

	成功工業(惠州)有限公司 SUCCESS ELECTRONICS CO., LTD.	FILE NO.	QC-T4-06
		Ver:	1.0
	直流型陶瓷電容器-酚醛樹脂包封 Class I / Class II / Class III Type for Ceramic capacitor	Page	1/26

產品承認書

SPECIFICATION FOR APPROVAL

客戶名稱 CUSTOMER	
客戶料號 PART NO	
規格描述 DESCRIPTION	Class I / Class II / Class III Type for Ceramic capacitor (Phenolic Resin Coating)
成功料號 SUCCESS P/N	See page 5~8
日期 DATE	2018/5/31

★ 符合 RoHS&HF 及其他環保要求；金屬鍍層不含六價鉻
RoHS &HF& Requirements of Environmental; prohibit containing Cr⁺⁶ in the plating with metal



Success Electronics Co., Ltd			Customer Approval		
Made By	Checked By	Approval By	Prepared By	Checked By	Approval By
吳裕武	 楊豪				



成功工業（惠州）有限公司

SUCCESS ELECTRONICS (HUIZHOU) CO., LTD.

中國廣東省惠州市仲愷高新區潼橋鎮潼橋工業基地新科大道

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COMPONENT SPEC VERSION RECORD

VER	MINUTE OF CHANGES	SEC CHECK	RELEASE DATE
1.0	CHECKED AND RELEASED	祁能	2016/08/09

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一、品名說明 (Part No. Explain)

品名(Part No.):	2	X	7	R	4	7	1	K	1	0	2	H	5	4	E
說明(Explain No.):	1	2	3	4	5	6	7	8	9						

說明 1 (Explain No. 1): 種類 (Type)

No.	電容種類	Capacitor Type
1	溫度補償型	Class I T.C Type (Phenolic Resin Coating)
2	高介電常數型	Class II Hi-K Type (Phenolic Resin Coating)
3	半導體型	Class III S.C Type (Phenolic Resin Coating)

說明 2 (Explain No. 2): 溫度特性 (Temperature Characteristic),參照 EIA198 標準。

溫度特性代碼 (TC Code)	Y5P	Y5U	Z5U	Z5V	Y5V	X7R
下限溫度類別 (Low Temp.)	-30℃	-30℃	+10℃	+10℃	-30℃	-55℃
上限溫度類別 (High Temp.)	+85℃	+85℃	+85℃	+85℃	+85℃	+125℃
容量變化率 (Max. Cap. Change)	±10%	+22%~-56%	+22%~-82%			±15%

說明 3 (Explain No. 3): 靜電容量 (Nominal Capacitance)

標示 (Code)	0R3	470	471	103
靜電容量 (Nominal Cap.)	0.3PF	47PF	470PF	10000PF

說明 4 (Explain No. 4): 靜電容量許容差 (Nominal Capacitance Tolerance)

標示 (Code)	C	D	J	K	M	Z
許容差 (Tolerance)	±0.25PF	±0.5PF	±5%	±10%	±20%	+80% ~ -20%

說明 5 (Explain No. 5): 額定電壓 (Rated Voltage)

標示 (Code)	500	501	102	302
額定電壓(Rated Voltage)	50V	500V	1KV	3KV

說明 6 (Explain No. 6): 引線形狀及包裝方式(Lead Style and Packing)

代碼說明(Code configuration)	散裝(Bulk)	盒裝編帶(Ammo)		軸裝編帶(Reel)	
編帶孔對孔距離 (P0)	/	P0=12.7mm	P0=15.0mm	P0=12.7mm	P0=15.0mm
直腳長腳(Straight long)	A	S	T	L	V
直線短腳(Straight short)	H	/	/	/	/
一字形腳(Vertical crimped)	E	M	R	P	W
外彎長腳(Outside crimped long)	J	N	B	Q	/
外彎短腳(Outside crimped short)	D	/	/	/	/
內彎短腳(Inside crimped short)	C	/	/	/	/
內彎長腳(Inside crimped long)	I	K	U	X	Y

說明 7 (Explain No. 7): 引線間距 (Lead spacing)

2	引線間距為 2.5mm (Lead spacing for 2.5 mm)
5	引線間距為 5.0mm (Lead spacing for 5.0 mm)
6	引線間距為 6.35mm (Lead spacing for 6.35 mm)
7	引線間距為 7.5mm (Lead spacing for 7.5 mm)
9	引線間距為 10.0mm (Lead spacing for 10.0 mm)

說明 8 (Explain No. 8): 引線直徑 (Wire Diameter)

4	引線直徑為 0.50mm (Wire Diameter for 0.50mm)
6	引線直徑為 0.60mm (Wire Diameter for 0.60mm)

說明 9 (Explain No. 9):

E	無鉛無鹵產品(RoHS+HF)
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二、 常用料號一覽表 (Material number list)

2.1 溫度補償型 (Temperature compensating) TYPE CLASS I

2.1.1 Dimensions: NPO

R.V C(pF)	DC50V&DC100V (unit: mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
0.5	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
1	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
5	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
10	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
12	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
15	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
18	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
20	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
22	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
27	6.0	4.0	5.0	0.50	6.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
30	6.0	4.0	5.0	0.50	7.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50

2.1.2 Dimensions: SL

R.V C(pF)	DC50V&DC100V (unit: mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
10	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
15	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
18	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
20	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
22	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
27	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
30	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
33	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
47	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
50	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
56	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	6.5	4.0	5.0	0.50
68	6.5	4.0	5.0	0.50	7.0	4.0	5.0	0.50	7.5	4.5	5.0	0.50
82	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	7.5	4.5	5.0	0.50
100	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	7.5	4.5	5.0	0.50
120	6.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	9.0	4.5	5.0	0.50
150	6.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	9.0	4.5	5.0	0.50
220	6.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	10.0	4.5	5.0	0.50

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2.2 高誘電率型 (HIGH DIELECTRIC CONSTANT) TYPE-CLASS II

2.2.1 Dimensions: Y5P

R.V C(pF)	DC50V&DC100V (unit: mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
100	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
150	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
200	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
220	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
270	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
330	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
390	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
470	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
560	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
680	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
1000	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
1500	7.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	10.0	4.0	5.0	0.50
2200	7.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	11.0	4.0	5.0	0.50
3000	8.5	4.0	5.0	0.50	10.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50
3300	8.5	4.0	5.0	0.50	10.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50
3900	8.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50	12.0	4.0	5.0	0.50
4700	9.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50	12.0	4.0	5.0	0.50
6800	10.5	4.0	5.0	0.50	15.5	4.0	5/7.5/10	0.50/0.60	/	/	/	/
10000	11.5	4.0	5.0	0.50	16.0	4.0	5/7.5/10	0.50/0.60	/	/	/	/

2.2.2 Dimensions: X7R

R.V C(pF)	DC50V&DC100V (unit: mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
100	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
150	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
200	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
220	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
270	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
330	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
390	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
470	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
560	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
680	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
1000	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
1500	7.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	10.0	4.0	5.0	0.50
1800	7.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	10.0	4.0	5.0	0.50
2200	7.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	11.0	4.0	5.0	0.50
3300	8.5	4.0	5.0	0.50	10.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50
4700	9.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50	12.0	4.0	5.0	0.50
5600	9.5	4.0	5.0	0.50	15.5	4.0	/	/	/	/	/	/
6800	10.5	4.0	5.0	0.50	15.5	4.0	/	/	/	/	/	/
10000	11.5	4.0	5.0	0.50	16.0	4.0	/	/	/	/	/	/

