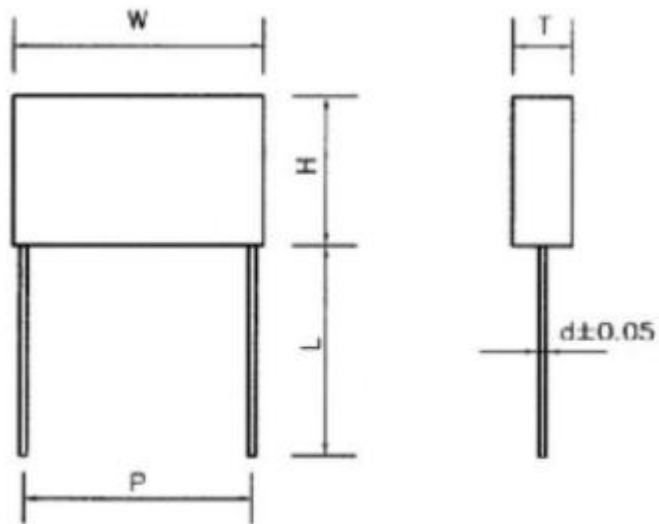


1.规格尺寸

Specification & Dimensions



品名规格 Specification	外形尺寸（单位：mm）Dimensions and Drawings						备注
	$W \pm 0.5$	$H \pm 0.5$	$T \pm 0.5$	$P \pm 1$	$L_{min} \pm 1$	$d \pm 0.05$	
334K/310VAC	18	14.5	8.5	15	20	0.8	
104K/310VAC	13	12	6	10	20	0.6	

□□ □□□ □ □□ □□□□ □ □□ □□

1 类别 2 容量 3 误差 4 电压 5 盒子 6 脚型 7 脚距 8 脚长

2.料号说明:

例: 334K/310V D4 料号: JX334K2FD4XXS1520

2-1 类别 tape

代号 Code	JD	JY	JX	JR	J1	J2	J3
内容	AC 安规陶 瓷 Y1	AC 安规陶 瓷 Y2	AC 安规薄 膜 X2	压敏电阻	温度补偿 型 I III	高介电常 数型 II	半导体型 III

2-2 容量 Capacitance (单位: PF)

代号 Code	0R5	010	100	101	102	222	103	104	224	105	225
内容	0.5PF	1PF	10PF	100PF	1000PF	2200PF	10000PF	100NF	220NF	1UF	2.2UF

1000PF=1NF 1000NF=1UF

2-3 误差 Tolerance

代号 Code	D	J	K	L	M	N	P	Z
内容	0.5P	±5%	±10%	±15%	±20%	±30%	+100%- 20%	+20%- 80%

2-4 电压 Rated Voltage

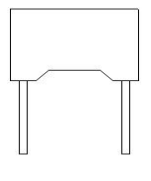
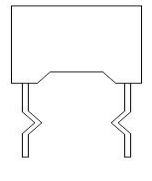
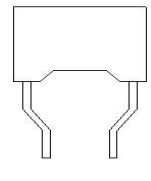
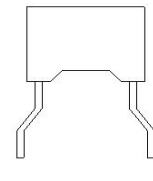
代号 Code	2G	2H	2E	2F	2J	3H	3J	3K	4A
电压	400VAC	500VAC	275V	310V	630V	5KV	6KV	8KV	10KV

2-5 盒子尺寸代号 BOX TYPE

Code	B3LT	C2	C3	C4
Size(mm)	10(W)×4(T)×9(H)	12(W)×5(T)×11(H)	13(W)×6(T)×12(H)	13(W)×7(T)×13(H)
Code	D1	D2	D3	D4
Size(mm)	18(W)×5(T)×11(H)	18(W)×6(T)×12(H)	18(W)×7.5(T)×13.5(H)	18(W)×8.5(T)×14.5(H)
Code	B7LT	E2	E3	E4
Size(mm)	10(W)×5(T)×10(H)	26.5(W)×7(T)×16.5(H)	26.5(W)×8.5(T)×17(H)	26.5(W)×10(T)×19(H)
Code	F1	F2	C5-1	
Size(mm)	31.4(W)×11(T)×20(H)	31.5(W)×13(T)×22(H)	13(W)×8(T)×14(H)	

注：四码格式，不足的用 x 代替。

2-6 脚型 mm Lead forming

Code	S	I	U	W	T	S
Lead Forming					TAPING	Customer Special Require



2-7 脚距 mm Lead Pitch

Code	08	10	15	23	28	31
Pitch(mm)	7.5mm	10mm	15mm	22.5mm	27.5mm	31mm



2-8 脚长 Lead length

Code	04	08	10	15	20	30	40
Length (mm)	4mm	8mm	10mm	15mm	20mm	30mm	40mm

3.印字 Marking

 JEC	商标和公司名称 Trademark or Company name		
0.33UF	静电容量 CAPACITANCE		
K	允许误差 CAPACITANCE TOLERANCE		
275v,310v	额定电压 RATED VOLTAGE		
X2	产品类别 BOX-TYPE METALLIZED POLYPROPYLENE FILM		
40/110/56/B	气候类别 Climatic Category Working Lowest Temperature (- 40°C) Working highestTemperature(+110°C) Working Times (56days)	Class: B	阻燃等级 Passive Flammabilit
		IEC 60384-14	产品认证标准 Approval standard

4.认证 Approvals

认证国家 Country	认证标志 Approvals mark	认证标准 Approval standard	证书号码 Recognixed No.	额定电压 Rated Voltage
中国安规认证		IEC 60384-14	CQC16001151103	275VAC
美国安规认证		UL 60384-14	E356696	310VAC 305VAC 300VAC 275VAC 250VAC
欧盟安规认证 德国安规认证		IEC 60384-14	40044985	

5.Dimensions:

CAPACITOR BODY SIZE (Unit:mm)							
CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
222K	310VAC	C2-1	13.0	11.0	5.0	10	JX222K2FC2X1S1020
332K	310VAC	C2-1	13.0	11.0	5.0	10	JX332K2FC2X1S1020
472K	310VAC	C2-1	13.0	11.0	5.0	10	JX472K2FC2X1S1020
562K	310VAC	C2-1	13.0	11.0	5.0	10	JX562K2FC2X1S1020
682K	310VAC	C2-1	13.0	11.0	5.0	10	JX682K2FC2X1S1020
103K	310VAC	B3LT	10.0	9.0	4.0	7.5	JX103K2FB3LTS0820
103K	310VAC	C2-1	13.0	11.0	5.0	10	JX103K2FC2X1S1020
103K	310VAC	D1	18.0	11.0	5.0	15	JX103K2FD1XXS1520
123K	310VAC	C2-1	13.0	11.0	5.0	10	JX123K2FC2X1S1020
153K	310VAC	C2-1	13.0	11.0	5.0	10	JX153K2FC2X1S1020
223K	310VAC	B3LT	10.0	9.0	4.0	7.5	JX223K2FB3LTS0820
223K	310VAC	B5LT	10.0	11.0	5.0	7.5	JX223K2FB5LTS0820
223K	310VAC	C2-1	13.0	11.0	5.0	10	JX223K2FC2X1S1020
223K	310VAC	D1	18.0	11.0	5.0	15	JX223K2FD1XXS1520
333K	310VAC	B3LT	10.0	9.0	4.0	7.5	JX333K2FB3LTS0820
333K	310VAC	B5LT	10.0	11.0	5.0	7.5	JX333K2FB5LTS0820
333K	310VAC	C2-1	13.0	11.0	5.0	10	JX333K2FC2X1S1020
333K	310VAC	D1	18.0	11.0	5.0	15	JX333K2FD1XXS1520
473K	310VAC	B3LT	10.0	9.0	4.0	7.5	JX473K2FB3LTS0820
473K	310VAC	B5LT	10.0	11.0	5.0	7.5	JX473K2FB5LTS0820
473K	310VAC	C2-1	13.0	11.0	5.0	10	JX473K2FC2X1S1020
473K	310VAC	C3	13.0	12.0	6.0	10	JX473K2FC3XXS1020
473K	310VAC	D1	18.0	11.0	5.0	15	JX473K2FD1XXS1520
563K	310VAC	C2-1	13.0	11.0	5.0	10	JX563K2FC2X1S1020

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CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
683K	310VAC	B5LT	10.0	11.0	5.0	7.5	JX683K2FB5LTS0820
683K	310VAC	C2-1	13.0	11.0	5.0	10	JX683K2FC2X1S1020
683K	310VAC	C3	13.0	12.0	6.0	10	JX683K2FC3XXS1020
683K	310VAC	D1	18.0	11.0	5.0	15	JX683K2FD1XXS1520
823K	310VAC	C2-1	13.0	11.0	5.0	10	JX823K2FDC2X1S1020
823K	310VAC	D1	18.0	11.0	5.0	15	JX823K2FD1XXS1520
104K	310VAC	B5LT	10.0	11.0	5.0	7.5	JX104K2FB5LTS0820
104K	310VAC	C2-1	13.0	11.0	5.0	10	JX104K2FC2X1S1020
104K	310VAC	C3	13.0	12.0	6.0	10	JX104K2FC3XXS1020
104K	310VAC	D1	18.0	11.0	5.0	15	JX104K2FD1XXS1520
104K	310VAC	D2	18.0	12.0	6.0	15	JX104K2FD2XXS1520
154K	310VAC	C3	13.0	12.0	6.0	10	JX154K2FC3XXS1020
154K	310VAC	C4LT	13.0	13.0	7.0	10	JX154K2FC4LTS1020
154K	310VAC	D1	18.0	11.0	5.0	15	JX154K2FD1XXS1520
154K	310VAC	D2	18.0	12.0	6.0	15	JX154K2FD2XXS1520
224K	310VAC	C3	13.0	12.0	6.0	10	JX224K2FC3XXS1020
224K	310VAC	C5LT	13.0	15.0	8.0	10	JX224K2FC5LTS1020
224K	310VAC	D2	18.0	12.0	6.0	15	JX224K2FD2XXS1520
224K	310VAC	D2-7	18.0	13.0	6.3	15	JX224K2FD2X7S1520
224K	310VAC	D3	18.0	13.5	7.5	15	JX224K2FD3XXS1520
224K	310VAC	D4	18.0	14.5	8.5	15	JX224K2FD4XXS1520
224K	310VAC	E2	26.5	16.5	7.0	22.5	JX224K2FE2XXS2320
274K	310VAC	E2	26.5	16.5	7.0	22.5	JX274K2FE2XXS2320
334K	310VAC	C5LT	13.0	15.0	8.0	10	JX334K2FC5LTS1020
334K	310VAC	C9	12.5	16.5	10.5	10	JX334K2FC9XXS1020

