

厚膜貼片排阻

RA Series

Thick Film Chip Resistor Array

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

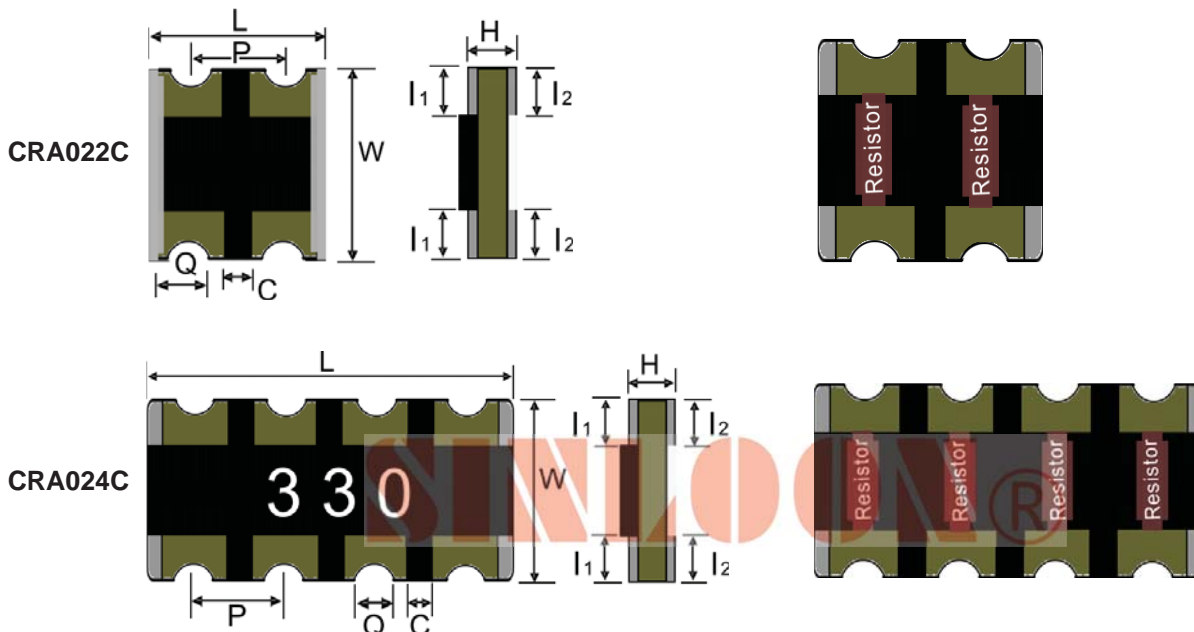
ORDERING INFORMATION

Example: CRA034R10RJ

Power	Size	Type	Resistance	Tolerance	Packing
0.063W	0402	CRA022R	1R = 1R00	F = ±1% J = ±5%	10K Reel
0.063W	0402	CRA024R	10R=10R0		10K Reel
0.1W	0603	CRA034R	100R=100R		5K Reel
0.25W	1206	CRA064R	1K = 1001		5K Reel
0.063W	0402	CRA022C	10K = 1002		5K Reel
0.063W	402	CRA024C	100K=1003		5K Reel

DIMENSION

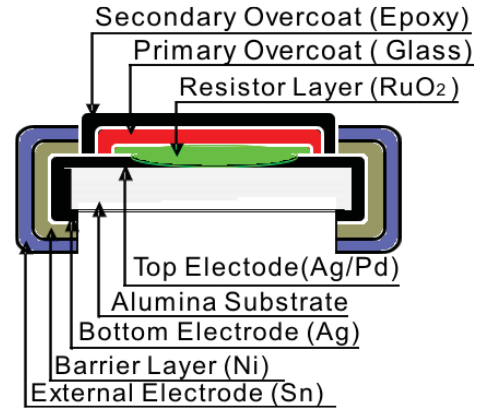
Type	L	W	H	I ₁	I ₂	P	Q	C
CRA022C	1.00 ±0.10	1.00 ±0.10	0.30 ±0.10	0.25 ±0.15	0.25 ±0.15	0.50 ±0.10	0.35 ±0.10	0.15 ±0.10
CRA024C	2.00 ±0.10	1.00 ±0.10	0.40 ±0.10	0.15 ±0.10	0.20 ±0.10	0.50 ±0.10	0.35 ±0.10	0.15 ±0.10



