

RoHS
Compliant

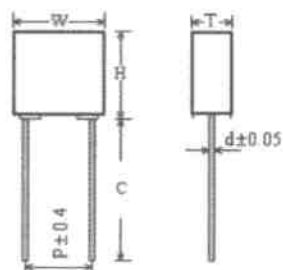
SPECIFICATION FOR APPROVAL

产 品 名 称	塑料外壳金属化聚酯膜叠片式电容器
Product Name	Box-type Metallized Polyester Film Capacitor(Stacked version)
产品型号代码	C24(CL23B Series)
Product Type:	
产 品 编 码	
Product Code	
客 户 名 称	
Customer	
客 户 编 码	
Customer Code	
日 期	2008-03
Issue Date	

塑料外壳金属化聚酯膜叠片式电容器 (P=5.0)

Box-type metallized polyester film capacitor(Stacked version)

■ 外形图 Outline Drawing



■ 特点

- 金属化聚酯膜，叠片式结构
- 塑料外壳 (UL94 V-0)，阻燃环氧填充
- 抗脉冲能力强

■ 主要用途:

- 旁路，隔直，耦合，退耦
- 脉冲，逻辑，定时，电路振荡器
- LCD 监视器整流，汽车直流马达抑制干扰

■ Features

- metallized polyester film, stacked construction
- Plastic case (UL94 V-0), Epoxy resin sealing
- High dv/dt ability

■ Typical Applications:

- By-passing, blocking, coupling, decoupling,
- Pulse, logic, timing, oscillator circuits.
- Inverter for LCD monitors, automotive DC motor suppression

■ 技术要求 Specifications

引用标准 Reference Standard	GB 7332(IEC 60384-2)		
气候类别 Climatic Category	55/100/56		
额定温度 Rated temperature	85℃		
工作温度 Operating temperature	-55℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per °C for VR(dc))		
额定电压 Rated Voltage	50/63V, 100V, 250V, 400V, 500V, 630V, 700V		
电容量范围 Capacitance Range	0.0010μF ~ 1.5μF		
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)		
耐电压 Voltage Proof	I 型: 1.6U _R (5s), II 型: 1.4U _R (5s)		
损耗角正切 Dissipation Factor	测试频率 Frequency	C _R ≤ 0.1μF	C _R > 0.1μF
	1kHz	≤1.0%	≤1.0%
	10kHz	≤1.5%	≤1.5%
	100kHz	≤3.0%	-
绝缘电阻 Insulation Resistance	U _R > 100V	≥30 000MΩ, C _R ≤ 0.33μF (20℃, 100V, 1min)	
	U _R ≤ 100V	≥15 000MΩ, C _R ≤ 0.33μF ≥5 000s, C _R > 0.33μF (20℃, 10V, 1min)	
最大脉冲爬升速率 Maximum Pulse Rise Time(dv/dt): 若实际工作电压 U 比额定电压 U _R 低, 电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值应为右表值乘以 U _R /U。 If the working voltage(U) is lower than the rated voltage(U _R),the capacitor can be worked at a higher dv/dt. In this case, the maximum allowed dv/dt is obtain by multiplying the right value with U _R /U.	U _R (V)	dv/dt (V/μs)	
	50/63	250	
	100	300	
	250	400	
	400	600	
	500	700	
	630	800	
	700	850	

产品编码说明 Part number code system

15 位产品代码如下:

The 15 digits part number is formed as follow:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	2	4							2					

第 1-3 位 薄膜电容器系列代码

C24=CL23B

Digit 1 to 3 Series code of film capacitor

C24=CL23B

第 4-5 位 额定电压

1H=50V 1J=63V 2A=100V 2E=250V

2G=400V 2H=500V 2J=630V 1V=700V

Digit 4 to 5 DC rated voltage

1H=50V 1J=63V 2A=100V 2E=250V

2G=400V 2H=500V 2J=630V 1V=700V

第 6-8 位 标称容量

举例: $103=10 \times 10^3 \text{pF}=0.01\mu\text{F}$

Digit 6 to 8 Rated capacitance value

for example : $103=10 \times 10^3 \text{pF}=0.01\mu\text{F}$

第 9 位 容量偏差

J=±5%, K=±10%, M=±10%

Digit 9 Capacitance tolerance

J=±5%, K=±10%, M=±10%

第 10 位 引线间距 P

2=5.0

Digit 10 Lead pitch

2=5.0

第 11 位 内部特征码

Digit 11 Internal use

第 12-15 位 引线加工和包装代码

Digit 12 to 15 Lead dimensions and packaging code

Table 1 引线加工和包装代码 lead dimensions and packaging code

第 12 位 Digit 12		第 13 位 Digit 13		第 14 位 Digit 14		第 15 位 Digit 15	
代码 code	说明 explanation	代码 code	说明 explanation	代码 code	说明 explanation	代码 code	说明 explanation
A R	弹带包装 ammo-pack 圆盘包装 reel-pack	2	F=5.0mm	0 1	表示直脚 straight 表示弯脚 kinked	1	产品在连续的两个载带孔之间 each cap. among two consecutive holes P3=12.7mm,H=18.5mm (For pitch=7.5mm)
F	引线成型 lead kinked	2	F=5.0mm	0	B=4.5mm The length of B	0	B 的长度偏差±0.5mm B Length tolerance ±0.5mm
C	散装切脚 bulk (long lead or short lead)	代 码 code	说明 explanation			0	引线长度偏差±0.5mm 或标准长度 Length tolerance ±0.5mm Or standard length
		00	标准的引线长度(18mm~22mm) standard lead length				
		45	引线长度 4.5mm lead length 4.5mm				

■外形尺寸 Dimensions(mm)

电容器厚度 (Capacitor Thickness) T	≤3.5	>3.5
外形尺寸偏差 Dimension Tolerance (W, H, T)	±0.2	±0.4

I 型 (Pattern I)

