



Guang Zhou Nan Cai Electronic CO.,LTD.
<http://www.cgznc.com>



規格承認書

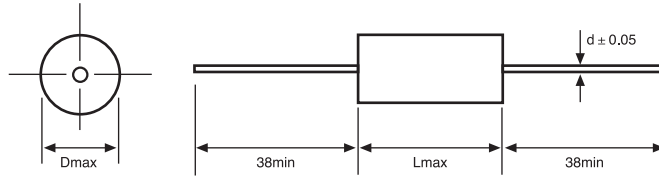
(SPECIFICATION FOR APPROVAL)

File No.: Q/BH .TS16949.13TECH1303

Product Name:	Metallized polypropylene film interference suppression Capacitors (Class- x2, ac275V/ac305V)
Product Type:	C94(MKP20-X2 ac275V/ac305V 抗干扰电容器)
Product Code:	C94
Customer:	
Customer Code:	
Issue Date:	(V3.0)

轴向金属化聚丙烯膜抗干扰电容器(X2类, 275Vac/305Vac)
Metallized polypropylene film interference
suppression capacitor(Class X2, 275Vac/305Vac)(Axial-type)

■ 外形图 Outline Drawing



■ 特点

- 金属化聚丙烯
- 能承受过压冲击
- 优异的阻燃性能
- 广泛用于电源跨线路等抗干扰场合

■ Features

- Metallized polypropylene structure
- Withstanding overvoltage stressing
- Excellent active and passive flame resistant abilities
- Widely used in across-the-line, interference suppression circuit, etc.

■ 安全认证 Safety Approvals

●		CQC (中国)	GB/T 14472-1998, X2, 275/305Vac, 0.0010μF~50.0μF, 40/110/56/B 证书号(Certificate No.): CQC03001002
●		ENEC-VDE (欧盟)	EN 60384-14:2005, X2, 275/305Vac, 0.0010μF~50.0μF, 40/110/56/B 证书号(Certificate No.): 400003
●		UL/CUL (美国/加拿大)	UL1414 CSA C22.2 No.1, 250 Vac, 0.001μF to 50.0μF 证书号(Certificate No.): E1866
●			UL1283 CSA C22.2 No.8, 310 Vac, 0.001μF to 50.0μF 证书号(Certificate No.): E1866
●	CB TEST CERTIFICATE		IEC 60384-14:2005, X2, 275/305 Vac, 0.001μF~50.0μF, 40/110/56/B 证书号(Certificate No.): DE1-12559/M2, DE1-403



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■ 技术要求 Specifications

电容器类别 Class	X2类		
气候类别/阻燃等级 Climatic Category/Passive Flammability Category	40/110/56/B		
工作温度范围 Operating Temperature Range	-40℃ ~ +110℃		
额定电压 Rated Voltage	275/305Vac (ENEC/CQC), 250Vac(UL1414) , 310Vac(UL1283)		
最大连续直流电压 Maximum continuous DC voltage	630 Vdc		
电容量范围 Capacitance Range	0.0010μF~10.0μF		
电容量偏差 Capacitance Tolerance	± 10%(K)、 ± 20%(M)		
耐电压 Voltage Proof	引线之间 Between Terminals:	2 000Vdc(2s) C _R ≤ 1.0μF	
		1 800Vdc(2s) C _R > 1.0μF	
	极壳之间 Between Terminals To Case:	2 110Vac(1min)	
绝缘电阻 Insulation Resistance	> 15 000MΩ , C _R ≤ 0.33μF > 5 000s, C _R > 0.33μF (20℃, 100V, 1min)		
损耗角正切 Dissipation Factor	0.0010μF ≤ C _R ≤ 0.47μF	≤ 10 x 10 ⁻⁴ (1kHz, 20℃)	≤ 20 x 10 ⁻⁴ (10kHz, 20℃)
	0.47μF < C _R ≤ 1.0μF	≤ 20 x 10 ⁻⁴ (1kHz, 20℃)	≤ 40 x 10 ⁻⁴ (10kHz, 20℃)
	1.0μF < C _R ≤ 10μF	≤ 30 x 10 ⁻⁴ (1kHz, 20℃)	-----

产品编码说明 Part number system

■ 18位产品代码如下:

The 18 digits part number is formed as follow:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
C	4	2															