FIGURE



CONSTRUCTION



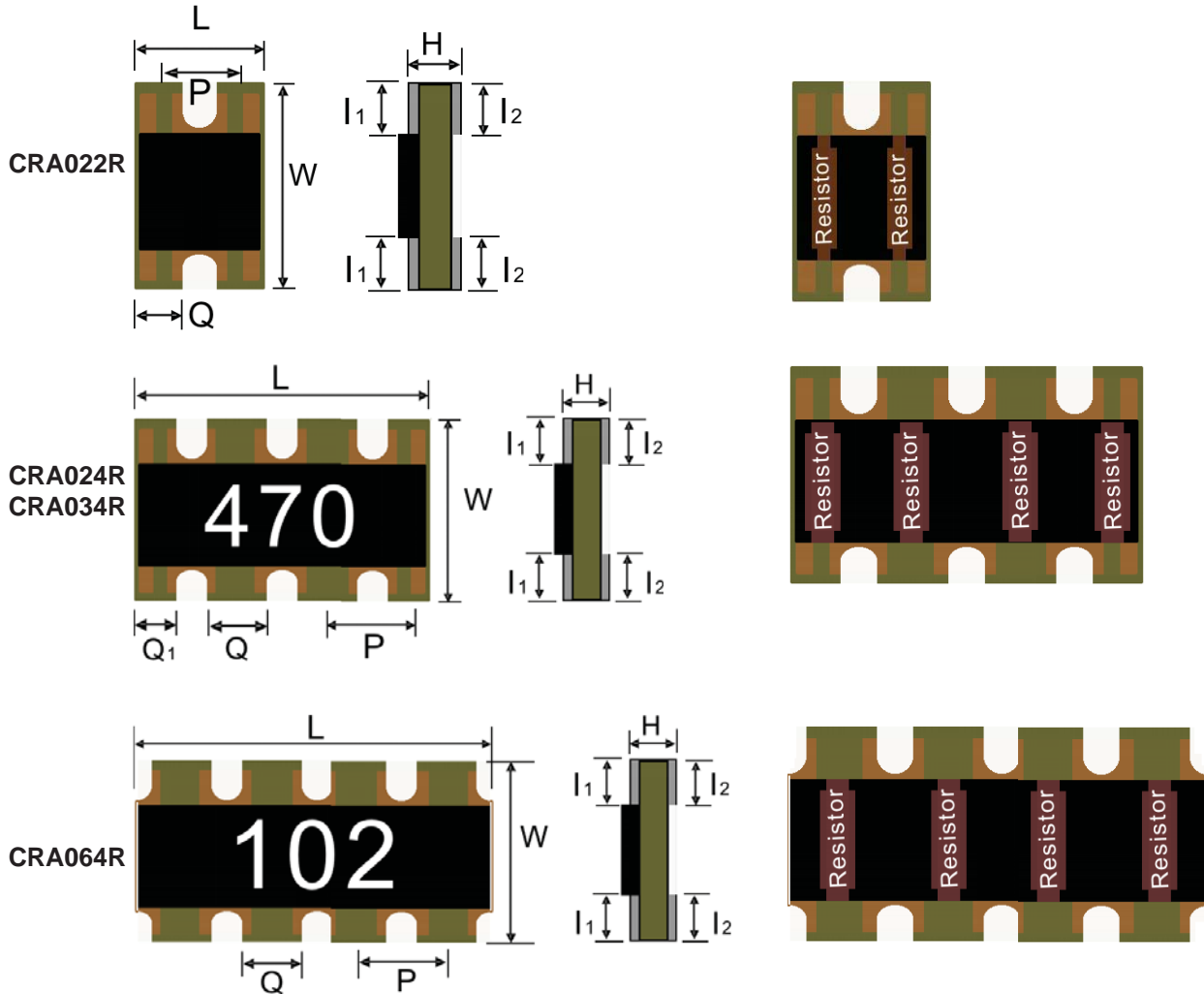
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□ DIMENSION

Type	L	W	H	I ₁	I ₂	P	Q	Q ₁
CRA022R	1.00 ±0.10	1.00 ±0.10	0.33 ±0.05	0.15 ±0.10	0.25 ±0.10	0.67 ±0.10	0.20 ±0.10	
CRA024R	2.00 ±0.10	1.00 ±0.10	0.40 ±0.10	0.20 ±0.10	0.20 ±0.10	0.50 ±0.10	0.30 ±0.10	0.34 ±0.10
CRA034R	3.20 ±0.20	1.60 ±0.15	0.50 ±0.10	0.30 ±0.20	0.30 ±0.20	0.80 ±0.20	0.50 ±0.15	0.61 ±0.10
CRA064R	5.10 ±0.20	3.10 ±0.20	0.55 ±0.15	0.55 ±0.15	0.55 ±0.15	1.30 ±0.20	0.90 ±0.10	