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2.2.3 Dimensions : Y5U&Z5U

R.V C(pF)	DC50V&DC100V (unit: mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
1000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
1500	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50
1800	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50
2000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50
2200	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50
3300	6.5	4.0	5.0	0.50	7.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50
3900	6.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	9.0	4.0	5.0	0.50
4700	6.5	4.0	5.0	0.50	8.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50
5600	6.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	10.0	4.0	5.0	0.50
6800	6.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	11.0	4.0	5.0	0.50
7500	7.5	4.0	5.0	0.50	9.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50
8200	7.5	4.0	5.0	0.50	10.5	4.0	5.0	0.50	12.0	4.0	5.0	0.50
10000	7.5	4.0	5.0	0.50	10.5	4.0	5/7.5/10	0.50/0.60	12.0	4.0	5/7.5/10	0.50/0.60

2.2.4 Dimensions : Y5V&Z5V

R.V C(pF)	DC50V&DC100V (unit :mm)				DC500V (unit: mm)				DC1KV (unit: mm)			
	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05	Dia. (Max)	T (Max)	F ±1.0	d ±0.05
1000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
1500	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
1800	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
2000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
2200	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
3300	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50	9.0	4.0	5.0	0.50
3900	6.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50	9.0	4.0	5.0	0.50
4700	6.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50	9.5	4.0	5.0	0.50
5600	6.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50	10.0	4.0	5.0	0.50
6800	6.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50
7500	6.5	4.0	5.0	0.50	9.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50
8200	6.5	4.0	5.0	0.50	9.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50
10000	6.5	4.0	5.0	0.50	9.0	4.0	5/7.5/10	0.50/0.60	11.0	4.0	5/7.5/10	0.50/0.60
20000	9.5	4.0	5.0	0.50	12.0	4.0	5/7.5/10	0.50/0.60	12.0	4.0	5/7.5/10	0.50/0.60
22000	9.5	4.0	5.0	0.50	16.0	4.0	5/7.5/10	0.50/0.60	16.0	4.0	5/7.5/10	0.50/0.60

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2.3 半導體型(SEMI-CONDUCTING)TYPE-CLASS III

2.3.1 Dimensions: Y5P

R.V C(pF)	DC50V (unit: mm)			
	Dia.(Max)	T(Max)	F ± 1.0	d ± 0.05
10000	10.5	4.0	5.0	0.50
22000	10.5	4.0	5.0	0.50
33000	10.5	4.0	5.0	0.50
47000	10.5	4.0	5.0	0.50
50000	12.0	4.0	5.0	0.50
68000	12.0	4.0	5.0	0.50
100000	12.0	4.0	5.0	0.50

2.3.2 Dimensions: Y5U

R.V C(pF)	DC16V~50V (unit: mm)				DC100V (unit: mm)			
	Dia. (Max)	T (Max)	F ± 1.0	d ± 0.05	Dia. (Max)	T (Max)	F ± 1.0	d ± 0.05
10000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
22000	7.0	4.0	5.0	0.50	7.0	4.0	5.0	0.50
33000	7.0	4.0	5.0	0.50	7.0	4.0	5.0	0.50
47000	7.5	4.0	5.0	0.50	8.0	4.0	5.0	0.50
50000	10.0	4.0	5.0	0.50	10.0	4.0	5.0	0.50
68000	10.0	4.0	5.0	0.50	10.0	4.0	5.0	0.50
100000	10.0	4.0	5.0	0.50	10.0	4.0	5.0	0.50
200000	11.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50
220000	11.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50

2.3.3 Dimensions: Y5V

R.V C(pF)	DC16V~50V (unit: mm)				DC100V (unit: mm)			
	Dia. (Max)	T (Max)	F ± 1.0	d ± 0.05	Dia. (Max)	T (Max)	F ± 1.0	d ± 0.05
10000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
22000	6.5	4.0	5.0	0.50	6.5	4.0	5.0	0.50
33000	7.0	4.0	5.0	0.50	7.0	4.0	5.0	0.50
47000	7.0	4.0	5.0	0.50	7.0	4.0	5.0	0.50
50000	9.0	4.0	5.0	0.50	9.0	4.0	5.0	0.50
68000	9.0	4.0	5.0	0.50	9.0	4.0	5.0	0.50
100000	9.0	4.0	5.0	0.50	9.0	4.0	5.0	0.50
200000	11.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50
220000	11.0	4.0	5.0	0.50	11.0	4.0	5.0	0.50

2.4 Note: Lead spacing can be adjusted according to customer demand



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二、線型尺寸 (Figures&Dimension)

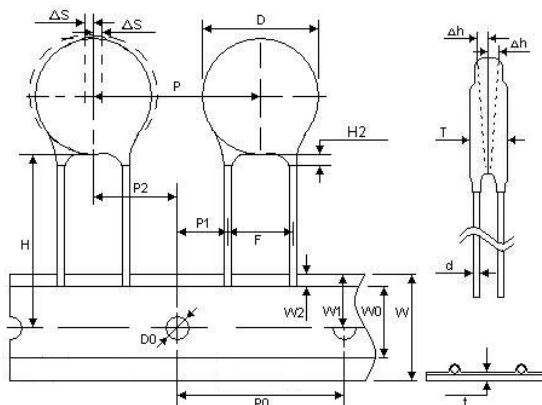
2.1 散裝線型(Bulk pack lead style)

A→直腳長腳(Straight long) 	H→直線短腳(Straight short) 	D	See page 6~9
		T	
		F	
		d	
		H	D+P
		P	3.0mm max
		L	Straight long: 20mm min short: 3.5±0.5mm or The customer request
J→外彎長腳(Outside crimped long) 	D→外彎短腳(Outside crimped short) 	D	See page 6~9
		T	
		F	
		d	
		P	Not exceed the kink leads for kink lead
		H2	4.8mm max
		L	long: 18mm min short: 3.5±0.5mm or The customer request
I→內彎長腳(Inside crimped long) 	C→內彎短腳(Inside crimped short) 	D	See page 6~9
		T	
		F	
		d	
		P	Not exceed the kink leads for kink lead
		H2	4.8mm max
		L	long: 18mm min short: 3.5±0.5mm or The customer request
E→一字形腳(Vertical crimped)			
		D	See page 6~9
		T	
		F	
		d	
		P	Not exceed the kink leads for kink lead
		H2	4.8mm max
		L	long: 18mm min short: 3.5±0.5mm or The customer request

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2.2 編帶說明 (Taping pack lead style)

2.2.1 直線編帶(Straight)

