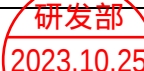


承 认 书

SPECIFICATION FOR APPROVAL

Commodity 产品:

- Production Series 产品系列: HMKP
- Operation Temperature 工作温度: -40℃ ~ +110℃
- Storage Temperature 储存温度: 常温 ≤ 35℃ 湿度 75% 以下
- Package color 外封颜色: 弘源灰色
- Certificate no 证书号: CQC16001146957 VDE40044173
UL20160629-E484578 KC证书号:
Su03124-20001 Su03124-20002 Su03124-20003
- MSL 湿敏等级: Level 1 Based on JEDEC J-STD 020
- RoHS & REACH-compliant 符合 RoHS 和 REACH 要求

- | | | |
|--------------------------|---|-------------------|
| 产品型号
Model No | HMKP 系列 | |
| 客户名称
Customer Name | 深圳市立创电子商务有限公司 | |
| 客户核准并签章
Authorized By | 核准
Checked By | 制作
Prepared By |
| |  | 刘静 |

- ☆☆☆☆

东莞市弘源电子有限公司
地址：广东省东莞市塘厦镇林村新鸿路9号(新太阳城66栋)
Add: No.9 Xinghong Road, Lin Village, Tangxia Town, Dongguan China.
Web: [http:// www.hongfarad.com](http://www.hongfarad.com) E-mail: jane@hongfarad.com

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Datasheet Version update list 规格书版本更新履历

Version 版本号	Update content 变更内容	Update Date 变更日期	Remark 备注
V1.0	导线长 20mm 修改为 L0	20180926	
V2.0	编码原则修订	20220401	

HMKP 系列承认书

NO	客户料号	规格	料号
1		HMKP475K310V P=27.5mm W*H*T=31*32.5*19 mm	HMKP475K3A1RDXNL01
2		HMKP475M275V P=27.5mm W*H*T=31*28*14mm	HMKP475M2A7RJXNL01
3		HMKP475M310V P=27.5mm W*H*T=31*33*18 mm	HMKP475M3A1RDXNL01
4		HMKP503K310V P=15mm W*H*T=18*11*5 mm	HMKP503K310IDXNB01
5		HMKP503K310V P=7.5mm W*H*T=10*11.5*6 mm	HMKP503K3A1DFANB01
6		HMKP564K275V P=15mm W*H*T=18*14.5*8.5 mm	HMKP564K2A7IFAND01
7		HMKP564K310V P=15mm W*H*T=18*14.5*8.5 mm	HMKP564K3A1IDXNC01
8		HMKP565K275V P=27.5mm W*H*T=32*37*22 mm	HMKP565K2A7RHXNK01
9		HMKP683K310V P=10mm W*H*T=12*11*5 mm	HMKP683K3A1FFANB01
10		HMKP684K275V P=22.5mm W*H*T=26.5*19*10 mm	HMKP684K275NDXNH01
11		HMKP684K275V P=15mm W*H*T=18*16*10 mm	HMKP684K2A7IDXNC01
12		HMKP684K275V P=15mm W*H*T=18*14.5*8.5 mm	HMKP684K2A7IFANB01
13		HMKP684K275V P=15mm W*H*T=18*18*10 mm	HMKP684K2A7IFANC02
14		HMKP684K275V P=15mm W*H*T=18*19*10.8 mm	HMKP684K2A7IFANG01
15		HMKP684K310V P=15mm W*H*T=18*14.5*8.5 mm	HMKP684K3A1IFANB03
16		HMKP684K310V P=15mm W*H*T=18*19*10.8 mm	HMKP684K3A1IFANF01
17		HMKP684K310V P=15mm W*H*T=18*16*10 mm	HMKP684K3A1IHXNC01
18		HMKP684K310V P=15mm W*H*T=18*18*9 mm	HMKP684K3A1IHXNF01
19		HMKP684K310V P=22.5mm W*H*T=26.5*17*8.5 mm	HMKP684K3A1NHXNG02
20		HMKP684K310V P=22.5mm W*H*T=26.5*19*10 mm	HMKP684K3A1NHXNH01
21		HMKP685K275V P=27.5mm W*H*T=31*32.5*19 mm	HMKP685K2A7RFANK01
22		HMKP685M310V P=27.5mm W*H*T=31*33*18 mm	HMKP685M3A1RFANL01
23		HMKP824K275V P=15mm W*H*T=18*19*10.8 mm	HMKP824K2A7IHXND01



PRODUST SPECIFICATIONS

产品规格

ISSUED DATE: 2023-10-25

签发日期: 2023-10-25

DESCRIPTIONS : Metallized polypropylene film interference suppression capacitor (class X2)