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CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
334K	310VAC	D2-7	18.0	13.0	6.3	15	JX334K2FD2X7S1520
334K	310VAC	D3	18.0	13.5	7.5	15	JX334K2FD3XXS1520
334K	310VAC	D4	18.0	14.5	8.5	15	JX334K2FD4XXS1520
334K	310VAC	D5	18.0	16.0	10.0	15	JX334K2FD5XXS1520
334K	310VAC	E2	26.5	16.5	7.0	22.5	JX334K2FE2XXS2320
334K	310VAC	E3	26.5	17.0	8.5	22.5	JX334K2FE3XXS2320
394K	310VAC	D4	18.0	14.5	8.5	15	JX394K2FD4XXS1520
474K	310VAC	C5	13.0	15.0	8.0	10.0	JX474K2FC5XXS1020
474K	310VAC	C9	12.5	16.5	10.5	10	JX474K2FC9XXS1020
474K	310VAC	D3	18.0	13.5	7.5	15	JX474K2FD3XXS1520
474K	310VAC	D4	18.0	14.5	8.5	15	JX474K2FD4XXS1520
474K	310VAC	D5	18.0	16.0	10.0	15	JX474K2FD5XXS1520
474K	310VAC	D7	18.0	19.0	11.0	15	JX474K2FD7XXS1520
474K	310VAC	E2	26.5	16.5	7.0	22.5	JX474K2FE2XXS2320
474K	310VAC	E3	26.5	17.0	8.5	22.5	JX474K2FE3XXS2320
474K	310VAC	E4	26.5	19.0	10.0	22.5	JX474K2FE4XXS2320
564K	310VAC	D5	18.0	16.0	10.0	15	JX564K2FD5XXS1520
564K	310VAC	D7	18.0	19.0	11.0	15	JX564K2FD7XXS1520
564K	310VAC	E3	26.5	17.0	8.5	22.5	JX564K2FE3XXS2320
564K	310VAC	E4	26.5	19.0	10.0	22.5	JX564K2FE4XXS2320
684K	310VAC	D4	18.0	14.5	8.5	15	JX684K2FD4XXS1520
684K	310VAC	D5	18.0	16.0	10.0	15	JX684K2FD5XXS1520
684K	310VAC	D7	18.0	19.0	11.0	15	JX684K2FD7XXS1520
684K	310VAC	E2	26.5	16.5	7.0	22.5	JX684K2FE2XXS2320
684K	310VAC	E3	26.5	17.0	8.5	22.5	JX684K2FE3XXS2320
684K	310VAC	E4	26.5	19.0	10.0	22.5	JX684K2FE4XXS2320
684K	310VAC	F1	31.4	19.5	10.8	27.5	JX684K2FF1XXS2820
824K	310VAC	D7	18.0	19.0	10.8	15	JX824K2FD7XXS1520
824K	310VAC	E4	26.5	19.0	10.0	22.5	JX824K2FE4XXS2320
824K	310VAC	E3	26.5	17.0	8.5	22.5	JX824K2FE3XXS2320

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CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
105K	310VAC	D7	18.0	19.0	10.8	15	JX105K2FD7XXS1520
105K	310VAC	D8	17.3	19.2	11.2	15	JX105K2FD8XXS1520
105K	310VAC	E3	26.5	17.0	8.5	22.5	JX105K2FE3XXS2320
105K	310VAC	E4	26.5	19.0	10.0	22.5	JX105K2FE4XXS2320
105K	310VAC	E6	26.0	21.5	12.0	22.5	JX105K2FE6XXS2320
105K	310VAC	F1	31.4	19.5	10.8	27.5	JX105K2FF1XXS2820
105K	310VAC	F2	31.5	21.6	13.0	27.5	JX105K2FF2XXS2820
125K	310VAC	E4	26.5	19.0	10.8	22.5	JX125K2FE4XXS2320
125K	310VAC	E6	26.0	21.5	12.0	22.5	JX125K2FE6XXS2320
125K	310VAC	F1	31.4	19.5	10.8	27.5	JX125K2FF1XXS2820
125K	310VAC	F2	31.5	21.6	13.0	27.5	JX125K2FF2XXS2820
155K	310VAC	E5	26.0	20.0	11.0	22.5	JX155K2FE5XXS2320
155K	310VAC	E6	26.0	21.5	12.0	22.5	JX155K2FE6XXS2320
155K	310VAC	F1	31.0	20.0	11.0	27.5	JX155K2FF1XXS2820
155K	310VAC	F2	31.5	21.6	13.0	27.5	JX155K2FF2XXS2820
205K	310VAC	E6	26.0	21.5	12.0	22.5	JX205K2FE6XXS2320
225K	310VAC	E7	26.5	23.0	13.0	22.5	JX225K2FE7XXS2320
225K	310VAC	F2	31.5	21.6	13.0	27.5	JX225K2FF2XXS2820
225K	310VAC	F13	32.0	28.0	18.0	27.5	JX225K2FF13XS2820

CAPACITOR BODY SIZE (Unit:mm)							
CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
102K	275VAC	C2-1	13.0	11.0	5.0	10	JX102K2EC2X1S1020
103K	275VAC	B3LT	10.0	9.0	4.0	7.5	JX103K2EB3LTS0820
103K	275VAC	C2-1	13.0	11.0	5.0	10	JX103K2EC2X1S1020
103K	275VAC	D1	18.0	11.0	5.0	15	JX103K2ED1XXS1520
223K	275VAC	C2-1	13.0	11.0	5.0	10	JX223K2EC2X1S1020
223K	275VAC	D1	18.0	11.0	5.0	15	JX223K2ED1XXS1520
333K	275VAC	B5LT	10.0	11.0	5.0	7.5	JX333K2EB5LTS0820
333K	275VAC	C2-1	13.0	11.0	5.0	10	JX333K2EC2X1S1020
333K	275VAC	D1	18.0	11.0	5.0	15	JX333K2ED1XXS1520
473K	275VAC	B5LT	10.0	11.0	5.0	7.5	JX473K2EB5LTS0820
473K	275VAC	C2-1	13.0	11.0	5.0	10	JX473K2EC2X1S1020
473K	275VAC	C3	13.0	12.0	6.0	10	JX473K2EC3XXS1020
473K	275VAC	D1	18.0	11.0	5.0	15	JX473K2ED1XXS1520
683K	275VAC	C2-1	13.0	11.0	5.0	10	JX683K2EC2X1S1020
683K	275VAC	C3	13.0	12.0	6.0	10	JX683K2EC3XXS1020
683K	275VAC	D1	18.0	11.0	5.0	15	JX683K2ED1XXS1520
104K	275VAC	C2-1	13.0	11.0	5.0	10	JX104K2EC2X1S1020
104K	275VAC	C3	13.0	12.0	6.0	10	JX104K2EC3XXS1020
104K	275VAC	D2	18.0	12.0	6.0	15	JX104K2ED2XXS1520
154K	275VAC	C3	13.0	12.0	6.0	10	JX154K2EC3XXS1020
154K	275VAC	D2	18.0	12.0	6.0	15	JX154K2ED2XXS1520
224K	275VAC	C3	13.0	12.0	6.0	10	JX224K2EC3XXS1020
224K	275VAC	C5LT	13.0	15.0	8.0	10	JX224K2EC5LTS1020
224K	275VAC	D2	18.0	12.0	6.0	15	JX224K2ED2XXS1520
224K	275VAC	D2-7	18.0	13.0	6.3	15	JX224K2ED2X7S1520
224K	275VAC	D3	18.0	13.5	7.5	15	JX224K2ED3XXS1520
224K	275VAC	D4	18.0	14.5	8.4	15	JX224K2ED4XXS1520
224K	275VAC	E2	26.5	16.5	7.0	22.5	JX224K2EE2XXS2320
334K	275VAC	C5-1	13.0	14.0	8.0	10	JX334K2EC5X1S1020