50 Vdc (30Vac)/63Vdc (40Vac) [#]							100Vdc (63Vac)							250V dc (160Vac)						
容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number
0.0010	7.2	6.5	2.5	5.0	0.5	C241J102+20****	0.0010	7.2	6.5	2.5	5.0	0.5	C242A102+20****	0.0010	7.2	6.5	2.5	5.0	0.5	C242E102+20****
0.0012	7.2	6.5	2.5	5.0	0.5	C241J122+20****	0.0012	7.2	6.5	2.5	5.0	0.5	C242A122+20****	0.0012	7.2	6.5	2.5	5.0	0.5	C242E122+20****
0.0015	7.2	6.5	2.5	5.0	0.5	C241J152+20****	0.0015	7.2	6.5	2.5	5.0	0.5	C242A152+20****	0.0015	7.2	6.5	2.5	5.0	0.5	C242E152+20****
0.0018	7.2	6.5	2.5	5.0	0.5	C241J182+20****	0.0018	7.2	6.5	2.5	5.0	0.5	C242A182+20****	0.0018	7.2	6.5	2.5	5.0	0.5	C242E182+20****
0.0022	7.2	6.5	2.5	5.0	0.5	C241J222+20****	0.0022	7.2	6.5	2.5	5.0	0.5	C242A222+20****	0.0022	7.2	6.5	2.5	5.0	0.5	C242E222+20****
0.0027	7.2	6.5	2.5	5.0	0.5	C241J272+20****	0.0027	7.2	6.5	2.5	5.0	0.5	C242A272+20****	0.0027	7.2	6.5	2.5	5.0	0.5	C242E272+20****
0.0033	7.2	6.5	2.5	5.0	0.5	C241J332+20****	0.0033	7.2	6.5	2.5	5.0	0.5	C242A332+20****	0.0033	7.2	6.5	2.5	5.0	0.5	C242E332+20****
0.0039	7.2	6.5	2.5	5.0	0.5	C241J392+20****	0.0039	7.2	6.5	2.5	5.0	0.5	C242A392+20****	0.0039	7.2	6.5	2.5	5.0	0.5	C242E392+20****
0.0047	7.2	6.5	2.5	5.0	0.5	C241J472+20****	0.0047	7.2	6.5	2.5	5.0	0.5	C242A472+20****	0.0047	7.2	6.5	2.5	5.0	0.5	C242E472+20****
0.0056	7.2	6.5	2.5	5.0	0.5	C241J562+20****	0.0056	7.2	6.5	2.5	5.0	0.5	C242A562+20****	0.0056	7.2	6.5	2.5	5.0	0.5	C242E562+20****
0.0068	7.2	6.5	2.5	5.0	0.5	C241J682+20****	0.0068	7.2	6.5	2.5	5.0	0.5	C242A682+20****	0.0068	7.2	6.5	2.5	5.0	0.5	C242E682+20****
0.0082	7.2	6.5	2.5	5.0	0.5	C241J822+20****	0.0082	7.2	6.5	2.5	5.0	0.5	C242A822+20****	0.0082	7.2	6.5	2.5	5.0	0.5	C242E822+20****
0.010	7.2	6.5	2.5	5.0	0.5	C241J103+20****	0.010	7.2	6.5	2.5	5.0	0.5	C242A103+20****	0.010	7.2	6.5	2.5	5.0	0.5	C242E103+20****
0.012	7.2	6.5	2.5	5.0	0.5	C241J123+20****	0.012	7.2	6.5	2.5	5.0	0.5	C242A123+20****	0.012	7.2	6.5	2.5	5.0	0.5	C242E123+20****
0.015	7.2	6.5	2.5	5.0	0.5	C241J153+20****	0.015	7.2	6.5	2.5	5.0	0.5	C242A153+20****	0.015	7.2	6.5	2.5	5.0	0.5	C242E153+20****
0.018	7.2	6.5	2.5	5.0	0.5	C241J183+20****	0.018	7.2	6.5	2.5	5.0	0.5	C242A183+20****	0.018	7.2	6.5	2.5	5.0	0.5	C242E183+20****
0.022	7.2	6.5	2.5	5.0	0.5	C241J223+20****	0.022	7.2	6.5	2.5	5.0	0.5	C242A223+20****	0.022	7.2	7.5	3.5	5.0	0.5	C242E223+20****
0.027	7.2	6.5	2.5	5.0	0.5	C241J273+20****	0.027	7.2	6.5	2.5	5.0	0.5	C242A273+20****	0.027	7.2	7.5	3.5	5.0	0.5	C242E273+20****
0.033	7.2	6.5	2.5	5.0	0.5	C241J333+20****	0.033	7.2	6.5	2.5	5.0	0.5	C242A333+20****	0.033	7.2	7.5	3.5	5.0	0.5	C242E333+20****
0.039	7.2	6.5	2.5	5.0	0.5	C241J393+20****	0.039	7.2	6.5	2.5	5.0	0.5	C242A393+20****	0.039	7.2	7.5	3.5	5.0	0.5	C242E393+20****
0.047	7.2	6.5	2.5	5.0	0.5	C241J473+20****	0.047	7.2	6.5	2.5	5.0	0.5	C242A473+20****	0.047	7.2	9.5	4.5	5.0	0.6	C242E473+20****
0.056	7.2	6.5	2.5	5.0	0.5	C241J563+20****	0.056	7.2	6.5	2.5	5.0	0.5	C242A563+20****	0.056	7.2	9.5	4.5	5.0	0.6	C242E563+20****
0.068	7.2	6.5	2.5	5.0	0.5	C241J683+20****	0.068	7.2	6.5	2.5	5.0	0.5	C242A683+20****	0.068	7.2	9.5	4.5	5.0	0.6	C242E683+20****
0.082	7.2	6.5	2.5	5.0	0.5	C241J823+20****	0.082	7.2	6.5	2.5	5.0	0.5	C242A823+20****	0.082	7.2	10.0	5.0	5.0	0.6	C242E823+20****
0.10	7.2	6.5	2.5	5.0	0.5	C241J104+20****	0.10	7.2	7.5	3.5	5.0	0.5	C242A104+20****	0.10	7.2	10.0	5.0	5.0	0.6	C242E104+20****
0.12	7.2	6.5	2.5	5.0	0.5	C241J124+20****	0.12	7.2	9.5	4.5	5.0	0.6	C242A124+20****	0.12	7.2	11.0	6.0	5.0	0.6	C242E124+20****
0.15	7.2	7.5	3.5	5.0	0.5	C241J154+20****	0.15	7.2	9.5	4.5	5.0	0.6	C242A154+20****	0.15	7.2	11.0	6.0	5.0	0.6	C242E154+20****
0.18	7.2	7.5	3.5	5.0	0.5	C241J184+20****	0.18	7.2	9.5	4.5	5.0	0.6	C242A184+20****							
0.22	7.2	7.5	3.5	5.0	0.5	C241J224+20****	0.22	7.2	10.0	5.0	5.0	0.6	C242A224+20****							
0.27	7.2	9.5	4.5	5.0	0.6	C241J274+20****	0.27	7.2	10.0	5.0	5.0	0.6	C242A274+20****							
0.33	7.2	9.5	4.5	5.0	0.6	C241J334+20****	0.33	7.2	11.0	6.0	5.0	0.6	C242A334+20****							
0.39	7.2	9.5	4.5	5.0	0.6	C241J394+20****	0.39	7.2	11.0	6.0	5.0	0.6	C242A394+20****							
0.47	7.2	10.0	5.0	5.0	0.6	C241J474+20****	0.47	7.2	11.0	6.0	5.0	0.6	C242A474+20****							
0.56	7.2	10.0	5.0	5.0	0.6	C241J564+20****	0.56	7.2	11.0	6.0	5.0	0.6	C242A564+20****							
0.68	7.2	11.0	6.0	5.0	0.6	C241J684+20****														
0.82	7.2	11.0	6.0	5.0	0.6	C241J824+20****														
1.0	7.2	11.0	6.0	5.0	0.6	C241J105+20****														

