



大功率厚膜貼片電阻  
Power Range: 0.1W ~ 3W

CRHP Series  
High Power 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.

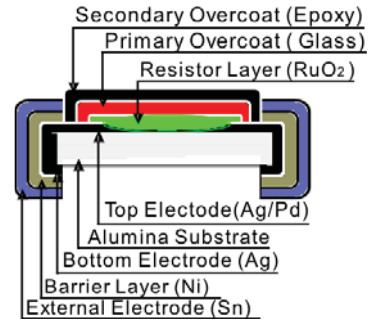
FEATURE

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

FIGURE



CONSTRUCTION



ORDERING INFORMATION

Example: CRHP05JH1R00

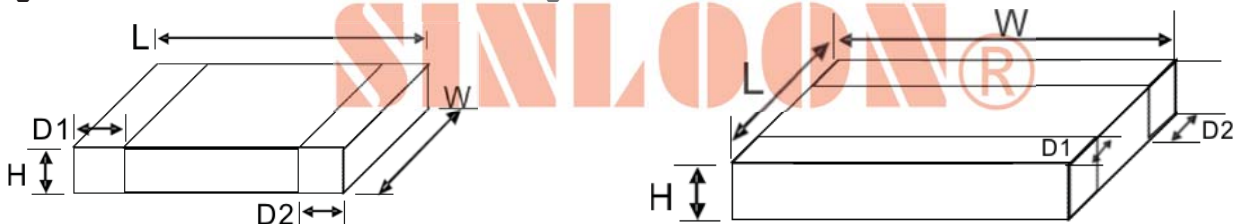
Power	Size	Type	Tolerance	TCR(°C)	Resistance	Packing
0.1W	0603	CRHP03	J = ±5% G = ±2% F = ±1%	E=±100ppm	E24/E96	5K Reel
0.25W	0805	CRHP05		F=±200ppm	1R = 1R00	5K Reel
0.5W	1206	CRHP06		G=±300ppm	10R=10R0	5K Reel
0.66W	1210	CRHP10		H=±400ppm	100R=100R	5K Reel
1W	1812	CRHP18		I=±500ppm	1K = 1001	5K Reel
1W	2010	CRHP20		J=±600ppm	10K = 1002	4K Reel
2W	1218	CRHP28		U=±700ppm	100K=1003	4K Reel
2W	2512	CRHP25		V=±800ppm	1M=1-004	4K Reel
3W	2030	CRHP30		Y=±1000ppm		4K Reel

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	
2W	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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□ 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			
CRHP05	0805	0.25W	150V	300V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			
CRHP06	1206	0.5W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			
CRHP10	1210	0.66W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			
CRHP12	1812	1W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			
CRHP20	2010	1W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			±0.1%, ±0.5%, ±1%, ±2%, ±5%
CRHP28	1218	2W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			±0.1%, ±0.5%, ±1%, ±2%, ±5%
CRHP25	2512	2W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			±0.1%, ±0.5%, ±1%, ±2%, ±5%
CRHP30	2030	3W	200V	400V	1R - 9.9R	±1%, ±2%, ±5%	±400	
					10R~10M			±0.1%, ±0.5%, ±1%, ±2%, ±5%

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	2W	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.

-55°C ~ +155°C





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CRHP Series

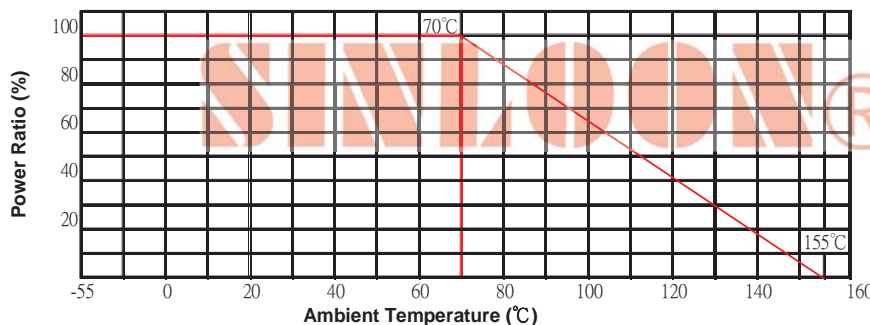
Power Range: 0.1W ~ 3W

High Power 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 mminute	≥ 10G Ω	JIS C 5201-1 clause 4.6

□ POWER DERATING CURVE



**VOLTAGE RATING OR CURRENT RATING**

Resistance Range:  $\geq 1\Omega$

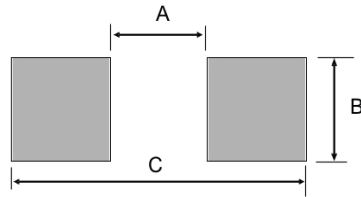
Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as following:

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



**RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)**

Unit: mm

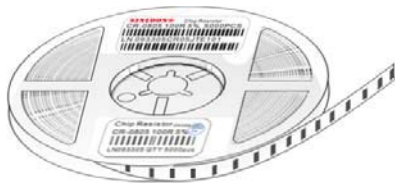
Type	CRHP03	CRHP05	CRHP06	CRHP10	CRHP12	CRHP20	CRHP28	CRHP25	CRHP30
Dim.	0603	0805	1206	1210	1812	2010	1218	2512	2030
A	0.80	1.30	2.20	2.00	3.11	3.80	2.04	4.90	3.50
B	1.00	1.40	1.70	2.70	3.00	2.70	4.50	3.40	7.80
C	2.40	2.90	4.20	4.40	5.91	6.60	4.24	8.10	7.50



**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	
2W	1218	CRHP28	4,000 Pcs 7" Reel	40K pcs	240K pcs	
2W	2512	CRHP25	4,000 Pcs 7" Reel	40K pcs	240K pcs	
3W	2030	CRHP30	4,000 Pcs 7" Reel	40K pcs	240K pcs	

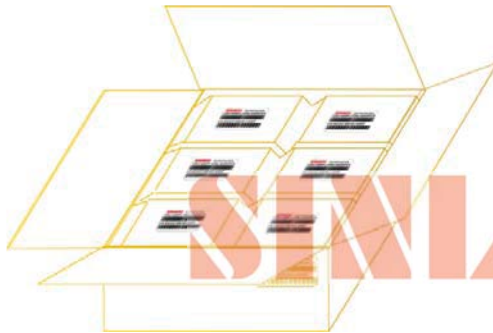
Paper Reel Tape



Reel Tape Leble



Carton Pack



In Box



※美隆公司產品規格及其特性參數的改變或更新恕不另行通知。

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