



欣統股份有限公司

碳膜固定電阻器規格 CARBON FILM FIXED RESISTORS

編號:	CR-01
版本:	C
頁次:	1/22
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1.適用範圍

本規範僅適用於本廠所生產之碳膜固定電阻器成品規格。

2.類型

2.1 類型命名：類型依種類、額定功率、容許誤差及標稱電阻值、包裝型式等，如下列符號之排列構成之。

(例) 貨品名稱：CR 1/4W 5% 10K

貨品編號：CR 025 J 103 T

種 類	系 列	容許誤差	標稱電阻值	包裝型式
CARBON FILM FIXED RESISTOR	012 : 1/8W 025 : 1/4W 033 : 1/3W 050 : 1/2W 100 : 1W 200 : 2W 300 : 3W 100 S 即 1W 小型化 Size 100 B 即 1W 大型化 Size (請參考表一)	F : $\pm 1\%$ (E96) G : $\pm 2\%$ (E24) J : $\pm 5\%$ (E24)	E24 Series 3 Digits : 2R2 : 2.2 Ω 101 : 100 Ω 103 : 10K 105 : 1M E96 Series 4 Digits : 2R20 : 2.2 Ω 1000 : 100 Ω 1002 : 10K 1004 : 1M (請參考表六)	T : Tape Box S : Tape 26mm TR : Tape Reel B : Bulk M / MK / MB : 臥式彎腳成型 Forming horizontal type F / FK / FKK : 立式彎腳成型 Forming vertical type (請參考表三及 表四&表五)

核准	審查	制定	備註	文件管制中心
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3 額定表

3.1 額定功率

於周圍溫度 70°C 以下可適用之連續使用最大功率。

TYPE		額定功率	最高使用電壓	最高過負荷電壓	耐絕緣電壓	
CR-12		1/6W 1/8W 1/16W	200V	400V	400V	
CR-25S		1/4W	250V	500V	500V	
CR-25		1/4W	250V	500V	500V	
CR-33S		1/3W	350V	700V	700V	
CR-50S		1/2W	350V	700V	700V	
CR-50		1/2W	350V	700V	700V	
CR-100SS		1W	350V	700V	700V	
CR-100S		1W	500V	1000V	1000V	
CR-100		1W	500V	1000V	1000V	
CR-200SS		2W	500V	1000V	1000V	
CR-200S		2W	500V	1000V	1000V	
CR-200		2W	500V	1000V	1000V	
CR-200B		2W	500V	1000V	1000V	
CR-300S		3W	500V	1000V	1000V	
CR-300		3W	500V	1000V	1000V	
電阻值範圍		STANDARD 1Ω~10MΩ SPECIAL LOW TO 0.05Ω HIGH TO 100MΩ				試驗方法
使用溫度範圍		-55℃~+155℃				如圖一
最大容許變化率 (%)	耐震試驗	± (0.5% + 0.05%)				6
	短時間過負荷	± (1% + 0.05Ω)				7-2
	負荷壽命試驗	± (3% + 0.05Ω)				7-3
	耐濕負荷試驗	± (3% + 0.05Ω)				7-4
	溫度循環	± (0.75% + 0.05Ω)				7-5
	浸錫試驗	± (1% + 0.05Ω)				7-6
溫度係數 (PPM/℃)		10Ω以下	±200PPM/℃			7-7
		56KΩ以下	±300PPM/℃			
		56KΩ~470KΩ	-500PPM/℃			
		470KΩ~1MΩ	-800PPM/℃			
		1MΩ~10MΩ	-1000PPM/℃			
		10MΩ~100MΩ	-2500PPM/℃			

表一

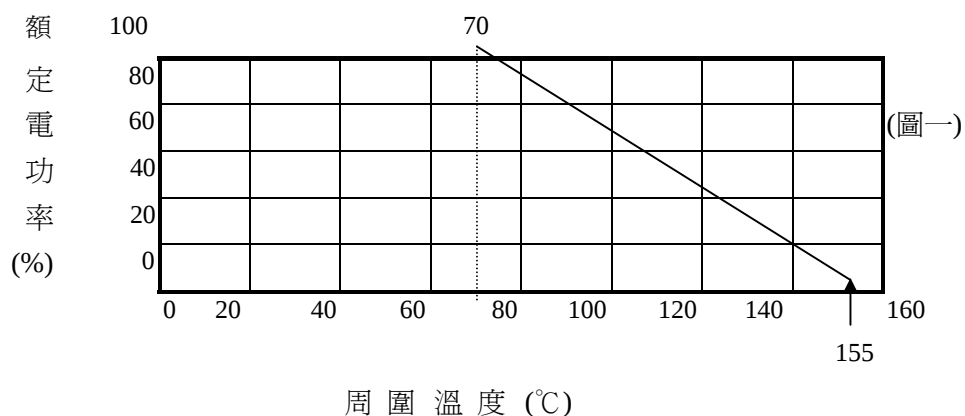


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3.2 周圍溫度與功率變化曲線



3.3 額定電壓

額定電壓係指對應於額定電功率的直流或交流(商用頻率之有效值)之電壓,由下式求得。但所求得之額定電壓超過表一所示之最高使用電壓時則以最高使用電壓為額定電壓

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

E: 額定電壓(V)