第1~3位 型号代码

C94 =MKP20

Digit 1 to 3 Series code

C42=MKP62

第4~5位 交流额定电压

P2=275V Q2=305V

Digit 4 to 5 AC rated voltage

P2=275V Q2=305V

第6~8位 标称容量

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

Digit 6 to 8 Rated capacitance value

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

第9位 容量偏差

K= ± 10%, M= ± 20%

Digit 9 Capacitance tolerance

K= ± 10%, M= ± 20%

第10位 引线脚距 P

3=7.5mm 4=10.0mm 6=15.0mm

9=22.5mm A=25.0mm B=27.5mm

D=32.5mm F=37.5mm M=52.5mm

Digit 10 Pitch

3=7.5mm 4=10.0mm 6=15.0mm

9=22.5mm A=25.0mm B=27.5mm

D=32.5mm F=37.5mm M=52.5mm

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 form and packaging code

第16~18位 内部特征码

Digit 16 to 18 Internal use



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■ Table1 引线加工和包装代码 Lead form 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	弹带包装 ammo-pack	3	F=7.5mm	0	表示直脚 straight	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)
		4 6	F=10.0mm F=15.0mm			5	P3=25.4mm, H=18.5mm (For pitch=10.0/15.0mm) (Detail parameter refer to pag 17)
C	直脚 straight lead “C” in the figure above	代码 Code	说明 explanation			0	引线长度偏差 $\pm 0.5\text{mm}$ 或标准长度 Length tolerance $\pm 0.5\text{mm}$ Or standard length
		00 45	标准的引线长度(18mm~26mm) standard lead length 引线长度 4.5mm lead length 4.5mm				



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■ 外形尺寸 Dimensions(mm)

