

SINLOON®

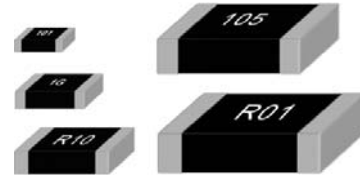
大功率厚膜貼片電阻  
Power Range: 0.1W ~ 3W

CRHP Series  
High Power Thick Film Chip Resistor

Feature (優勢)

- ◆ Small size and light weight.
- ◆ Reduction of assembly costs matching with placement machines
- ◆ Reliability high quality and fast delivery
- ◆ Low ohm Resistance 10m ~ 990m Ω.

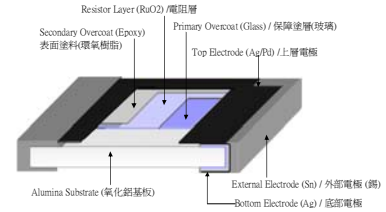
Figure:



Application (應用)

- ◆ Appliance: Air conditioner, Refrigerator 冷氣機電子電路控制板及電冰箱)
- ◆ Motor Vehicle and industrial use electrical products(汽車及工業用電子產品)
- ◆ Computer & relative products: Main board, PDA電腦及相關產品:主板、PDA.)
- ◆ Communication equipment: Cell phone, Fax machine通訊設備:手機、傳真機)
- ◆ Power equipment: Power supply, Illumination equipment電力設備:電源、照明設備)
- ◆ Entertainment: Stereo, TV tuners, Tape recorder娛樂:立體音響、電視選配器、錄音器)
- ◆ Measuring instrument: Electric meter, Navigation equipment測量工具:電子儀錶、導航設備)

CONSTRUCTION



ORDERING INFORMATION

Example: CRHP05JH1R00

Power	Size	Type	Tolerance	TCR(°C)	Resistance		Packing
					E24	E96	
0.1W	0603	CRHP03	J = ±5% G = ±2% F = ±1%	E=±100ppm	1R = 1R0	1R = 1R00	5K Reel
0.25W	0805	CRHP05		F=±200ppm	10R = 100	10R = 10R0	5K Reel
0.5W	1206	CRHP06		G=±300ppm	100R = 101	100R = 1000	5K Reel
0.66W	1210	CRHP10		H=±400ppm	1K = 102	1K = 1001	4K Reel
1W	1812	CRHP18		I=±500ppm	10K=103	10K=1002	4K Reel
1W	2010	CRHP20		J=±600ppm	100K=104	100K=1003	2K Reel
1W	1218	CRHP28		U=±700ppm	1M = 105	1M = 1004	2K Reel
2W	2512	CRHP25		V=±800ppm	10M=106	10M=1005	1K Reel
3W	2030	CRHP30		Y=±1000ppm			

DIMENSION

Power	Size	Type	L	W	H	D1	D2	Fig.
0.1W	0603	CRHP03	1.60 ±0.20	0.80 ±0.15	0.40 ±0.10	0.30 ±0.20	0.30 ±0.15	Fig-1
0.25W	0805	CRHP05	2.00 ±0.20	1.25 ±0.15	0.50 ±0.15	0.35 ±0.15	0.35 ±0.15	
0.5W	1206	CRHP06	3.20 ±0.20	1.60 ±0.20	0.55 ±0.15	0.45 ±0.20	0.45 ±0.20	
0.66W	1210	CRHP10	3.20 ±0.20	2.50 ±0.20	0.55 ±0.15	0.50 ±0.20	0.50 ±0.20	
1W	1812	CRHP18	4.50 ±0.10	3.00 ±0.10	0.55 ±0.05	0.55 ±0.10	0.80 ±0.10	
1W	2010	CRHP20	5.00 ±0.20	2.50 ±0.20	0.55 ±0.10	0.60 ±0.20	0.60 ±0.20	
1W	1218	CRHP28	3.10 ±0.10	4.60 ±0.10	0.55 ±0.05	0.45 ±0.10	0.40 ±0.10	Fig-2
2W	2512	CRHP25	6.30 ±0.20	3.20 ±0.20	0.55 ±0.10	0.60 ±0.20	0.60 ±0.20	Fig-1
3W	2030	CRHP30	5.10 ±0.10	7.60 ±0.20	0.60 ±0.05	0.80 ±0.20	0.80 ±0.20	Fig-2