P: 額定電功率(W)

R: 標稱電阻值(Ω)

4. 構造及尺寸

4.1 構造

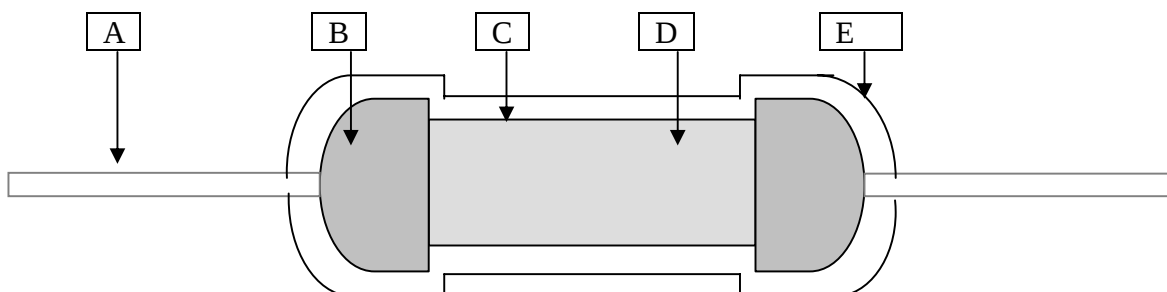
A. 鍍錫銅線

B. 鍍錫鐵蓋

C. 碳素皮膜

D. 瓷棒

E. 絕緣樹脂



(圖二)



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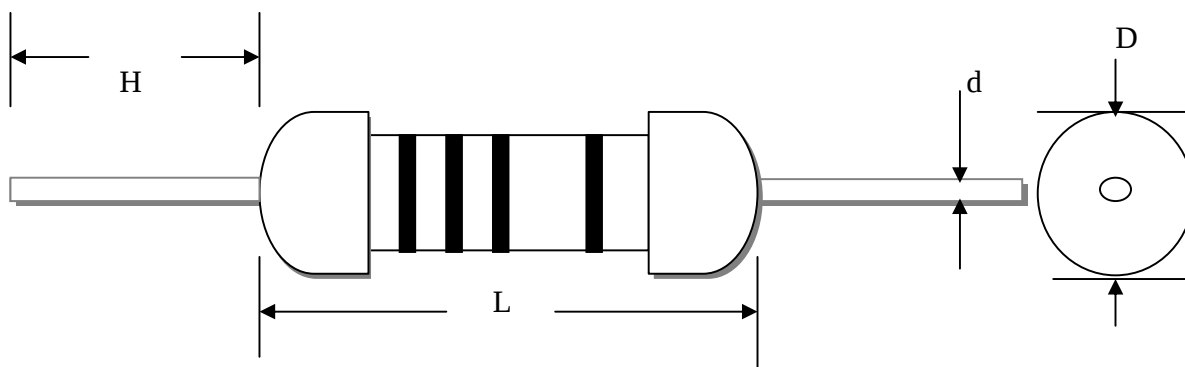
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4.2 尺寸

4.2.1 成品尺寸



單位:mm

TYPE	POWER	L	D	H	d
CR-12	1/16W	3.5 ± 0.3	1.8 ± 0.3	25 ± 3	0.43 ± 0.05
CR-25S	1/6W 1/8W				
CR-25	1/4W	6.0 ± 0.5	2.3 ± 0.3	25 ± 3	0.54 ± 0.1
CR-33S	1/3W				
CR-50S	1/2W				
CR-50	1/2W	9.0 ± 0.5	3.2 ± 0.5	25 ± 3	0.58 ± 0.1
CR-100SS	1W	6.0 ± 0.5	2.3 ± 0.3	25 ± 3	0.54 ± 0.1
CR-100S	1W	9.0 ± 0.5	3.2 ± 0.5	25 ± 3	0.58 ± 0.1
CR-100	1W	11 ± 1.0	4.5 ± 0.5	35 ± 3	0.75 ± 0.1
CR-200SS	2W	9.0 ± 0.5	3.2 ± 0.5	25 ± 3	0.58 ± 0.1
CR-200S	2W	11 ± 1.0	4.5 ± 0.5	35 ± 3	0.75 ± 0.1
CR-200	2W	15 ± 1.0	5.0 ± 0.5	35 ± 3	0.75 ± 0.1
CR-200B	2W	17 ± 1.0	6.0 ± 0.5	35 ± 3	0.75 ± 0.1
CR-300S	3W	15 ± 1.0	5.0 ± 0.5	35 ± 3	0.75 ± 0.1
CR-300	3W	17 ± 1.0	6.0 ± 0.5	35 ± 3	0.75 ± 0.1