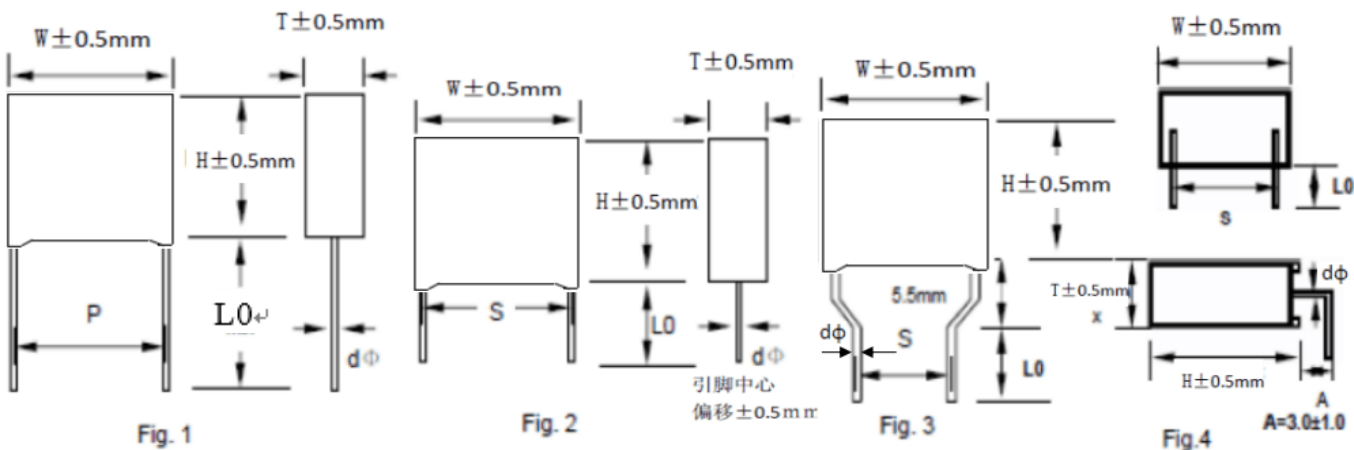
描述: 金属化聚丙烯薄膜抗干扰电容器 (X2類)

TYPE: HMKP SERIES

系列: HMKP系列

Operating temperature :-40℃~+110℃

操作温度范围: -40℃~+110℃



PRODUCT DIMENSIONS :

产品尺寸(mm)

CUSTOMER'S PART NO. 客户料号	CAP 容量 (uF)	To l. 误差 ± %	R.V. 电压 VAC	T.V. 耐压 VDC	W 长度 ±0.5	H 高度 ±0.5	T 厚度 ±0.5	P 脚距 ± 0.5	d 线径 ± 0.05	L0 ±0.5	Fig	CASE	HONGFARAD Cap PART NO. 我司料号
	4.7	10	310	1333	31.0	32.5	19.0	27.5	0.8	3.5	2	CASE	HMKP475K3A1RDXNL01
	4.7	20	275	1182	31.0	28.0	14.0	27.5	0.8	5.0	2	CASE	HMKP475M2A7RJXNL01
	4.7	20	310	1333	31.0	33.0	18.0	27.5	0.8	3.5	2	CASE	HMKP475M3A1RDXNL01
	0.05	10	310	1333	18.0	11.0	5.0	15.0	0.8	3.5	2	CASE	HMKP503K310IDXNB01
	0.05	10	310	1333	10.0	11.5	6.0	7.5	0.8	20.0	1	CASE	HMKP503K3A1DFANB01
	0.56	10	275	1182	18.0	14.5	8.5	15.0	0.8	20.0	1	CASE	HMKP564K2A7IFAND01
	0.56	10	310	1333	18.0	14.5	8.5	15.0	0.8	3.5	2	CASE	HMKP564K3A1IDXNC01
	5.6	10	275	1182	32.0	37.0	22.0	27.5	0.8	5.0	2	CASE	HMKP565K2A7RHXNK01
APPROVED BY 批准:	研发部 2023.10.25 魏三春				CHECKED BY: 审核:				PREPARED BY: 制作: 刘静				
	研发部 2023.10.25 魏三春				研发部 2023.10.25 魏三春								



PRODUST SPECIFICATIONS

产品规格

ISSUED DATE: 2023-10-25

签发日期: 2023-10-25

DESCRIPTIONS : Metallized polypropylene film interference suppression capacitor (class X2)

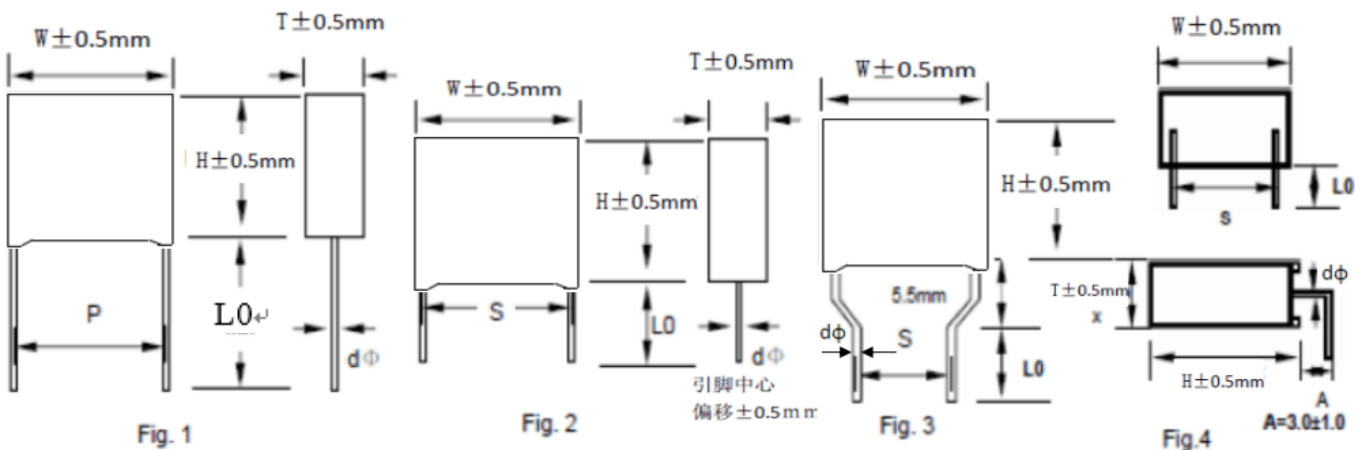
描述: 金属化聚丙烯薄膜抗干扰电容器 (X2類)

