	H	D1	D2	Mass(g)	Fig-1.
UCR04	0402	1.0±0.10	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10	<0.01	
UCR06	0603	1.6±0.15	0.80±0.10	0.45±0.10	0.30±0.20	0.30±0.20	<0.01	
UCR08	0805	2.0±0.15	1.25±0.10	0.50±0.10	0.35±0.20	0.40±0.20	0.01	
UCR12	1206	3.1±0.10	1.55±0.10	0.55±0.10	0.45±0.20	0.40±0.20	0.015	
UCR16	1610	4.1±0.10	2.55±0.10	0.55±0.10	0.50±0.20	0.50±0.20	0.03	

Fig-1



Packing reel type : 7"



◆ 在本章規格書裡,如果你未能找到或參數指標未能達到你的應用要求,即未在本規格書裡表現出來,請與美隆聯系。  
◆ From the specification of data sheet choose one of our Ship topics, and then select an FAQ to read.  
If you have a question which is not in this section, please contact us.

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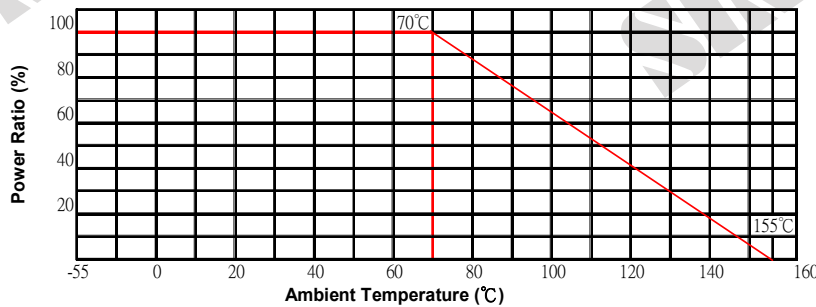
Ultra-high resistance value chip resistor

GENERAL ELECTRICAL SPECIFICATION

Part No.	Size	Max. Voltage Temperature	Resistance (Ω)	Tolerance Range	T.C.R. (ppm/°C) Coefficient	Load Life Tolerance: 10%)	Publication IEC	Operating Tempering
UCR04	0402	25V	10M~25M	K: ±10%.	I: ±500	70°C/1000hrs	E24	-60°C ~ +155°C
			27M~10G	M: ±20%.	Z: -2000			
UCR06	0603	50V	10M~25M	K: ±10%.	I: ±500	70°C/1000hrs	E24	
			27M~10G	M: ±20%.	Z: -200			
UCR08	0805	100V	10M - 25M	K: ±10%.	I: ±500	70°C/1000hrs	E24	
			>25M~100G	M: ±20%.	Z: -2000			
UCR12	1206	200V	10.1M~25M	K: ±10%.	I: ±500	70°C/1000hrs	E24	
			>25M~100G	M: ±20%.	Z: -200			
UCR16	1610	250V	10M - 25M	K: ±10%.	I: ±500	70°C/1000hrs	E24	
			>25M~100G	M: ±20%.	Z: -2000			

Coating: Glass.  
 Load Lift: 70°C/1000hrs 10%  
 Termination finish: Sn-Pd  
 Substrate material: 96% Al<sub>2</sub>O<sub>3</sub>  
 Operating Temperature: -60°C ~ 155°C  
 Max. Resistance change at Rated dissipatic ΔR/R Max. after 15000hrs 15%

POWER DERATING CURVE



Performance Characteristics:

TEST ITEMS	Condition	ΔR max.
Solder ability	IEC60115-1 (4.17)/ IEC 60068-2-20 (235±5) °C; 2 s; solder bath method; SnPb40	Good tinning (>95 % covered , no visible damage)
Resistance to soldering heat	IEC60115-1 (4.18.2)/ IEC 60068-2-20 (260±5) °C; (15±1) s	± 10 %; no visible damage
Cold	IEC60115-1 (4.23.4)/ IEC 60068-2-1 -60 °C; (60±15) min	± 10 %
Rapid change of temperature	IEC60115-1 (4.19)/ IEC 60068-2-14 30 min at -60 °C; 30 min at 155 °C; 5 cycles	±10 %
Low air pressure	IEC60115-1 (4.23.5)/ IEC 60068-2-13 0,67 kPa; 30 min; 15 °C to 35 °C	No visible damage
Damp heat, steady state	IEC60115-1 (4.24)/ IEC 60068-2-78 (40±2) °C; 21 days; (93±3) % RH	± 5 %

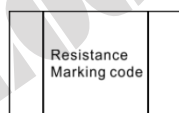
All tests are carried out in accordance with the following specifications:

- IEC 60115-1 (clause),
- IEC 60068-2-xx (test method).

