规 格 承 认 书

SPECIFICATION FOR APPROVAL

产 品 名 称: 金属化聚丙烯薄膜介质电容器
Product Name: Metallized polypropylene film dielectric capacitor

产 品 型 号: CBB21/CBB22
Product Type:
产 品 编 码: B210450V154K7ABLBY**
Product Code:
客 户 名 称:
Customers Name:
客 户 编 码:
Customers Code:
日 期: 2022.08.02
Issue Date:

浙江七星电子股份有限公司 Zhejiang Qixing Electronics Corp ., Ltd.		承认厂商 Approved by Customer
拟制 Drafted	审批 Examine and approve	
邵宇基 Yuxing Shao	李仲良 Zhongliang LI	

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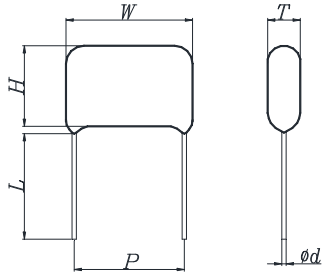
CBB21/22 金属化聚丙烯薄膜介质电容器

CBB21/22 Metallized polypropylene film dielectric capacitor



■ 特点

- 金属化聚丙烯膜
- 高频损耗小
- 内部温升小

■ Characteristic:

- Metallized polypropylene film.
- Low loss at high frequency.
- Internal temperature rise

■主要用途

- 广泛用于高频、直流、交流和脉冲电流中
- 适用于大屏幕显示器的 S 校正电路
- 适用于各种高频、大电流场合

■Main purpose

- Widely used in high frequency, dc, ac and pulse current.
- S correction circuit for large screen display.
- Suitable for high frequency and large currentmotor suppression interference

■ 技术要求 Technical requirements

引用标准 Reference criteria	GB/T 10190〔IEC 60384-16〕				
气候类别 Climate category	40/105/21				
额定温度 Rated temperature	85℃				
工作温度 Operating temperature	-40℃~105℃ 〔+85℃to+105℃：decreasing factor 1.25% per℃ for Ur(dc) 〕				
额定电压 Rated voltage	100V；250v；400v；630v；1000V；1250V				
电容量范围 Electricity capacity range	0.001μF~3.3μF				
电容量偏差 Capacitance deviation	±5%〔J〕,±10%〔K〕,±20%〔M〕				
耐电压 Voltage resistance	1.4 Ur 〔5s〕				
损耗角正切值 Loss angle tangent	≤12×10^{-4} （+20℃±5℃,1kHz）				
绝缘电阻 Insulation resistance	R≥30000MΩ，CN≤0.33μF	（20℃，100V,1min）			
	RCN≥5000S，CN＞0.33μF				
最大脉冲爬升： Maximum Pulse Climbing Rate： 若实际工作电压 U 比额定电压 Ur 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 Ur/U If the actual working voltage U is lower than the rated voltage Or, the capacitor can work in a higher dv/dt case so that the dv/dt allowed value should be multiplied by the right table value Ur/U	Pattern II				
	Ur〔V〕	dV/dt〔V/μs〕			
		P=7.5	P=10	P=15	P=22.5
	100V/250V	660	560	310	130
	400V	900	780	600	300
	630V	1500	1200	900	400
	1000V/1250V	2500	2200	-	-

■电容器外形尺寸 Capacitor dimensions

100VDC〔63VAC〕/ 250VDC〔160VAC〕						
电容量 CAP	电容器外形尺寸 Capacitor dimensions					电容器代码 Part number
	T	H	W	P	Φd	
0.010	4.0	7.7	9.8	7.5	0.6	B210***V103***
0.015	4.2	7.8	9.8	7.5	0.6	B210***V153***
0.022	4.8	8.4	9.8	7.5	0.6	B210***V223***
0.033	4.2	7.9	9.8	7.5	0.6	B210***V333***
0.047	4.8	8.5	9.8	7.5	0.6	B210***V473***
0.068	4.8	8.5	12.5	10	0.6	B210***V683***
0.10	4.7	8.3	12.5	10	0.6	B210***V104***
0.15	5.2	8.9	12.5	10	0.6	B210***V154***
0.22	6.1	9.8	12.5	10	0.6	B210***V224***
0.33	5.8	11	17.5	15	0.6	B210***V334***
0.47	6.6	12	17.5	15	0.6	B210***V474***
0.56	7.2	12.4	17.5	15	0.6	B210***V564***
0.68	7.8	13.5	17.5	15	0.8	B210***V684***
0.82	8.5	14.2	17.5	15	0.8	B210***V824***
1.0	9.3	15.0	17.5	15	0.8	B210***V105***
1.2	7.5	14.8	25.2	22.5	0.8	B210***V125***
1.5	8.3	15.6	25.2	22.5	0.8	B210***V155***
2.2	9.9	18.3	25.2	22.5	0.8	B210***V225***
3.3	12.1	20.5	25.2	22.5	0.8	B210***V335***