CAPACITOR BODY SIZE (Unit:mm)							
CAP	RV	BOX TYPE	W ±0.5	H ±0.5	T ±0.5	P ±0.5	PART NO
334K	275VAC	D2	18.0	12.0	6.0	15	JX334K2ED2XXS1520
334K	275VAC	D3	18.0	13.5	7.5	15	JX334K2ED3XXS1520
334K	275VAC	D4	18.0	14.5	8.4	15	JX334K2ED4XXS1520
334K	275VAC	D5	18.0	16.0	10.0	15	JX334K2ED5XXS1520
334K	275VAC	E3	26.5	17.0	8.5	22.5	JX334K2EE3XXS2320
474K	275VAC	D3	18.0	13.5	7.5	15	JX474K2ED3XXS1520
474K	275VAC	D4	18.0	14.5	8.4	15	JX474K2ED4XXS1520
474K	275VAC	D5	18.0	16.0	10.0	15	JX474K2ED5XXS1520
474K	275VAC	D7	18.0	19.0	10.8	15	JX474K2ED7XXS1520
474K	275VAC	E3	26.5	17.0	8.5	22.5	JX474K2EE3XXS2320
474K	275VAC	E4	26.5	19.0	10.0	22.5	JX474K2EE4XXS2320
684K	275VAC	D5	18.0	16.0	10.0	15	JX684K2ED5XXS1520
684K	275VAC	D7	18.0	19.0	10.8	15	JX684K2ED7XXS1520
684K	275VAC	E3	26.5	17.0	8.5	22.5	JX684K2EE3XXS2320
684K	275VAC	E4	26.5	19.0	10.0	22.5	JX684K2EE4XXS2320
824K	275VAC	D7	18.0	19.0	10.8	15	JX824K2ED7XXS1520
824K	275VAC	E4	26.5	19.0	10.0	22.5	JX824K2EE4XXS2320
824K	275VAC	F1	31.4	19.5	10.8	27.5	JX824K2EF1XXS2820
105K	275VAC	D8	17.1	19.2	11.2	15	JX105K2ED8XXS1520
105K	275VAC	E3	26.5	17.0	8.5	22.5	JX105K2EE3XXS2320
105K	275VAC	E4	26.5	19.0	10.0	22.5	JX105K2EE4XXS2320
105K	275VAC	E6	26.0	21.5	12.0	22.5	JX105K2EE6XXS2320
105K	275VAC	F1	31.4	19.5	10.8	27.5	JX105K2EF1XXS2820
105K	275VAC	F2	31.5	21.6	13.0	27.5	JX105K2EF2XXS2820
125K	275VAC	F2	31.5	21.6	13.0	27.5	JX125K2EF2XXS2820
155K	275VAC	E6	26.5	21.5	12.0	22.5	JX155K2EE6XXS2320
155K	275VAC	F2	31.5	21.6	13.0	27.5	JX155K2EF2XXS2820

6. 产品介绍

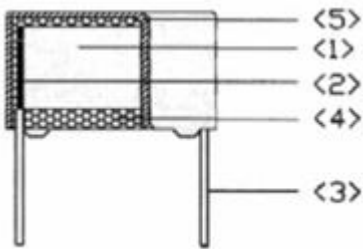
Products Ingroduction

MPX电容是由金属化聚丙烯薄，采用无感结构卷绕而成，引线采用镀锡铜包钢线，外部使用阻燃塑胶外壳及阻燃环氧封装而成。具有良好的自愈功能和优良的阻燃性，符合UL94- V0标准。

MPX are wound with metallized polypropylene film dielectric, Non-inductive construction, tinned copper wire leads, and encapsulated in plastic case with flame retardant epoxy resin sealed. They have excellent features of self-healing and good flame retardant according to UL 94-V0

7. 产品结构和关键材料

Construction and main materials of products



No.	关键材料 Main Materials	材料规格 Specification	备注 Remark
1	金属化聚丙烯薄膜 Metallized polypropylene Film	MPPZAH(5~12um)	
2	锌锡层Zn,Sn line	锌或锌锡合金Zn or Zn and Sn alloy	镀锡层厚度 7um以上
3	导线 Terminal	镀锡铜包钢线(Φ0. 6 or 0. 8mm) CP(tinned copper wire leads)	
4	封装材料 Sealed Material	环氧树脂 Epoxy resin	UL94-V0 UL94-V0
5	塑胶外壳 Plastic Case	PBT	

注：以上材料均符合环保要求

Note: All of the Materials are in compliance with the requirements of ROHS AND REACH.

8. 典型应用

Type application

本产品广泛应用于抑制电磁干扰和电源连接电路中，尤其是适用于使用电容器失效后不会导致触电的危险场合。

The Products Would widely used for the Interference suppressors and across-the-line capacitor applications. Suitable for used in situations where failure of the capacitor will not lead to danger of electric shock.