表二

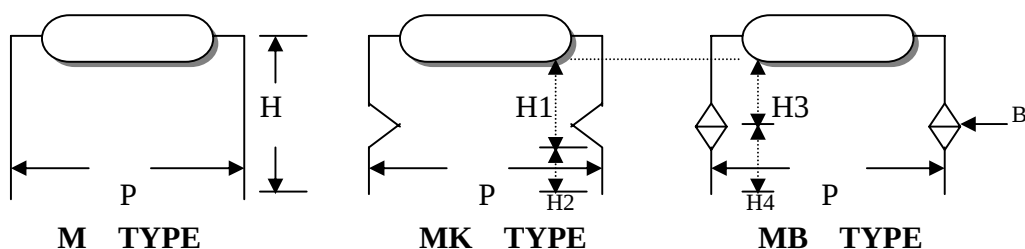


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4.2.2 成型加工尺寸



單位 : m/m

TYPE	POWER	成型 Type	P ± 1	H ±2.5	H1 ± 1	H2 ± 1	H3 ± 1	H4 ± 1
CR-12 CR-25S	1/16, 1/6, 1/8W 1/4W	M	5~	5~	—	—	—	—
CR-25 CR-33S CR-50S CR-100SS	1/4W 1/3W 1/2W 1W	M MK	10~	5~ —	— 8~	— 3~	—	—
CR-50 CR-100S CR-200SS	1/2W 1W 2W	M MK.MB	12.5~	10~ —	— 8~	— 3~	— 8~	— 5~
CR-100 CR-200S	1W 2W	M MK.MB	15~	10~ —	— 8~	— 3~	— 8~	— 5~
CR-200 CR-300S	2W 3W	M MK MB	20~	10~ —	— 8~	— 3~	— 8~	— 5~
CR-200B CR-300	2W 3W	M MK MB	25~	10~ —	— 8~	— 3~	— 8~	— 5~

註 : 1. B = 1.15 ~

2. P 之量取點為導線中心點至導線中心點之間距.

3. 腳距.腳長尺寸繁多,無法全數標示,但可因需求不同加以調整

表三

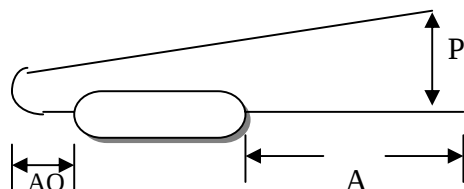


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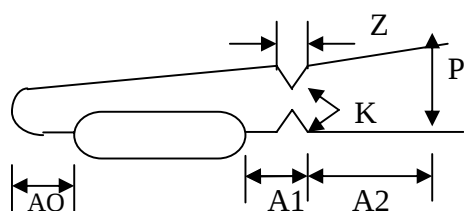
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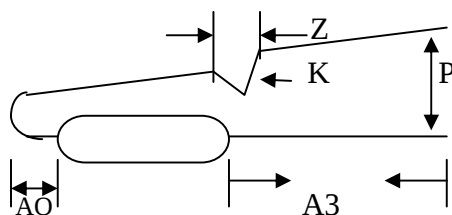
4.2.3 成型加工尺寸



F TYPE



FKK TYPE



FK TYPE

單位 : m/m

TYPE	POWER	成型 Type	P ± 1	A ± 1	A1 ± 1	A2 ± 1	A3 ± 1	A0 max
CR-12 CR-25S	1/16, 1/6, 1/8W 1/4W	F		25±3				4.0
CR-25 CR-33S	1/4W 1/3W	F	5~10	—	—	—	25±3	4.0
CR-50S CR-100SS	1/2W 1W	FK FKK	5~10	—	4	3	5~	4.0
CR-50 CR-100S	1/2W 1W	F	5~10	5~	—	—		4.0
CR-100S CR-200SS	1W 2W	FK	5~10				25±3	4.0
		FK FKK	5~10		4	3	5~	4.0
CR-100 CR-200S	1W 2W	F	5~10	5~	—	—	—	4.0
		FK FKK	5~10	—	4	3	5~	4.0
CR-200 CR-300S	2W 3W	F	5~10	5~	—	—	—	4.0
		FK FKK	5~10	—	4	3	5~	4.0
CR-200B CR-300	2W 3W	F	5~10	5~	—	—	—	4.0
		FK FKK	5~10	5~	4	3	5~	4.0

註 : 1. Z = 3 ± 1. K = 2 ± 0.5,

2. P 之量取點為導線中心點至導線中心點之間距.

3. 腳距, 腳長尺寸繁多, 無法全數標示, 但可因需求不同加以調整

表四



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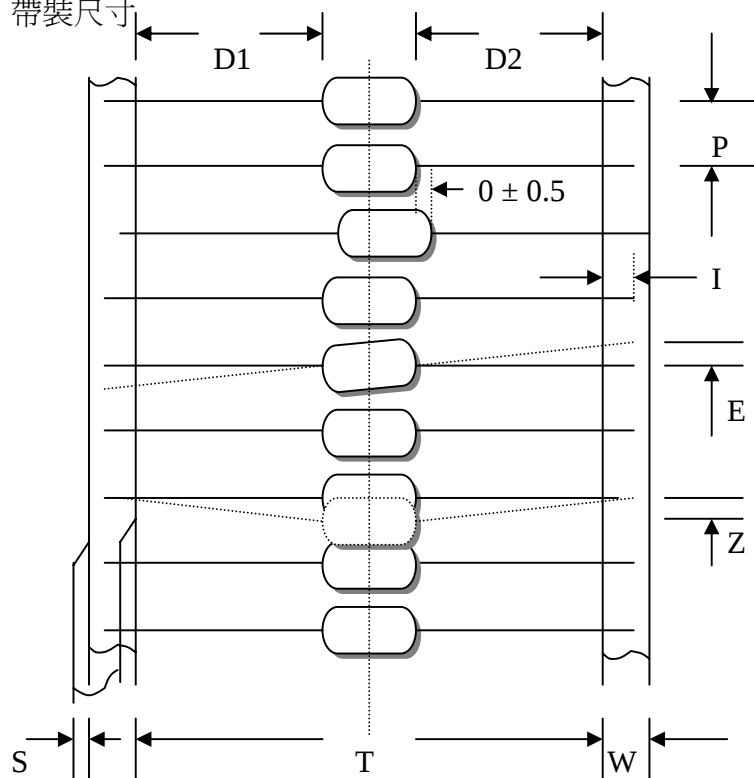
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4.2.4 帶裝尺寸