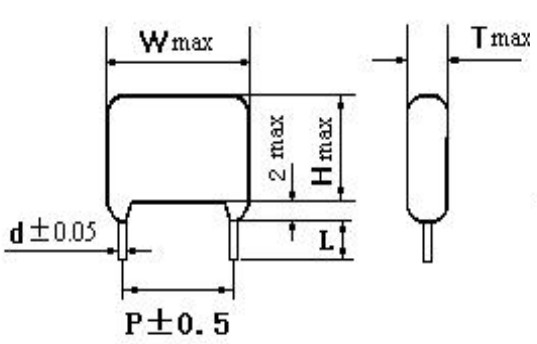
400VDC〔200VAC〕						
电容量 CAP	电容器外形尺寸 Capacitor dimensions					电容器代码 Part number
	T	H	W	P	Φd	
0.010	4.1	7.8	9.8	7.5	0.6	B210400V103***
0.015	4.7	8.4	9.8	7.5	0.6	B210400V153***
0.022	5.5	9.1	9.8	7.5	0.6	B210400V223***
0.033	4.8	8.5	12.3	10	0.6	B210400V333***
0.047	5.4	9.0	12.5	10	0.6	B210400V473***
0.068	5.4	9.1	12.5	10	0.6	B210400V683***
0.10	6.4	10	12.5	10	0.6	B210400V104***
0.15	6.0	11.2	17.5	15	0.6	B210400V154***
0.22	7.0	12.2	17.5	15	0.6	B210400V224***
0.33	8.4	14.1	17.5	15	0.8	B210400V334***
0.47	9.8	15.5	17.5	15	0.8	B210400V474***
0.56	7.9	15.2	25.2	22.5	0.8	B210400V564***
0.68	9.1	15.9	25.2	22.5	0.8	B210400V684***
0.82	10	16.7	25.2	22.5	0.8	B210400V824***
1.0	10.9	17.7	25.2	22.5	0.8	B210400V105***

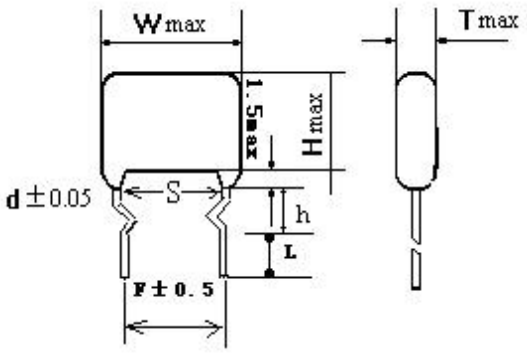
630VDC〔220VAC〕						
电容量 CAP	电容器外形尺寸 Capacitor dimensions					电容器代码 Part number
	T	H	W	P	Φd	
0.001	4.3	7.9	10	7.5	0.6	B210630V102***
0.01	4.1	7.8	12.5	10	0.6	B210630V103***
0.015	4.7	8.3	12.5	10	0.6	B210630V153***
0.022	5.3	8.9	12.5	10	0.6	B210630V223***
0.033	6.2	9.9	12.5	10	0.6	B210630V333***
0.047	5.6	10.8	17.5	15	0.6	B210630V473***
0.068	6.5	11.7	17.5	15	0.6	B210630V683***
0.10	7.6	12.8	17.5	15	0.8	B210630V104***
0.15	9.0	14.7	17.5	15	0.8	B210630V154***
0.22	7.9	15.2	25.2	22.5	0.8	B210630V224***
0.33	10	16.8	25.2	22.5	0.8	B210630V334***
0.47	11.8	18.6	25.2	22.5	0.8	B210630V474***
0.56	12.8	19.6	25.2	22.5	0.8	B210630V564***

