

保險絲貼片電阻

FCR Series

Power Range: 1/16W ~ 1W (0402~2512)

Fusible Thick Film Chip Resistor

Features

- ◆ The accurate fusibility is applicable to safety circuits in the wide range of electronic sets.
- ◆ Small in size, Light in weight.
- ◆ Low temperature coefficient. (Under $\pm 400\text{ppm}/^\circ\text{C}$)
- ◆ Noncombustible insula coat.
- ◆ May treat as the general resistance use.
- ◆ Size: 0402/0603/0805/1206/1210/2010/2512.

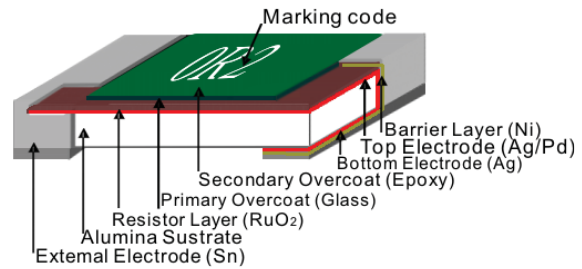
Applications

- ◆ Medical Equipment
- ◆ Testing / Measurement Equipment
- ◆ Consumer Product
- ◆ Printer Equipment
- ◆ Automatic Equipment Controller
- ◆ Converters
- ◆ Communication Device, Cell phone, GPS, PDA
- ◆ Measurement instruments

FIGURE



CONSTRUCTION



ORDERING INFORMATION

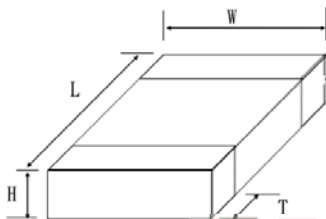
Example: FCR03H1R00JR

Power	Size	Type	TCR($^\circ\text{C}$)	Resistance	Tolerance	Packing	Quantity
1/16W	0402	FCR02	H \pm 400ppm	1R = 1R00	J = \pm 5%	7" Reel	10K Reel
1/10W	0603	FCR03		10R=10R0			5K Reel
1/8W	0805	FCR05		100R=100R			5K Reel
1/4W	1206	FCR06		1K = 1001			5K Reel
1/3W	1210	FCR12		5K Reel			
1/2W	2010	FCR20		4K Reel			
1W	2512	FCR25		4K Reel			

DIMENSION

Unit: mm

Power	Size	Type	L	W	H	T1	T2
1/16W	0402	FCR02	1.00 \pm 0.10	0.50 \pm 0.05	0.30 \pm 0.05	0.20 \pm 0.10	0.20 \pm 0.10
1/10W	0603	FCR03	1.60 \pm 0.20	0.80 \pm 0.15	0.40 \pm 0.10	0.30 \pm 0.20	0.30 \pm 0.15
1/8W	0805	FCR05	2.00 \pm 0.20	1.25 \pm 0.15	0.50 \pm 0.15	0.35 \pm 0.15	0.35 \pm 0.15
1/4W	1206	FCR06	3.20 \pm 0.20	1.60 \pm 0.20	0.55 \pm 0.15	0.45 \pm 0.20	0.45 \pm 0.20
1/3W	1210	FCR12	3.20 \pm 0.20	2.50 \pm 0.20	0.55 \pm 0.15	0.50 \pm 0.20	0.50 \pm 0.20
1/2W	2010	FCR20	5.00 \pm 0.20	2.50 \pm 0.20	0.55 \pm 0.10	0.60 \pm 0.20	0.60 \pm 0.20
1W	2512	FCR25	6.30 \pm 0.20	3.20 \pm 0.20	0.55 \pm 0.10	0.60 \pm 0.20	0.60 \pm 0.20



SINLOON®

保險絲貼片電阻

FCR Series

Power Range: 1/16W ~ 1W (0402~2512)

Fusible Thick Film Chip Resistor

GENERAL ELECTRICAL SPECIFICATION

Type	Size	Power	Max.Hold-off Voltage	Fusing Time & Min. Fusing Power	Resistance Range (Ω)	Resistance Tolerance	Resistor TCR (ppm/°C)
FCR02	0402	0.1W	50V	<30 sec at 2.5W	1Ω ~ 1K	±5%, ±2%, ±1%	1Ω~47Ω ±600 48Ω~470Ω ±400 471Ω~10KΩ ±200
FCR03	0603	0.125W	100V	<30 sec at 3W	1Ω ~ 1K8		
FCR05	0805	0.15W	150V	<30 sec at 3.25W	1Ω ~ 3K		
FCR06	1206	0.25W	200V	<30 sec at 5W	1Ω ~ 5K1		
FCR12	1210	0.5W	250V	<30 sec at 7.5W	1Ω ~ 6K2		
FCR20	2010	0.75W	300V	<30 sec at 11.25W	1Ω ~ 7K5		
FCR25	2512	1W	400V	<30 sec at 15W	1Ω ~ 10K		
Operating Temperature Range:			-55°C ~ +155°C				