备注: 1.“+”表示容量偏差。 “+”=capacitance tolerance code, M=±20%,K=±10%,J=±5%

2.“****”表示引线加工和包装代码 (见 table 1)。 “****”=lead dimensions and packing mode code (refer to table 1)

3.“#”当额定电压为 50VDC 时, 第 4-5 位是 1H。 “#”when the rated voltage is 50VDC, the digit 4-5 is 1H.

■ 外形尺寸 Dimensions(mm)

400Vdc (200Vac)							500Vdc (220Vac)							630V dc (220Vac)						
容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number
0.0010	7.2	6.5	2.5		5.0	0.5 C242G102+20****	0.0010	7.2	6.5	2.5		5.0	0.5 C242H102+20****	0.0010	7.2	6.5	2.5		5.0	0.5 C242J102+20****
0.0012	7.2	6.5	2.5		5.0	0.5 C242G122+20****	0.0012	7.2	6.5	2.5		5.0	0.5 C242H122+20****	0.0012	7.2	6.5	2.5		5.0	0.5 C242J122+20****
0.0015	7.2	6.5	2.5		5.0	0.5 C242G152+20****	0.0015	7.2	6.5	2.5		5.0	0.5 C242H152+20****	0.0015	7.2	6.5	2.5		5.0	0.5 C242J152+20****
0.0018	7.2	6.5	2.5		5.0	0.5 C242G182+20****	0.0018	7.2	6.5	2.5		5.0	0.5 C242H182+20****	0.0018	7.2	7.5	3.5		5.0	0.5 C242J182+20****
0.0022	7.2	6.5	2.5		5.0	0.5 C242G222+20****	0.0022	7.2	6.5	2.5		5.0	0.5 C242H222+20****	0.0022	7.2	7.5	3.5		5.0	0.5 C242J222+20****
0.0027	7.2	6.5	2.5		5.0	0.5 C242G272+20****	0.0027	7.2	6.5	2.5		5.0	0.5 C242H272+20****	0.0027	7.2	7.5	3.5		5.0	0.5 C242J272+20****
0.0033	7.2	6.5	2.5		5.0	0.5 C242G332+20****	0.0033	7.2	7.5	3.5		5.0	0.5 C242H332+20****	0.0033	7.2	7.5	3.5		5.0	0.5 C242J332+20****
0.0039	7.2	6.5	2.5		5.0	0.5 C242G392+20****	0.0039	7.2	7.5	3.5		5.0	0.5 C242H392+20****	0.0039	7.2	7.5	3.5		5.0	0.5 C242J392+20****
0.0047	7.2	6.5	2.5		5.0	0.5 C242G472+20****	0.0047	7.2	7.5	3.5		5.0	0.5 C242H472+20****	0.0047	7.2	9.5	4.5		5.0	0.6 C242J472+20****
0.0056	7.2	7.5	3.5		5.0	0.5 C242G562+20****	0.0056	7.2	7.5	3.5		5.0	0.5 C242H562+20****	0.0056	7.2	9.5	4.5		5.0	0.6 C242J562+20****
0.0068	7.2	7.5	3.5		5.0	0.5 C242G682+20****	0.0068	7.2	9.5	4.5		5.0	0.6 C242H682+20****	0.0068	7.2	9.5	4.5		5.0	0.6 C242J682+20****
0.0082	7.2	7.5	3.5		5.0	0.5 C242G822+20****	0.0082	7.2	9.5	4.5		5.0	0.6 C242H822+20****	0.0082	7.2	9.5	4.5		5.0	0.6 C242J822+20****
0.010	7.2	7.5	3.5		5.0	0.5 C242G103+20****	0.010	7.2	9.5	4.5		5.0	0.6 C242H103+20****	0.010	7.2	10.0	5.0		5.0	0.6 C242J103+20****
0.012	7.2	9.5	4.5		5.0	0.6 C242G123+20****	0.012	7.2	9.5	4.5		5.0	0.6 C242H123+20****	0.012	7.2	11.0	6.0		5.0	0.6 C242J123+20****
0.015	7.2	9.5	4.5		5.0	0.6 C242G153+20****	0.015	7.2	10.0	5.0		5.0	0.6 C242H153+20****	0.015	7.2	11.0	6.0		5.0	0.6 C242J153+20****
0.018	7.2	9.5	4.5		5.0	0.6 C242G183+20****	0.018	7.2	11.0	6.0		5.0	0.6 C242H183+20****	0.018	7.2	11.0	6.0		5.0	0.6 C242J183+20****
0.022	7.2	10.0	5.0		5.0	0.6 C242G223+20****	0.022	7.2	11.0	6.0		5.0	0.6 C242H223+20****							
0.027	7.2	11.0	6.0		5.0	0.6 C242G273+20****	0.027	7.2	11.0	6.0		5.0	0.6 C242H273+20****							
0.033	7.2	11.0	6.0		5.0	0.6 C242G333+20****														
0.039	7.2	11.0	6.0		5.0	0.6 C242G393+20****														
0.047	7.2	11.0	6.0		5.0	0.6 C242G473+20****														