1000VDC/ 1250VDC〔400VAC〕						
电容量 CAP	电容器外形尺寸 Capacitor dimensions					电容器代码 Part number
	T	H	W	P	Φd	
0.0010	4.3	7.9	10	7.5	0.6	B21****V102***
0.0015	4.4	8.1	10	7.5	0.6	B21****V152***
0.0022	4.5	8.1	10	7.5	0.6	B21****V222***
0.0033	4.5	8.2	10	7.5	0.6	B21****V332***
0.0047	4.7	8.3	10	7.5	0.6	B21****V472***
0.0056	5.0	8.7	10	7.5	0.6	B21****V562***
0.0068	5.2	8.9	12.5	10	0.6	B21****V682***
0.01	6.3	9.9	12.5	10	0.6	B21****V103***

■承认规格登记表 Size and specification

●尺寸（mm）（T*H*W）





Wmax---最大宽度

Hmax---最大高度

Tmax---最大厚度

P-----脚距±0.5

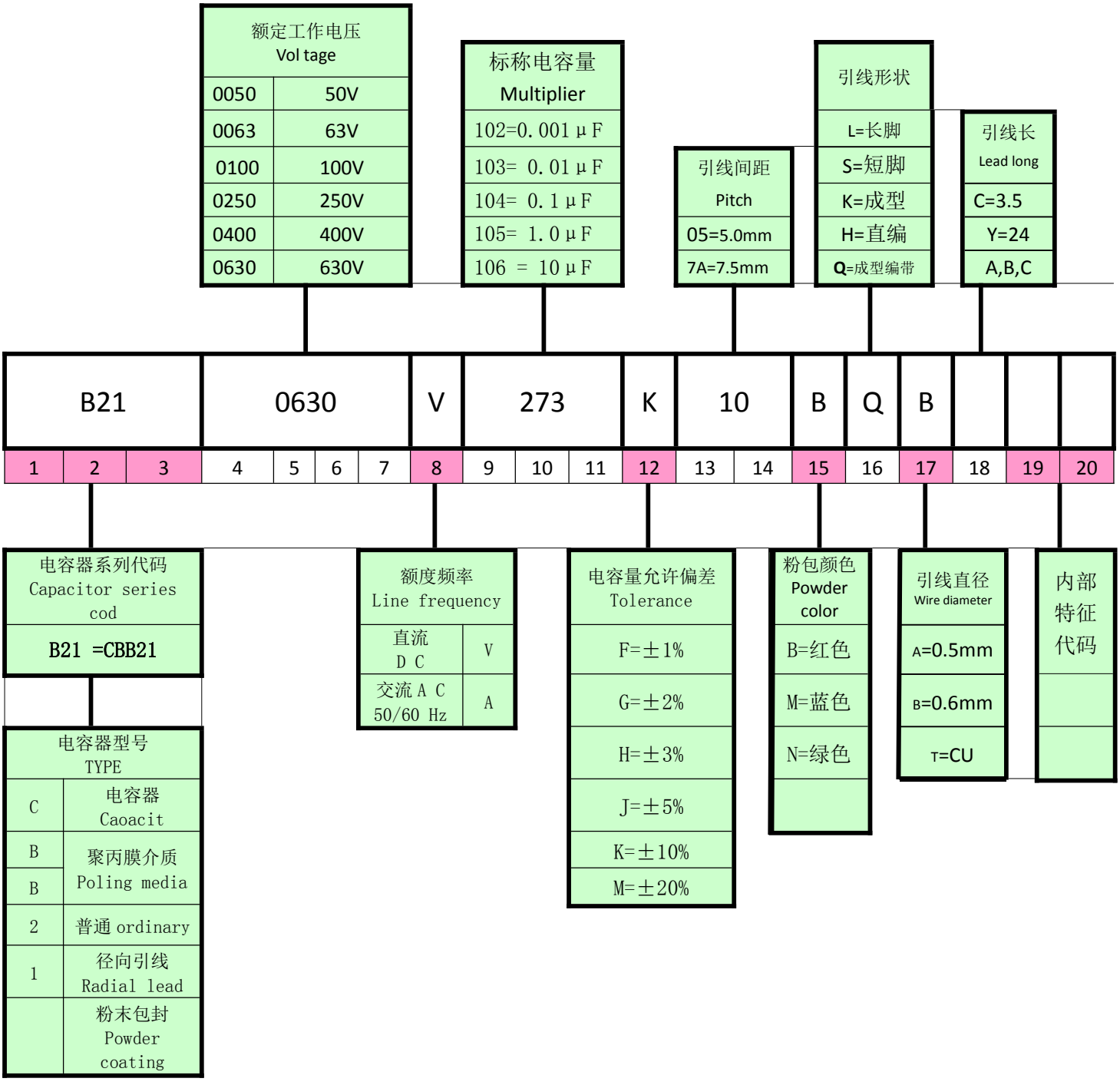
L-----脚长±0.5

●.规格 Specification:

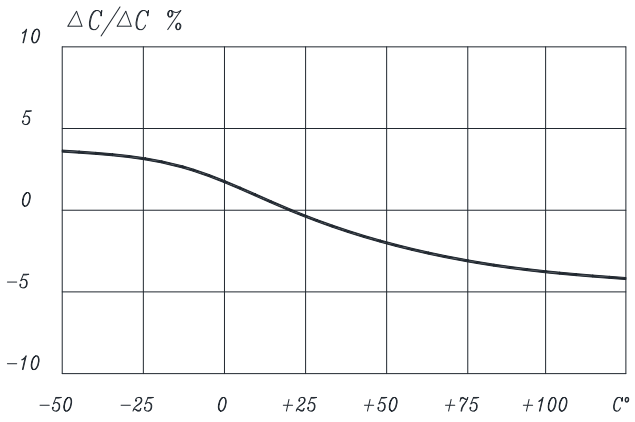
序号 NO	客户料号 Customer NO	七星料号 Spec NO	规格型号 Specification	尺寸 Size T*H*W*P	线径 Line	脚长 Length	备注 Note
1	--	B210450V154 K7ABLBY**	CBB21-450V154K	6.6*11.6*9.8*7.5	0.6	≥20	--

■电容器编码说明 Capacitor coding specification

● 20 位电容器代码如下：The code of the 20-bit capacitor at the center is as follows:

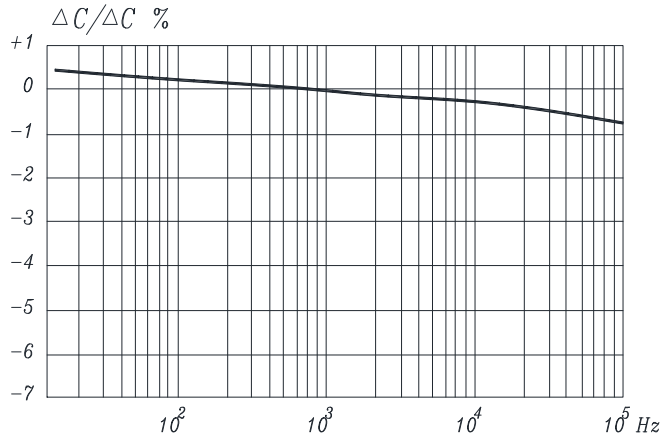


■特性曲线图 Characteristic curve



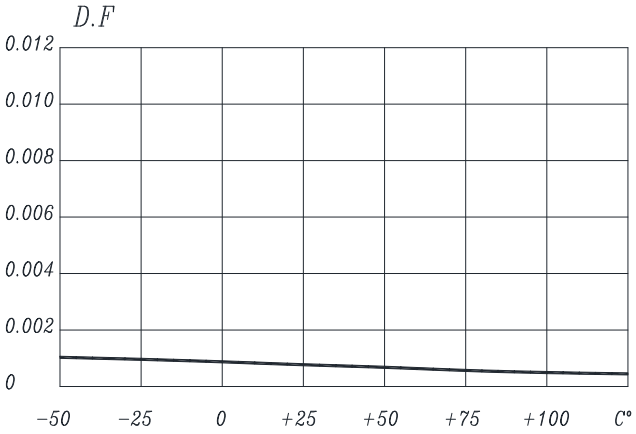
电容量随温度变化的曲线（1KHz）

Is the temperature curve of the capacitance



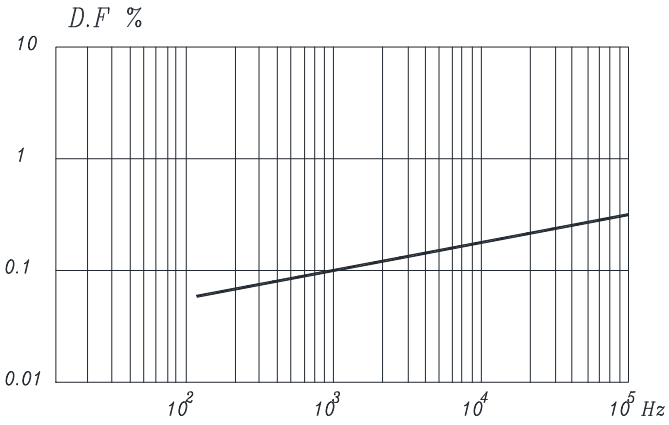
电容量随频率变化的曲线

Capacitance may vary in frequency



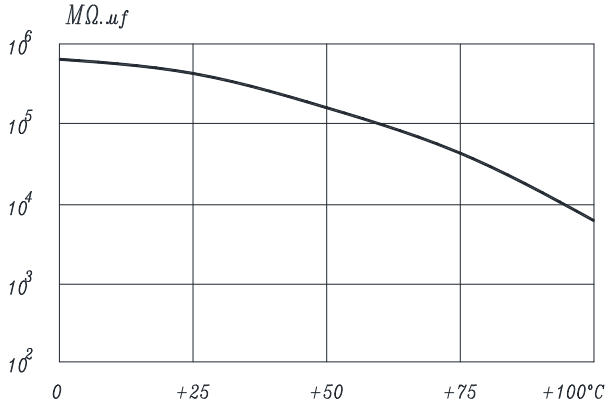
损耗角正切值随温度变化的曲线（1KHz）

The curve of the tangent of loss Angle with temperature temperaturetemperature



损耗角正切值随频率变化的曲线

The curve of the tangent of loss Angle with



绝缘电阻随温度变化的曲线（1KHz）

The curve of insulation resistance to temperature

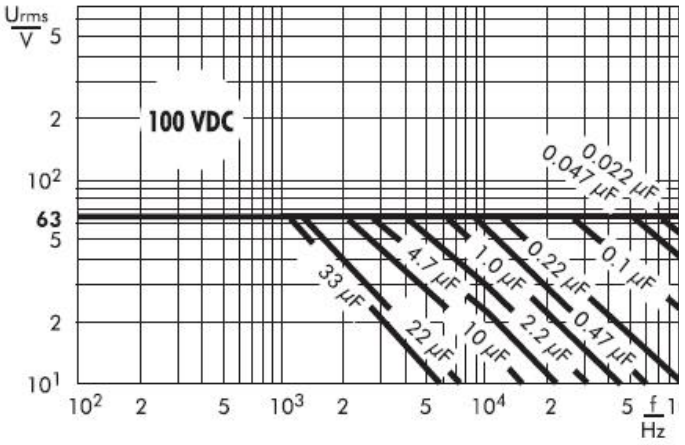
■性能及测试方法 Performance and test methods

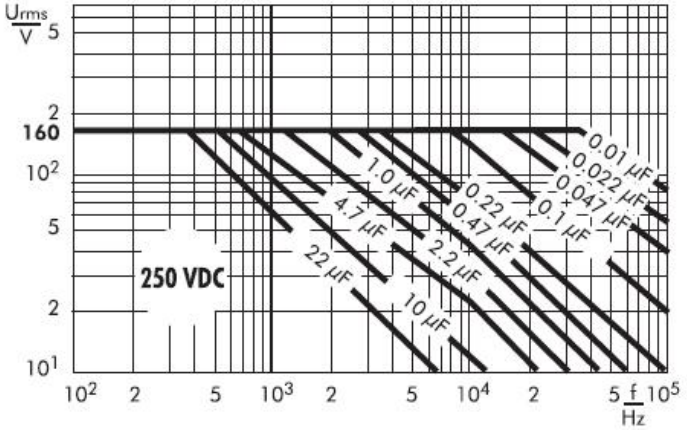
No	项目 Item	性能与判据 Performance and criteria	测试方法 Test method (IEC60384-16)
1	电容量允许偏差 Capacitance tolerance	±5%〔J〕,±10%〔K〕,±20%〔M〕	
2	损耗角的正切 Tangent of the loss angle	tg δ ≤0.0012（1KHz）	典型测量频率：1KHz Typical measuring frequency: 1KHz
3	耐电压 Dielectric strength	无飞弧或击穿 There shall be no breakdown or flashover	1.4Ur 2sec
4	绝缘电阻 Insulation resistance	R≥30000MΩ,Cn≤0.33μF IR≥5000S Cn＞0.33μF	充电电压 Ur＜500V Charging voltage 100v 环境温度 20℃，测量时间 60S 充电电压 Ur＞500V Charging voltage 500v 环境温度 20℃，测量时间 60S
5	可焊性 Solder ability	Good quality of tinning 镀锡良好	锡炉温度 Soldre temperature 245℃±5℃ 浸渍时间 Immersion time 2.S±0.5S