9.特点

Features

- 9. 1无感结构 Non-induction construction
- 9. 2优良的耐湿性 High moisture-resistance
- 9. 3自愈性 Self-healing property
- 9. 4阻燃性(符合UL94V- 0) Flame retardant type (compliance with UL94V-0)
- 9. 5非常小的损耗 Very small loss
- 9. 6优秀的频率和温度特性 Excellent frequency and temperature characteristics
- 9. 7高绝缘阻值 High insulation resistance

10.电气特性

Electrical specifications

如无其他说明，电气特性请参考 IEC 60384- 14

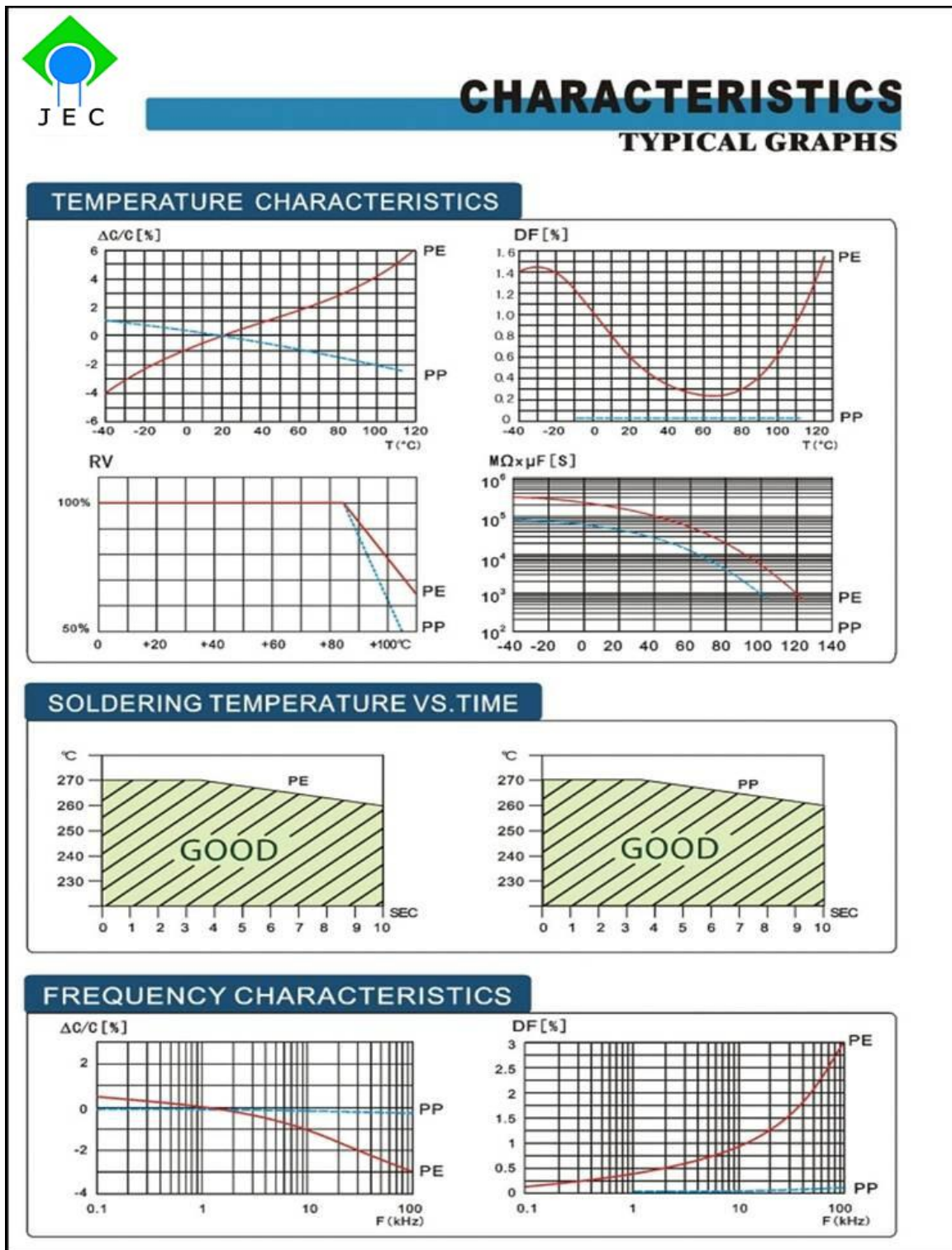
Unless otherwise specified, electric characteristics shall refer to IEC 60384-14

项目 Item	特性要求 Characteristic requirement					测试方法及条件 Test method&Condition
气候类别 Climatic Category	40/ 110/ 56					
阻燃等级 Passive Flammability Class	B					
工作温度 Operating Temperature	- 40°C ~ +110°C					
容量范围 Capacitance Range	0. 0022uF ~ 2. 2uF					1KHz , 1.0Vrms , 20°C
容量偏差 Capacitance Tolerance	±10%(K)					
额定电压 Rated Voltage	250VAC/ 275VAC/ 300VAC/ 305VAC/ 310VAC					
损耗角正切 Dissipation Factor	$C \leq 0.47 \mu F$ $0.47 \mu F < C \leq 1.0 \mu F$ $C > 1.0 \mu F$ 1KHZ 0.10% 0.10% 0.10% 10KHZ 0.20% 0.40% 0.80% 100KHZ 0.60%					1KHz , 1.0Vrms , 20°C
绝缘阻值 Insulation Resistance	$C \leq 0.33 \mu F$ $IR \geq 15000 M\Omega$		$C \geq 0.33 \mu F$ $IR \geq 5000s$ $or \geq 5000 M\Omega \cdot \mu F$			$U_r > 100V$, 100VDC, 60S, 20°C
端子间电压 Withstand voltage Between Terminals	应无永久性击穿或飞弧 No permanent breakdown or flashover					4.3 U_r (d.c) 60s Cut off Current 10mA , , ARC=OFF, Voltage raising time 5~10s, pulse rise $\leq 150v/us$
端子与壳体间耐压 Withstand voltage Between Terminals and Case	应无永久性击穿或飞弧 No permanent breakdown or flashover					2 U_r +1500V(a.c) 60s $\geq 2000V(a.c)$
最大脉冲上升时间 MAX. Pulse rise time (dv/dt)	Lead spacing					
	7.5mm	10mm	15mm	22.5mm	27.5mm	
	600V/us	500V/us	400V/us	200V/us	150V/us	

注：额定电压定义：在工作温度范围内，电容持续运行的可承受电压。
 请不要将电容置于超过额定温度环境中长期工作，会降低使用寿命或发生电击危险。

Note:Rated voltage is defined the voltage which shall be capable of applying to capacitors continuously in the operating temperature range.Please do not place the capacitors in more than the rated operating temperature environment in the long-term work. It can reduces the capacitor's life or cause an electric shock hazard.