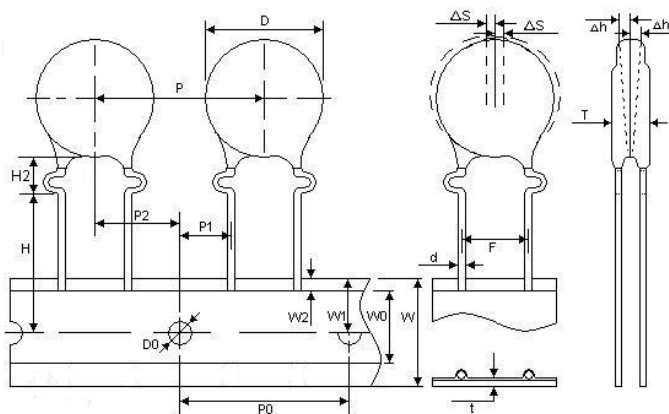


單位(unit): mm

位置代字 (Symbol)	標示位置 (Item)	Dimensions(mm)			
		PO=12.7 (code: S)		PO=15.0 (code: T)	
F	零件之腳距 Lead to lead distance	5.0±1	7.5±1	5.0±1	7.5±1
P	零件間距離 Pitch of component	12.7±1.0		15±1.0	
P0	定位孔距離 Feed hole pitch	12.7±0.3		15±0.3	
P1	定位孔中心與導線中心距離 Feed hole center to lead center	3.85±0.7	2.6±0.7	5±0.7	3.75±0.7
P2	定位孔中心與本體中心之距離 Feed hole center to body center	6.35±1.3		7.5±1.3	
△s	零件本體左右偏移 Component alignment R-L	0±2			
△h	零件前后偏移 Component alignment F-R				
W	紙帶寬度 Tape width	18.0±1.0			
W0	固定膠帶寬度 Hold down tape width	7.5min			
W1	定位孔中心距紙帶上沿距離 Hold position	9.0±0.75			
W2	固定膠帶上沿到紙帶上沿距離 Hole down tape position	5.0max			
H	定位孔中心至本體底部距離 Height of component from tape center	20.0 +1.5/1.0			
H2	塗裝腳長度 Dip Length	3.0max			
D0	定位孔直徑 Feed hole diameter	4.0±0.2			
t	紙帶總厚度 Total tape thickness	0.6±0.3			
d	引線直徑 (Lead diameter)	See Page 6~9			
D	外徑(Body Diameter)				
T	厚度(Body Thickness)				

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2.2.2 外彎編帶(Outside crimped)



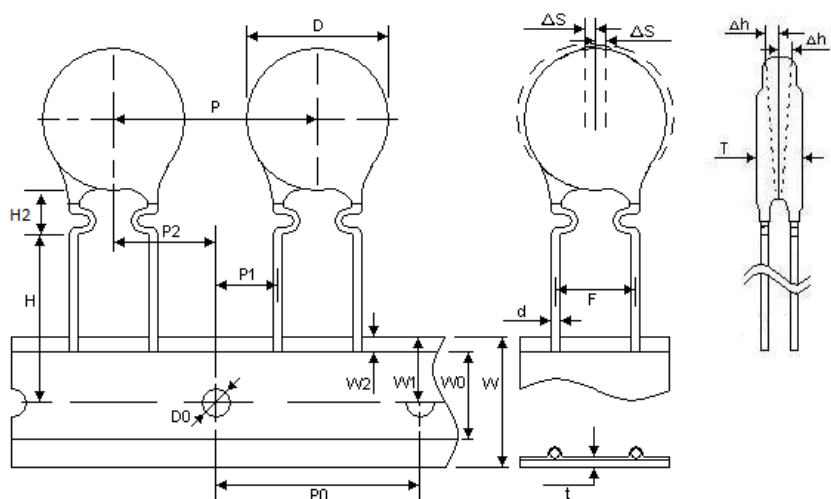
單位(unit): mm

位置代字 (Symbol)	標示位置 (Item)	Dimensions(mm)			
		PO=12.7 (code: N)		P0=15.0 (code: B)	
F	零件之腳距 Lead to lead distance	5.0±1	7.5±1	5.0±1	7.5±1
P	零件間距離 Pitch of component	12.7±1.0		15±1.0	
P0	定位孔距離 Feed hole pitch	12.7±0.3		15±0.3	
P1	定位孔中心與導線中心距離 Feed hole center to lead center	3.85±0.7	2.6±0.7	5±0.7	3.75±0.7
P2	定位孔中心與本體中心之距離 Feed hole center to body center	6.35±1.3		7.5±1.3	
△s	零件本體左右偏移 Component alignment R-L	0±2			
△h	零件前后偏移 Component alignment F-R				
W	紙帶寬度 Tape width	18.0±1.0			
W0	固定膠帶寬度 Hold down tape width	7.5min			
W1	定位孔中心距紙帶上沿距離 Hold position	9.0±0.75			
W2	固定膠帶上沿到紙帶上沿距離 Hole down tape position	5.0max			
H1	定位孔中心至本體底部距離 Height of component from tape center	16±0.5			
H2	導線折彎處到本體底部 Height of kink	4.8max			
D0	定位孔直徑 Feed hole diameter	4.0±0.2			
t	紙帶總厚度 Total tape thickness	0.6±0.3			
d	引線直徑 (Lead diameter)	See page6~9			
D	外徑(Body Diameter)				
T	厚度(Body Thickness)				

注：塗裝腳長度 Dip Length: 不超過引線折彎處 Not exceed the kink leads for kink lead

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2.2.3 內彎型編帶(Inside crimped)

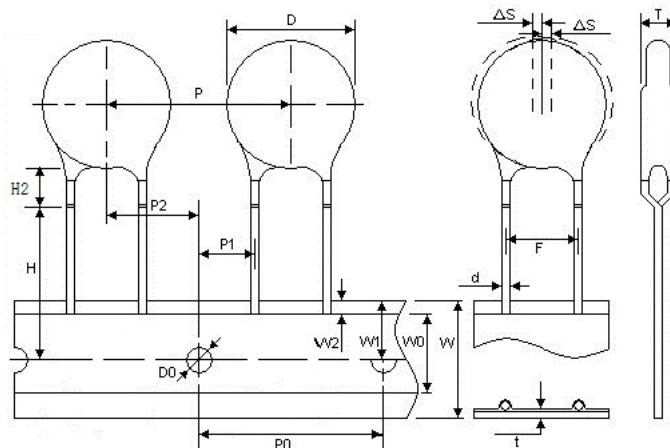


位置代字 (Symbol)	標示位置 (Item)	Dimensions(mm)			
		PO=12.7(code: K)		PO=15.0(code: U)	
F	零件之腳距 Lead to lead distance	5.0±1	7.5±1	5.0±1	7.5±1
P	零件間距離 Pitch of component	12.7±1.0		15±1.0	
P0	定位孔距離 Feed hole pitch	12.7±0.3		15±0.3	
P1	定位孔中心與導線中心距離 Feed hole center to lead center	3.85±0.7	2.6±0.7	5±0.7	3.75±0.7
P2	定位孔中心與本體中心之距離 Feed hole center to body center	6.35±1.3		7.5±1.3	
△s	零件本體左右偏移 Component alignment R-L	0±2			
△h	零件前后偏移 Component alignment F-R				
W	紙帶寬度 Tape width	18.0±1.0			
W0	固定膠帶寬度 Hold down tape width	7.5min			
W1	定位孔中心距紙帶上沿距離 Hold position	9.0±0.75			
W2	固定膠帶上沿到紙帶上沿距離 Hole down tape position	5.0max			
H	定位孔中心至本體底部距離 Height of component from tape center	16±0.5			
H2	導線折彎處到本體底部 Height of kink	4.8max			
D0	定位孔直徑 Feed hole diameter	4.0±0.2			
t	紙帶總厚度 Total tape thickness	0.6±0.3			
d	引線直徑 (Lead diameter)	See page6~9			
D	外徑(Body Diameter)				
T	厚度(Body Thickness)				

注：塗裝腳長度 Dip Length: 不超過引線折彎處 Not exceed the kink leads for kink lead

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2.2.4 一字腳（E）形腳編帶(Vertical crimped tapping)