6	初始测量 Initial measurement	电容量与损耗 Capacitance & tg δ （1KHz）	
	引线抗拉强度强度 Terminal strength	外观无可见损伤 There shall be no visible damage	拉力试验 Tension Ual: 拉力 Pull： Φd=0.5mm 5N Φd=0.6mm 10N 弯曲试验 bend Ub: 弯力 The qull of bend Φd=0.5mm 2.5N Φd=0.6mm 5N 端子应向每个方向弯曲 2 次 The terminals shall be bent 2times in each direction
	耐焊接热 Resistance to solder heat	无可见损伤 There shall be no visible damage	锡炉温度 Soldre temperature 260℃±5℃ 浸渍时间 Immersion time 10.S±1S
	最后的测量 Final measurement	ΔC/C≤±2% **相对于初始值 Relative to the initial value.** tg δ ≤0.0020（1KHz）	
7	初始测量 Initial measurement	电容量与损耗 Capacitance & tg δ （1KHz）	
	温度快速变化 Rapid change of temperature	外观无可见损伤 There shall be no visible damage	**Θa= -40**℃ **Θb= +105**℃ 持续的时间= 30 分钟 5 个周期,

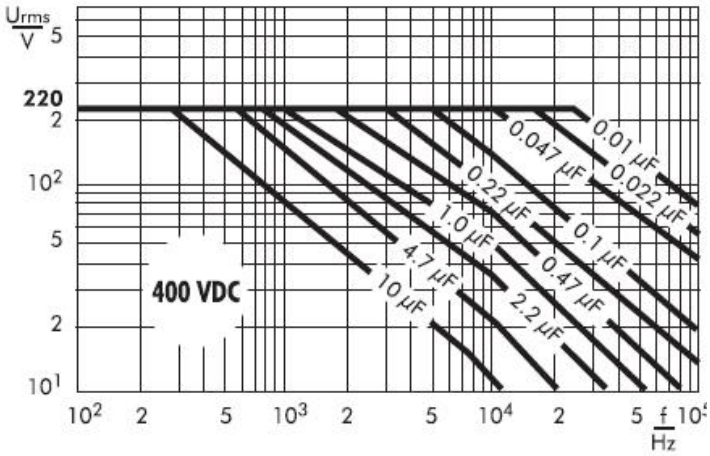
				5cycles, Duration:=30min
	振动 Vibration		外观无可见损伤 There shall be no visible damage	频率:10 ~ 500HZ 振幅 0.75mm 或加速度 98m/S^2 三个方向每个方向各 2h 共 6h Ferequance10~500HZ Amplitude0.75m;Acceleration98m/S^2 Amplitude 3 direction 2h per direction Duration 6h
	碰撞 Bump		外观无可见损伤 There shall be no visible damage	碰撞次数: 4000 次 加速度: 390m/S^2 脉冲持持续时间 : 6ms Bump times: 4000 Acceleration: 390m/S^2 Duration of pulse: 6ms
