



# 智新电子（厦门）有限公司

JIMSON ELECTRONICS (XIAMEN) CO.,LTD.

规 格 书

## SPECIFICATION

☆客户名称

CUSTOMER: \_\_\_\_\_

☆产品名称

PROD NAME: 电容器/Capacitor

☆类别

TYPE: MRC

☆规格

DESCRIPTION: 0.47uF+47  $\Omega$  K 300VAC

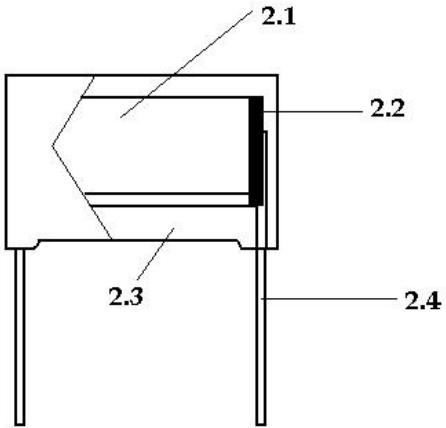
☆日期

DATE: 2022-06-13

## 1.SPECIFIC REFERENCE DATA

DESCRIPTION		VALUE	TEST CONDITIONS
Capacitance 容量	Rated Capacitance 标称值	0.47uF	Measuring frequency: 1kHz Measuring voltage: 1V
	Capacitance tolerance 容量误差	K=±10%	
Voltage 电压	Rated voltage 额定电压	300VAC	1.6*UR Unit:VDC (1 minute at 20℃)
	Voltage proof 耐电压	无永久性击穿及飞弧	
Resistance 电阻阻值		47 Ω	
Dissipation factor (tangent of loss) 散逸因素(损耗角正切)		DF≤9.12% (at 20℃,1KHz)	Measuring frequency: 1kHz±10% Measuring voltage: 1Vrms.max.
Insulation resistance 绝缘电阻（仅指串联）		C≤0.33uF IR≥15000MΩ C >0.33uF IR*C≥5000S	measured at rated voltage or less than 100VDC 1 minute at 20℃ 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℃.
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℃ 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℃ 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,EN60384-14	

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 灌封	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	Tinned Wire or polyvinylchloride (PVC) insulation stranded copper wire 径向镀锡导线或绝缘导线	
2.5 Resistance 电阻	Non-Inductive, high pulse resistor (无感型, 耐脉冲电阻)	
2.6 Terminal contact 引线连接方式	electrically welded; 电弧点焊	

3.SAFETY APPROVALS

RC -- (SERIES)

	CHINA 中国 GB/T14472-1998	CQC03001002848
	欧共体 EN132400 IEC60384-14	SE/0364-1
	USA 美国 UL 1283	E221606

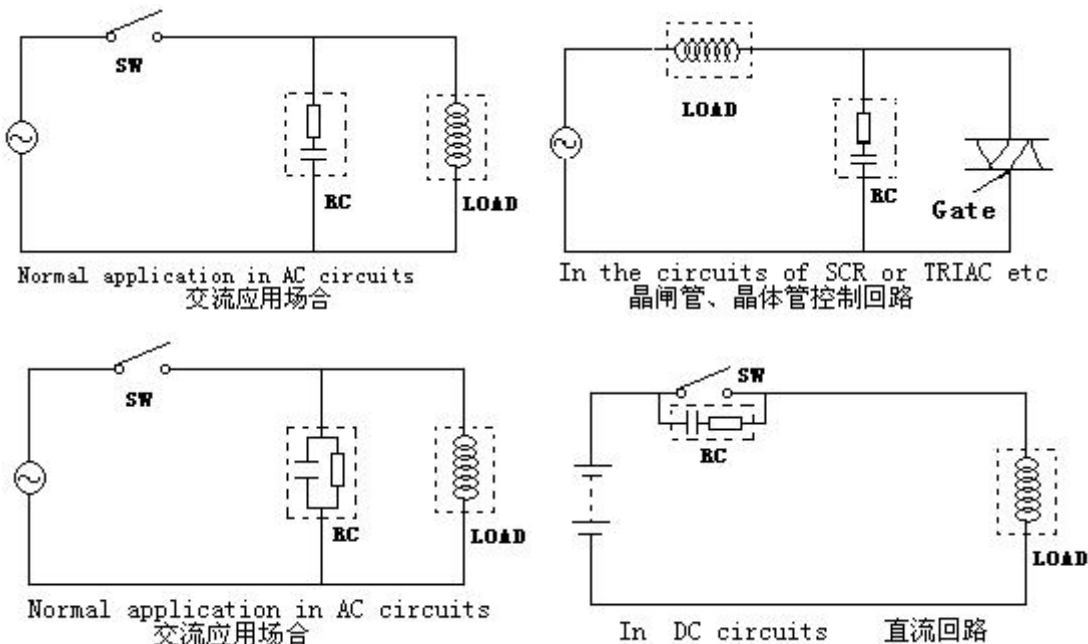
4.FEATURE:

- 小体积，性能佳  
Small size with superior performance;
- 可安装于 PCB  
Suitable for PCB mounting ;
- 适用于交/直流  
Ideal for AC or DC application
- 多种电阻功率 1/4, 1/2 和 1 瓦特，电容 0.001μF 至 1.0μF 供选择  
Large product selection range with 1/4, 1/2 and 1 watt resistors ,0.001μF to 1.0μF capacitance
- 可选软引线式、管状或盒子结构  
Providing flexible wire , tubular and box type on request.

## 5.APPLICATION:

- 设备切换时，保护触点，消除火花及噪音  
Protection for contacts from noise during switching operations of equipment;
- 接触器、继电器、电机等操作时保护电子设备  
Protection of electronic instruments during operation of relays ,solenoids, motors and so on
- 消除晶闸管、电子体、电机、焊接机等半导体设备之电谐干扰  
Electrical noise protection of semiconductor equipment during the control of triacs, transistor, motors, welders, etc.

## 6.APPLICATION EXAMPLE



## 7.THE MARKING:



内容 Those marking include:

- 生产商 Manufacturer: JIMSON
- 产品型号 Manufacturer's type designation: MRC
- 额定容量 Rated capacitance in  $\mu$ F, such as 0.47 $\mu$ F
- 容量偏差 Tolerance on rated capacitance: K= $\pm$ 10%
- 额定电压 Rated voltage (AC), such as 300VAC
- 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 Page2.)
- 引用标准 Reference standard: IEC60384-14。

## 7.HOW TO DESCRIBE JIMSON CAPACITOR

MRC      474                  K                  300VAC  
type   capacitance   tolerance   rated voltage

■ **TYPE:**                  RC

■ **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=10×10<sup>2</sup>pF=1000pF=1nF=0.001uF

15 3=15×10<sup>3</sup>pF=15000pF=15nF=0.015uF

22 4=22×10<sup>4</sup>pF=220000pF=220nF=0.22uF

33 5=33×10<sup>5</sup>pF=3300000pF=3300nF=3.3uF

■ **容量单位 CAPACITANCE UNIT:**

1F=1,000mF=1,000,000uF=1,000,000,000nF=1,000,000,000,000pF

■ **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 PERCENTAGE %	± 0.1	± 0.2	± 0.5	± 1.0	± 2.0	± 2.5	± 3.0	± 5.0	± 10	± 20	± 30	20 -10	+80 -20

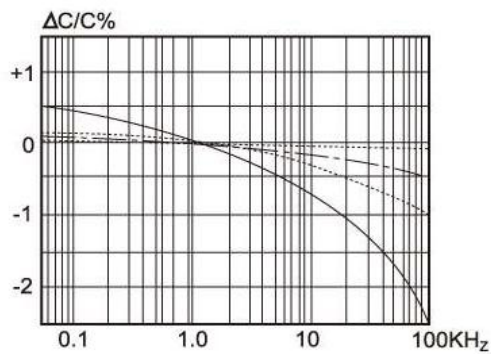
■ **额定电压符号 SYMBOL OF RATED VOLTAGE**

	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

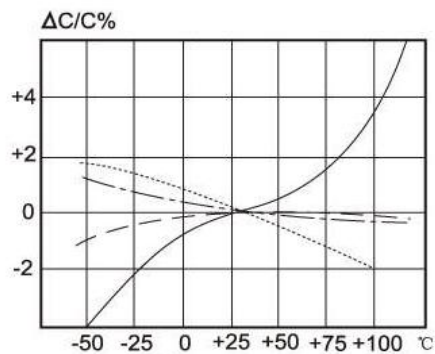
For example:

1J=63V;2E=250V;3D=2000V

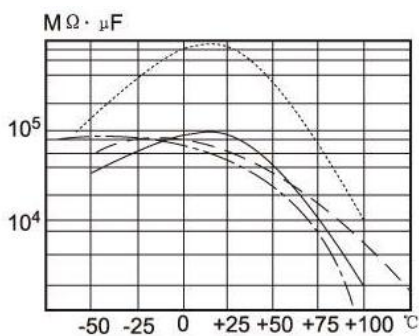
## 8. PROPERTIES OF CAPACITOR AND THE DIELECTRICS:



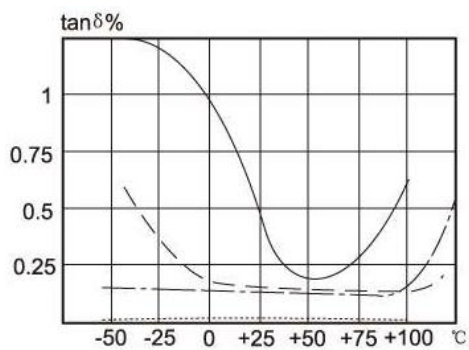
Capacitance vs. Frequency  
容量与频率



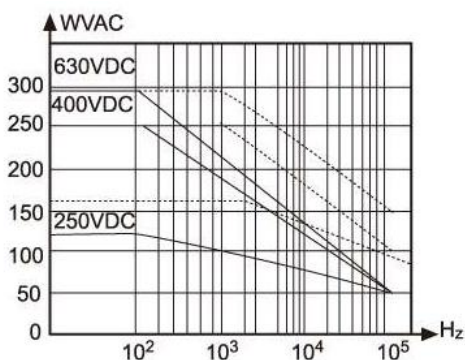
Capacitance vs. Temperature  
容量与温度



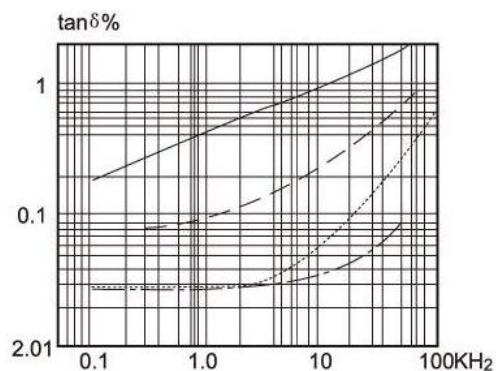
Insulation resistance vs. Temperature  
绝缘电阻与温度



Dissipation factor vs. Temperature  
损耗与温度



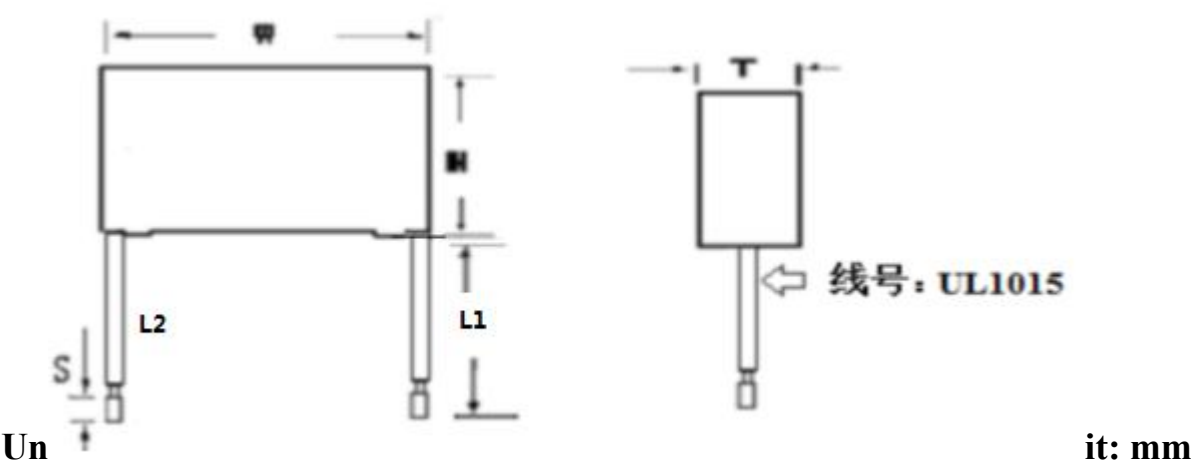
Working Voltage DC&AC vs. Frequency  
工作电压直流交流与频率



Dissipation factor vs. Frequency  
损耗与频率

—————	聚酯	Polyester
.....	聚丙烯	Polypropylene
—————	聚碳酸酯	Polycarbonate
—————	聚苯乙烯	Polystyrene

10. DIMENSION:



SYMBOL	CAP	RESIS	COLOR	W ±0.5	H ±0.5	T ±0.5	L1/L 2 ±5.0	S ±1.0	UL1 015
RC474K300VAC (串联)	0.47uF	47Ω 1/2W	YELLOW	26.5	18.5	10.0	100.0	5.0	20#

11.使用注意事项 Caution

## 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℃	1min
焊接 Soldering	270℃	4S

## 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 $\leq 30^{\circ}\text{C}$ ，湿度 $\leq 70\%$ 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

由于大气中存在氢氯化物、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