备注: 1.“+”表示容量偏差。 “=”=capacitance tolerance code, M=±20%,K=±10%,J=±5%

2.“****”表示引线加工和包装代码(见 table 1)。“*****”=lead form and packing code (refer to table 1)

II 型(小尺寸) Pattern II (Reduced sizes)

50 Vdc (30Vac)/63Vdc (40Vac) [#]							100Vdc (63Vac)							250V dc (140Vac)						
容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number
0.15	7.2	6.5	2.5	5.0	0.5	C241J154+2S****	0.10	7.2	6.5	2.5	5.0	0.5	C242A104+2S****	0.022	7.2	6.5	2.5	5.0	0.5	C242E223+2S****
0.18	7.2	6.5	2.5	5.0	0.5	C241J184+2S****	0.12	7.2	6.5	2.5	5.0	0.5	C242A124+2S****	0.027	7.2	6.5	2.5	5.0	0.5	C242E273+2S****
0.22	7.2	6.5	2.5	5.0	0.5	C241J224+2S****	0.15	7.2	7.5	3.5	5.0	0.5	C242A154+2S****	0.033	7.2	6.5	2.5	5.0	0.5	C242E333+2S****
0.27	7.2	6.5	2.5	5.0	0.5	C241J274+2S****	0.18	7.2	7.5	3.5	5.0	0.5	C242A184+2S****	0.039	7.2	7.5	3.5	5.0	0.5	C242E393+2S****
0.33	7.2	7.5	3.5	5.0	0.5	C241J334+2S****	0.22	7.2	7.5	3.5	5.0	0.5	C242A224+2S****	0.047	7.2	7.5	3.5	5.0	0.5	C242E473+2S****
0.39	7.2	7.5	3.5	5.0	0.5	C241J394+2S****	0.27	7.2	9.5	4.5	5.0	0.6	C242A274+2S****	0.056	7.2	7.5	3.5	5.0	0.5	C242E563+2S****
0.47	7.2	7.5	3.5	5.0	0.5	C241J474+2S****	0.33	7.2	9.5	4.5	5.0	0.6	C242A334+2S****	0.068	7.2	7.5	3.5	5.0	0.5	C242E683+2S****
0.56	7.2	9.5	4.5	5.0	0.6	C241J564+2S****	0.39	7.2	9.5	4.5	5.0	0.6	C242A394+2S****	0.082	7.2	9.5	4.5	5.0	0.6	C242E823+2S****
0.68	7.2	9.5	4.5	5.0	0.6	C241J684+2S****	0.47	7.2	10.0	5.0	5.0	0.6	C242A474+2S****	0.10	7.2	9.5	4.5	5.0	0.6	C242E104+2S****
0.82	7.2	9.5	4.5	5.0	0.6	C241J824+2S****	0.56	7.2	10.0	5.0	5.0	0.6	C242A564+2S****	0.12	7.2	9.5	4.5	5.0	0.6	C242E124+2S****
1.0	7.2	10.0	5.0	5.0	0.6	C241J105+2S****	0.68	7.2	11.0	6.0	5.0	0.6	C242A684+2S****	0.15	7.2	10.0	5.0	5.0	0.6	C242E154+2S****
1.5	7.2	11.0	6.0	5.0	0.6	C241J155+2S****	0.82	7.2	11.0	6.0	5.0	0.6	C242A824+2S****	0.18	7.2	11.0	6.0	5.0	0.6	C242E184+2S****
2.2	7.2	11.0	6.0	5.0	0.6	C241J225+2S****	1.0	7.2	11.0	6.0	5.0	0.6	C242A105+2S****	0.22	7.2	11.0	6.0	5.0	0.6	C242E224+2S****