Voltage Rating or Current Rating

Resistance Range: ≥ 1R ohm

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

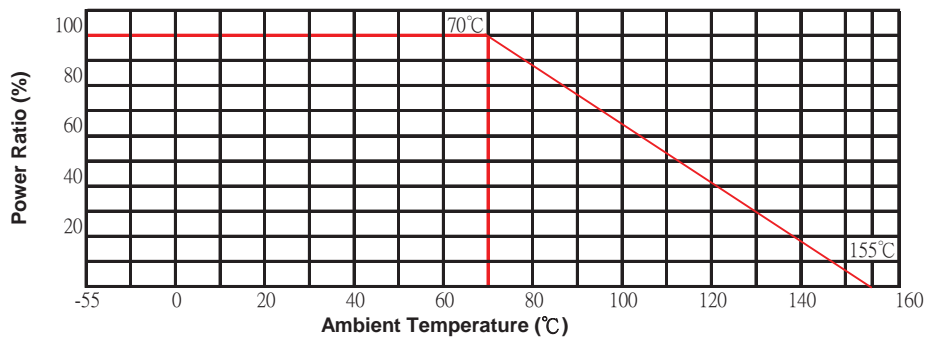
REMARK: $E = \sqrt{R \times P}$

E= Rated voltage (V)

R=Nominal resistance (Ω)

P=Power rating (W)

POWER DERATING CURVE (功率衰減曲線)

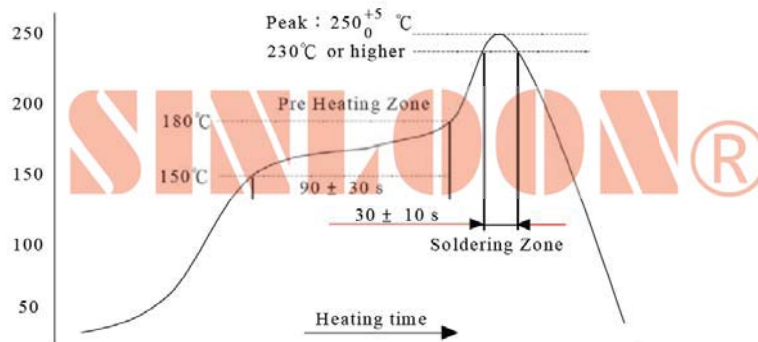


Power rating or current rating is in the case based on continuous full-load at ambient temperature of 70°C for operating at ambient temperature in excess of 70°C, the load should be derated in accordance with figure of derating curve.

Operation and Storage Temperature

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

Soldering Profile



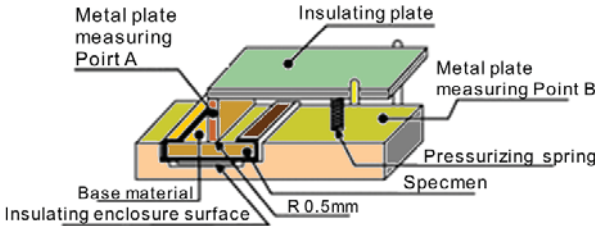
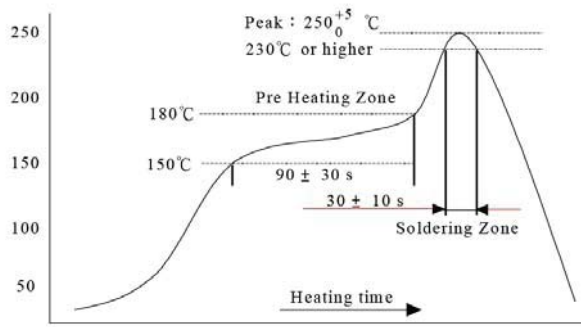
保險絲貼片電阻

FCR Series

Power Range: 1/16W ~ 1W (0402~2512)