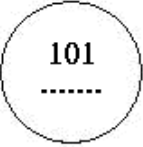
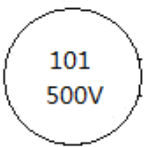
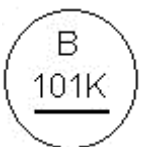
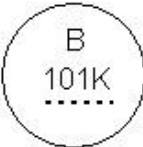
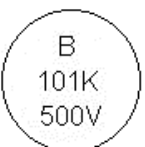
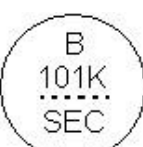
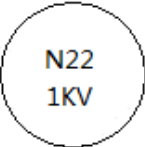
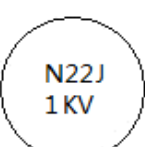
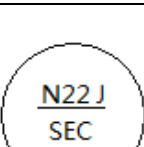
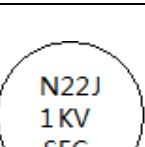


位置代字 (Symbol)	標示位置 (Item)	Dimensions(mm)			
		PO=12.7(code: M)		PO=15.0(code: R)	
F	零件之腳距 Lead to lead distance	5.0±1	7.5±1	5.0±1	7.5±1
P	零件間距離 Pitch of component	12.7±1.0		15±1.0	
P0	定位孔距離 Feed hole pitch	12.7±0.3		15±0.3	
P1	定位孔中心與導線中心距離 Feed hole center to lead center	3.85±0.7	2.6±0.7	5±0.7	3.75±0.7
P2	定位孔中心與本體中心之距離 Feed hole center to body center	6.35±1.3		7.5±1.3	
△s	零件本體左右偏移 Component alignment R-L	0±2			
△h	零件前后偏移 Component alignment F-R				
W	紙帶寬度 Tape width	18.0±1.0			
W0	固定膠帶寬度 Hold down tape width	7.5min			
W1	定位孔中心距紙帶上沿距離 Hold position	9.0±0.75			
W2	固定膠帶上沿到紙帶上沿距離 Hole down tape position	5.0max			
H	定位孔中心至本體底部距離 Height of component from tape center	16±0.5			
H2	導線折彎處到本體底部 Height of kink	4.8max			
D0	定位孔直徑 Feed hole diameter	4.0±0.2			
t	紙帶總厚度 Total tape thickness	0.6±0.3			
d	引線直徑 (Lead diameter)	See page6~9			
D	外徑(Body Diameter)				
T	厚度(Body Thickness)				

注：塗裝腳長度 Dip Length: 不超過引線折彎處 Not exceed the kink leads for kink lead

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三、 標印說明 (Marking Explain)

voltage Dise size		DC50V	DC100V	DC200V or more	標印內容說明
高誘電率型及半導體型 (HI-K OR SC TYPE)	3-4.5(含) mm				第一行:標稱電容(Nominal capacitance) 第二行: 額定電壓 (Rated voltage)
	4.6-6(含) mm				第一行: 溫度特性 (TC marking code) 第二行: 標稱電容+許容差(Nominal capacitance+ Tolerance) 第三行: 額定電壓 (Rated voltage)
	6mm 以上				第一行: 溫度特性 (Temperature characteristic) 第二行: 標稱電容+許容差(Nominal capacitance+ Tolerance) 第三行: 額定電壓 (Rated voltage) 第四行: 公司代字 (Trade name)
溫度補償型陶瓷電容器 (TC TYPE)	3-4.5(含) mm				第一行: 溫度特性+標稱電容(Temperature characteristic +Nominal capacitance) 第二行: 額定電壓 (Rated voltage) ((Note: SL TYPE:No marking for TC code))
	4.6-6(含) mm				第一行: 溫度特性+標稱電容+許容差 (Temperature characteristic +Nominal capacitance+ Tolerance) 第二行: 額定電壓 (Rated voltage) ((Note: SL TYPE:No marking for TC code))
	6mm 以上				第一行: 溫度特性+標稱電容+許容差 (Temperature characteristic +Nominal capacitance+ Tolerance) 第二行: 額定電壓 (Rated voltage) 第四行: 公司代字 (Trade name) ((Note: SL TYPE:No marking for TC code))

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備注 Note :

1. 溫度特性標印方法(Temperature characteristic marking code):

TYPE	溫度補償型(Class I)		高誘電率型&半導體系列(Class II& III)					
溫度特性 Temp. char.	SL	NPO	Y5P	Y5U	Y5V	Z5U	Z5V	X5R
標印代碼 Mar. code	NO marking	N	B	Y5U	Y5V	E	F	X5R

2. 容量標示方法 (capacitance marking code) :

標稱容量值 Capacitance	22PF	47PF	100PF	470PF	1000PF	4700PF	10000PF	100000PF
標印代碼 Mar. code	22	47	101	471	102	472	103	104

3. 容量允許差表示方法 (capacitance Tolerance marking code) :

容量許容差(Tolerance)	±0.25PF	±0.5PF	±5%	±10%	±20%	+80%~-20%
標印代碼 Mar. code	C	D	J	K	M	Z

4. 額定電壓標示方法 (Rated voltage marking code) :

額定電壓 Rated voltage	DC16~25V	DC50V	DC100V	DC500V	DC1000V
標印代碼 Mar. code	No marking	—		500V	1KV

5. 特殊要求標印另議 (Please contact us if you have any marking request.)

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四．外觀及電氣特性（Appearance & Electronic Characteristics）

4.1 外觀尺寸檢查（Appearance and dimension）

元件表面清潔，無異物附着，標志清晰，無可見損傷，尺寸符合規定要求（Clean surface, marking shall be legible, no visible damage. Dimension according to ordain requirement）

4.2 靜電容量（Capacitance）

類別（Type）	測量頻率（Frequency）	測量電壓(Test Voltage)	判定標準（Standard）
溫度補償型（Class I T.C Type）	1MHz±20%	1.0±0.2Vrms	在允許的偏差等級範圍內 To be within the specified tolerance.
高誘電率型（Class II Hi-K Type）	1KHz±20%	1.0±0.2Vrms	
半導體型（Class III S.C Type）	1KHz±20%	0.1±0.2Vrms	

4.3 品質因素或損失角（Quality Factor or Dissipation Factor）

類別(Type)	測量頻率（Frequency）	測量電壓(Test Voltage)	判定標準（Standard）
溫度補償型（Class I T.C Type）	1MHz±20%	1.0±0.2Vrms	<30pF Q≥400+20×C (pF) ≥30Pf Q>1000
高誘電率型（Class II Hi-K Type）	1KHz±20%	1.0±0.2Vrms	Z5V Y5V DF≤5.0% Other Char. DF≤2.5%
半導體型（Class III S.C Type）	1KHz±20%	0.1±0.2Vrms	DF≤5.0%

4.4 絕緣阻抗（Insulation Resistance）

額定電壓 （Rated Voltage）	測量電壓 （Test Voltage）	測試時間 （Test Time）	充放電流(charge and discharge current)	判定標準（Standard）
<500V	T.V=Rate Voltage	60±3s	50mA max	Class I:10GΩ min.
≥500V	TV=500V			Class II:C<0.02uF 10GΩmin. C≥0.02uF 7.5GΩmin. ClassIII:50~100v 1000MΩmin.