TYPE: HMKP SERIES

系列: HMKP系列

Operating temperature :-40℃~+110℃

操作温度范围: -40℃~+110℃



PRODUCT DIMENSIONS :

产品尺寸(mm)

CUSTOMER'S PART NO. 客户料号	CAP 容量 (uF)	To l. 误差 ± %	R.V. 电压 VAC	T.V. 耐压 VDC	W 长度 ±0.5	H 高度 ±0.5	T 厚度 ±0.5	P 脚距 ± 0.5	d 线径 ± 0.05	L0 ±0.5	Fig	CASE	HONGFARAD Cap PART NO. 我司料号	
	0.068	10	310	1333	12.0	11.0	5.0	10.0	0.8	20.0	1	CASE	HMKP683K3A1FFANB01	
	0.68	10	275	1182	26.5	19.0	10.0	22.5	0.8	3.5	2	CASE	HMKP684K275NDXNH01	
	0.68	10	275	1182	18.0	16.0	10.0	15.0	0.8	3.5	2	CASE	HMKP684K2A7IDXNC01	
	0.68	10	275	1182	18.0	14.5	8.5	15.0	0.8	20.0	1	CASE	HMKP684K2A7IFANB01	
	0.68	10	275	1182	18.0	18.0	10.0	15.0	0.8	20.0	1	CASE	HMKP684K2A7IFANC02	
	0.68	10	275	1182	18.0	19.0	10.8	15.0	0.8	20.0	1	CASE	HMKP684K2A7IFANG01	
	0.68	10	310	1333	18.0	14.5	8.5	15.0	0.8	20.0	1	CASE	HMKP684K3A1IFANB03	
	0.68	10	310	1333	18.0	19.0	10.8	15.0	0.8	20.0	1	CASE	HMKP684K3A1IFANF01	
APPROVED BY 批准: 研发部 2023.10.25 魏三春				CHECKED BY: 审核: 研发部 2023.10.25 魏三春							PREPARED BY: 制作: 刘静			



PRODUST SPECIFICATIONS

产品规格

ISSUED DATE: 2023-10-25

签发日期: 2023-10-25

DESCRIPTIONS : Metallized polypropylene film interference suppression capacitor (class X2)

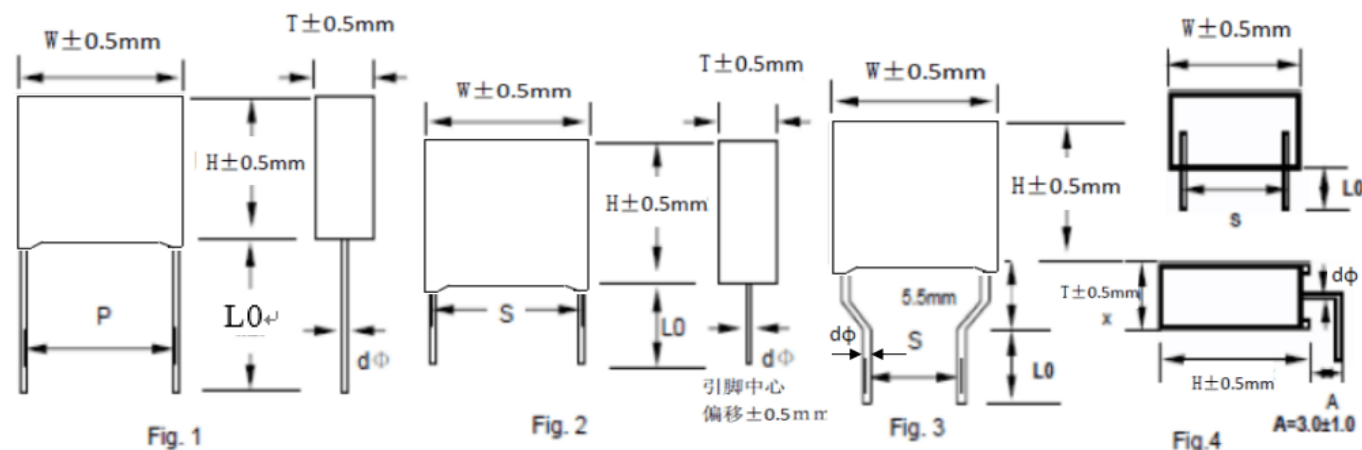
描述: 金属化聚丙烯薄膜抗干扰电容器 (X2類)

TYPE: HMKP SERIES

系列: HMKP系列

Operating temperature :-40℃~+110℃

操作温度范围: -40℃~+110℃



PRODUCT DIMENSIONS :

产品尺寸(mm)