單位:mm

TYPE	RATED POWER	SIZE	T	P ±0.5	W ±0.5	D ₁ -D ₂ Max.	E Max.	Z Max.	S Max.	I Min.	PCS Per box	PCS Per reel
CR-12	1/8W	T-26	26±1.0	5	6	0.8	1	1.2	1	3	5000	
CR-25S	1/4W	T-52	52±2.0	5	6	0.8	1	1.2	1	3	5000	5000
CR-25	1/4W	T-26	26±1.0	5	6	1.0	1	1.2	1	3	5000	
CR-33S	1/3W											
CR-50S	1/2W	T-52	52±2.0	5	6	1.0	1	1.2	1	3	5000	5000
CR-100SS	1W											
CR-50	1/2W											
CR-100S	1W	T-52	52±2.0	5	6	1.2	1	1.2	1	3	1000	2500
CR-200SS	2W											
CR-100	1W											
CR-200S	2W	T-74	74±2.0	5	6	1.4	1	1.2	1	3	1000	2500
CR-200	2W											
CR-300S	3W	T-74	74±2.0	10	6	1.4	1	1.2	1	3	1000	1000
CR-200B	2W											
CR-300	3W	T-74	74±2.0	10	6	1.4	1	1.2	1	3	500	

表五



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5. 端子強度

5.1 抗拉強度

將供試電阻器本體固定之,另以夾具夾住導線,於導線之引出方向緩緩施加拉力至 2.5 Kgs,並持續 5 至 10 秒鐘,試驗後導線不得斷裂或鬆弛等現象。

5.2 抗扭強度

導線距離本體 6~6.4 m/m 處,做一個 0.75~0.8 m/m 曲率半徑之 90°彎曲,以夾具固定住導線,距離彎曲點 1.2±0.4 m/m 處然後以電阻本體為軸,以夾具為迴轉軸沿水平方向做 360° 5 Cycles,每個 Cycles 約使用 5 秒鐘,試驗後導線不得斷裂或鬆弛等現象。

5.3 抗彎強度

將供試電阻器本體固定於導線末端負重 0.5 Kg,使電阻器本體與導線成 90°彎曲,然後恢復為水平狀,如此操作一次約 5 秒鐘為 1 Cycle,依上述方法共試 2 Cycles,試驗後導線不得斷裂或鬆弛等現象。

6. 耐震性

將供試電阻器以間隔 10 m/m 之距離並排,安裝固定於震動試驗台上,使震動台之震動頻率由 10 Hz 逐漸增加至 55 Hz,再由 55 Hz 逐漸衰減至 10 Hz,此項頻率之變化於 1 分鐘時間完成,而其全振幅為 1.5 m/m,依上述方法震動台向 X、Y、Z 軸三個方向各震動 2 小時,而其試驗前後電阻值之變化率不得大於±(0.5%+0.05Ω)

7. 電氣特性

7.1 試驗環境

標準之試驗環境應於周圍溫度 20±2℃,相對濕度 60~70%狀態下進行,但如不影響判定或疑問時,於室溫 (10~35℃)、相對濕度 (45~85%) 下,亦可進行試驗及測定。

7.2 短時間過負荷

將供試電阻器水平置於試驗架具上,於電阻器之兩端導線施加 2.5 倍之直流或交流 (商用頻率之有效值) 電壓,(如計算出之試驗電壓超過最高負荷電壓時,以最高過負荷電壓為試驗電壓), 施加試驗電壓時間為 5 秒鐘,然後將電阻器於無負荷之狀態下放置 30 分鐘,再測定試驗後之電阻值。上述試驗前後之電阻值變化率不得大於±(1%+0.05Ω)。



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7.3 負荷壽命試驗

於 $40\pm3^{\circ}\text{C}$ 恆溫槽中,將供試電阻器並排安置於實驗夾具上,唯須使個別之電阻器不受其他熱源之直接輻射影響。使用額定直流電壓 (不得大於最高使用電壓) 施加於電阻器導線之兩端 1.5 小時 ON、0.5 小時 OFF。如此往復循環連續 1000 小時,於試驗後將電阻器於無負荷狀態下放置 1 小時再測定其試驗後電阻值,此項試驗前後電阻值之變化率不得大於 $\pm(3\%+0.05\Omega)$ 。