Fusible Thick Film Chip Resistor

□ **PERFORMANCE CHARACTERISTICS**

Test Item	Test Methods	Description
Temperature	-55 ~ +155°C, 20°C is the reference temperature	JIS C 5201 ...Clause 4.8 Refer to Ratings
Short Time Overload	General: 2.5 times RCWV or Max. Overload voltage for 5 seconds. High Power: 2.5 times RCWV or Max. Overload voltage for 2 seconds.	JIS C 5201-2 ... Clause 4.13 ±1:±(1.0%+0.05Ω) Max. ±5:±(2.0%+0.1Ω) Max.
Insulation Resistance	Max. Overload voltage for 1 minute 	JIS C 5201-1 .Clause 4.6 ≥ 10 ⁹ Ω
IR Reflow		Sony SS-00254 Resistance Range: ±1: (1.0%+0.05Ω) ±5: (1.0%+0.05Ω)
Leaching	260±5°C for 30 Seconds	Sony SS-00254-9 >95% Coverage
Soldering Heat	260±5°C for 10 Seconds	Sony C 5201-1 Clause 4.18 ±1: (1.0%+0.05Ω) ±5: (1.0%+0.05Ω)
Temperature Cycling	-55°C to +155°C . 5 cycles	Sony C 5201-1 Clause 4.19 0.1%, 0.5%, 1% : ± (1.0%+0.05Ω) 2%, 5%: ± (1.0%+0.1Ω)
Electric Iron	Preheating temperature: 350±5°C Electric iron perheating time: 3+1/0 seconds	Sony SS-00254-5 ±1: (1.0%+0.05Ω) ±5: (1.0%+0.05Ω)
Resistance to Solvent	The tested resistor be immersed into isopropyl alcohol of 20 ~ 25°C for 60 secs. Then the resistor is left in the room 48 hours.	Sony C 5201-1 Clause 4.29 ±1: (1.0%+0.05Ω) ±5: (1.0%+0.05Ω)
Load Life in Humidity	40±2°C, 90~95% RH or Max.working voltage for 1000 hours with 1.5 hours [NO] and 0.5 hours [OFF]	Sony C 5201-1 Clause 4.24 0.1%, 0.5%, 1% : ± (0.5%+0.05Ω) 2%, 5%: ± (2.0%+0.05Ω)
Load Life (Endurance)	70±2°C, or Max, Working voltage for 1000 hours with 1.5 hours [NO] and 0.5 hours [OFF]	Sony C 5201-1 Clause 4.25 0.1%, 0.5%, 1% : ± (0.1%+0.05Ω) 2%, 5%: ± (3.0%+0.1Ω)
Terminal Bending Strenght	Bending once for 5 seconds D: FCR series 0402; 0603; 0805 = 5mm FCR series 1206; 1210 = 3mm FCR series 2010; 2512 = 2mm	Sony C 5201-1 Clause 4.33 ±1: (1.0%+0.05Ω) ±5: (1.0%+0.05Ω)

保險絲貼片電阻

FCR Series

Power Range: 1/16W ~ 1W (0402~2512)

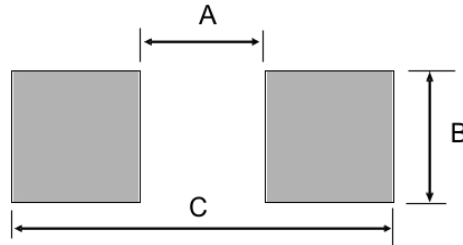
Fusible Thick Film Chip Resistor

☐ RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)



◆ Special Passivated NiCr Film for Anti-Acid and Anti-Damp

Unit: mm

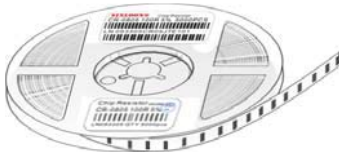
Type	FCR02	FCR03	FCR05	FCR06	FCR10	FCR20	FCR25
Dim.	0402	0603	0805	1206	1210	2010	2512
A	0.60	0.80	1.30	2.20	2.00	3.80	4.90
B	1.60	2.40	2.90	4.20	4.40	4.24	8.10
C	0.70	1.00	1.40	1.70	2.70	4.50	3.40



PACKAGE SPECIFICATION

Power	Type	Size	Quantity(ea)			  品質承諾標誌 QUALITY COMMITMENT
			Paper Reel Tape	In Box	Carton	
1/16W	FCR02	0402	10,000 Pcs 7" Reel	100K pcs	600K pcs	
1/10W	FCR03	0603	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/8W	FCR05	0805	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/4W	FCR06	1206	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/3W	FCR12	1210	5,000 Pcs 7" Reel	40K pcs	300K pcs	
1/2W	FCR20	2010	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1W	FCR25	2512	4,000 Pcs 7" Reel	40K pcs	240K pcs	

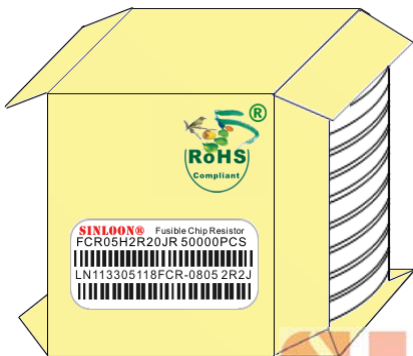
Paper Reel Tape



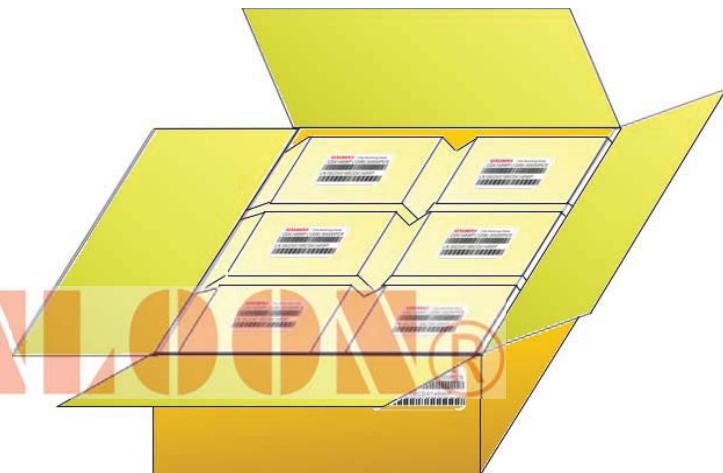
Reel Tape Leble



Inner Box



Carton Pack



* 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