CUSTOMER'S PART NO. 客户料号	CAP 容量 (uF)	To l. 误差 ± %	R.V. 电压 VAC	T.V. 耐压 VDC	W 长度 ±0.5	H 高度 ±0.5	T 厚度 ±0.5	P 脚距 ±0.5	d 线径 ±0.05	L0 ±0.5	Fig	CASE	HONGFARAD Cap PART NO. 我司料号
	0.68	10	310	1333	18.0	16.0	10.0	15.0	0.8	5.0	2	CASE	HMKP684K3A1IHXNC01
	0.68	10	310	1333	18.0	18.0	9.0	15.0	0.8	5.0	2	CASE	HMKP684K3A1IHXNF01
	0.68	10	310	1333	26.5	17.0	8.5	22.5	0.8	3.2	2	CASE	HMKP684K3A1NHXNG02
	0.68	10	310	1333	26.5	19.0	10.0	22.5	0.8	4.0	2	CASE	HMKP684K3A1NHXNH01
	6.8	10	275	1182	31.0	32.5	19.0	27.5	0.8	21.0	1	CASE	HMKP685K2A7RFANK01
	6.8	20	310	1333	31.0	33.0	18.0	27.5	0.8	20.0	1	CASE	HMKP685M3A1RFANL01
	0.82	10	275	1182	18.0	19.0	10.8	15.0	0.8	3.2	2	CASE	HMKP824K2A7IHXND01
APPROVED BY 批准:	研发部 2023.10.25 魏三春			CHECKED BY: 审核:							PREPARED BY: 制作: 刘静		
	研发部 2023.10.25 魏三春			研发部 2023.10.25 魏三春									



H	MKP	104	K	3A1	F	F	A	N	*	*	*
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1	2~4	5~7	8	9~11	12	13	14	15	16~18		
Fixed	Type	Capacitance	Tolerance	Voltage	Lead space	Lead Length	Lead style code	Feature codes	Internal codes		
固定	系列	容量	误差	电压	脚距	引脚长度	加工方式	特殊码	内部码		

e.g.:X2 104K/310V 13*11*5 P=10 L:30 P/N: HMKP104K3A1FFAN

1. H Fixed code of Hongfarad(Logo)

公司固定编码 (商标)

2~4: Type of capacitor

产品系列

PEI, MEK, MEF, MPP, MKP, MEB, MPB, APK, DPB, MKP, MKB, MKD, MX1, MY1, MY2,

5~7: Symbols of capacitance

容量

101:	100 pF	0.1 nF	0.0001 uF
102:	1000 pF	1 nF	0.001 uF
103:	10000 pF	10 nF	0.01 uF
104:	100000 pF	100 nF	0.1 uF
105:	1000000 pF	1000 nF	1 uF
106:	10000000 pF	10000 nF	10 uF

8: Symbols of capacitance Tolerance

误差 (容量允许误差)

J:±5% K:±10% M: ±20% F:±1% G:±2% H:±3% Z:+80%-20% P:+100%-0%

9~11: Rated Voltage

额定电压

DC: 250V:250 400V:400

AC: 275VAC:2A7 300VAC:3A0 310VAC:3A1

12: Lead Space (mm)

脚距

A:轴向 (Axial) C:5mm D:7.5mm F:10mm H:12.5mm I:15mm M:20mm N:22.5mm R:27.5mm S:31.5mm

T:32.5mm O:37.5mm Q:41mm U:42.5mm K: 46.0mm W:47.0mm X:25.5mm P:52.5 Z:Special Type

13: Lead Length

脚长

0:axial A:2.5 C:3.0 D:3.5 B: 4.0 I: 4.5 J: 5 L: 5.5 M: 6 N: 7 P: 8 E:15 F:20 K:24 G:28 Q: 30 R:10 S:12 H:Special length 特殊长度

14: Lead Style Code

加工方式

A:Lead style code 直脚 B:Kink 内外弯 C:Inward forming 内弯 D:Outward forming 外弯;

E4 pin (P2=20.3) F:4 pin(P2=12.7) G:4pin (P2=10.2) H: Straight plug terminal 直插式端子 I: L type Terminal 端子 (L型) J: Z type Terminal 端子 (Z型) K: π type Terminal 端子 (π型) X:Non-forming with cut 直切

T:Ammo packing without forming 直脚编带 R:Ammo packing with kink 弯脚编带 N:Ammo packing with inward forming 内弯编带 U: Bolt type 螺栓型 Z: Soft wire type 软导线 S:Special type 特殊加工