SINLOON®



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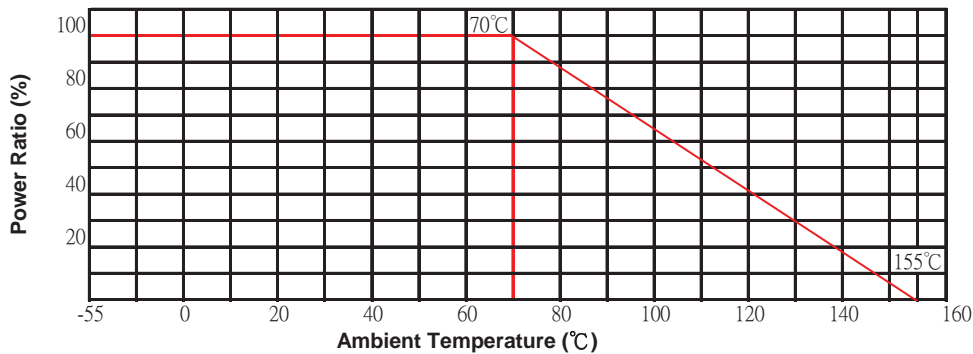
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GENERAL ELECTRICAL SPECIFICATION

Type	Size	Rating Power at 70°C	Maximum Voltage		Resistance (Ω)	T.C.R. (ppm/°C)	Tolerance	Jumper Rated Current	Operating Temp. Range
			Working	Overload					
CRA022R	0402	0.063W	25V	50V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%	1A	-55°C ~ +155°C
CRA024R	0402	0.063W	25V	50V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%		
CRA034R	0603	0.1W	50V	50V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%		
CRA064R	1206	0.25W	200V	400V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%	2A	
CRA022C	0402	0.063W	25V	50V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%	1A	
CRA024C	0402	0.063W	25V	50V	1R ~ 9.9R 10R ~ 1M	0 ~ +400 ±200	F = ±1% J = ±5%		

POWER DERATING CURVE



* Power rating or current rating is in the case based on continuous full-load at ambient temperature of 70°C for operation at ambient temperature in excess of 70°C, the load should be derated in accordance with figure of derating Curve

Voltage Rating of Current Rating

Resistance Range: $\geq 1\Omega$ $E = \sqrt{R \times P}$ P=Power rating(W) R=Nominal resistance(Ω)

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:

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

Operation and Storage Temperature

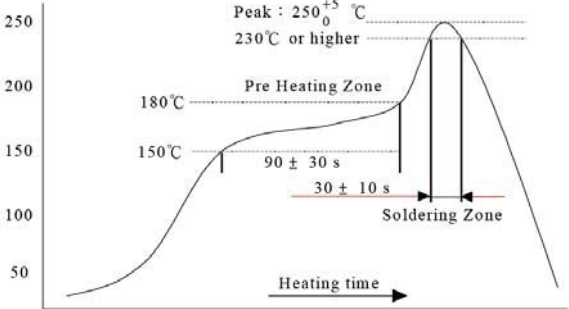
	Min	Max
Operation Temperature	-55°C	70°C
Storage Temperature	20°C	30°C
Storage Humidity	30%	70%

※ 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 .



□ Test Procedures and Requirements

Test Item	Procedue	Requirement	Test Method
Temperature Coefficient of Resistance	-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.	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(2.0\% + 0.1\Omega)$	JIS C 5201-1 clause
IR Reflow	 <p>The graph shows a temperature profile for IR reflow. The y-axis is temperature in °C (50 to 250) and the x-axis is heating time. Key points include: 150°C at 90 ± 30 s (Pre Heating Zone), 180°C, and a peak of 250⁺⁵₀ °C (230°C or higher). A Soldering Zone is indicated between 30 ± 10 s and 30 ± 10 s after the peak.</p>	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	SONY SS-00254
Leaching	260±5°C for 30 seconds	>95% Coverage	SONY SS-00254-9
Soldering Heat	260±5°C for 10 seconds	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	JIS C 5201-2 clause
Temperature Cycling	-55°C to +155°C 5 cycles	0.10%,0.50%,1% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(0.1\%+0.01\Omega)$	JIS C 5201-2 clause
Electric Iron	Preheating temperature : 350±5°C Electric iron preheating time: 3+1/-0 second	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	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.	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	JIS C 5201-1 clause
Load life in Humidity	40±2°C, 90-95% R.H. or Max. working voltage for 1000 h with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(2\%+0.05\Omega)$	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% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(2\%+0.05\Omega)$	JIS C 5201-1 clause
Insulation Resistance	Max. Overload voltage for 1 mimute	≥ 10G Ω	JIS C 5201-1 clause 4.6