4.5 耐壓(Dielectric Withstand Voltage)

類別(Type)	額定電壓 (Rated Voltage)	測試電壓 (Test Voltage)	測試時間 (Test Time)	充放電流(charge and discharge current)	判定標準(Standard)
端子間 (Between Lead Wires)	<1.0KV	2.5×R.V	1~5sec	50mA max	no breakdown
	=1.0KV	2.0×R.V			

4.6 測試環境（The test environment）

除非另有說明，測試應在下列條件下完成（ Unless otherwise specified, test and measurement shall be made at the standard conditions）

溫度（Temperature）	相對濕度(Humidity)	標準气压（atmospheric pressure）
15 ~ 35℃	45 ~ 85%	86 ~ 106kPa

當測試結果有爭議時，仲裁標況為：（If the validity of measurement value determined under the standard condition is questioned or if there occurs a special need of evaluating the test results, capacitors shall be tested and measured at the determinant ambient conditions:

溫度（Temperature）	相對濕度(Humidity)	標準气压（Atmospheric pressure）
25±1℃	48 ~ 52%	86 ~ 106kPa

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五. 信賴性試驗(Reliability Test)

5.1 端子強度 – 抗拉強度(Terminal Strength—Tensile Strength)

測試條件(Test condition)	判定標準(Standard)								
固定待測電容器本體,在引線垂直方向施加標準 (參照下表) 拉力,持續 10+1 秒。 (The detected the capacitor body, applying the standard in the lead in vertical direction (refer to the table below) rally, lasts 10+1 seconds .)	端子無損傷或斷裂。 Termination not to be broken or loosened.								
<table border="1"> <thead> <tr> <th>標稱線徑 Diameter of wire (mm)</th><th>拉力(kg)</th></tr> </thead> <tbody> <tr> <td>$0.35 < d \leq 0.50$</td><td>0.50</td></tr> <tr> <td>$0.50 < d \leq 0.80$</td><td>1.00</td></tr> <tr> <td>$0.80 < d \leq 1.25$</td><td>2.00</td></tr> </tbody> </table>	標稱線徑 Diameter of wire (mm)	拉力(kg)	$0.35 < d \leq 0.50$	0.50	$0.50 < d \leq 0.80$	1.00	$0.80 < d \leq 1.25$	2.00	
標稱線徑 Diameter of wire (mm)	拉力(kg)								
$0.35 < d \leq 0.50$	0.50								
$0.50 < d \leq 0.80$	1.00								
$0.80 < d \leq 1.25$	2.00								

5.2 端子強度 – 抗彎折強度(Terminal Strength—Bending Strength)

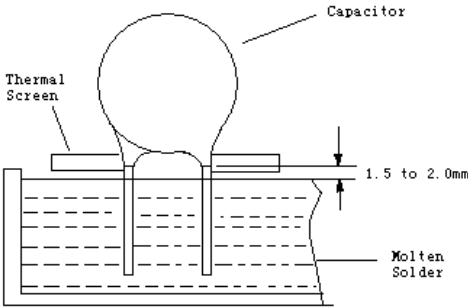
測試條件(Test condition)	判定標準(Standard)								
在引線端施加標準之接拉力 (參照下表) ,朝一方向 做 90°角彎折後回到原點,再向另一方向做 90°角 彎折並再折回原點,每個彎折時間約 2~3 秒,共做 兩個循環。 (Applying the standard ground pull in terminal (see table below), back toward a direction 90 ° angle bending, and then to the other direction 90 ° angle bending and then returning to the origin, each bend time of about 2 ~ 3 seconds, make a total of two cycle.)	端子無損傷或斷裂。 Termination not to be broken or loosened.								
<table border="1"> <thead> <tr> <th>標稱線徑 Diameter of wire (mm)</th><th>拉力 (kg)</th></tr> </thead> <tbody> <tr> <td>$0.35 < d \leq 0.50$</td><td>0.25</td></tr> <tr> <td>$0.50 < d \leq 0.80$</td><td>0.50</td></tr> <tr> <td>$0.80 < d \leq 1.25$</td><td>1.00</td></tr> </tbody> </table>	標稱線徑 Diameter of wire (mm)	拉力 (kg)	$0.35 < d \leq 0.50$	0.25	$0.50 < d \leq 0.80$	0.50	$0.80 < d \leq 1.25$	1.00	
標稱線徑 Diameter of wire (mm)	拉力 (kg)								
$0.35 < d \leq 0.50$	0.25								
$0.50 < d \leq 0.80$	0.50								
$0.80 < d \leq 1.25$	1.00								

5.3 鉅錫附著性(Solder Ability)

測試條件(Test condition)	判定標準(Standard)
鉅錫溫度(Solder temp.) : $245 \pm 5^{\circ}\text{C}$ 鉅錫時間(Solder time) : $3 \pm 0.5\text{s}$	焊錫覆蓋面積須達 75 % 以上。 (Lead wire to be soldered up to the dipped end point, with no gap in the axial direction over 75 % of the circumferential direction.)

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5.4 鉅錫耐熱性(Resistance To Soldering Heat)

測試條件(Test condition)	判定標準(Standard)
如圖所示：將引線浸泡在$260\pm5^{\circ}\text{C}$的焊料中，其深度為距端子根部1.5至2.0mm處；焊錫時間：10 ± 1秒 初次測量之前，將電容器存放在$85\pm2^{\circ}\text{C}$條件下1小時。然後，在室內條件下存放24 ± 2小時。 後處理：將電容器在室內條件下存放1至2小時。 Solder temperature $260\pm5^{\circ}\text{C}$ The depth of immersion shall be a position 1.5~2.0mm from the seating plane, using a thermal insulation screen of $1.5\pm0.5\text{mm}$ thickness. solder time $10\pm1\text{s}$ Pre-treatment Capacitor shall be stored at $85\pm2^{\circ}\text{C}$ for 1 hour, then placed at room condition for 24 ± 2 hour before initial measurements . Post-treatment Capacitor shall be stored for 1 to 2 hours at room condition.	外觀(Appearance)：無損傷(No damage) 靜電容量變化率(Change from the value before) $\text{Y5P} \leq \pm 5.0\%$ $\text{X7R} \leq \pm 7.5\%$ $\text{SL/NPO} : \pm 2.5\%$ $\text{Z5U/Y5U} \leq \pm 15\%$ $\text{Z5V/Y5V} \leq \pm 20\%$ 耐壓(Dielectric Withstand Voltage): To satisfy routine test No 4.5 

5.5 溫度特性(Temperature Characteristics)

測試條件(Test condition)	判定標準(Standard)		
以 25°C 為基準溫度，測得最低與最高溫度，加以計算取得。 The change of capacitor should be got from the capacitor at 25°C, After capacitor measured from Min. Temp. to Max. Temp. it should be calculated from the formula below . $\text{NPO/SL: } \text{TC}(\text{PPM}/^{\circ}\text{C}) = [(C2-C1) \cdot 10^6] / [C1(T2-T1)]$ Other: $\text{TC} = (C2-C1) / C1 \times 100\%$ $C1$: Capacitance at standard temperature (25°C). $C2$: Capacitance at each temperature. $T1$: Test temperature (Min. Temp. and Max. Temp.) $T2$: Reference temperature	類型	溫度範圍	容許誤差
	Type	Temp Range	Tempe ature Tolerance
	Z5	$+10 \sim +85^{\circ}\text{C}$	$\text{E} : \pm 4.7\%$ $\text{F} : \pm 7.5\%$
	Y5	$-30 \sim +85^{\circ}\text{C}$	$\text{P} : \pm 10\%$ $\text{R} : \pm 15\%$
	X7	$-55 \sim +125^{\circ}\text{C}$	$\text{U} : +22 \sim -56\%$ $\text{V} : \pm 22 \sim -82\%$
	SL	$+25 \sim +85^{\circ}\text{C}$	$+350 \sim 1000 \text{PPM}/^{\circ}\text{C}$
	NPO	$+25 \sim +85^{\circ}\text{C}$	$\pm 60 \text{PPM}/^{\circ}\text{C}$

5.6 耐濕性試驗(Humidity Test)