400Vdc (160Vac)							500/630Vdc (220Vac)							700V dc (250Vac)						
容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number	容量 (μF)	W	H	T	P	d	产品代码 Part number
0.0056	7.2	6.5	2.5	5.0	0.5	C242G562+2S****	0.0018	7.2	6.5	2.5	5.0	0.5	C242J182+2S****	0.0010	7.2	6.5	2.5	5.0	0.5	C241V102+2S****
0.0068	7.2	6.5	2.5	5.0	0.5	C242G682+2S****	0.0022	7.2	6.5	2.5	5.0	0.5	C242J222+2S****	0.0012	7.2	6.5	2.5	5.0	0.5	C241V122+2S****
0.0082	7.2	6.5	2.5	5.0	0.5	C242G822+2S****	0.0027	7.2	6.5	2.5	5.0	0.5	C242J272+2S****	0.0015	7.2	6.5	2.5	5.0	0.5	C241V152+2S****
0.010	7.2	6.5	2.5	5.0	0.5	C242G103+2S****	0.0033	7.2	6.5	2.5	5.0	0.5	C242J332+2S****	0.0018	7.2	6.5	2.5	5.0	0.5	C241V182+2S****
0.012	7.2	6.5	2.5	5.0	0.5	C242G123+2S****	0.0039	7.2	6.5	2.5	5.0	0.5	C242J392+2S****	0.0022	7.2	6.5	2.5	5.0	0.5	C241V222+2S****
0.015	7.2	7.5	3.5	5.0	0.5	C242G153+2S****	0.0047	7.2	6.5	2.5	5.0	0.5	C242J472+2S****	0.0027	7.2	6.5	2.5	5.0	0.5	C241V272+2S****
0.018	7.2	7.5	3.5	5.0	0.5	C242G183+2S****	0.0056	7.2	7.5	3.5	5.0	0.5	C242J562+2S****	0.0033	7.2	7.5	3.5	5.0	0.5	C241V332+2S****
0.022	7.2	7.5	3.5	5.0	0.5	C242G223+2S****	0.0068	7.2	7.5	3.5	5.0	0.5	C242J682+2S****	0.0039	7.2	7.5	3.5	5.0	0.5	C241V392+2S****
0.027	7.2	7.5	3.5	5.0	0.5	C242G273+2S****	0.0082	7.2	7.5	3.5	5.0	0.5	C242J822+2S****	0.0047	7.2	7.5	3.5	5.0	0.5	C241V472+2S****
0.033	7.2	9.5	4.5	5.0	0.6	C242G333+2S****	0.010	7.2	7.5	3.5	5.0	0.5	C242J103+2S****	0.0056	7.2	7.5	3.5	5.0	0.5	C241V562+2S****
0.039	7.2	9.5	4.5	5.0	0.6	C242G393+2S****	0.012	7.2	9.5	4.5	5.0	0.6	C242J123+2S****	0.0068	7.2	7.5	3.5	5.0	0.5	C241V682+2S****
0.047	7.2	9.5	4.5	5.0	0.6	C242G473+2S****	0.015	7.2	9.5	4.5	5.0	0.6	C242J153+2S****	0.0082	7.2	9.5	4.5	5.0	0.6	C241V822+2S****
0.051	7.2	10.0	5.0	5.0	0.6	C242G513+2S****	0.018	7.2	9.5	4.5	5.0	0.6	C242J183+2S****	0.010	7.2	9.5	4.5	5.0	0.6	C241V103+2S****
0.056	7.2	11.0	6.0	5.0	0.6	C242G563+2S****	0.022	7.2	10.0	5.0	5.0	0.6	C242J223+2S****	0.012	7.2	9.5	4.5	5.0	0.6	C241V123+2S****
0.068	7.2	11.0	6.0	5.0	0.6	C242G683+2S****	0.027	7.2	11.0	6.0	5.0	0.6	C242J273+2S****	0.015	7.2	10.0	5.0	5.0	0.6	C241V153+2S****
0.082	7.2	11.0	6.0	5.0	0.6	C242G823+2S****	0.033	7.2	11.0	6.0	5.0	0.6	C242J333+2S****	0.018	7.2	10.0	5.0	5.0	0.6	C241V183+2S****
0.10	7.2	11.0	6.0	5.0	0.6	C242G104+2S****								0.022	7.2	11.0	6.0	5.0	0.6	C241V223+2S****

备注: 1.“+”表示容量偏差。 “”=capacitance tolerance code, M=±20%,K=±10%,J=±5%

2.“****”表示引线加工和包装代码(见 table 1)。 “*****”=lead form and packing code (refer to table 1)

3.“#”当额定电压为 50VDC,500VDC 时,第 4~5 位是 1H 和 2H。

“#”when the rated voltage is 50VDC,500VDC, the digit 4~5 respectively is 1H,2H.

2 测试方法及性能 Test Method And Performance:

序号 No.	项目 Item	性能 Performance	测试方法 Test method (IEC 60384-2)
1	可焊性: Solderability	镀锡良好 Good quality of tinning	焊料温度: 245℃±5℃ 浸渍时间: 2.0s±0.5s Solder temperature: 245℃±5℃ Immersion time: 2.0s±0.5s
2	初始测量 Initial measurement	电容量、损耗角正切(10kHz) Capacitance、Tgδ(10kHz)	
	引出端强度 Terminal strength	外观无可见损伤 There shall be no visible damage	拉力试验 Ua ₁ : 拉力: φd=0.5mm, 5N φd=0.6mm, 10N 弯曲试验 Ub: 弯力: φd=0.5mm, 2.5N φd=0.6mm, 5N 每个方向上连续进行二次弯曲 Tension Ua ₁ : Pull: φd=0.5mm, 5N; φd=0.6mm, 10N Bend Ub: The pull of bend: φd=0.5mm, 2.5N φd=0.6mm, 5N The terminals shall be bent 2 times in each direction.
	耐焊接热 Resistance to solder heat	外观无可见损伤, 标识清晰 There shall be no visible damage, legible marking	焊料温度: 260℃±5℃ 浸渍时间: 10s±1s Solder temperature: 260℃±5℃ Immersion time: 10s±1s
	最后测量 Final measurement	电容量: ΔC/C≤初始测量值的±2% 损耗角正切: tgδ的增加≤0.003(10kHz) ΔC/C ≤±2%(relative to the initial value) Increase of tgδ: ≤0.003(10kHz)	
3	元件耐溶剂 Component's resistance of solvents	尺寸符合表一的要求, 电容器重量变化不超过 1% The dimensions shall reach the requirement of Table 1, and the change of capacitor weight shall not beyond 1%.	溶剂: 工业异丙醇 溶剂温度: 23℃±5℃ 浸渍时间: 5min±0.5min 恢复时间: 48h Solvent: Industrial isopropanol. Solvent temperature: 23℃±5℃ Immersion time: 5min±0.5min Reverting time: 48h
4	初始测量 Initial measurement	电容量、损耗角正切(10kHz) Capacitance、Tgδ(10kHz)	
	温度快速变化 Rapid change of temperature	外观无可见损伤 There shall be no evidence of deterioration.	θ _A = -55℃, θ _B = +100℃ 5 次循环, 持续时间: t=30min θ _A = -55℃, θ _B = +100℃ 5 cycles, Duration: t=30min
	振动 Vibration	外观无可见损伤 There shall be no evidence of deterioration.	振幅 0.75mm 或加速度 98m/s ² (取严酷度较小者), 频率 10Hz~500Hz 三个方向, 每个方向 2h, 共 6h Amplitude 0.75mm or acceleration 98m/s ² (whichever is the smaller severity), f: 10Hz to 500Hz. Three directions, 2h for each direction, total 6h.