Fig-1

Fig-2





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Power Range: 0.1W ~ 3W

CRHP Series  
High Power Thick Film Chip Resistor

□ GENERAL ELECTRICAL SPECIFICATION

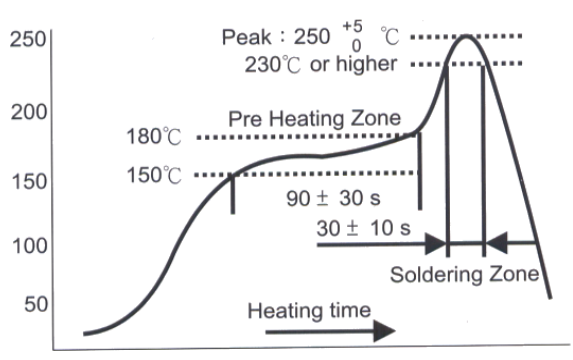
Type	Size	Rated Power at 70°C	Maximum Voltage		Resistance (Ω)	Tolerance	T.C.R. (ppm/°C)	Jumper Rated Current
			Working	Overload				
CRHP03	0603	0.125W	50V	100V	1R - 9.9R	±1%, ±2%, ±5%	±400	1A
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP05	0805	0.25W	150V	300V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP06	1206	0.5W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP10	1210	0.66W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP12	1812	1W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP20	2010	1W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP28	1218	1W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP25	2512	2W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
CRHP30	2030	3W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M	±0.1%, ±0.5%, ±1%, ±2%, ±5%	±100	
Operating Temperature Range:					-55°C ~ 155°C			

□ LOW OHM ELECTRICAL SPECIFICATION

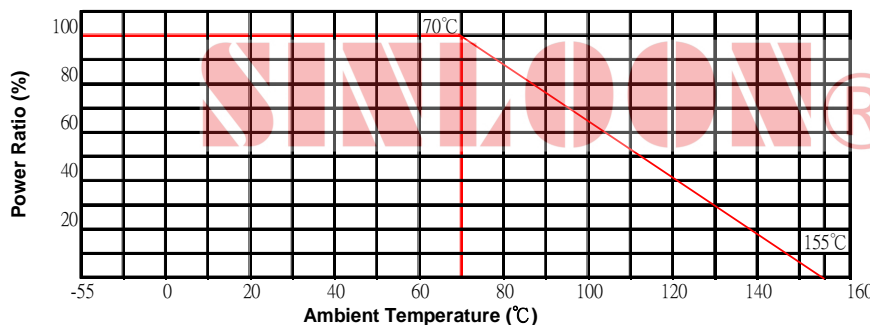
Type	Size	Rated Power at 70°C	Rated Voltage	Maximum Voltage		Resistance (Ω)	Tolerance	T.C.R. (ppm/°C)	Operating Temperature
				Working	Overload				
CRHP03	0603	0.125W	0.11~0.35V	0.352V	0.879V	50m~91m	F=±1% J=±5%	±1000	-55°C ~ +155°C
						100m~330m		±800	
						331m~510m		±600	
						511m~900m		±400	
CRHP05	0805	0.25W	0.05~0.5V	0.497V	1.244V	50m~91m	F=±1% J=±5%	±1000	
						100m~330m		±800	
						331m~510m		±600	
						511m~900m		±400	
CRHP06	1206	0.5W	0.07~0.7V	0.704V	1.759V	50m~91m	F=±1% J=±5%	±800	
						100m~330m		±600	
						331m~510m		±500	
						511m~900m		±400	
CRHP10	1210	0.66W	0.08~0.81V	0.808V	2.021V	50m~91m	F=±1% J=±5%	±800	
						100m~330m		±600	
						331m~510m		±500	
						511m~900m		±400	
CRHP12	1812	1W	0.1~0.99V	0.995V	2.487V	50m~91m	F=±1% J=±5%	±800	
						100m~330m		±600	
						331m~510m		±500	
						511m~900m		±400	
CRHP20	2010	1W	0.1~0.99V	0.995V	2.487V	50m~91m	F=±1% J=±5%	±800	
						100m~330m		±600	
						331m~510m		±500	
						511m~900m		±400	
CRHP28	1218	1W	0.14~1.41V	1.407V	3.518V	50m~91m	F=±1% J=±5%	±800	
						50m~990m		±400	
CRHP25	2512	2W	0.14~1.41V	1.407V	3.518V	50m~91m	F=±1% J=±5%	±800	
						100m~330m		±700	
						331m~510m		±500	
						511m~900m		±400	
CRHP30	2030	3W	0.24~1.72V	1.723V	4.308V	500m~990m	F=±1% J=±5%	±1000	
						500m~990m		±800	