7.4 耐濕負荷壽命試驗

將供試電阻器置於 $40\pm2^{\circ}\text{C}$ 及相對濕度 90~95%之恆溫恆濕試驗槽中,再將額定直流電壓 (不得大於最高使用電壓) 施加於供試電阻器上,以 1.5 小時 ON,0.5 小時 OFF,如此往復循環連續 1000 小時,於試驗後將電阻器取出置於常溫常濕之環境中,在無負荷狀態下放置 1 小時再測定其試驗後電阻值,此項試驗前後電阻值之變化率不得大於 $\pm(3\%+0.05\Omega)$ 。

7.5 溫度循環試驗

將供試電阻器置於恆溫槽中,按照下表之步驟 1~4 (為一循環), 連續實施 5 循環,再置於室溫下放置 1 小時然後再測定試驗後電阻值,其試驗前後電阻值變化率不得大於 $\pm(0.75\%+0.05\Omega)$ 。

步 驟	溫 度	時 間
1	$-55\pm3^{\circ}\text{C}$	30 分
2	$20\pm5^{\circ}\text{C}$	10 分~15 分
3	$85\pm 2^{\circ}\text{C}$	30 分
4	$20\pm5^{\circ}\text{C}$	10 分~15 分

7.6 浸錫試驗

將供試電阻器導線之一端,以每秒 25 m/m 速度浸入 $350\pm10^{\circ}\text{C}$ 之恆溫錫槽中,其浸入深度為錫面至電阻器本體距離 3.2 ~ 4.8 m/m 處,其浸入時間為 3 ± 0.5 秒鐘,然後再將電阻器移置於室溫中 30 分鐘,再測定其試驗後電阻值,此項試驗前後之電阻值變化率不得大於 $\pm(1\% + 0.05\Omega)$ 。



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7.7 溫度係數

於室溫中測定供試電阻器之電阻值,再將供試電阻器置入高於室溫 40 ~ 60°C 之恆溫槽中,再測定其電阻值,然後依下列公式求出其溫度係數。

$$\text{電阻溫度係數 (PPM/°C)} = \frac{R_1 - R_0}{R_0} \times \frac{1}{t_1 - t_0} \times 10^6$$

上式中 R_0 : 於室溫中測定之電阻值 (Ω)

R_1 : 於試驗槽中測定之電阻值 (Ω)

t_0 : 室溫溫度 ($^{\circ}\text{C}$)

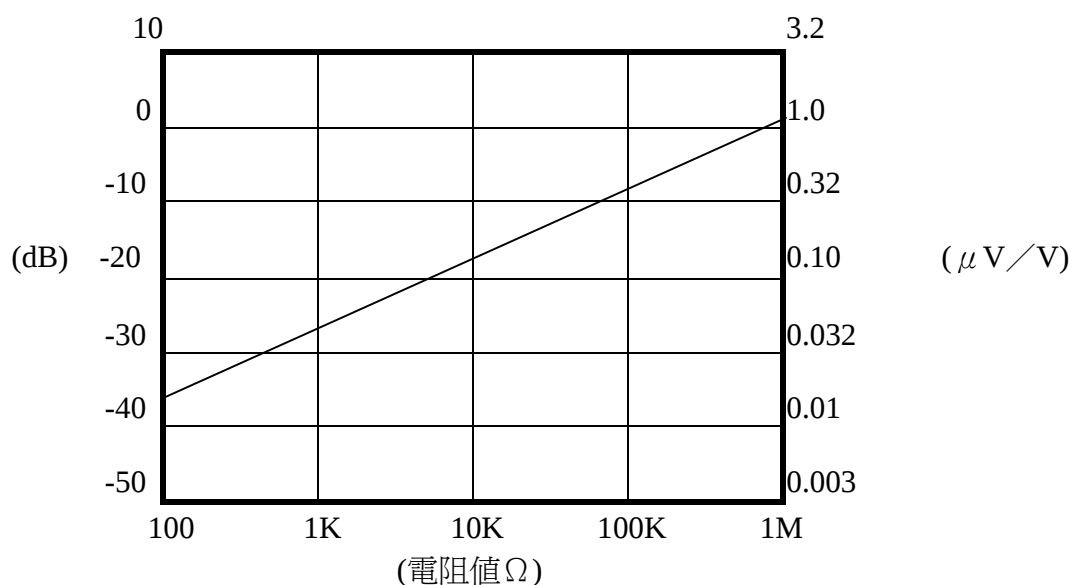
t_1 : 試驗槽溫度 ($^{\circ}\text{C}$)

7.8 耐絕緣電壓試驗

將供試電阻器本體放入 V 型金屬塊之谷內,再將電阻器向導線連接為一電極,依所訂之試驗電壓施加於電阻器本體與電阻器導線上,施加電壓時間為 1 分鐘。上述試驗期間供試電阻器不得有電弧放電、燒損及絕緣破壞等現象。

