



# 智新电子(厦门)有限公司

JIMSON ELECTRONICS (XIAMEN) CO.,LTD.

File NO (文件编号):	JS-S191014200
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## 规格书

## SPECIFICATION

☆客户名称

CUSTOMER: 立创

☆产品名称

PROD NAME: 电容器/Capacitor

☆类别

TYPE: MKP X2

☆规格

DESCRIPTION: 0.022uF~4.7uF K 310VAC

☆日期

DATE: 2019-10-14

编制: 徐玉倩

审核: 梁亚苗

会签:  
日期: \_\_\_\_\_

### 注意事项:

- 1、本规格书双方签字后正式生效，本规格书共 8 页；
- 2、本规格书一式两份，任何对内容的改动必须经双方同意，并以书面文件的形式发布。

## 1.SPECIFIC REFERENCE DATA

DESCRIPTION		VALUE	TEST CONDITIONS
Capacitance 容量	Rated Capacitance 标称值	0.022uF~4.7uF	Measuring frequency: 1kHz±10% Measuring voltage: 1Vms.max.
	Capacitance tolerance 容量误差	K=±10%	
Voltage 电压	Rated voltage (额定电压)	310VAC	4.3*UR VDC (1 minute at 20°C)
	Voltage proof (耐电压)	无永久性击穿及飞弧	
Dissipation factor (tangent of loss) 散逸因素(损耗角正切)		DF≤0.1% (at 20°C,1KHz)	Measuring frequency: 1kHz±10% Measuring voltage: 1Vms.max.
Insulation resistance 绝缘电阻		C≤0.33uF IR≥15000MΩ C >0.33uF IR*C≥5000S	measured at rated voltage or less than 100VDC 1 minute at 20°C and RH≤65%
Endurance 耐久性		Δ C/C≤10%; Δ DF≤0.8% (C≤1uF) Δ DF≤0.5%;(C>1uF) IR ≥ 50% of the specified value (标称值)	1000 hours with 125% of rated voltage at 85°C.
Climatic catalogue 气候类别		40/100/21	
Solder ability 可焊性		Solder should cover at least 75% of the circumference of the lead 浸没部分引脚需有 75%以上面积挂上锡	solder bath : 235±5°C bath time: 2.0±0.5 sec speed: 25±6 mm/sec depth: 1.5+0.5/-0mm from the bottom of the body
Heat shock 耐焊接热		Δ C/C≤±5%, DF≤1.2*规定值。 试验后电容器外观应无可见损伤,	solder bath : 260±5°C bath time: 5.0±0.5 sec speed: 25±6 mm/sec depth: 1.5+0.5/-0mm from the bottom of the body
Lead tensile strength: 引脚拉伸强度		外观无损伤	Pull: 2.2 LBS time: 5 sec
Lead bending strength 引脚弯曲强度		引脚无损伤	Load of lead: 1.1 LBS The body of capacitor is bent 90 degrees and returned to its original position
Vibration 震动		外观无可见损伤	Frequency cycle: from 10Hz to 55Hz and then 10Hz Amplitude: 1.5mm in three directions Time: 2 hours each directions with a total of 6 hours
Reference standard 引用标准		IEC 60384-14,UL60384-14	

## 2.CONSTRUCTION:

2.1 Dielectric 介质	polypropylene film 聚丙烯薄膜	
2.2 Electrodes 电极	vacuum evaporated metal 真空蒸镀金属	
2.3 coating 包封	Encapsulated in reinforced flame retardant plastic case sealed with epoxy resin meeting the requirement of-UL94V-0 (阻燃盒子并以环氧树脂灌封)	
2.4 LEADS 导线	Radial leads of tinned wire/insulation flexible wire 径向镀锡导线或软导线	
2.5 Terminal contact 引线连接方式	electrically welded; 电弧点焊	

## 3.SAFETY APPROVALS

SAFETY APPROVAL	COUNTRY	FILE NUMBER
UL60384—14	Canada / America	E152288
VDE (EN60384-14)	Germany	40000463
VDE(EN60384-14) EN/EC	Europe	40000463
CQC (IEC60384-14 ed.4)	China	CQC03001002847
CB (IEC60384-14)	IEC	US-25278-UL
KC (K60384-14)	KOREA	SUO3035-7001-3A