11.温度特性
 TEMPERATURE CHARACTERISTICS



12.使用指导

Guide in useage

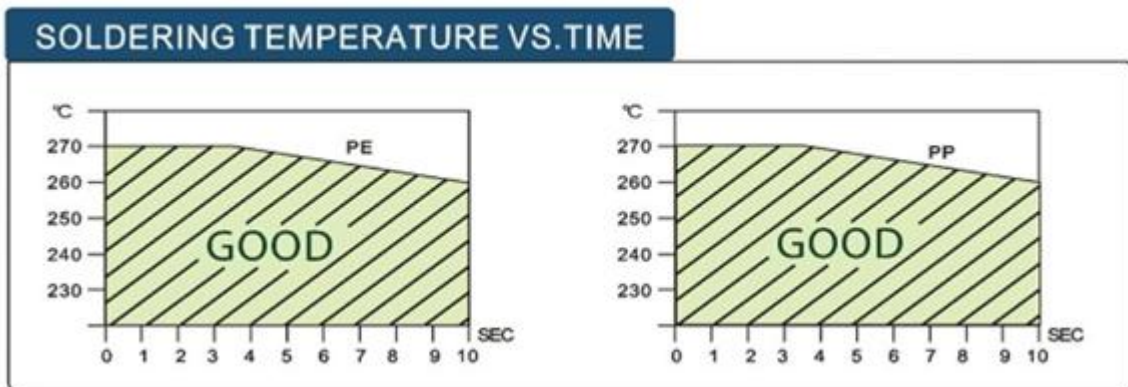
12.1 焊锡

Soldering

当焊接电容器时，焊锡热会通过引线端子和封装层传递到电容素子，因此必须注意高温和长时间焊接引起的电容电气特性衰减或损坏。请确认焊锡在以下温度范围内。

When soldering a capacitor, heat in soldering is conducted to the element of the capacitor from wire lead and an enclosure, and hence it should be noted that soldering under high temperature and long period may cause deterioration of characteristic or breakdown of capacitors.

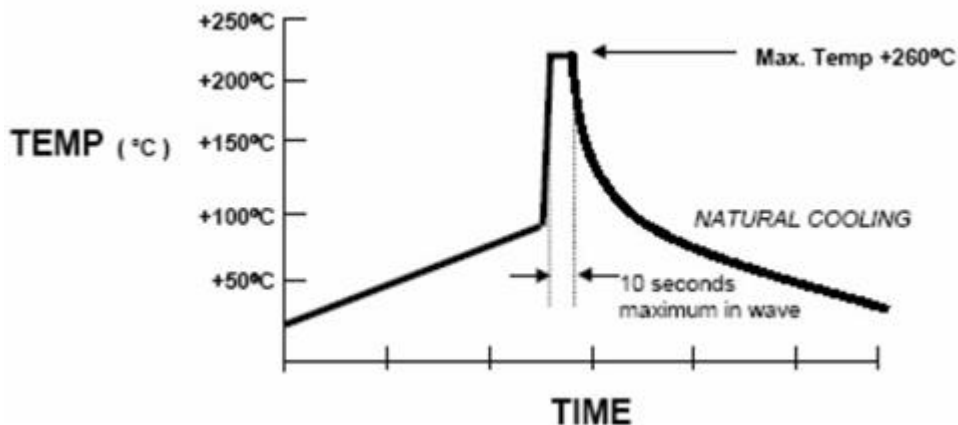
Be sure to solder within the following temperature condition range.



12.2 波峰焊 温度 $260 \pm 5^{\circ}\text{C}$ ，时间 < 10S

Flow / Wave Soldering

PRODUCTS: FILM CAPACITORS (Application of Through-Hole)



12.3 烙铁焊接

Soldering Iron

当使用烙铁焊接时，烙铁尖端温度不得超过 350°C ，焊接时间不超过5秒

When using soldering iron, iron tip temperature less than 350°C , Soldering time within 5 seconds.

13.环保要求

Environment requirement

13.1 符合ROHS要求 Compliance with the requirement of ROHS.

13.2 符合REACH要求 Compliance with the requirement of REACH.

13.3 符合无卤（如要求） Without Halogen(as required).

14.参考标准

Reference standards

GB- T2693- 2001 (IDT I EC 60384- 1- 2008) 电子设备用固定电容器第1部分总规范. (Fixed capacitors for use in electronic equipment –Part 1: Generic specification)

GB- T6346 电子设备用固定电容器第14部分:分规范:抑制电磁干扰和电源网络连接用固定电容器 (Fixed capacitors for use in electronic equipment –Part 14:Sectional specification:Fixed capacitors for electromagnetic interference suppression and connection to the supply mains)

IEC-60384-14-2005电子设备用固定电容器第14部分:分规范:抑制电磁干扰固定式电容器和与电源连接. (Fixed capacitors for use in electronic equipment –Part 14:Sectional specification:Fixed capacitors for electromagnetic interference suppression and connection to the supply mains)

GB- T2828.1- 2012 计数抽样检验程序第1部分按接收质量限(AQL)检索逐批检验抽样计划.(Sampling procedures for inspection by attributes—Part 1:Sampling schemes indexed by acceptance quality limit (AQL)for lot-by-lot inspection)

15.包装

Packing



塑料袋最小包装，数量为100、200、500、1000 pcs

Plastic bag is the minimum packing.the quantity are 100、200、500、1000 pcs.