7.9 電流雜音測試

以電阻器電流雜音測試器測試電阻器之電流雜音值(dB),不得高於下圖曲線。





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7.10 絕緣抵抗試驗

將供試電阻器本體放入 V 型金屬塊之谷內,再將電阻器向導線連接為一電極,依 DC 100V 於電阻器本體與電阻器導線上,施加電壓時間為 1 分鐘。
上述試驗之絕緣電阻值為 1,000 M ohm 以上。

7.11 可焊性試驗

浸入 260°C $\pm$ 5°C 之浸錫槽 3 $\pm$ 0.5 秒其錫層附著面積須 95%以上

7.12 煮沸試驗

將供試電阻器置於水溫 100°C 之煮沸槽連續煮沸一小時,置於室溫 30 分鐘後,再施加一倍電壓 30 分鐘連續 5 Cycles, 誤差率 : $\pm(3\% + 0.05\Omega)$

7.13 焊點標準

漆長標準為本體底漆自焊點到導線不得大於 1.5mm, 且導線焊接處標準為離本體焊點 1.6mm 以上。



欣統股份有限公司

碳膜固定電阻器規格
CARBON FILM FIXED RESISTORS

編號: CR-01

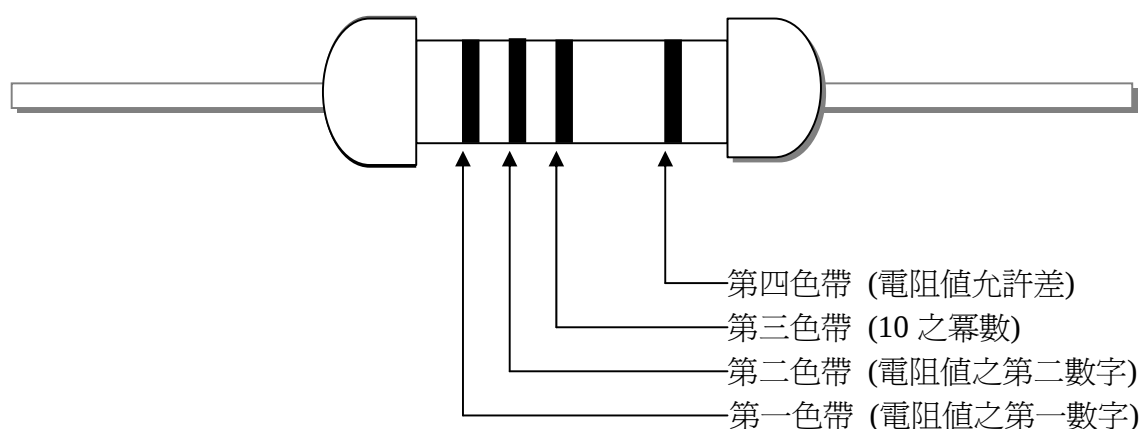
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8. 標示 (參照 EIA-RS-279 規格)

電阻器之電阻值及允許差以色帶標示,如下圖及表



顏色參照 EIA RS-359

顏色	第一色帶	第二色帶	第三色帶	第四色帶
黑	0	0	10^0	—
棕	1	1	10^1	F ($\pm 1\%$)
紅	2	2	10^2	G ($\pm 2\%$)
橙	3	3	10^3	—
黃	4	4	10^4	—
綠	5	5	10^5	—
藍	6	6	10^6	—
紫	7	7	10^7	—
灰	8	8	10^8	—
白	9	9	10^9	—
金	—	—	10^{-1}	J ($\pm 5\%$)
銀	—	—	10^{-2}	—
透明	—	—	10^{-3}	—

表六



欣統股份有限公司

碳膜固定電阻器規格
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測試報告

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欣統股份有限公司 / SYNTON-TECH CORPORATION

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(廣東省東莞市大朗鎮水口管理區 / SHUI KOU INDUSTRIAL ZONE, DA LANG, DONG GUAN, GUANG DONG, CHINA))

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : CARBON FILM FIXED RESISTORS
樣品型號(Style/Item No.) : CR, PCF TYPE
收件日期(Sample Receiving Date) : 2008/05/06 AND 2010/04/15
測試期間(Testing Period) : 2008/05/06 TO 2008/05/14 AND 2010/04/15 TO 2010/04/22

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

* 此份報告為合併 CE/2008/51481 及 CE/2010/43270 之報告 *

(This report is combined with reports of CE/2008/51481 and CE/2010/43270)

Chenyu

Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

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碳膜固定電阻器規格 CARBON FILM FIXED RESISTORS

編號: CR-01
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欣統股份有限公司 / SYNTON-TECH CORPORATION

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(廣東省東莞市大朗鎮水口管理區 / SHUI KOU INDUSTRIAL ZONE, DA LANG, DONG GUAN, GUANG DONG, CHINA))

測試結果(Test Results)

測試部位(PARTNAME)NO.1 : 本體 (不含銀色金屬腳)-五款 (BODY (EXCLUDING THE SILVER COLORED METAL PIN)-FIVE KINDS (CE/2010/43270))
測試部位(PARTNAME)NO.2 : 整體混測 (MIXED ALL PARTS OF BODY (2 SAMPLES) (CE/2008/51481))

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				NO.1	NO.2
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應 耦合電漿原子發射光譜儀檢測。/ With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應 耦合電漿原子發射光譜儀檢測。/ With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應 耦合電漿原子發射光譜儀檢測。/ With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	參考IEC 62321: 2008方法, 以UV- VIS檢測。/ With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	---
四溴雙酚-A / Tetrabromobisphenol A (TBBP-A) (CAS No.: 000079-94-7)	mg/kg	參考DIN 53313方法, 以氣相層析儀 / 質譜儀檢測。/ With reference to DIN 53313 method. Analysis was performed by GC/MS.	10	---	n.d.