15: Feature Codes

特征码

N: ROHS/REACH A:Halogen free 无卤 B:Resistance capacitance step-down 阻容降压 D:THB 防潮

Y: Low noise 低 噪音

16~18: Internal Codes

内部尺寸代码

Written by the engineering department 由工程部编写

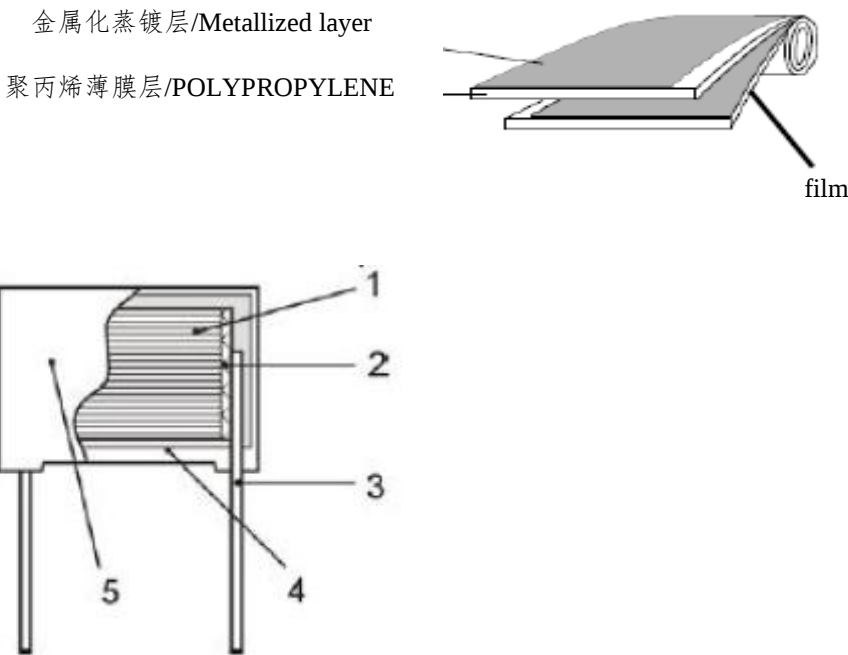


HMKP SAFETY CAPACITORS

抑制电源电磁干扰用金属化聚丙烯薄膜安规电容器HMKP系列

1. 结构及材料(Construction and Component)

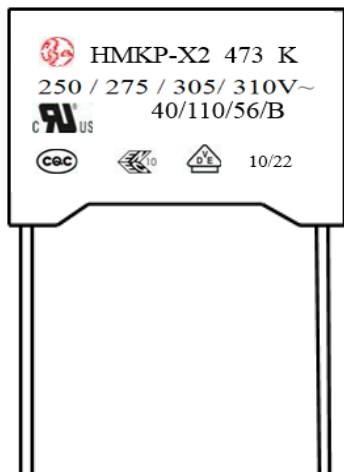
a 产品结构图&印字(Construction&Mark)



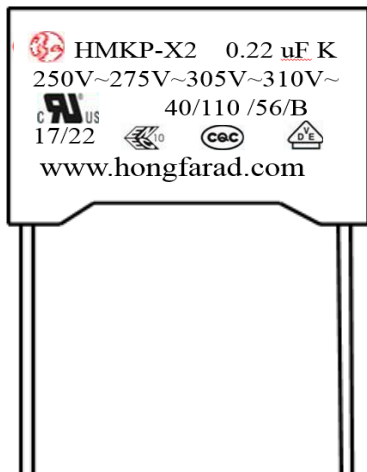
B 材料构成清单:(Component List)

项次 Item	构成部位 Component	材料名称/材质 Material	环保要求 RoHS Requirements
1	Element 素子	金属化聚丙烯薄膜 Metallized OPP film	符合RoHS要求 Compliant with RoHS
2	喷金层 Metal spray layer	锌线锡锌合金线 Zn and Zn-Tin alloy wire	符合RoHS要求 Compliant with RoHS
3	引线 Leads	镀锡铜包钢线 Tinned copper-base alloy wire	符合RoHS要求 Compliant with RoHS
4	灌密封胶 Potting Compound	UL94V-0 级阻燃环氧树脂 Flame retardant epoxy resin(UL94V0)	符合RoHS要求 Compliant with RoHS
5	塑胶外壳 Enclosure	UL94V-0级阻燃PBT材质 Flame retardant PBT Plastic(UL 94V0)	符合RoHS要求 Compliant with RoHS
6	本体印字 Marking	激光刻印Laser	符合RoHS要求 Compliant with RoHS

Marking:



$P \leq 10\text{mm}$



$P \geq 15\text{mm}$

	HONGFARAD CO.LOGO
HMKP-X2	BOX -TYPE METALLIZED POLYPROPYLENE AC CAPACITOR
0.22uF	CAPACITANCE
10	CAPAC.ITANCE TOLERANCE
250V~-310V~	RATED VOLTAGE AC VOLTAGE
40/110/56	Working Lowest Temperature (- 40℃) Working HighestTemperature(+110℃) Working Times (56days)
B	Class of operation
17/22	22years in week 17
www.hongfarad.com	Website