序号 No.	项目 Item	性能 Performance	测试方法 Test method (IEC 60384-2)
5	碰撞 Bump	外观无可见损伤 There shall be no evidence of deterioration.	4000 次, 加速度 390m/s^2 , 脉冲持续时间: 6ms 4 000 times, Acceleration: 390m/s^2 , Pulse duration, 6ms
	最后测量 Final measurement	电容量: $\Delta C/C \leq$ 初始测量值的 $\pm 5\%$ 损耗角正切: tg δ 的增加 $\leq 0.003(10\text{kHz})$ 绝缘电阻 IR: $\geq$ 额定值的 50% $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of tg δ : $\leq 0.003(10\text{kHz})$ IR: $\geq 50\%$ of the rated value	
6	气候顺序 climate sequence	初始测量 Initial measurement	电容量 损耗角正切(10kHz) Capacitance Tg δ (10kHz)
		干热 Dry heat	+100℃, 16h
		循环湿热 Damp heat, Cyclic	试验 Db, 严酷度 b, 第一次循环 Test Db, Severity: b, the first cycle
		寒冷 Cold	-55℃, 2h
		低气压 Low air pressure	在试验的最后 1min, 施加 U_R 无永久性击穿, 飞弧或外壳的有害变形; There shall be no permanent breakdown, flashover or other harmful deformation when applying U_R at the last 1 minute.
		循环湿热 Damp heat, cyclic other	试验 Db, 严酷度 b, 其余循环, 在试验结束后, 在试验结束后, 施加 U_R 1 分钟 Test Db, Severity b, the other cycles, Applying U_R for 1 minute after the test finished.
		最后测量 Final measurement	外观无可见损伤, 标志清晰, 电容量变化: $\Delta C/C \leq$ 初始测量值的 $\pm 5\%$ 损耗角正切: tg δ 的增加 $\leq 0.005(10\text{kHz})$ 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of tg δ : $\leq 0.005(10\text{kHz})$ IR: $\geq 50\%$ of the rated value
7	稳态湿热 Damp heat steady state	外观无可见损伤, 标志清晰 电容量变化: $\Delta C/C \leq$ 初始测量值的 $\pm 5\%$ 损耗角正切(1kHz): tg δ 的增加 ≤ 0.005 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of tg δ (same as No. 5) ≤ 0.005 IR: $\geq 50\%$ of the rated value	温度: $40^\circ\text{C} \pm 2^\circ\text{C}$ 湿度: $93 \pm 3\% \text{RH}$ 持续时间: 56 天 Temperature: $40^\circ\text{C} \pm 2^\circ\text{C}$ Humidity: $93 \pm 3\% \text{RH}$ Duration: 56 days