	最后的测量 Final measurement		Δ C/C≤±5% 相对于初始值 Relative to the initial value. tg δ ≤0.0020〔1KHz〕 IR≥50% 规定值 of the rated value	
8	气候顺序 Climate sequence	初始测量 Initial measurement	电容量与损耗 Capacitance & tg δ 〔1KHz〕	
		干热 Dry heat		+105^0 C 持续 16 小时 +105^0 C lasts for 16 hours
		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		-40^{0}C 持续 2h -40^{0}C lasts for 2 hours
		低气压 Low air pressure	在试验最后 1 分钟施加 Ur 时，不得有永久性击穿或飞弧及外壳有害变形 There shall be no permanent down ,flashover or other harmful deformation when applying Ur at the last 1minute	15^0 C~35^0 C 大气压 8.5kpa 持续 1 小时 The pressure of 15^0 C~35^0 C air is 8.5kpa for 1 hour
		循环湿热 Damp heat ,Cyclic		试验 Db，严酷度:b，其余循环 试验结束后，施加 Ur 1 分钟 Test Db,Severity:b,the other cycles, Applying Ur for 1minute after the test finished
		最后的测量 Final measurement	外观无可见损伤 There shall be no evidence of deformation Δ C/C≤±5% 相对于初始值 Relative to the initial value. tg δ ≤0.0020〔1KHz〕 IR≥50% 规定值 of the rated value	
9	稳态湿热 Damp heat steady state		外观无可见损伤，标志清晰 There shall be no evidence of deformation And the marking shall be legible Δ C/C≤±5% 相对于初始值 Relative to the initial value. tg δ ≤0.0020〔1KHz〕	试验温度: 40 ± 2℃ 相对湿度: 93 ± 2% RH 试验时间: 56 天 Temperature: 40 ± 2℃ Humidity: 93 ± 2% RH Duration:56days