100Vdc(60Vac)/160Vdc(90Vac)#					250Vdc(160Vac)					400Vdc(200Vac)				
C _R (μF)	D max	L max	d	Part number	C _R (μF)	D max	L max	d	Part number	C _R (μF)	D max	L max	d	Part number
0.022	5.0	12.0	0.6	C302A223-00C000+++	0.010	5.0	12.0	0.6	C302E103-00C000+++	0.0068	5.0	12.0	0.6	C302G682-00C000+++
0.027	5.0	12.0	0.6	C302A273-00C000+++	0.012	5.0	12.0	0.6	C302E123-00C000+++	0.0082	5.0	12.0	0.6	C302G822-00C000+++
0.033	5.0	12.0	0.6	C302A333-00C000+++	0.015	5.0	12.0	0.6	C302E153-00C000+++	0.010	5.0	12.0	0.6	C302G103-00C000+++
0.039	5.0	12.0	0.6	C302A393-00C000+++	0.018	5.0	12.0	0.6	C302E183-00C000+++	0.012	5.0	12.0	0.6	C302G123-00C000+++
0.047	5.0	12.0	0.6	C302A473-00C000+++	0.022	5.0	12.0	0.6	C302E223-00C000+++	0.015	5.0	12.0	0.6	C302G153-00C000+++
0.056	5.0	12.0	0.6	C302A563-00C000+++	0.027	5.0	12.0	0.6	C302E273-00C000+++	0.018	5.5	12.0	0.6	C302G183-00C000+++
0.068	5.5	12.0	0.6	C302A683-00C000+++	0.033	5.5	12.0	0.6	C302E333-00C000+++	0.022	5.5	12.0	0.6	C302G223-00C000+++
0.082	5.0	14.5	0.6	C302A823-00C000+++	0.039	5.0	14.5	0.6	C302E393-00C000+++	0.027	5.0	14.5	0.6	C302G273-00C000+++
0.10	5.5	14.5	0.6	C302A104-00C000+++	0.047	5.5	14.5	0.6	C302E473-00C000+++	0.033	5.5	14.5	0.6	C302G333-00C000+++
0.12	6.0	14.5	0.6	C302A124-00C000+++	0.056	5.5	14.5	0.6	C302E563-00C000+++	0.039	6.0	14.5	0.6	C302G393-00C000+++
0.15	6.5	14.5	0.6	C302A154-00C000+++	0.068	6.0	14.5	0.6	C302E683-00C000+++	0.047	6.5	14.5	0.6	C302G473-00C000+++
0.18	7.0	14.5	0.8	C302A184-00C000+++	0.082	6.5	14.5	0.6	C302E823-00C000+++	0.056	6.5	14.5	0.6	C302G563-00C000+++
0.22	7.5	14.5	0.8	C302A224-00C000+++	0.10	7.0	14.5	0.8	C302E104-00C000+++	0.068	7.0	14.5	0.8	C302G683-00C000+++
0.27	8.5	14.5	0.8	C302A274-00C000+++	0.12	7.5	14.5	0.8	C302E124-00C000+++	0.082	7.5	14.5	0.8	C302G823-00C000+++
0.33	7.0	20.0	0.8	C302A334-00C000+++	0.15	8.0	14.5	0.8	C302E154-00C000+++	0.10	7.0	20.0	0.8	C302G104-00C000+++
0.39	7.5	20.0	0.8	C302A394-00C000+++	0.18	8.5	14.5	0.8	C302E184-00C000+++	0.12	7.5	20.0	0.8	C302G124-00C000+++
0.47	8.0	20.0	0.8	C302A474-00C000+++	0.22	7.5	20.0	0.8	C302E224-00C000+++	0.15	8.0	20.0	0.8	C302G154-00C000+++
0.56	9.0	20.0	0.8	C302A564-00C000+++	0.27	8.0	20.0	0.8	C302E274-00C000+++	0.18	8.5	20.0	0.8	C302G184-00C000+++
0.68	8.0	27.5	0.8	C302A684-00C000+++	0.33	9.0	20.0	0.8	C302E334-00C000+++	0.22	9.0	20.0	0.8	C302G224-00C000+++
0.82	8.5	27.5	0.8	C302A824-00C000+++	0.39	9.5	20.0	0.8	C302E394-00C000+++	0.27	10.0	20.0	0.8	C302G274-00C000+++
1.0	9.5	27.5	0.8	C302A105-00C000+++	0.47	8.5	27.5	0.8	C302E474-00C000+++	0.33	9.0	27.5	0.8	C302G334-00C000+++
1.2	10.0	27.5	0.8	C302A125-00C000+++	0.56	9.0	27.5	0.8	C302E564-00C000+++	0.39	9.5	27.5	0.8	C302G394-00C000+++
1.5	11.5	27.5	0.8	C302A155-00C000+++	0.68	10.0	27.5	0.8	C302E684-00C000+++	0.47	10.0	27.5	0.8	C302G474-00C000+++
1.8	12.0	27.5	0.8	C302A185-00C000+++	0.82	10.5	27.5	0.8	C302E824-00C000+++	0.56	10.5	27.5	0.8	C302G564-00C000+++
2.2	12.0	33.0	0.8	C302A225-00C000+++	1.0	12.0	27.5	0.8	C302E105-00C000+++	0.68	12.0	27.5	0.8	C302G684-00C000+++
2.7	13.0	33.0	0.8	C302A275-00C000+++	1.2	12.5	27.5	0.8	C302E125-00C000+++	0.82	13.0	27.5	0.8	C302G824-00C000+++
3.3	14.0	33.0	0.8	C302A335-00C000+++	1.5	12.5	33.0	0.8	C302E155-00C000+++	1.0	12.5	33.0	0.8	C302G105-00C000+++
3.9	15.0	33.0	0.8	C302A395-00C000+++	1.8	13.5	33.0	0.8	C302E185-00C000+++	1.2	13.5	33.0	0.8	C302G125-00C000+++
4.7	16.5	33.0	1.0	C302A475-00C000+++	2.2	14.5	33.0	0.8	C302E225-00C000+++	1.5	15.0	33.0	0.8	C302G155-00C000+++
5.6	17.5	33.0	1.0	C302A565-00C000+++	2.7	16.0	33.0	1.0	C302E275-00C000+++	1.8	16.0	33.0	1.0	C302G185-00C000+++
6.8	17.5	41.5	1.0	C302A685-00C000+++	3.3	17.5	33.0	1.0	C302E335-00C000+++	2.2	17.5	33.0	1.0	C302G225-00C000+++
8.2	19.0	41.5	1.0	C302A825-00C000+++	3.9	18.5	33.0	1.0	C302E395-00C000+++	2.7	19.0	33.0	1.0	C302G275-00C000+++
10.0	20.5	41.5	1.0	C302A106-00C000+++	4.7	18.0	41.5	1.0	C302E475-00C000+++	3.3	18.5	41.5	1.0	C302G335-00C000+++
12.0	19.0	56.5	1.0	C302A126-00C000+++	5.6	19.5	41.5	1.0	C302E565-00C000+++	3.9	20.0	41.5	1.0	C302G395-00C000+++
15.0	21.0	56.5	1.0	C302A156-00C000+++	6.8	21.5	41.5	1.0	C302E685-00C000+++	4.7	21.5	41.5	1.0	C302G475-00C000+++
					8.2	23.0	41.5	1.0	C302E825-00C000+++	5.6	23.5	41.5	1.0	C302G565-00C000+++
					10.0	21.5	56.5	1.0	C302E106-00C000+++	6.8	21.5	56.5	1.0	C302G685-00C000+++
					12.0	23.5	56.5	1.0	C302E126-00C000+++	8.2	23.5	56.5	1.0	C302G825-00C000+++
					15.0	25.5	56.5	1.0	C302E156-00C000+++	10.0	25.5	56.5	1.0	C302G106-00C000+++

备注: 1. “-”表示容量偏差。“-”=capacitance tolerance code, M= ± 20%, K= ± 10%, J= ± 5%
2. “#”当额定电压为160Vdc时, 第4~5位是2C。“#” when the rated voltage is 160Vdc, the digit 4~5 is 2C.