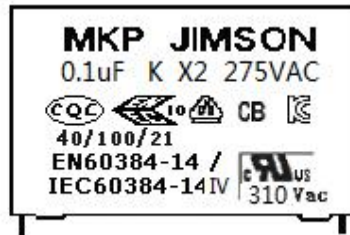
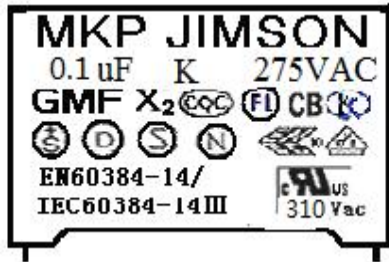


## 4.FEATURE:

- 宽温度、频率范围内，容量和 DF 具有高稳定性  
High stability of capacitance and DF versus wide temperature and frequency range ;
- 高电流承受及高绝缘强度  
High transient endurance and high dielectric strength ;
- 长时间工作稳定性  
Real long-term stability;
- 能承受高压冲击  
Withstanding over-voltage stressing.
- 额定电压符号 (单位 V):

**5.APPLICATION:**

- 线间旁路 Line-by -pass;
- 天线耦合 Antenna coupling;
- 线间跨接, 抑制电源电磁干扰 Across- the-line, Spark killer;
- 频率调制滤波 FMI filter;
- 开关电源 Switching power supply.

**6.THE MARKING:** (打印方式: UV 油墨或激光雕刻)

旧版印字格式 Old print

新版印字格式 New print

内容 Those marking include:

- 生产商 Manufacturer: JIMSON
- 产品型号 Manufacturer's type designation: MKP
- 额定容量 Rated capacitance in uF, such as 0.1uF
- 容量偏差 Tolerance on rated capacitance: K=±10%
- 额定电压 Rated voltage (AC), such as 310VAC
- 气候类别 Climatic catalogue GMF
- 产品等级 Sub-class, such as X2
- 安规标志 Safety approvals: Products will be marked with all approvals which have been achieved. (show in 2.)
- 引用标准 Reference standard: IEC384-14。

**ENEC Approved Country 、 Certification Bodies and ENEC Codes**

No	Country	Certification Body	No	Country	Certification Body
01	Spain	AENOR	13	Switzerland	SEV
02	Belgium	CEBEC	14	Sweden	SEMKO
03	Italy	IMQ	15	Denmark	DEMKO
04	Portugal	CERTIF	16	Finland	FIMKO
05	Holland	KEMA	17	Norway	NEMKO
06	Ireland	NSAI	18	Hungary	MEEI
07	Luxembourg	SEE	19	England	BEAB
08	France	LCIE	20	England	ASTA
09	Greece	ELOT	21	Czech epublic	EZU
10	Germany	VDE	22	Slovenia	SIQ
11	Austria	OVE	24	Germany	TUV Rheinland
12	England	BSI			

## 7.HOW TO DESCRIBE JIMSON CAPACITOR

MKP 104                      K                      310VAC                      R  
type capacitance              tolerance              rated voltage              pitch

■型号 TYPE:                      MKP

■容量 CAPACITANCE:

产品的电容量用三位数字来表示，其中前两位数代表电容量的标称值，后一位表示电容量的指数值，亦即标称值后零的个数，单位为 PF。

The rated capacitance value of the product is indicated with three digits. The first two digits indicate the two most significant digits of capacitance value, and the third digit gives the number of following zeroes. This gives the capacitance value expressed in Pico farad.

For example:

$$10\ 2=10 \times 10^2 \text{pF}=1000 \text{pF}=1 \text{nF}=0.001 \mu\text{F}$$

$$15\ 3=15 \times 10^3 \text{pF}=15000 \text{pF}=15 \text{nF}=0.015 \mu\text{F}$$

$$22\ 4=22 \times 10^4 \text{pF}=220000 \text{pF}=220 \text{nF}=0.22 \mu\text{F}$$

$$33\ 5=33 \times 10^5 \text{pF}=3300000 \text{pF}=3300 \text{nF}=3.3 \mu\text{F}$$

■容量单位 CAPACITANCE UNIT:

$$1 \text{F}=1,000 \text{mF}=1,000,000 \mu\text{F}=1,000,000,000 \text{nF}=1,000,000,000,000 \text{pF}$$

■ 容量偏差符号 SYMBOL OF CAPACITOR TOLERANCE

SYMBOL	B	C	D	F	G	H	I	J	K	M	N	V	Z
TOLERANCE	±	±	±	±	±	±	±	±	±	±	±	20	+80
PERCENTAG %	0.1	0.2	0.5	1.0	2.0	2.5	3.0	5.0	10	20	30	-10	-20