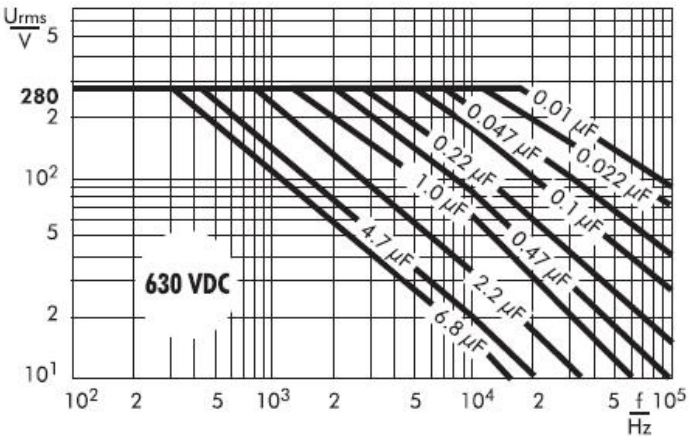
		IR≥50%　规定值 of the rated value	
10	耐久性 Endurance	外观无可见损伤，标志清晰 There shall be no evidence of deformation And the marking shall be legible ΔC/C≤±5% 相对于初始值 Relative to the initial value. tgδ≤0.0020〔1KHz〕 IR≥50%　规定值 of the rated value	试验温度：+85℃/+105℃±2℃ 施加电压: 1.25×U_R/**1.25Uc** 〔Uc=0.5 U_R〕 试验时间：1000 h Temperature: +85℃/+105℃±2℃ Voltage: 1.25×U_R/**1.25Uc** 〔Uc=0.5 U_R〕 Duration:1000h
11	温度特性 Temperature characteristic	在 b，d，f 点上进行电容量测量 **在下限类别温度-40℃时的特性：** -10%≤(Cb 一 Cd）／Cd≤＋10％ **在上限类别温度+105℃时的特性：** 0%≤(Cb 一 Cd）／Cd≤＋10％ Measuring capacitance at test point b,d,f: Characteristic at lower category temperature **-40℃** -10%≤(Cb 一 Cd）／Cd≤＋10％ Characteristic at upper category temperature **+105℃** 0%≤(Cb 一 Cd）／Cd≤＋10％	静态方法:电容器应依次保持以下温度: a（20±2℃）,b〔-40±3℃）,d（20±2℃）,f（+105±3）,g〔20±2℃〕 Static method :the Capacitors should be kept at the following temperature in turn: a（20±2℃）,b〔-40±3℃）,d（20±2℃）,f（+105±3）,g〔20±2℃〕
12	充放电 Charging and discharging	ΔC/C≤±5% 相对于初始值 Relative to the initial value. tgδ≤0.0020〔1KHz〕 IR≥50%　规定值 of the rated value	Times:10000 Duration of charging:0.5S Duration of discharging:0.5S Charging :rated voltage Charging resistance: 220/Cr（Ω） Discharging resistance: R=10/Cr（Ω）or 20Ω （whichever is the greater） Cr: rated capacitance 充放电次数：10000 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/Cr（Ω） 放电电阻:R=10/Cr（Ω）或 20Ω （取较大者） Cr:为标称电容量