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.

□ 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	 <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 time. Key points include: Heating time, Pre Heating Zone (150°C to 180°C), Soldering Zone (230°C or higher), and Peak (250 ± 5°C). Time intervals are 90 ± 30 s for the pre-heating zone and 30 ± 10 s for the soldering zone.</p>	±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 mminute	≥ 10G Ω	JIS C 5201-1 clause 4.6

□ POWER DERATING CURVE





大功率厚膜貼片電阻  
Power Range: 0.1W ~ 3W

CRHP Series  
High Power Thick Film Chip Resistor

VOLTAGE RATING OR CURRENT RATING

Resistance Range:  $\geq 1\Omega$

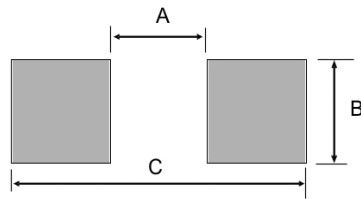
Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as following:

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

RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Unit: mm

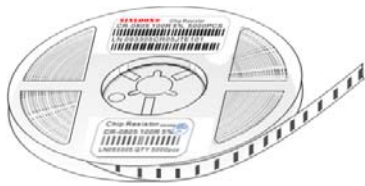
Type	CRHP03	CRHP05	CRHP06	CRHP10	CRHP12	CRHP20	CRHP28	CRHP25	CRHP30
Dim.	0603	0805	1206	1210	1812	2010	1218	2512	2030
A	0.80	1.30	2.20	2.00	3.11	3.80	2.04	4.90	3.50
B	1.00	1.40	1.70	2.70	3.00	2.70	4.50	3.40	7.80
C	2.40	2.90	4.20	4.40	5.91	6.60	4.24	8.10	7.50



PACKAGE SPECIFICATION

Power	Size	Type	Quantity(ea)			
			Paper Reel Tape	In Box	Carton	
0.1W	0603	CRHP03	5,000 Pcs 7" Reel	50K pcs	300K pcs	<p>品質承諾標誌 QUALITY COMMITMENT</p>
0.25W	0805	CRHP05	5,000 Pcs 7" Reel	50K pcs	300K pcs	
0.5W	1206	CRHP06	5,000 Pcs 7" Reel	50K pcs	300K pcs	
0.66W	1210	CRHP10	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1W	1812	CRHP18	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1W	2010	CRHP20	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1W	1218	CRHP28	2,000 Pcs 7" Reel	20K pcs	120K pcs	
2W	2512	CRHP25	2,000 Pcs 7" Reel	20K pcs	120K pcs	
3W	2030	CRHP30	1,000 Pcs 7" Reel	10K Pcs	60K Pcs	

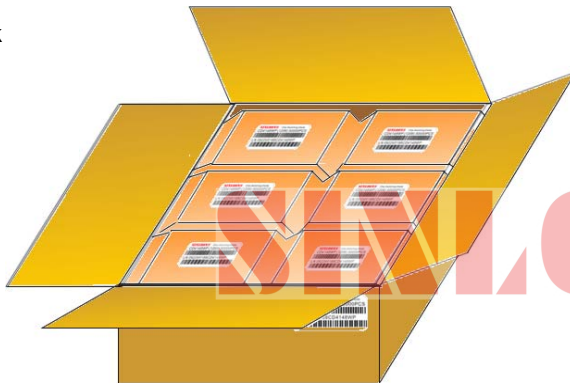
Paper Reel Tape



Reel Tape Leble



Carton Pack



Inner Box



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