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碳膜固定電阻器規格
CARBON FILM FIXED RESISTORS

編號: CR-01

版本: C

頁次: 15/22

日期: 2010.10.01



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欣統股份有限公司 / SYNTON-TECH CORPORATION

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(廣東省東莞市大朗鎮水口管理區 / SHUI KOU INDUSTRIAL ZONE, DA LANG, DONG GUAN, GUANG DONG, CHINA))



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				NO.1	NO.2
鹵素 / Halogen		參考prEN14582方法B, 以離子層析儀分析氟、氯、溴、碘含量。 / With reference to prEN14582 method B. Analysis was performed by IC method for F, Cl, Br, I content.			
鹵素(氟) / Halogen-Fluorine (F) (CAS NO.: 007782-41-4)	mg/kg	參考prEN14582方法B, 以離子層析儀分析氟含量。 / With reference to prEN14582 method B. Analysis was performed by IC method for Fluorine content.	50	---	n.d.
鹵素(氯) / Halogen-Chlorine (Cl) (CAS NO.: 007782-50-5)	mg/kg	參考prEN14582方法B, 以離子層析儀分析氯含量。 / With reference to prEN14582 method B. Analysis was performed by IC method for Chlorine content.	50	---	n.d.
鹵素(溴) / Halogen-Bromine (Br) (CAS NO.: 007726-95-6)	mg/kg	參考prEN14582方法B, 以離子層析儀分析溴含量。 / With reference to prEN14582 method B. Analysis was performed by IC method for Bromine content.	50	---	n.d.
鹵素(碘) / Halogen-Iodine (I) (CAS NO.: 007553-56-2)	mg/kg	參考prEN14582方法B, 以離子層析儀分析碘含量。 / With reference to prEN14582 method B. Analysis was performed by IC method for Iodine content.	50	---	n.d.

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編號: CR-01

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碳膜固定電阻器規格

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CARBON FILM FIXED RESISTORS

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(廣東省東莞市大朗鎮水口管理區 / SHUI KOU INDUSTRIAL ZONE, DA LANG, DONG GUAN, GUANG DONG, CHINA))



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				NO. 1	NO. 2
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相 層析儀/質譜儀檢測, / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.	---
一溴聯苯 / Monobromobiphenyl			5	n.d.	---
二溴聯苯 / Dibromobiphenyl			5	n.d.	---
三溴聯苯 / Tribromobiphenyl			5	n.d.	---
四溴聯苯 / Tetrabromobiphenyl			5	n.d.	---
五溴聯苯 / Pentabromobiphenyl			5	n.d.	---
六溴聯苯 / Hexabromobiphenyl			5	n.d.	---
七溴聯苯 / Heptabromobiphenyl			5	n.d.	---
八溴聯苯 / Octabromobiphenyl			5	n.d.	---
九溴聯苯 / Nonabromobiphenyl			5	n.d.	---
十溴聯苯 / Decabromobiphenyl			5	n.d.	---
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.	---
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.	---
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.	---
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.	---
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.	---
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.	---
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.	---
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.	---
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.	---
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.	---
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.	---

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碳膜固定電阻器規格
CARBON FILM FIXED RESISTORS

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測試報告

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欣統股份有限公司 / SYNTON-TECH CORPORATION

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備註(Note):

1. mg/kg = ppm; 0.1wt% = 1000ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)
5. "---" = Not Conducted (未測項目)
6. 樣品的測試是基於申請人要求混合測試, 報告中的混合測試結果不代表其中個別單一材質的含量。(The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

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碳膜固定電阻器規格
CARBON FILM FIXED RESISTORS

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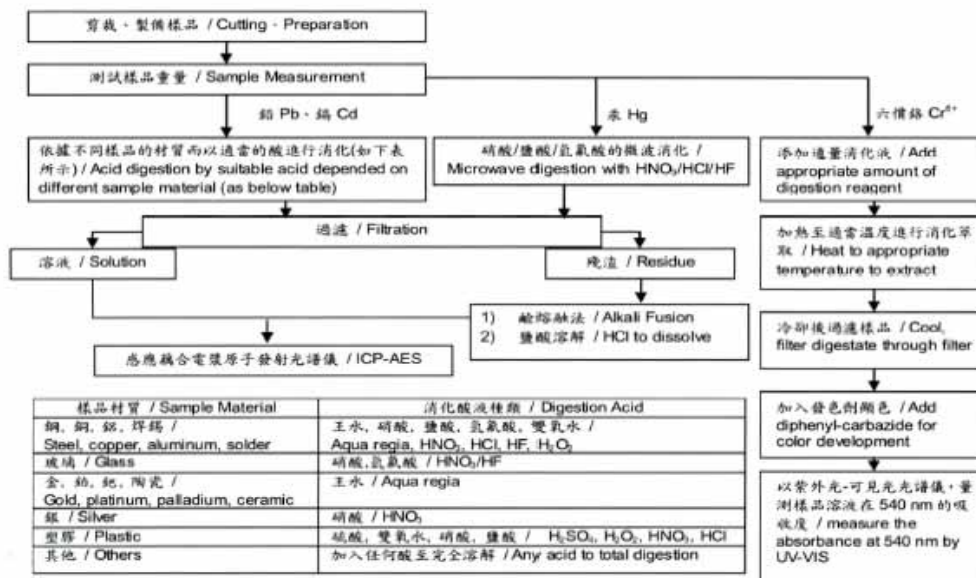
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- 1) 根據以下的流程圖之條件。樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員: 楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人: 張啓興 / Name of the person in charge of measurement: Troy Chang