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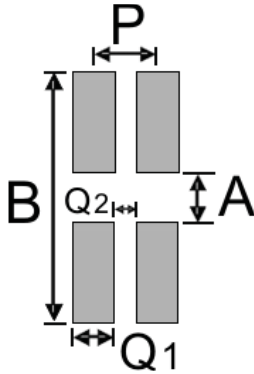
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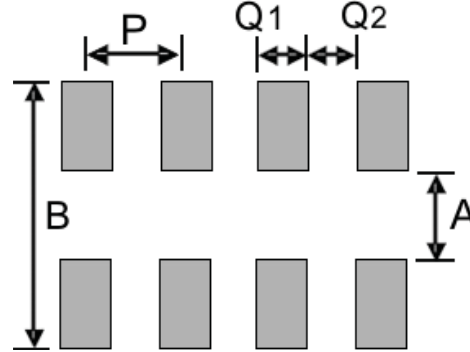
RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Type	CRA022R	CRA024R	CRA024C	CRA034R	CRA022C	CRA064R
Dim.	0402	0402	0402	0603	0402	1206
A	5.00	0.50	0.50	1.00	0.50	2.00
B	2.00	2.00	2.00	2.60	2.00	4.75
P	0.67	0.50	0.50	0.80	0.50	1.30
Q1	0.33	0.28	0.28	0.40	0.33	0.90
Q2	0.34	0.22	0.22	0.40	0.17	0.375

CRA022R CRA022C



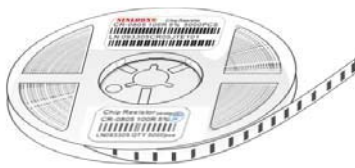
CRA024R CRA024C CRA034R CRA064R



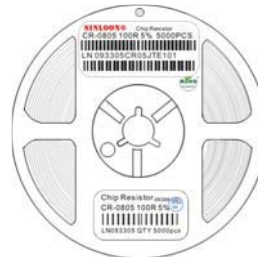
PACKAGE SPECIFICATION

Power	Size	Type	Quantity(ea)			SINLOON® RoHS Compliant 品質承諾標誌 QUALITY COMMITMENT
			Paper Reel Tape	In Box	Carton	
0.063W	0402	CRA022R	10,000 Pcs 7" Reel	100K pcs	600K pcs	
0.063W	0402	CRA024R	5,000 Pcs 7" Reel	50K pcs	300K pcs	
0.1W	0603	CRA034R	5,000 Pcs 7" Reel	50K pcs	300K pcs	
0.25W	1206	CRA064R	5,000 Pcs 7" Reel	50K pcs	300K pcs	
0.063W	0402	CRA022C	10,000 Pcs 7" Reel	100K pcs	600K pcs	
0.063W	402	CRA024C	5,000 Pcs 7" Reel	50K pcs	300K pcs	

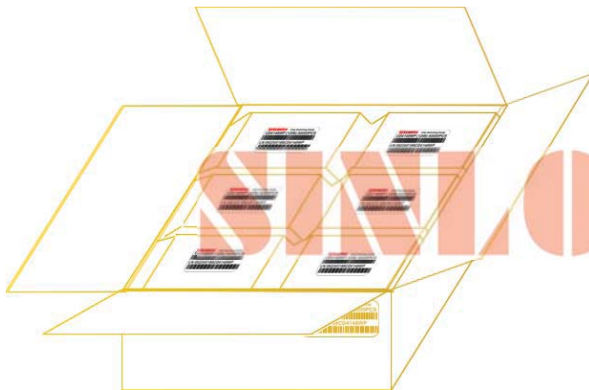
Paper Reel Tape



Reel Tape Leble



Carton Pack



In Box