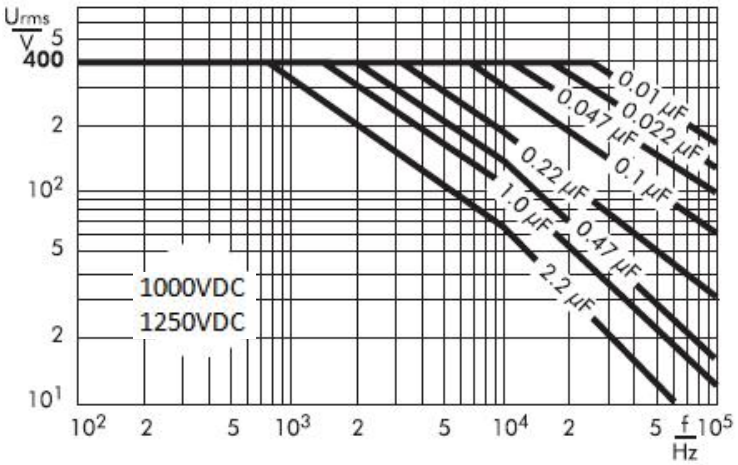
■最大电压（Vr.m.s）/频率表〔正弦波形/环境温度≤40° C 〕
MAX. VOLTAGE (Vr.m.s.) VERSUS FREQUENCY (sinusoidal wave-form / Th≤ 40°C)







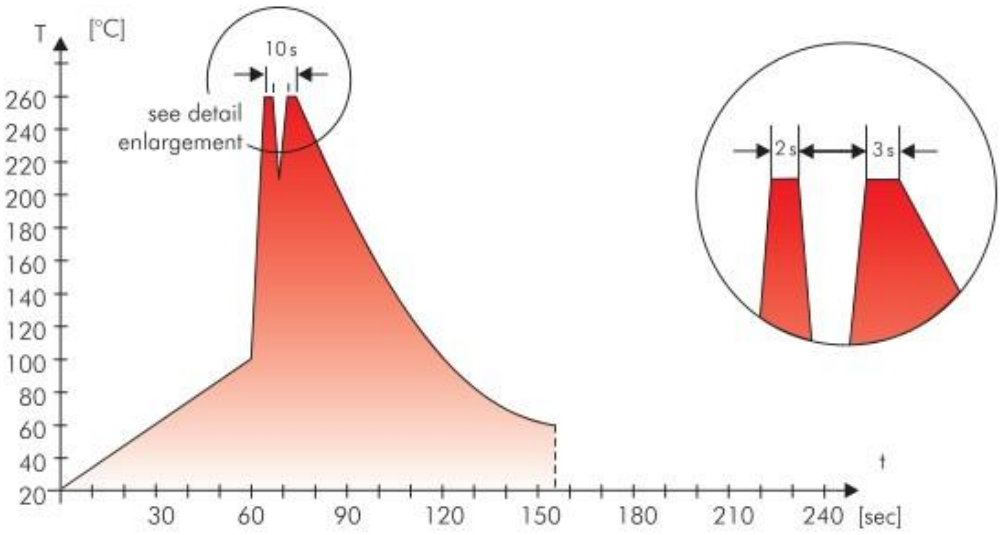




■ 波峰焊接 Wave soldering

电容器的内部温度必须
保持如下:
聚　酯: 预热温度+ 125° C
聚丙烯: 预热温度+ 100° C
单波峰焊接
焊接浴温度: T=260°C
停留时间:　5 秒
双波峰焊接
焊接浴温度:T=260°C
停留时间:　5 秒
由于不同的焊接工艺和
热量要求图形仅作为推荐

Internal temperature of the capacitor must be kept as follows:
Polyester: preheating: T max. T 125° C
Polypropylene: preheating: T max. T 100° C
Single wave soldering
Soldering bath temperature: T 260 ° C
Dwell time: t 5 sec
Double wave soldering
Soldering bath temperature: T 260 ° C
Dwell time: St 5 sec
Due to different soldering processes and heat requirements the graphs are to be regarded as a recommendation only.



双波焊接的典型温度/时间图

Typical temperature/time graph for double wave soldering