■额定电压符号 SYMBOL OF RATED VOLTAGE

	A	B	C	D	E	F	G	H	J	K
1								50	63	80
2	100	125	160	200	250	315	400	500	630	800
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000

For example:

$$1 \text{J}=63 \text{V}; 2 \text{E}=250 \text{V}; 3 \text{D}=2000 \text{V}$$

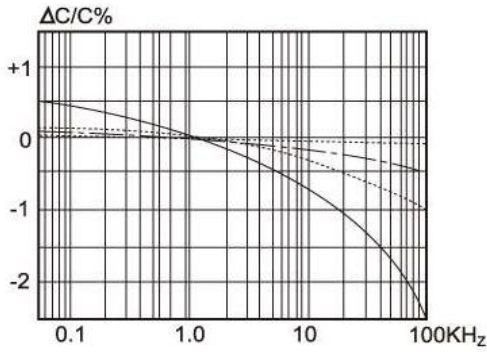
■ 脚距 PITCH

E	J	N	R	S	T	V	W	X
5.0	7.5	10.0	15.0	17.5	20.0	22.5	27.5	Others

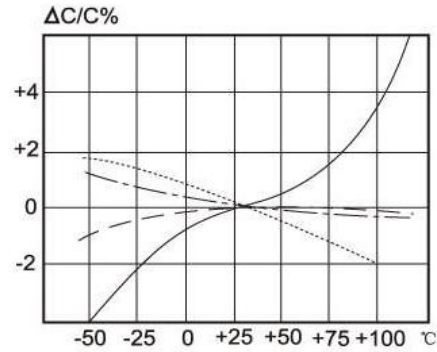
■引脚类型 LEAD

R	F	C	B	O
Rigid	Flexible	Cut	Crimped	Others

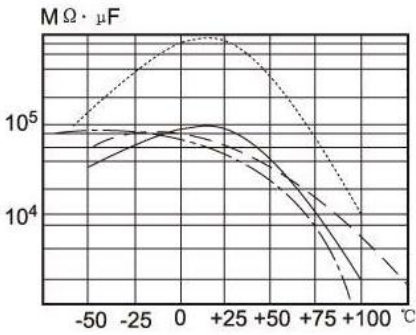
### 8. PROPERTIES OF CAPACITOR AND THE DIELECTRICS:



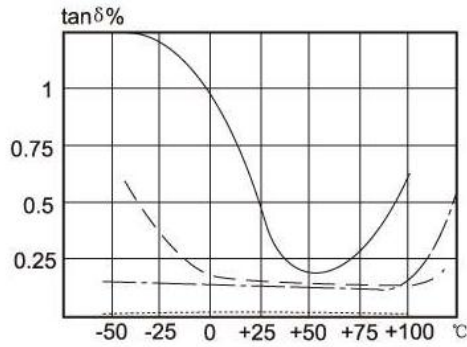
Capacitance vs. Frequency  
容量与频率



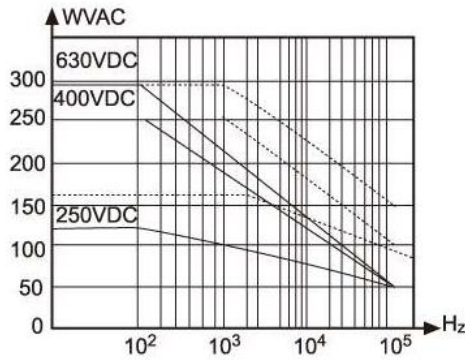
Capacitance vs. Temperature  
容量与温度



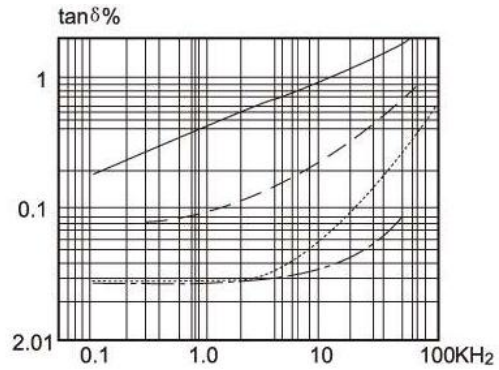
Insulation resistance vs. Temperature  
绝缘电阻与温度