測試條件(Test condition)	判定標準(Standard)
预处理(Pre-treatment): Capacitor shall be stored at 125±3℃ for 1 hour, then placed at room condition for 24±2 hour before initial measurements .	外觀(Appearance):No mechanical damage
試驗環境溫度(Ambient temperature) :40+/-2℃	靜電容量變化率(Capacitance change): Y5P :±10 % X7R : ±15 % SL/NPO: ±5 % Z5U/Y5U : ±20 % Y5V/Z5V : ±30 %
試驗環境濕度(Relative humidity) :90~95 % R.H.	品質因素或損失角 (Quality Factor or Dissipation Factor) : Y5P/X7R/Z5U/Y5U :5 % max Y5V/Z5V :7.5 % max NPO/SL: < 10 pF Q ≥ 200+10C(pF) ≥ 10 pF < 30 pF Q ≥ 275+2.5C(pF) ≥ 30 pF Q ≥ 350
試驗時間(Duration) :500+24/-0hrs.	絕緣電阻(I.R.) : 1000MΩmin. Or25/C(uF)MΩ
后处理(Post-treatment): Capacitor shall be stored for 1 to 2 hours at room condition.	耐壓(Dielectric strength) :per routine test item 4.5

5.7 耐濕負荷試驗(Humidity Loading Test)

測試條件(Test condition)	判定標準(Standard)
预处理(Pre-treatment): Capacitor shall be stored at 125±3℃ for 1 hour, then placed at room condition for 24±2 hour before initial measurements .	外觀(Appearance) :No mechanical damage
試驗環境溫度(Ambient temperature) : 40+/-2℃ 試驗環境濕度(Relative humidity) :90～95 % R.H. 負荷電壓>Loading voltage) :Rated voltage	靜電容量變化率(Capacitance change) : Y5P :±10 % X7R :±15 % SL/NPO: ±7.5 % Z5U/Y5U :±20 % Y5V/Z5V :30 %
試驗時間(Duration):500+24/-0hrs.	品質因素或損失角 (Quality Factor or Dissipation Factor) Y5P/X7R/Z5U/Y5U: 5 % max Y5V/Z5V : 7.5 % max
后处理(Post-treatment): Capacitor shall be stored for 1 to 2 hours at room condition.	NPO/SL: < 10 pF Q ≥ 200+10C(pF) ≥ 10 pF < 30 pF Q ≥ 275+2.5C(pF) ≥ 30 pF Q ≥ 350
	絕緣電阻(I.R.) :500MΩ min.
	耐壓(Dielectric strength) :per routine test item 4.5

5.8 高溫負荷試驗(High Temperature Load Exposure)

測試條件(Teat condition)	判定標準(Standard)
预处理(Pre-treatment): Capacitor shall be stored at 125±3℃ for 1 hour, then placed at room condition for 24±2 hour before initial measurements . 試驗環境溫度(Ambient temperature) : Maximum Category Temperature 試驗時間(Duration) :1000+48/-0hrs. 負荷電壓>Loading voltage):Twice the rated voltage 后处理(Post-treatment): Capacitor shall be stored for 1 to 2 hours at room condition.	外觀(Appearence) :No mechanical damage
	靜電容量變化率(Capacitance change): Y5P :±10% X7R : ±15% SL/NPO: ±3.0% Z5U/Y5U : ±20% Y5V/Z5V : ±30%
	品質因素或損失角（Quality Factor or Dissipation Factor） Y5P/X7R/Z5U/Y5U : 5%max Y5V/Z5V : 7.5max NPO/SL: < 10 pF Q ≥ 200+10C(pF) ≧ 10 pF < 30 pF Q ≥ 275+2.5C(pF) ≧ 30 pF Q ≥ 350
	絕緣阻抗(Insulation resistance) :IR ≥ 2000MΩ or 25/C MΩ(uF)
	耐壓(Dielectric strength) :per routine test item 4.5

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5.9 振動實驗 (Vibration Resistance)

試驗方法 (Testing Method)	判定標準(Standard)
將電容器導線焊穩和調整振動頻率為 10-55Hz 總振幅為 1.5mm,振動從 10Hz 到 55Hz,然後再回到 10,大約一分鐘.(The capacitor should be soldered to the supporting lead wire and vibrated at a frequency range of 10 to55Hz,15mm In total amplitude, with about a 1 minute rate of vibration charge from 10Hz to 55Hz and back to 10Hz) 總時間六個小時,每兩個小時在相互垂直方向來回三次 (Apply for a total of 6 hrs,2hrs each In3 mutually perpendicular directions.)	外觀(Appearance):沒有可見損傷(No marked defect)
	靜電容量變化率(Capacitance change): Conform to the specification
	DF 值(DF value) : Conform to the specification
	絕緣阻抗(Insulation resistance) : Conform to the specification
	耐壓(Dielectric strength) :per routine test item 4.5

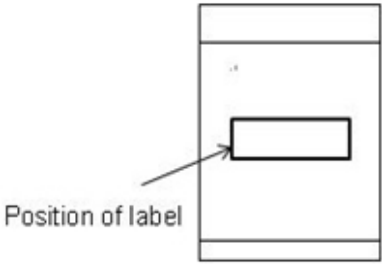
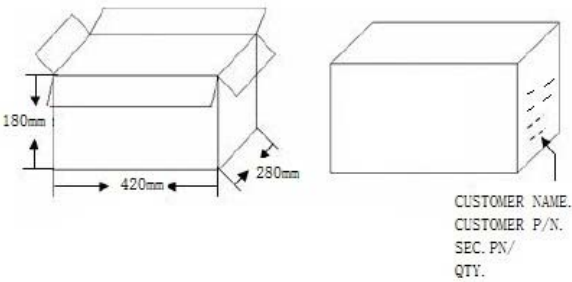
5.10 冷熱衝擊(Thermal Shock Test)

測試條件(Test condition)			判定標準(Standard)																
電容器應承受 5 次溫度循環測試, 下表 1~4 為一個循環, The capacitor should be subjected to 5 temperature cycles.1 ~ 4 for a cycle <Temperature cycle> <table><tr><th>序號Step</th><th>溫度Temperature(℃)</th><th>時間Time</th></tr><tr><td>1</td><td>-40±3</td><td>30min</td></tr><tr><td>2</td><td>Room Temp.</td><td><5min</td></tr><tr><td>3</td><td>125±3</td><td>30min</td></tr><tr><td>4</td><td>Room Temp.</td><td><5min</td></tr></table> Remove and let sit 24±2 hour at room temperature.			序號Step	溫度Temperature(℃)	時間Time	1	-40±3	30min	2	Room Temp.	<5min	3	125±3	30min	4	Room Temp.	<5min	外觀(Appearance):No mechanical damage	
			序號Step	溫度Temperature(℃)	時間Time														
			1	-40±3	30min														
			2	Room Temp.	<5min														
			3	125±3	30min														
4	Room Temp.	<5min																	
靜電容量變化率(Capacitance change):																			
Y5P :±10 % X7R : ±15 % SL/NPO: ±7.5 %																			
Z5U /Y5U: ±20 % Y5V/Z5V : ±30 %																			
品質因素或損失角 (Quality Factor or Dissipation Factor)																			
Y5P/X7R/Z5U/Y5U : 5 % max Y5V/Z5V :7.5 % max																			
NPO/SL: <10 pF																			