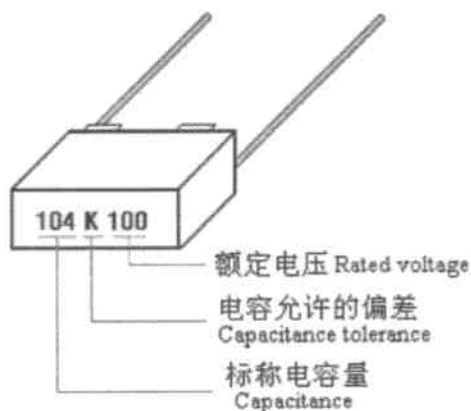
序号 No.	项目 Item	性能 Performance	测试方法 Test method (IEC 60384-2)
8	耐久性 Endurance	电容量变化: $\Delta C/C \leq$ 初始测量值的 $\pm 5\%$ 损耗角正切: $\text{tg}\delta$ 的增加 ≤ 0.003 (10kHz) 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.003 (10kHz) IR: $\geq 50\%$ of the rated value	温度: $+85^\circ\text{C}/+100^\circ\text{C}$ 施加电压: $1.25 \times U_R / 1.25 \times U_C$ ($U_C = 0.8U_R$) 时间: 2 000h Temperature: $+85^\circ\text{C}/+100^\circ\text{C}$ Voltage: $1.25 \times U_R / 1.25 \times U_C$ ($U_C = 0.8U_R$) Duration: 2 000h
9	随温度而定的特性 Temperature characteristic	在 b, d, f 点进行电容量测量: 在下限类别温度 -55°C 时的特性: $-10\% \leq (C_b - C_d) / C_d \leq 0\%$ 在上限类别温度 $+100^\circ\text{C}$ 时的特性: $0\% \leq (C_f - C_d) / C_d \leq +10\%$ $I.R. \geq 75\text{M}\Omega$ ($U_R \leq 100\text{V}, C \leq 0.33\mu\text{F}$) $\geq 25\text{s}$ ($U_R \leq 100\text{V}, C > 0.33\mu\text{F}$) $\geq 150\text{M}\Omega$ ($U_R > 100\text{V}, C \leq 0.33\mu\text{F}$) $\geq 50\text{s}$ ($U_R > 100\text{V}, C > 0.33\mu\text{F}$) Measuring capacitance at test point b, d, f: Characteristic at lower category temperature -55°C : $-10\% \leq (C_b - C_d) / C_d \leq 0\%$ Characteristic at upper category temperature $+100^\circ\text{C}$: $0\% \leq (C_f - C_d) / C_d \leq +10\%$ I.R. (test at point f): $U_R \leq 100\text{V}$: $\geq 75\text{M}\Omega$ ($C \leq 0.33\mu\text{F}$) $\geq 25\text{s}$ ($C > 0.33\mu\text{F}$) $U_R > 100\text{V}$: $\geq 150\text{M}\Omega$ ($C \leq 0.33\mu\text{F}$) $\geq 50\text{s}$ ($C > 0.33\mu\text{F}$)	静态法, 电容器依次保持在下述 每个温度: a. $(20 \pm 2)^\circ\text{C}$, b. $(-55 \pm 2)^\circ\text{C}$, d. $(20 \pm 2)^\circ\text{C}$, f. $(+100 \pm 2)^\circ\text{C}$, g. $(20 \pm 2)^\circ\text{C}$ Static method: The Capacitors should be kept at the following temperature in turn: a. $(20 \pm 2)^\circ\text{C}$, b. $(-55 \pm 3)^\circ\text{C}$, d. $(20 \pm 2)^\circ\text{C}$, f. $(+100 \pm 2)^\circ\text{C}$, g. $(20 \pm 2)^\circ\text{C}$
10	充电和放电 Charging and discharging	电容量: $\Delta C/C \leq$ 初始测量值的 $\pm 3\%$ 损耗角正切: $\text{tg}\delta$ 的增加 ≤ 0.003 (10kHz) 绝缘电阻 IR: $\geq$ 额定值的 50% $\Delta C/C \leq \pm 3\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.003 (10kHz) IR: $\geq 50\%$ of the rated value	次数: 10 000 次 充电持续时间: 0.5s 放电持续时间: 0.5s 充电电压为额定电压 充电电阻: $220/C_R(\Omega)$ 或电流 $\leq 1\text{A}$ (取电流较小者) 放电电阻: $R = U_R / (C_R \times dU/dt)$ C_R 为标称电容量 (μF) dU/dt ($\text{V}/\mu\text{s}$), 见第 2 页。 Times: 10 000 Duration of charging: 0.5s Duration of discharging: 0.5s Charging voltage: rated voltage Charging resistance: $220/C_R(\Omega)$ or current intensity $\leq 1\text{A}$ (whichever is the less current intensity) Discharging resistance: $R = U_R / (C_R \times dU/dt)$ C_R : rated capacitance (μF) dU/dt ($\text{V}/\mu\text{s}$): as specified in page 2.

序号 No.	项目 Item	性能 Performance	测试方法 Test method (IEC 60384-2)
11	阻燃性 Passive flammability test	离开火焰后, 任一电容器继续燃烧的时间不超过 30s, 且电容器燃烧的滴落物不应引燃在其下铺设的绵纸。 The flaming time of each capacitor shall not beyond the time 30s after it is taken apart from the flame. Drop of each capacitor caused by flame shall not fire the tissue below.	针焰试验, 耐燃性类别 C 在火焰上暴露一次 电容器体积 火焰上暴露时间 $V \leq 250 \text{mm}^3$ 5s $250 < V \leq 500 \text{mm}^3$ 10s Needle flame method The category of flammability: C The capacitor shall be subjected to one application of a test flame Volume of capacitor Flame time $V(\text{mm}^3) \leq 250$ 5s $250 < V(\text{mm}^3) \leq 5050$ 10s

3 品质保证 (产品出厂检查) 试验: Quality ensuring test (before shipment):

检查项目 (每批) Inspection item (each batch)	检查水平 Inspection level (GB 2828)	
	IL	AQL
外观检查 Appearance inspection	S-4	2.5%
外形尺寸 Dimensions		
电容量 Capacitance	II	1.0%
损耗角正切 Tangent of the loss angle		
耐电压 Dielectric strength		
绝缘电阻 Insulation resistance		
可焊性 Solderability	S-3	2.5%

4 印章 Marking:



5 散装包装 Packaging in bulk

- 5.1 电容先用塑料袋包装，每袋若干百只（最小包装数），袋内放有合格证。然后将若干袋塑料袋电容装入一小包装箱中，用胶带纸封口。每四个小包装箱再装入一大包装箱中包装。此外，根据客户订货数量，确定使用大或小包装箱进行包装。

A certain quantity of capacitors and the qualified bill shall be packed with a plastic bag. Then put several plastic bags into one small packing box, sealed with adhesive paper. One big packing box contains four small packing box. Packing with small or big box depends on the customer's purchase quantity.

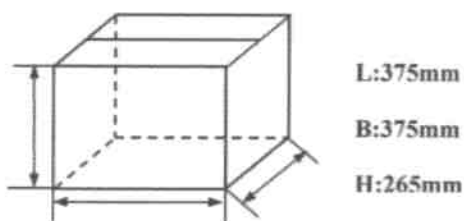
- 5.2 内、外包装箱尺寸见附图。

The dimensions of packing boxes refer to the drawing.

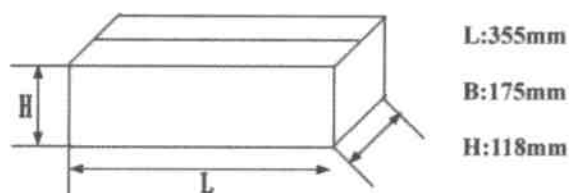
- 5.3 装有电容器的包装箱允许以任何方式运输，但应避免雨雪的直接淋浇和机械损伤。

For the packing box with capacitors, all kinds of shipments are permitted, but the sprinkle of rain or snow and mechanical damage must be avoided.