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■ 续 Continued

630Vdc(220Vac)®					1 000Vdc(350Vac)					1 250Vdc(400Vac)				
C _R (μF)	D max	L max	d	Part number	C _R (μF)	D max	L max	d	Part number	C _R (μF)	D max	L max	d	Part number
0.0010	5.0	12.0	0.6	C302J102-00C000+++	0.0010	5.0	12.0	0.6	C303A102-00C000+++	0.0010	5.0	12.0	0.6	C303B102-00C000+++
0.0012	5.0	12.0	0.6	C302J122-00C000+++	0.0012	5.0	12.0	0.6	C303A122-00C000+++	0.0012	5.5	12.0	0.6	C303B122-00C000+++
0.0015	5.0	12.0	0.6	C302J152-00C000+++	0.0015	5.0	12.0	0.6	C303A152-00C000+++	0.0015	5.5	12.0	0.6	C303B152-00C000+++
0.0018	5.0	12.0	0.6	C302J182-00C000+++	0.0018	5.5	12.0	0.6	C303A182-00C000+++	0.0018	6.0	12.0	0.6	C303B182-00C000+++
0.0022	5.0	12.0	0.6	C302J222-00C000+++	0.0022	6.0	12.0	0.6	C303A222-00C000+++	0.0022	6.5	12.0	0.6	C303B222-00C000+++
0.0027	5.0	12.0	0.6	C302J272-00C000+++	0.0027	6.0	12.0	0.6	C303A272-00C000+++	0.0027	5.5	14.5	0.6	C303B272-00C000+++
0.0033	5.0	12.0	0.6	C302J332-00C000+++	0.0033	6.5	12.0	0.6	C303A332-00C000+++	0.0033	6.0	14.5	0.6	C303B332-00C000+++
0.0039	5.0	12.0	0.6	C302J392-00C000+++	0.0039	5.5	14.5	0.6	C303A392-00C000+++	0.0039	6.0	14.5	0.6	C303B392-00C000+++
0.0047	5.0	12.0	0.6	C302J472-00C000+++	0.0047	5.5	14.5	0.6	C303A472-00C000+++	0.0047	6.5	14.5	0.6	C303B472-00C000+++
0.0056	5.0	12.0	0.6	C302J562-00C000+++	0.0056	6.5	14.5	0.6	C303A562-00C000+++	0.0056	7.0	14.5	0.8	C303B562-00C000+++
0.0068	5.5	12.0	0.6	C302J682-00C000+++	0.0068	6.5	14.5	0.6	C303A682-00C000+++	0.0068	7.5	14.5	0.8	C303B682-00C000+++
0.0082	5.0	14.5	0.6	C302J822-00C000+++	0.0082	7.0	14.5	0.8	C303A822-00C000+++	0.0082	8.0	14.5	0.8	C303B822-00C000+++
0.010	5.5	14.5	0.6	C302J103-00C000+++	0.010	7.5	14.5	0.8	C303A103-00C000+++	0.010	8.5	14.5	0.8	C303B103-00C000+++
0.012	5.5	14.5	0.6	C302J123-00C000+++	0.012	8.0	14.5	0.8	C303A123-00C000+++	0.012	7.0	20.0	0.8	C303B123-00C000+++
0.015	6.0	14.5	0.6	C302J153-00C000+++	0.015	8.5	14.5	0.8	C303A153-00C000+++	0.015	7.5	20.0	0.8	C303B153-00C000+++
0.018	6.5	14.5	0.6	C302J183-00C000+++	0.018	7.5	20.0	0.8	C303A183-00C000+++	0.018	8.0	20.0	0.8	C303B183-00C000+++
0.022	7.0	14.5	0.8	C302J223-00C000+++	0.022	8.0	20.0	0.8	C303A223-00C000+++	0.022	8.5	20.0	0.8	C303B223-00C000+++
0.027	7.5	14.5	0.8	C302J273-00C000+++	0.027	8.5	20.0	0.8	C303A273-00C000+++	0.027	9.5	20.0	0.8	C303B273-00C000+++
0.033	7.0	20.0	0.8	C302J333-00C000+++	0.033	9.0	20.0	0.8	C303A333-00C000+++	0.033	10.5	20.0	0.8	C303B333-00C000+++
0.039	7.5	20.0	0.8	C302J393-00C000+++	0.039	10.0	20.0	0.8	C303A393-00C000+++	0.039	9.0	27.5	0.8	C303B393-00C000+++