2.技术规范/Technical specification

项次 NO.	检测项目 Test item	性能 Performance	检测方法(参照 IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
1	耐压测试 Withstand Voltage		参照4.2.1节 Ref 4.2.1 clause
	端子与端子间(T-T)	应无永久性击穿及飞弧	1333VDC/60sec
	端子与外壳间 Terminal-Case	No permanent breakdown or flashover	2050VAC, 50/60HZ, 60sec
2	绝缘电阻 Insulation Resistance	$C_R \leq 0.33\mu F$; $IR > 15000M\Omega$	参照4.2.5节Ref4.2.5 clause 充电电压100VDC charge voltage 100v 充电时间60秒 charge time 60sec
		$C_R > 0.33\mu F$; $IR > 5000S$	
3	容量 Capacitance	$J \pm 5\%$; $K \pm 10\%$; $M \pm 20\%$	参照4.2.2节 :Ref 4.2.2 clause 测试条件: 1V, 1KHZ
4	Dissipation factor 损耗角正切	$0.001 \leq C_N \leq 0.01\mu f, \leq 0.2\%$ $0.01 \leq C_N \leq 0.47\mu f, \leq 0.1\%$ $0.47 \leq C_N \leq 1.0\mu f, \leq 0.2\%$ $1.0 < C_N \leq 10.0 \leq 0.3\%$	参照4.2.3节 :Ref 4.2.3 clause 测试条件: 1V, 1KHZ 20°C
5	可焊性 Solderability	被测引线90%以上上锡率 At least 90% immersed lead wire should be covered new solder.	参照4.5节: Ref 4.5 clause Ta: 锡槽法(方法1) Ta: Tin bath method (1) 温度: $260 \pm 5^\circ C$; 时间: 2 ± 0.5 秒 Solder temperature : $260 \pm 5^\circ C$ Immersion time: 2 ± 0.5 sec
6	端子强度测试 Terminal strength	端子无可见的破损 There shall be no visible damage	参照4.3节 :Ref 4.3 clause 拉力Ua: $0.5 < d \leq 0.8$, $10N \pm 10\%$ $0.8 < d \leq 1.25$, $20N \pm 10\%$ 弯力Ub: $0.5 < d \leq 0.8$, $5N \pm 10\%$ $0.8 < d \leq 1.25$, $10N \pm 10\%$ 10% 引线在每个方向进行两次弯曲 Lead to rigid, Ub test method is not applicable Tense: $0.5 < d \leq 0.8$, 5N $0.8 < d \leq 1.25$, $10N \pm 10\%$ Bend (Ub): $0.5 < d \leq 0.8$, $5N \pm 10\%$ $0.8 < d \leq 1.25$, $10N \pm 10\%$ Bent 2 times each direction



項次 NO.	檢測項目 Test item	性能 Performance	檢測方法(參照IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
7	耐焊接熱 Resistance to Solder heat	There should be no visible damage, $\Delta C/C < \pm 5\%$ 外觀無可見的損傷, 標志清晰, 容量變化率 $\Delta C/C < \pm 5\%$	參照4.4節: Ref 4.4 clause Tb: 錫槽法(方法1A) Tb: method (1 A) 溫度: $260 \pm 5^\circ\text{C}$; 時間: 5-10秒 Solder temperature : $260 \pm 5^\circ\text{C}$ Immersion time: 5-10 sec
8	Solvent resistance of the marking 標志耐溶劑性	標志應保持清晰 The marking should be legible	參照4.20節: Ref 4.20 clause 使用溶劑: 工業異丙醇 Solvent: Industrial isopropanal 用脫脂棉摩擦 Use absorbent cotton wool
9	初始測量 Initial measurement	容量, 損耗角正切 Capacitance, $\tan \delta$	
	溫度快速變化 Rapid change of temperature	外觀無可見的損傷 There should be no visible damage.	參照4.6節: Ref 4.6 clause $\theta A = -40^\circ\text{C}$, $\theta B = +110^\circ\text{C}$ 循環周期: 5次, 5 cycles 周期時間: 30分鐘 Duration=30min
	振動 Vibration	外觀無可見的損傷 There should be no visible damage.	參照4.7節: Ref 4.7 clause 位移0.75mm或加速度0.98m/s ² Amplitude 0.75mm or acceleration 0.98m/s ² (兩者取較小者) (whichever is the smaller values) 振動頻率: 10~500HZ, 三個方向, 每2小時/方向, 共6小時 2h each direction, total 6h
	碰撞 Bump	外觀無可見的損傷, 標志清晰, 容量變化率 $\Delta C/C < \pm 5\%$ There should be no visible damage, $\Delta C/C < \pm 5\%$	參照4.8節: Ref 4.8 clause 4000次, 加速度390m/s ² 4000 times , acceleration 390m/s ² 脈沖持續時間: 6ms. Pulse duration 6ms.
	最終測量 Final measurement	外觀無可見的損傷, 標志清晰, 容量變化率 $\Delta C/C < \pm 5\%$ There should be no visible damage, $\Delta C/C < \pm 5\%$	



项次 NO.	检测项目 Test item	性能 Performance	检测方法(参照IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
10	气候顺序 Initial measurement 初始测量 干热Dry heat 寒冷Cold 循环湿热 Damp heat, cyclic		参照4.11节: Ref 4.11 clause
			+110℃, 16h
			-40℃, 2h
			试验Db, 其余循环 Test Db, remaining cycles
	最终测量及要求 Final measurement	应无可见损坏, 标志清晰 There should be no visible damage, legible marking. 容量变化率 $\Delta C/C < \pm 5\%$ Capacitance change $\Delta C/C < \pm 5\%$ 损耗角正切增加: Increase of Tan δ CR $\leq$ 1uf: $\leq 0.008(10\text{kHz})$ CR $>$ 1uf: $\leq 0.005(1\text{kHz})$ 耐压: 应无永久性的击穿或飞弧 Dielectric strength; there shall be no permanent breakdown or flashover. 绝缘电阻(IR): $>50\%$ 的额定值 IR $>50\%$ *Rate value	
11	稳态湿热 Damp heat steady state	应无可见损坏, 标志清晰 容量变化率 $\Delta C/C < \pm 5\%$ There should be no visible damage, legible marking. Capacitance change $\Delta C/C < \pm 5\%$ 损耗角正切增加: Increase of Tan δ CR $\leq$ 1uf: $\leq 0.008(10\text{kHz})$ CR $>$ 1uf: $\leq 0.005(1\text{kHz})$ 耐压: 应无永久性的击穿或飞弧 Dielectric strength; there shall be no permanent breakdown or flashover. 绝缘电阻(IR): $>50\%$ 的额定值 IR $>50\%$ *Rate value	参照4.12节: Ref 4.12 clause Temperature: $40 \pm 2\%$ 温度: $40 \pm 2\%$ 湿度: $93(+2/-3)\%RH$ Humidity: $93(+2/-3)\%RH$ 持续时间: 21天 Duration: 21 days