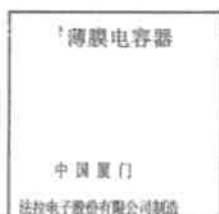
外包装箱尺寸 (Out packing box)



内包装箱尺寸 (Inner packing box)



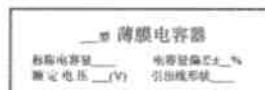
主视图 Plane drawing



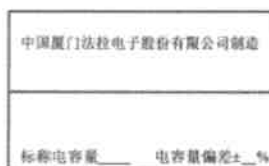
俯视图 Overlooking Drawing



主视图 Plane drawing



俯视图 Overlooking Drawing



6 径向编带包装 Taping & Packaging

6.1 编带方式及尺寸 Taping specification for box type capacitor

6.2 编带类型及编带尺寸 Taping Dimensions: 见表 1(Refer to table 1).

6.3 径向编带图 Outline Drawing: 见图 1~ 图 6(Refer to Fig 1 ~ Fig 6).

表 1 盒式电容器径向编带尺寸表
Table 1 Taping Dimensions for box type capacitor

Unit:mm

技术指标名称 Specification	代号 Code	尺 寸 Dimensions			
		引出线间距 P=5.0		误差 Tolerance	注释 Note
弹带包装代码 Code of Ammo Tapped	—	A201	A211		产品代码后 4 位 Digit 12 to 15 of P/N
圆盘包装代码 Code of Rell Tapped	—	R201	R211		产品代码后 4 位 Digit 12 to 15 of P/N
编带类型 Taping type	—	图 1 Fig 1	图 2 Fig 2	—	—
电容器间距 Taping pitch	P ₃	12.7		±1.0	—
送带孔距 Feed hole pitch	P ₀	12.7		±0.3	1mm(max)/20×P ₀
引出线位置 Center of wire	P ₁	3.85		±0.70	—
电容器本体位置 Center of body	P ₂	6.35		±1.30	—
成型间距 Pitch of taping wire	F	/	5.0	+0.6 -0.1	—
电容器侧面倾斜 Component alignment	△S	0		±2.0	—
成型高度 Height of component from tape center	H0	/	16.0	±0.5	—
电容器底部至 带孔中心距离 Height of crankle from tape center	H	18.5	20.0	±0.5	
纸带宽度 Carrier tape width	W	18.0		+1.0 -0.5	—
胶带纸宽度 Hold down tape width	W ₀	6min/12min		—	—
送带孔位置 Hole position	W ₁	9.0		±0.5	—
胶带纸位置 Hold down tape sition	W ₂	3.0max		—	—
送带孔直径 Feed hole dia.	D ₀	4.0		±0.2	—
编带总厚度 Tape thickness	t	0.7		±0.2	—

注：非客户特殊要求,一律采用孔距 P0=12.7 方式编带。
Note: Usually use P0=12.7.

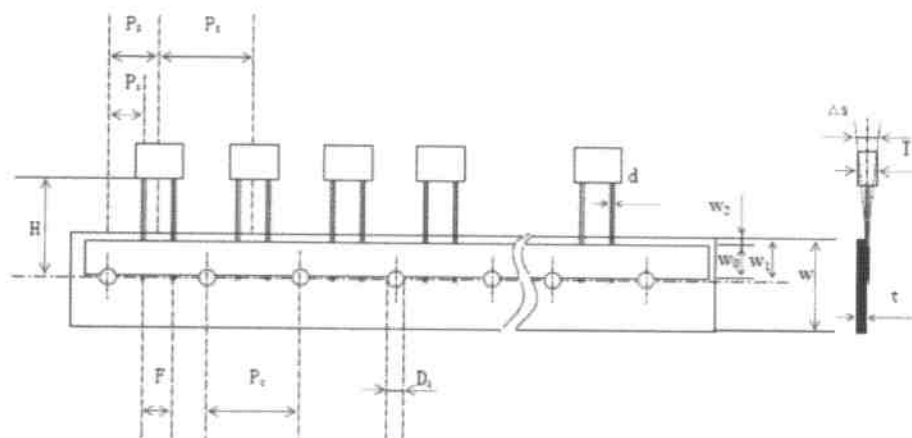


图 1 Fig 1

技术指标名称 Specification	引出线间距 P=5.0mm
弹带 (圆盘) 包装代码 Code of Ammo & Roll Tapped	A201 (R201)
送带孔距 Feed hole pitch P0 (mm)	12.7
成型间距 Pitch of taping wire F(mm)	/
电容器底部至带孔中心距离 Height of crangle from tape center H(mm)	18.5

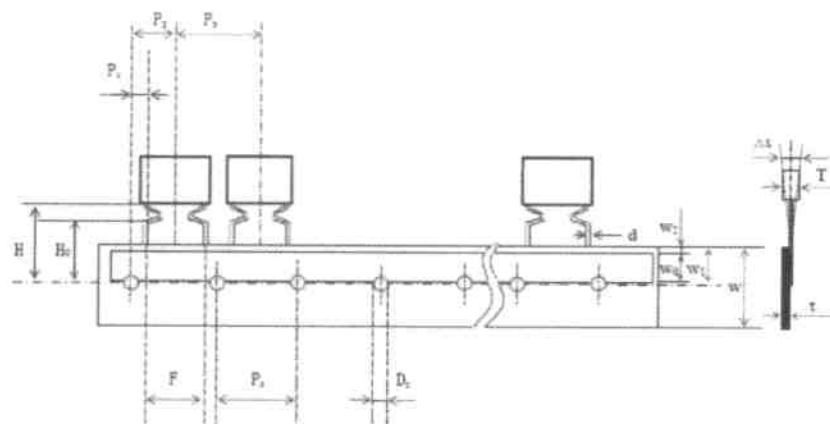


图 2 Fig 2

技术指标名称 Specification	引出线间距 P=5.0mm
弹带 (圆盘) 包装代码 Code of Ammo & Roll Tapped	A211 (R211)
送带孔距 Feed hole pitch P0 (mm)	12.7
成型间距 Pitch of taping wire F(mm)	5.0
电容器底部至带孔中心距离 Height of crangle from tape center H(mm)	18.5