0.047	8.0	20.0	0.8	C302J473-00C000+++	0.047	10.5	20.0	0.8	C303A473-00C000+++	0.047	9.5	27.5	0.8	C303B473-00C000+++
0.056	8.5	20.0	0.8	C302J563-00C000+++	0.056	9.0	27.5	0.8	C303A563-00C000+++	0.056	10.0	27.5	0.8	C303B563-00C000+++
0.068	9.0	20.0	0.8	C302J683-00C000+++	0.068	9.5	27.5	0.8	C303A683-00C000+++	0.068	11.0	27.5	0.8	C303B683-00C000+++
0.082	9.5	20.0	0.8	C302J823-00C000+++	0.082	10.5	27.5	0.8	C303A823-00C000+++	0.082	12.0	27.5	0.8	C303B823-00C000+++
0.10	8.5	27.5	0.8	C302J104-00C000+++	0.10	11.5	27.5	0.8	C303A104-00C000+++	0.10	13.0	27.5	0.8	C303B104-00C000+++
0.12	9.0	27.5	0.8	C302J124-00C000+++	0.12	12.0	27.5	0.8	C303A124-00C000+++	0.12	12.5	33.0	0.8	C303B124-00C000+++
0.15	10.0	27.5	0.8	C302J154-00C000+++	0.15	12.0	33.0	0.8	C303A154-00C000+++	0.15	13.5	33.0	0.8	C303B154-00C000+++
0.18	10.5	27.5	0.8	C302J184-00C000+++	0.18	13.0	33.0	0.8	C303A184-00C000+++	0.18	14.5	33.0	0.8	C303B184-00C000+++
0.22	12.0	27.5	0.8	C302J224-00C000+++	0.22	14.0	33.0	0.8	C303A224-00C000+++	0.22	16.0	33.0	1.0	C303B224-00C000+++
0.27	13.0	27.5	0.8	C302J274-00C000+++	0.27	15.0	33.0	0.8	C303A274-00C000+++	0.27	17.0	33.0	1.0	C303B274-00C000+++
0.33	12.5	33.0	0.8	C302J334-00C000+++	0.33	16.5	33.0	1.0	C303A334-00C000+++	0.33	17.0	41.5	1.0	C303B334-00C000+++
0.39	13.5	33.0	0.8	C302J394-00C000+++	0.39	18.0	33.0	1.0	C303A394-00C000+++	0.39	18.0	41.5	1.0	C303B394-00C000+++
0.47	14.5	33.0	0.8	C302J474-00C000+++	0.47	17.5	41.5	1.0	C303A474-00C000+++	0.47	19.5	41.5	1.0	C303B474-00C000+++
0.56	15.5	33.0	0.8	C302J564-00C000+++	0.56	19.0	41.5	1.0	C303A564-00C000+++	0.56	21.0	41.5	1.0	C303B564-00C000+++
0.68	17.0	33.0	1.0	C302J684-00C000+++	0.68	20.5	41.5	1.0	C303A684-00C000+++	0.68	20.0	56.5	1.0	C303B684-00C000+++
0.82	18.0	33.0	1.0	C302J824-00C000+++	0.82	22.0	41.5	1.0	C303A824-00C000+++	0.82	21.5	56.5	1.0	C303B824-00C000+++
1.0	17.5	41.5	1.0	C302J105-00C000+++	1.0	20.5	56.5	1.0	C303A105-00C000+++	1.0	23.0	56.5	1.0	C303B105-00C000+++
1.2	19.0	41.5	1.0	C302J125-00C000+++	1.2	22.0	56.5	1.0	C303A125-00C000+++	1.2	25.0	56.5	1.0	C303B125-00C000+++
1.5	21.0	41.5	1.0	C302J155-00C000+++	1.5	24.5	56.5	1.0	C303A155-00C000+++	1.5	27.5	56.5	1.0	C303B155-00C000+++
1.8	22.5	41.5	1.0	C302J185-00C000+++										
2.2	24.5	41.5	1.0	C302J225-00C000+++										
2.7	23.0	56.5	1.0	C302J275-00C000+++										
3.3	25.0	56.5	1.0	C302J335-00C000+++										

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

2. “@”不用作跨线，请参见抗干扰电容器(Pag.116)

“@” Not suitable for across-the-line applications. Pls refer to Interference Suppression Capacitors(Pag. 116)