项次 NO.	检测项目 Test item	性能 Performance	检测方法(参照IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
12	脉冲电压 Impulse voltage	如果显示器显示有三次或更多次没有自愈性击穿,则表明电容器合格 There are three or more waveforms which indicate that no self-healing breakdown or flashover have occurred when it's monitored by the monitor	参照4.13节Ref 4.13 clause 每个电容器施回相同及性的脉冲24次,每次脉冲间隔应不小10秒(如果显示器显增添有连续三次脉冲波形无自愈发生,则可停止施加脉冲,认定电容器合格),肪冲电压峰值如下: $CR \leq 1\mu f: U_p = 2.5KV$ $CR > 1\mu f: U_p = 2.5 / \sqrt{CR} kv$ Each dividual capacitor shall be subjected to 24 times impulse of The same polarity (when any three successive impulses are shown by monitor to have a waveform indicating that no self-healing breakdown have taken place ,the impulses can be stopped),the times between the impulses shall not be less than 10sec,and the peak of the impulse voltage is: $CR \leq 1\mu f: U_p = 2.5KV$ $CR > 1\mu f: U_p = 2.5 / \sqrt{CR} kv$
13	耐久性 Endurance	应无可见损坏,标志清晰 There should be no visible damage, legible marking. 容量变化率 $\Delta C/C < \pm 10\%$ Capacitance change $\Delta C/C < \pm 10\%$ 损耗角正切增加: Increase of Tan δ $CR \leq 1\mu f: \leq 0.008(10khz)$ $CR > 1\mu f: \leq 0.005(1khz)$ 耐压: 应无永久性的击穿或飞弧 Dielectric strength;there shall be no permanent breakdown or flashover. 绝缘电阻(IR): >50%的额定值 $IR > 50\% * Rate value$	参照4.14节: Ref 4.14 clause 在最高允许温度下110℃,施加 试验电压387.5vac(1.25*UR),试验周期1000小时;(每隔1小时将电压升高至1000vac,持续0.1秒)最高允许温度下: Applied voltage 387.5vac(1.25*UR)at 110℃,1000h (The voltage should be subjected to 1000 rms for 0.1s every one hour during test)



项次 NO.	检测项目 Test item	性能 Performance	检测方法(参照IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
14	充放电 Charge and Discharge	. 容量变化率 $\Delta C/C < \pm 10\%$ Capacitance change $\Delta C/C < \pm 10\%$ 损耗角正切增加: Increase of Tan δ $CR \leq 1\mu f: \leq 0.008(10\text{khz})$ $CR > 1\mu f: \leq 0.005(1\text{khz})$ 耐压: 应无永久性的击穿或飞弧 Dielectric strength; there shall be no permanent breakdown or flashover. 绝缘电阻 (IR): $> 50\%$ 的额定值 $IR > 50\% \cdot \text{Rate value}$	参照4.15节: Ref 4.15 clause 试验次数: 10000次 充电时间: 0.5秒 放电时间: 0.5秒 充电电压: 550VDC 充电电阻: $220/CR(\Omega)$ 或将充电电流限制在1A以下(取其大者) 放电电阻: $R = \frac{550}{C_R \cdot dv/dt} - \frac{550}{C_R} (\Omega)$ Dv/dt: 最大100v/us Times: 10,000 Duration of charge: 0.5sec Duration of discharge: 0.5sec Charge resistor: $220/CR(\Omega)$ or The limited current should be no more than 1A, (whichever the resistance value is the greater) DV/DT (V/us): 100v/us max
15	阻燃性试验 Passive flammability	任一试验电容器在离开火源后持续燃烧的时间不能超过30秒, 其燃烧下落物不能将下面的纱棉引燃 The flaming time of each sampling capacitor shall not go beyond 30sec after it is taken apart from the flame. Drop of each capacitor caused by the flame shall not fire the tissue below	参照4.17节 Ref 4.17 clause 采用针炎测试法, 阻燃等级B级 Needle flame test The category of flammability: B 暴露次数: 1次 Expose time: 1 time 产品体积 暴露时间 Capacitor volume Exposing time $250 < V(\text{mm}^3) \leq 500$ s=20秒 $500 < V(\text{mm}^3) \leq 1750$ s=30秒 $V(\text{mm}^3) > 1750$ s=60秒



项次 NO.	检测项目 Test item	性能 Performance	检测方法(参照IEC60384-14:2005) Test method (refer to IEC60384-14:2005)
16	自燃性 Active flammability	缠绕在电容器上的纱布应不被火焰燃烧 The cheesecloth around the capacitor shall not burn with a flame	试样用未处理过的纯棉布缠绕至少一层,但不能多于两层. 每一样品应能承受贮存电容器放电20次; 第两次放电间隔5秒, $U_i=2.5KV+7\%/-0\%$ The specimens shall be invididually wrapped at least 1 layer,but not more than 2 layers,complete of cheesecloth ,the cheesecloth should be untreated pure cotton. Each sample shall be subjected to 20 discharged,the interval between successtive discharges shall be 5s $U_i=2.5KV+7\%/-0\%$