Dissipation factor vs. Temperature  
损耗与温度

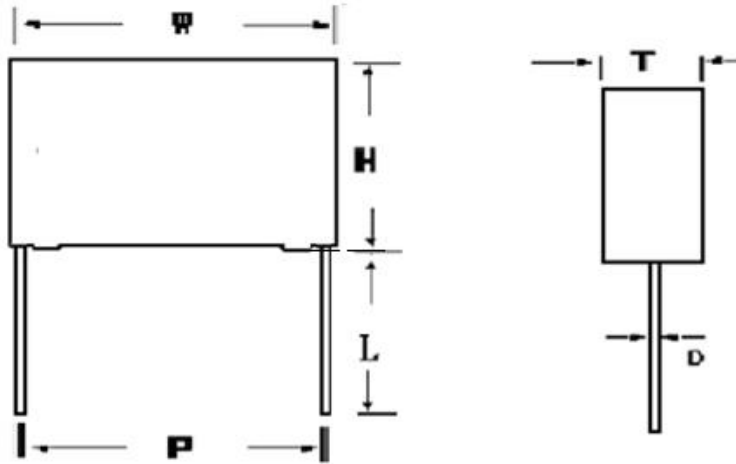


Working Voltage DC&AC vs. Frequency  
工作电压直流交流与频率



Dissipation factor vs. Frequency  
损耗与频率

- 聚酯 Polyester
- ..... 聚丙烯 Polypropylene
- 聚碳酸脂 Polycarbonate
- 聚苯乙烯 Polystyrene

**9. OUTLINE DRAWING:****10. DIMENSION:****Unit: mm**

SYMBOL	CAP	COLOR	W ±0.5	H ±0.5	T ±0.5	P ±1.0	D ±0.05	L +5/-10
223K310A02	0.022uF	Yellow	13.0	11.0	5.0	10.0	0.6	25.0
473K310A02	0.047uF	Yellow	18.0	12.0	6.0	15.0	0.6	25.0
104K310A02	0.1uF	Yellow	18.0	12.0	6.0	15.0	0.8	25.0
154K310A01	0.15uF	Yellow	18.0	18.0	10.0	15.0	0.8	25.0
334K310A01	0.33uF	Yellow	18.0	16.0	10.0	15.0	0.8	25.0
474K310A04	0.47uF	Yellow	26.5	18.5	10.0	22.5	0.8	25.0
684K310A01	0.68uF	Yellow	26.5	22.0	12.0	22.5	0.8	25.0
335K310A01	3.3uF	Yellow	32.0	28.0	18.0	27.5	0.8	25.0

SYMBOL	CAP	COLOR	W ±0.5	H ±0.5	T ±0.5	P ±1.0	D ±0.05	L ≥
105K310A01	1.0uF	Yellow	26.5	22.0	12.0	22.5	0.8	30.0

## 11. 使用注意事项 Caution

### 11.1 焊接建议 Soldering Suggestion

为了达到更好的可焊性，建议按照下列的标准；

In order to achieve a better solderability, recommended in accordance with the following criteria

最大的焊接温度 Maximum Soldering Temperature

	T max	Time
预热 Pre-heating	105°C	1min
焊接 Soldering	270°C	4S

### 11.2 盐雾试验条件 Salt fog test

本产品引线为镀锡铜包钢产品，请过完波峰焊后再进行盐雾试验；

The lead wire of this product is tin-plated copper-coated steel. Please test the salt mist after the wave peak welding.

## 12. 存储环境及条件 Storage Environment and Conditions

### 12.1 存储环境 Storage Environment

储存在温度≤30°C，湿度≤70%的情况下，MBB（Moisture Barrier Bag）未打开能够保证 24 个月的储存期。

In the storage temperature are less than 30, humidity less than 70% conditions, MBB（Moisture Barrier Bag）is not open to ensure that the storage period of 24 months.

### 12.2 存储条件 Storage Condition

由于大气中存在氯化物、氢硫化物、硫酸物质等，因此产品储存在空气中，引出端的可焊性会变差。

产品不能暴露在高温高湿状态，必须在 12 的存储环境条件下保存

Due to the presence of hydrogen chloride, hydrogen sulfide, sulfuric acid, etc. in the atmosphere, So the product is stored in the air, solderability of terminations will be poor.

Products can not be exposed to high temperature and high humidity condition, must be stored under 12 of the storage environment.

## 13. 绿色产品 Green Products

符合 RoHS 标准 In compliance with RoHS

智新电子有限公司提供的产品均符合 RoHS 2.0 环保指令的要求

JIMSON ELECTRONICS CO., LTD Products are RoHS Compliant.

**THE END**



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[MKPY2-.02230020P15](#) [MKT 1813-368-015](#) [4055292001](#) [46KN410000N1K](#) [EEC2E106HQA405](#) [EEC2G205HQA402](#) [EEC2G805HQA415](#)  
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