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欣統股份有限公司

碳膜固定電阻器規格 CARBON FILM FIXED RESISTORS

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測試報告 Test Report

號碼(No.): CE/2010/43270A 日期(Date): 2010/05/04 頁數(Page): 7 of 10

欣統股份有限公司 / SYNTON-TECH CORPORATION

(欣統電子(東莞)廠 / (DONG GUAN PLANT))

台北縣汐止市新台五路一段79號16樓之3 /

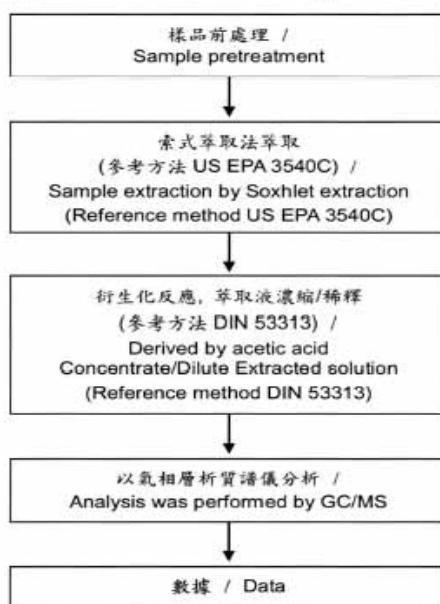
16F-3, NO. 79, FAR EAST WORLD CENTER SEC. 1, HSIN TAI WU ROAD, HSI-CHIH TAIPEI COUNTY, TAIWAN, R. O. C.

(廣東省東莞市大朗鎮水口管理區 / SHUI KOU INDUSTRIAL ZONE, DA LANG, DONG GUAN, GUANG DONG, CHINA))



四溴雙酚-A分析流程圖 / TBBP-A analytical flow chart

- 1) 測試人員: 傅舒莹 / Name of the person who made measurement: Amanda Fu
- 2) 測試負責人: 陳新智 / Name of the person in charge of measurement: Shinijh Chen



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碳膜固定電阻器規格
CARBON FILM FIXED RESISTORS

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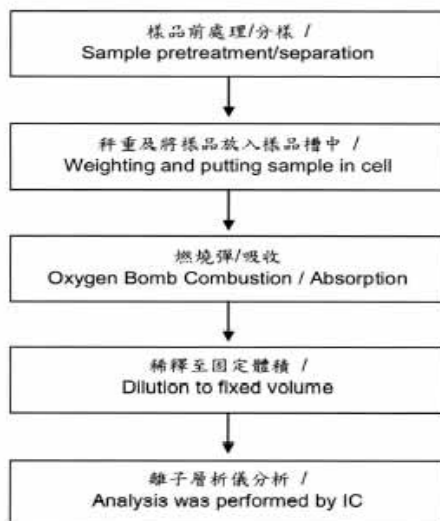
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鹵素分析流程圖 / Analytical flow chart of halogen content

- 1) 測試人員: 陳思臻 / Name of the person who made measurement: Tin Lan
- 2) 測試負責人: 張啓典 / Name of the person in charge of measurement: Troy Chang



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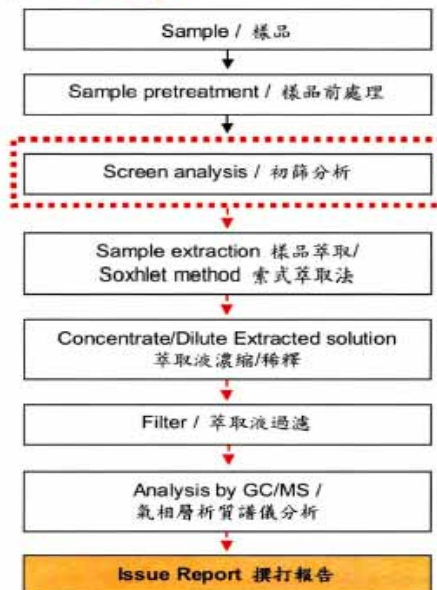
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 1) 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
2) 測試負責人: 陳新智 / Name of the person in charge of measurement: Shinjyh Chen

初次測試程序 / First testing process →

選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process - - - →



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測試部位(PARTNAME)NO.1



測試部位(PARTNAME)NO.2



** 報告結尾 (End of Report) **

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