袋内放置产品合格环保标识标签，包括料号，规格，数量，LOT批号，生产日期等

The label of the ROHS include the product name、specification、quantity、lot No、 manufacture date etc.



N袋小包装装一内箱

One inner box have N PCS bags

内箱尺寸为（长×宽×高）=23×30×30cm

Inner box size (L×W×H) =23×30×30cm

有环保标识 Marking for RoHS AND SVHC



两内箱装一外箱

One outer box have two Inner boxes

外箱尺寸为（长×宽×高）=48×32.2×33cm

Outer box size (L×W×H) ==48×32.2×33cm

有环保标识 Marking for RoHS and SVHC

16. 存储条件

Storage conditions

16.1 请注意，长时间产品暴露在空气中会导致引线氧化，焊接性能衰减。

It should be noted that the solderability of the terminals may be deteriorated when stored barely in an atmosphere for a long periods

16.2 不能放置在高温高湿环境中，请遵循以下存储条件（原包装下保存）

It shouldn't be located in particularly high temperature and high humidity, it must submit to the following conditions(keeping in the original package)

温度 Temperature: 35°C MAX

相对湿度 Relative humidity: 60% MAX

16.3 存储时间：最长12个月（以包装袋上标注的生产日期为准）

Storage period: Losse: 12 monthes max

(from the manufacturing date marked on the label in package bag)

17. 可靠性实验

Reliability test

17.1 测试条件：除非另有规定，所有试验和测量均应在GB2421-81第4.3条(IEC60068.1第5.3条)中规定的试验用标准大气条件下进行,条件如下：

Test condition: Unless otherwise specified, all tests and measurements shall be made under standard atmospheric conditions for testing as given in GB2421-81 NO.4.3 (IEC68-1 NO.5.3), AS follows

温度 Temperature: 15°C—35°C

相对湿度 Relative humidity: 25%—75%

气压 Air pressure: 86—106Kpa (860—1060mbra)

17.2 如对测试结果有任何疑问，则按以下限制测试：

If there may be any doubt on the results, measurements shall be made within the following limits.

环境温度 Ambient temperature: 20±2°C

环境湿度 Relative humidity: 50~70%

17.3 电性参数参考 IEC60384-1: 2008, IEC60384-14, IEC60068-2-2; IEC 60068-2-21

Electric characteristics shall refer to IEC 60384-1: 2008, IEC 60384-14, IEC 60068-2-2; IEC 60068-2-21

17.4 試驗項目 Test Item

如下表列 As follows list

No	項目 Item		特性要求 Characteristic requirement	測試方法及條件 Test method & Condition		
1	端子强度 Terminal Strength	拉伸强度 Pull Strength	无可见机械损伤 There shall be no visible mechanical damage	线径 mm	荷重	时间
				Wire diameter	Load	Time
				≤0.5	5N	10s
				0.5<d≤0.8	10N	10s
				0.8<d≤1.25	20N	10s
	IEC60384-14 C4.3 IEC60384-1 C4.13 IEC60068 2-21 Test Ua1			线径 mm	荷重	次數
	弯曲强度 Bending Strength	无可见机械损伤 There shall be no visible mechanical damage	Wire diameter	Load	Times	
			≤0.5	2.5N	90°×4	
			0.5<d≤0.8	5N	90°×4	
			0.8<d≤1.25	10N	90°×4	
IEC60384-14 C4.3 IEC60384-1 C4.13 IEC60068 2-21 Test Ua1						
2	可焊性 Solderability	端子引线周围至少95%的面积均匀附锡, 且本体无破裂等损坏现象 At least 95% of the Circumference of the Lead wire. Around load surface dipped into with new solder the body be no visible damage.	焊锡温度: 260±5°C Solder temp 浸渍时间: 2.0±0.3S Immersion time IEC60384-14 C4.5 IEC60384-1 C4.15 IEC60068-2-20 Test Ta			
3	耐焊接热 Resistance to Soldering heat withstand	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	焊锡温度: 260±3°C Solder temp 浸渍时间: 10±1s Immersion time 恢复时间1- 2小时 Then recovery at ordinary condition 1~2hours IEC60384-14 C4.5 IEC60384-1 C4.15 IEC60068-2-20 Test Ta		
		容量变化 Capacitance Variation	$\Delta C/C \leq \pm 5\%$			
		损耗 Dissipation Factor	$\Delta \text{tg}\delta < 0.0080$ $C_R \leq 1.0\mu\text{F}$, 10kHz $\Delta \text{tg}\delta < 0.0050$ $C_R > 1.0\mu\text{F}$, 1kHz			
		耐电压 Voltage	4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover			
		绝缘电阻 Insulation Resistance	$\Delta R/R \leq 50\%$			