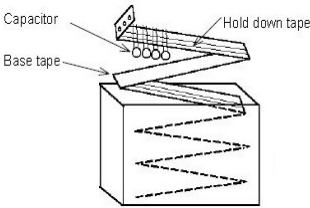
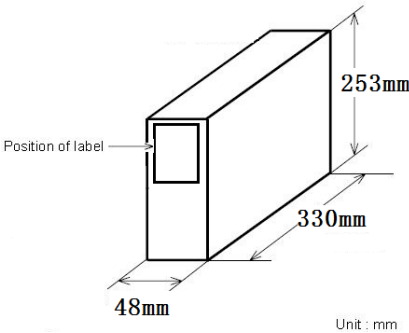
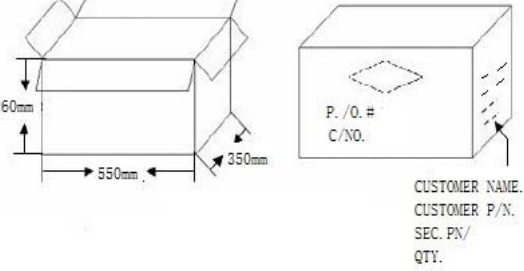
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六、包裝說明（packing description）：

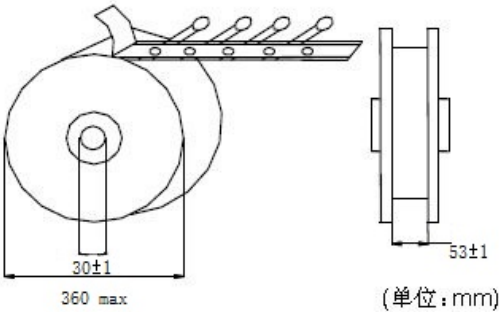
6.1 散裝包裝（Bulk）：

PE 袋（PE BAG）	外箱（OUT-BOX）
 Position of label	
*****	裝 20 袋（20 bags）

6.2 編帶盒裝(Ammo)：

內箱說明（IN-BOX state）	內箱（IN-BOX）	外箱（OUT-BOX）
	 Unit: mm	
***	***	每外箱裝 10 個內箱（OUT-BOX=10*IN-BOX）

6.3 卷軸包裝(Reel)：



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6.4 包裝數量 (Packing quantity) : 客戶有要求時依客戶要求 (Or according to customer's requirement)

6.4.1 散裝包裝 (Bulk)

外徑 Disc diameter (D)	包裝數量 (package quantity)
$D \leq 8 \text{ mm}$	1000pcs
$8 \text{ mm} < D < 14 \text{ mm}$	500pcs
$14 \text{ mm} \leq D$	250pcs

6.4.2 編帶盒裝&卷裝(Ammo&Reel)

額定電壓 (Rated Voltage)	包裝數量 (package quantity)
DC1KV	2000pcs
DC2KV OR DC3KV	1500pcs

6.5 標籤的內容: The content of the label

		5			
V/N:1					
					
C/N:2					
					
P/N:3		Qty:6			
					
L/N:4		D/C:7			
L:8					
SUCCESS ELECTRONICS CO., LTD MADE IN CHINA TS16949/ISO9001/ISO14001/OHSAS18001					
					
					

6.6 製造國 country of origin: Huizhou , China.

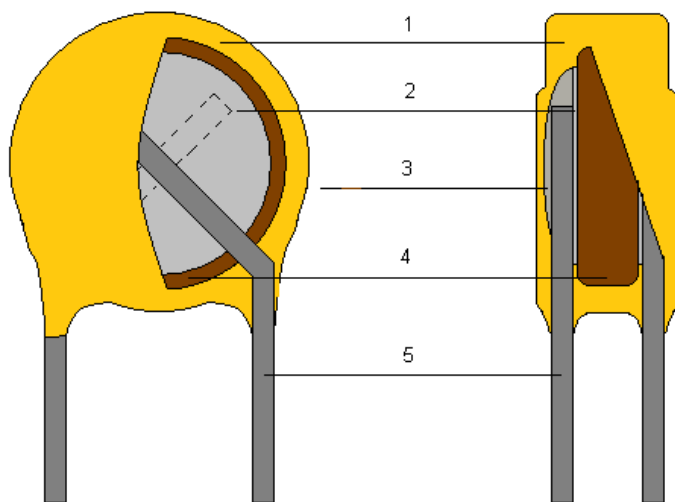
6.7 生產工場production factory

中國廣東省惠州市仲愷高新區潼橋鎮潼橋工業基地新科大道

New tech blvd , Tongqiao industrial Base , Tongqiao Town , Zhongkaigaoxin Dist ,Huizhou City ,Guangdong province , China .

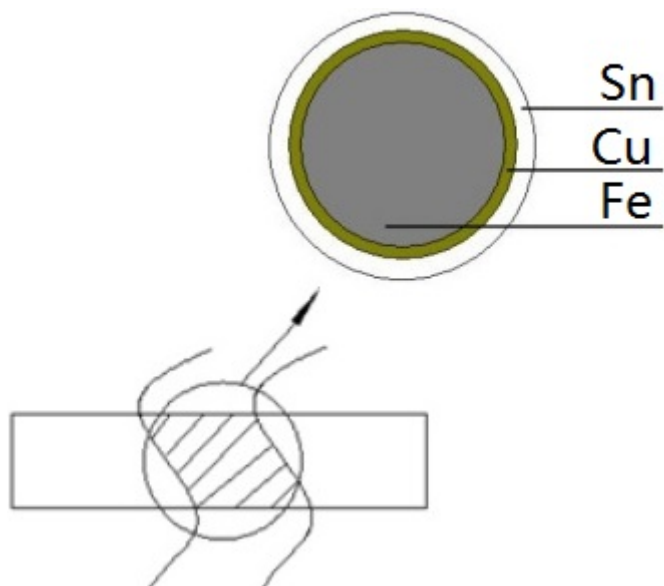
	成功工業(惠州)有限公司 SUCCESS ELECTRONICS CO., LTD.	FILE NO.	QC-T4-06
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七. 結構說明(Product structure)



- 1、包封層(Coating): 酚醛樹脂(Phenolic resin)
- 2、電極(Electrode): 銀(Silver)
- 3、焊料 (Solder): 錫(Alloy Tin)
- 4、介質(Dielectric): 陶瓷(Ceramic)
- 5、引線(Lead Wire): 鍍錫銅包鋼線或銅線(CP)

鍍錫銅包鋼線成份結構圖(Constituent structure chart of lead)

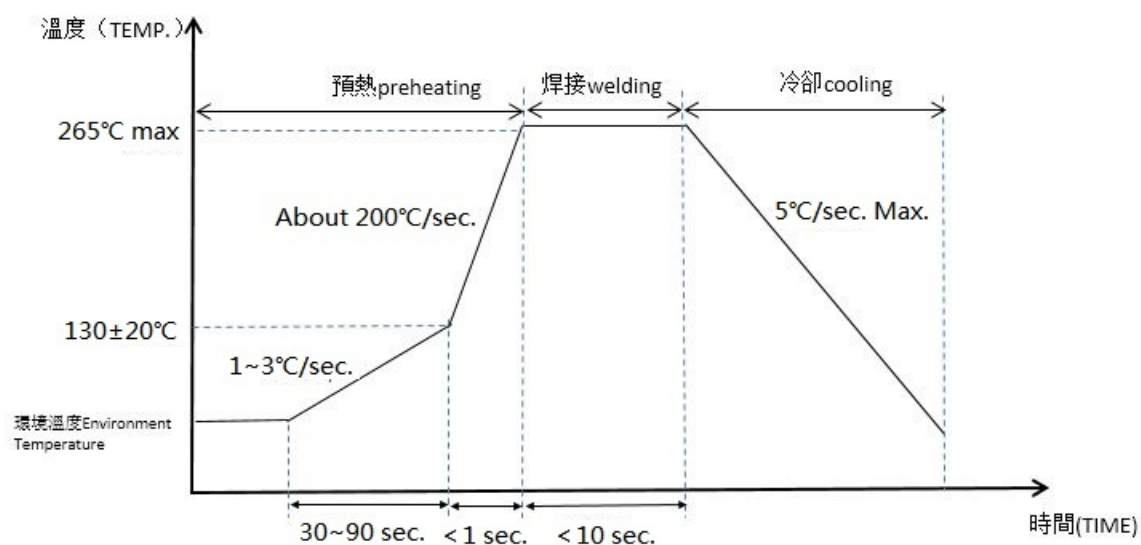




八・焊接說明Welding according to the instruction

8.1建議波峰焊接條件(Wave soldering condition)：

焊接溫度曲線 (Welding temperature curve)



8.2 烙鐵焊接條件(Soldering iron welding)：

烙鐵頭溫度(Solder iron temperature)	400°C max
焊接時間(Welding time)	3.5sec max
烙鐵功率 Soldering iron wattage	50W max.