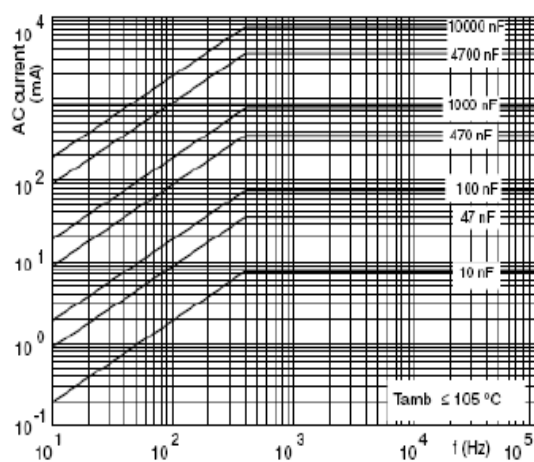
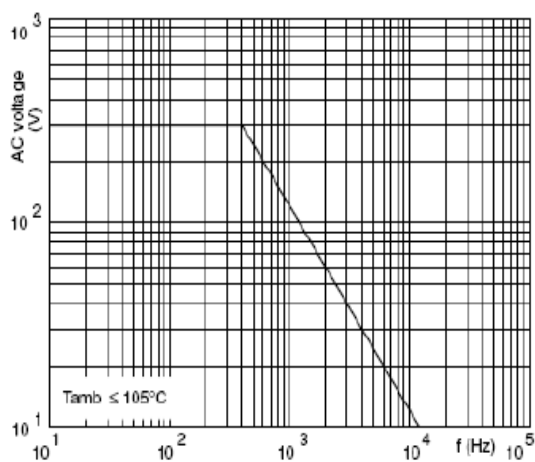
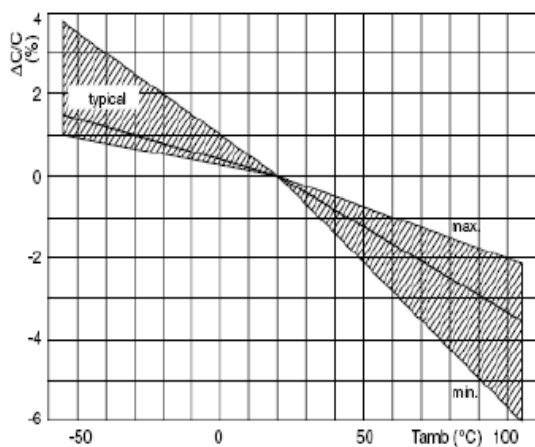
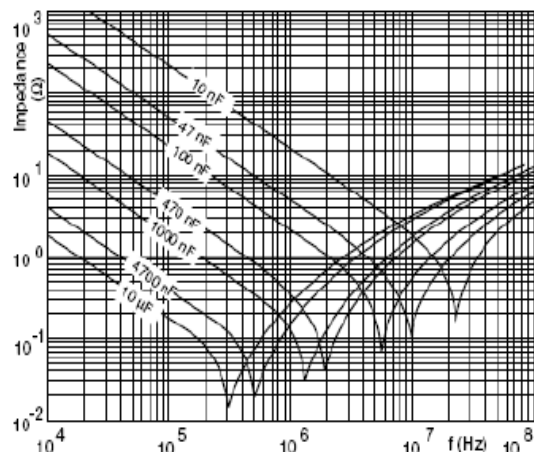


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3.特性曲线图 CHARACTERISTIC CURVE

最大有效值，额定交流电压及电流对比工作频率曲线图

MAXIMUM RMS VOLTAGE AND AC CURRENT (SINEWAVE) AS A FUNCTION OF FREQUENCY

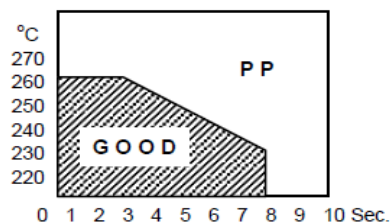
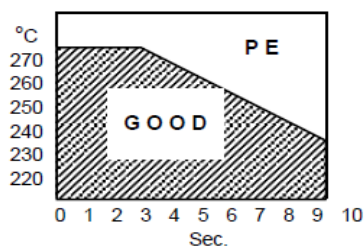
容量变化率对比工作温度曲线图
CAPACITANCE电容阻抗对比工作频率曲线图
IMPEDANCE



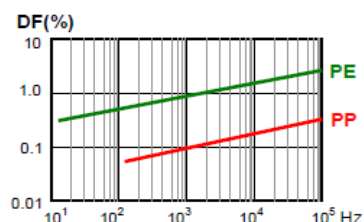
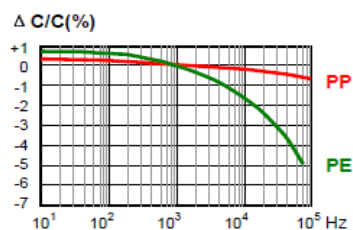
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CHARACTERISTICS REFERENCE

Solderring Temperature VS Time 焊接温度 VS 时间



Frequency Characteristics 频率特性



Temperature Characteristics 温度特性