No	項目 Item		特性要求 Characteristic requirement	測試方法及條件 Test method & Condition
4	耐久性 Endurance	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	温度Temp: 110±3℃ 持续时间: Duration 1000 hrs 施加电压vol t age: 1.25 Ur(a.c.)50hz 每小时施加1000vac / 0.1s once every hour increase to 1000vac for 0.1s 恢复时间至少16小时 Then recovery at ordinary condition at least 16 hours IEC60384-14 C4.14 IEC60384-1 C4.23 IEC60068-2-2
		容量变化 Capacitance Variation	$\Delta C/C \leq \pm 10\%$	
		损耗 Dissipation Factor	$\Delta tg\delta < 0.0080$ $C_R \leq 1.0\mu F$, 10kHz $\Delta tg\delta < 0.0050$ $C_R > 1.0\mu F$, 1kHz	
		耐电压 Voltage	4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover	
		绝缘电阻 Insulation Resistance	$\Delta R/R \leq 50\%$	
5	稳态湿热 Damp heat, steady	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	温度Temp: 40±2℃ 湿度Humidity: 90-95%RH 持续时间Duration: 4~56 days 依需要 电容不施加电压 恢复时间 24小时 Then recovery at ordinary condition 24 hours IEC60384-14 C4.12 IEC60384-1 C4.22 IEC60068-2-78 Test Cab
		容量变化 Capacitance Variation	$\Delta C/C \leq \pm 5\%$	
		损耗 Dissipation Factor	$\Delta tg\delta < 0.0080$ $C_R \leq 1.0\mu F$, 10kHz $\Delta tg\delta < 0.0050$ $C_R > 1.0\mu F$, 1kHz	
		耐电压 Withstand Voltage	4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover	
		绝缘电阻 Insulation Resistance	$\Delta R/R \leq 50\%$	
6	干热 Dry heat	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	温度 Temp: 110±2℃ 持续时间: 16h Duration 恢复时间不低于4小时 Then recovery at ordinary condition at least 4 hours IEC60384-14 C4.11.2 IEC60384-1 C4.21.2 IEC60068-2-2, test Bb
		容量变化 Capacitance Variation	$\Delta C/C \leq \pm 5\%$	
		损耗 Dissipation Factor	$\Delta tg\delta < 0.0080$ $C_R \leq 1.0\mu F$, 10kHz $\Delta tg\delta < 0.0050$ $C_R > 1.0\mu F$, 1kHz	
		耐电压 Withstand Voltage	4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover	
		绝缘电阻 Insulation Resistance	$\Delta R/R \leq 50\%$	

No	項目 Item	特性要求 Characteristic requirement	測試方法及條件 Test method & Condition	
7	寒冷 Cold	外观 Appearance	温度Temp: $-40\pm 2^{\circ}\text{C}$ 持续时间: 2h Duration: 恢复时间不低于4小时 Then recovery at ordinary condition at least 4 hours IEC60384-14 C4.11.4 IEC60384-1 C4.21.4 IEC60068-2-1, test Ab	
		容量变化 Capacitance Variation		$\Delta C/C \leq \pm 10\%$
		损耗 Dissipation Factor		$\Delta \text{tg}\delta < 0.0080$ $C_R \leq 1.0\mu\text{F}$, 10kHz $\Delta \text{tg}\delta < 0.0050$ $C_R > 1.0\mu\text{F}$, 1kHz
		耐电压 Voltage		4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover
		绝缘电阻 Insulation Resistance		$\Delta R/R \leq 50\%$
8	脉冲 Impulse voltage	外观 Appearance	When $C_R \leq 1.0\mu\text{F}$ $U_P = 2.5 \text{ kV}$ When $C_R > 1.0\mu\text{F}$ $U_P = 2.5 \text{ kV}/\sqrt{C}$ time:10s Cycle times:24次 前三次脉冲没有发生自愈性击穿, 则可停止, 为合格 IEC60384-14 C4.13 IEC60060-1	
		容量变化 Capacitance Variation		$\Delta C/C \leq \pm 5\%$
		损耗 Dissipation Factor		$\Delta \text{tg}\delta < 0.0080$ $C_R \leq 1.0\mu\text{F}$, 10kHz $\Delta \text{tg}\delta < 0.0050$ $C_R > 1.0\mu\text{F}$, 1kHz
		耐电压 Withstand Voltage		4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover
		绝缘电阻 Insulation Resistance		$\Delta R/R \leq 50\%$
9	充放电 Charge and Discharge	外观 Appearance	Test voltage: $1.414 \times U_R$ (d.c.) Cycle times:10000 $dv/dt: 100 \text{ V}/\mu\text{s}$. resistor: $(220 \times 10^{-6} / C_R)\Omega$ IEC60384-14 C4.15 IEC60384-1 C4.27	
		容量变化 Capacitance Variation		$\Delta C/C \leq \pm 10\%$
		损耗 Dissipation Factor		$\Delta \text{tg}\delta < 0.0080$ $C_R \leq 1.0\mu\text{F}$, 10kHz $\Delta \text{tg}\delta < 0.0050$ $C_R > 1.0\mu\text{F}$, 1kHz
		耐电压 Withstand Voltage		4.3 U_R (dc) 60s耐电压后无击穿或飞弧 No permanent breakdown or flashover
		绝缘电阻 Insulation Resistance		$\Delta R/R \leq 50\%$

No	項目 Item		特性要求 Characteristic requirement	測試方法及條件 Test method & Condition
10	振动 Vibration	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	上下左右前后三个方向各2H, 频率10- 55Hz 振幅0.75mm或100m/ s ² 3 directions at 2 hours each 10-55Hz at 0.75mm or 100 m/s ² IEC60384-14 C4.7 IEC60384-1 C4.17 IEC 60068-2-6, test Fc,
11	碰撞或冲击 Bump	外观 Appearance	无可见损伤,标志清晰 No visible damage, The marking shall be legible	次数 number of bumps: 1,000 or 4, 000 加速度 Acceleration:400 m/s ² Pulse duration: 6 ms IEC60384-14 C4.8 IEC60384-1 C4.18 IEC 60068-2-29, test Eb
		容量变化 Capacitance Variation	$\Delta C/C \leq \pm 5\%$	
		损耗 Dissipation Factor	$\Delta tg\delta < 0.0080$ $C_R \leq 1.0\mu F$, 10kHz $\Delta tg\delta < 0.0050$ $C_R > 1.0\mu F$, 1kHz	
12	阻燃试验 Passive flammability test		燃焰等级: B Category of flammability 燃焰时间: 10s Flame exposure time 最大燃烧时间: 10s Maximum burning time	UL94-V0 IEC60384-14 C4.17 IEC60384-1 C4.38 IEC60695-11-5.
13	自燃试验 Active flammability test		缠绕在电容上的薄纱布应不会燃烧, 电测量不要求。 The cheesecloth around the capacitor shall not burn with a flame. No electrical measurements are required.	施加电压为2.5KV的20个脉冲电压, 每个电压5秒 20 surge pulses at 2.5 KV (pulse every 5s) IEC60384-14 C4.18