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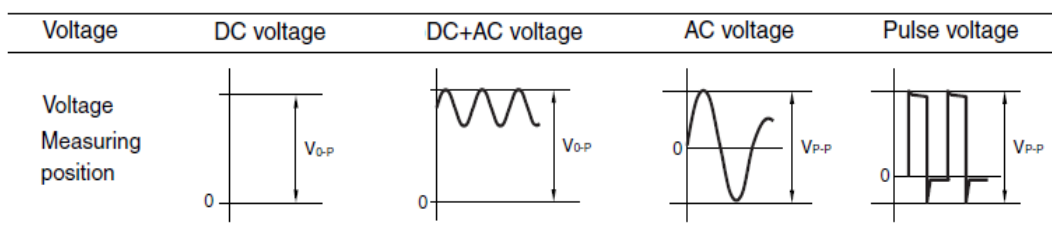
九. 注意事項 HANDLING PRECAUTIONS FOR CERAMIC CAPACITORS

9.1 使用電壓 (Operating voltage)

使用電容器時，端子間施加的電壓應該低於額定電壓。直流電壓上疊加交流電壓時，峰值電壓應該低於額定電壓。用交流電壓或脈衝電壓時，峰電壓也應該低於額定電壓。另外，確認使用的電源設備是不是有可能印加異常電壓（浪涌電壓，靜電，開關突峰電壓），如果產生則異常電壓也應該低於額定電壓（如下圖示）。交流一次側回路時，用于防止雜波的電容器其交流耐壓試驗的實驗條件不能超過規定的條件（電壓、時間、波形）。

Use within the rated voltage of capacitor between terminals. For DC rated voltage application, you should control the peak voltage (V_{o-p}) under the rated voltage in case the AC voltage is superimposed on the DC voltage. Use within the rate voltage includes peak voltage (V_{p-p}) when AC voltage or impulse voltage applied in a circuit. Confirm irregular voltage (surge voltage, static electricity, switching noise, etc) occurs in the equipment used, and use within the rated voltage containing the irregular voltage.

When the capacitor is used as a noise suppressor in the AC primary circuit, the voltage proof test should be within the specified conditions (voltage, time, wave form, etc).



9.2 使用溫度(Temperature)

使用時，電容器的表面溫度，包括其自身發熱，必須低於規格書規定的最高使用溫度。

Be sure to use only those operating temperature described in our catalogue or specification. Keep the surface temperature under the maximum temperature, which includes the maximum self-heat temperature.

9.3 自身發熱(Self-exothermal)

在環境溫度 25℃，無冷卻風扇工作的狀態下，自身發熱（電容器的表面溫度與環境溫度的差值）必須在 20℃ 以下。在連續印加交流電壓或脈衝電壓，電流較大的回路中，更要特別的注意，在連續印加高頻電壓，高頻脈衝電壓的回路中，雖然在額定電壓以下，也有可能影響到信賴性，所以使用時要考慮減輕負荷及自身發熱。

Self-exothermal temperature should be within 20℃ on the condition of atmosphere temperature 25℃ without the influence of wind such as the cooling fan. Be sure to use a capacitor in a circuit of current increase by AC voltage or pulse voltage applied.

When high frequency voltage or impulse voltage applied in a circuit, reliability should be influenced. Take into considerations the load reduction and self-exothermal temperature, even if voltage should be within the rated voltage.

9.4 電容器的靜電容量變化(Capacitance change of capacitors)

由於使用溫度和施加電壓的不同，電容器的容量有可能發生變化；而且，電容器在放置期間，靜電容量也有可能減少，也就是老化特性。

For some of the capacitors, capacitance value may change considerably in the temperature range, or by applied DC voltage. And capacitor has aging characteristic (capacitance decreases by keeping as it is).

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9.5 電容器的振動(Vibration of capacitors)

電容器（種類Ⅱ）在交流回路或者脈衝回路中使用時，由於特定的頻率，電容器本身可能會發生振動，或者發出聲音、噪音。所以在使用之前，請確認能否符合貴司要求。

When the capacitor (class 2) is used in the AC circuit, or pulse circuit, the capacitor might vibrate or noise might occur in the specified frequency. Be sure to confirm the conditions before using the capacitor.

9.6 電容器的使用及保存（保管）(Usage of capacitance and storage)

請不要再以下地方使用電容器(Please do not use capacitors in the following locations.)

- ★ 日光直射到的地方（Places where can be shined by direct sunlight）
- ★ 直接接觸到水及鹽水的地方（Places where can direct access with water or salt water）
- ★ 凝結露水的地方（Places of having dew condensation）
- ★ 有腐蝕性氣體的地方，如硫化氫、亞硫酸等 Places of having corrosive gases, Such as hydrogen sulfide, sulfuric acid, etc.)
- ★ 電容器請不要保存在高溫高濕的環境中，而應保存在室溫-10~40℃，濕度75%RH以內的環境中，並在納入後6個月內使用。Capacitors should not be kept in the environment of high temperature and high humidity, and should be kept in the environment where the room temperature between -10 ~ 40 ℃, and the humidity between 75%. Besides, the capacitors should be used within 6 months.
- ★ 電烙鐵的烙鐵頭不要直接接觸到電容器引腳以外的部位。

Electric soldering iron tip should not directly contact the areas except capacitor lead.

9.7 安裝上的注意點(Inserting precautions)

用自動插件機把電容器插入到基板上時，要確認並管理插件機的安裝條件（推動器壓力，剪切部的調整等），製品拔取，導線剪切時，不要對製品施加過度的衝擊和壓力。電容器的端子間隔要與基板孔的間隔一致。（外力改變導線間距的時候，有可能會損壞導線根部的塗料，如果發生此類的損壞，就有可能導致信賴性下降。）

When inserting capacitors into the PC board by automatic insertion machine, confirm the conditions (such as pressure of pusher, adjustment of clinching portion) and minimize the impact force by chucking the body, or clinching the lead terminals. Distances between the hole position onto a PC board should be equal to the pitch of capacitors. When stretching the lead terminal, any force may load the bottom of the capacitor body and result in damage to the insulation coating.

Severe damages may cause poor reliability.

9.8 焊錫(Solder)

- ★焊錫條件（預熱的溫度及時間，焊錫的溫度及時間）在規格書規定範圍內。

Soldering conditions, such as pre-heat temperature, soldering temperature, and soldering time, should be followed by the descriptions in our catalogue or specification.

- ★修正作業的時候，要進行充分預熱，並進行溫度管理。

When reworking for soldering, sufficient pre-heating and temperature control should be used.