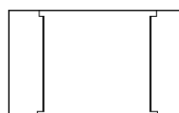
MOUNTING PROCEDURE

△ can be used in automatic or manual assembly techniques and are suitable for reflow soldering and wave soldering.

△ do not mount 'face-down'



Top surface



Bottom surface

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□ 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
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
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
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
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
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
Insulation Resistance	Max. Overload voltage for 1 minute	≥ 10G Ω	JIS C 5201-1 clause 4.6

\* 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.

□ VOLTAGE RATING OR CURRENT RATING

Resistance Range: ≥ 1Ω

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:

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

※ 美隆電子產品規格特性參數的改變或更新,不會另行通知。

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

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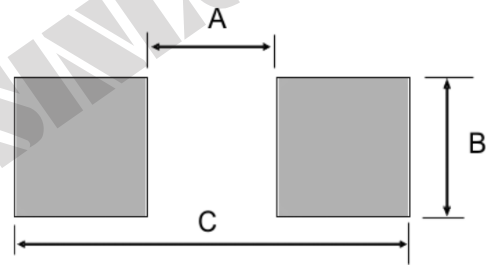
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RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Part No.	UCR04	UCR06	UCR08	UCR12	UCR16
Dim.: (mm)	0402	0603	0805	1206	1610
A	0.60	0.80	1.30	2.20	3.00
B	0.70	1.00	1.40	1.70	2.70
C	1.60	2.40	2.90	4.20	5.00



PACKAGE SPECIFICATION

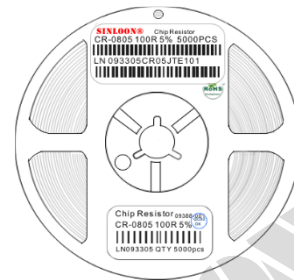
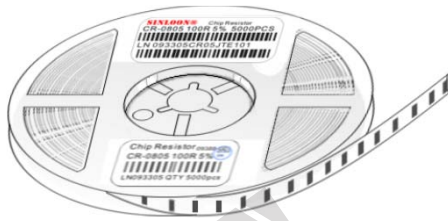
Power	Type	Quantity(ea)			Weight	  品質承諾標誌 QUALITY COMMITMENT
Part No.	Size	Paper Reel Tape	In Box	Carton		
UCR04	0402	10,000 Pcs 7" Reel	100K pcs	600K pcs	~6kgs	
UCR06	0603	5,000 Pcs 7" Reel	50K pcs	300K pcs	~6kgs	
UCR08	0805	5,000 Pcs 7" Reel	50K pcs	300K pcs	~6kgs	
UCR12	1206	5,000 Pcs 7" Reel	50K pcs	300K pcs	~5Kg	
UCR16	1610	4,000 Pcs 7" Reel	40K pcs	240K pcs	~7.2kg	

Package: For manual assembly carton box.

For automatic assembly: tape and reel (2000 to 10K pcs)

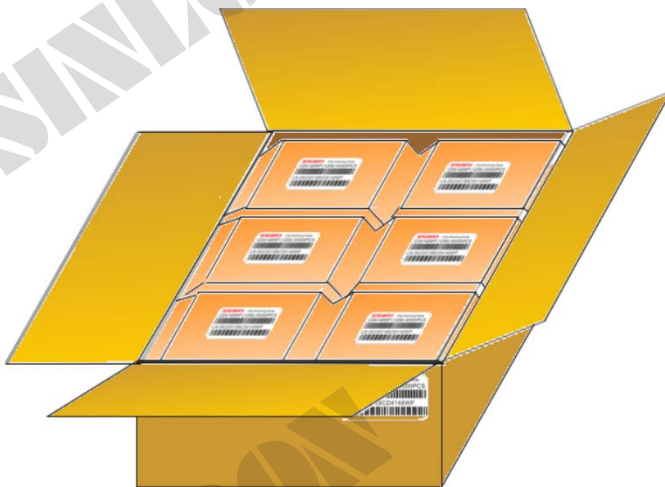
Paper Reel Tape

Reel Tape Leble



Carton Pack

Inner Box



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