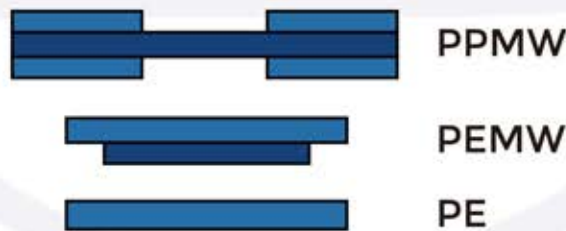
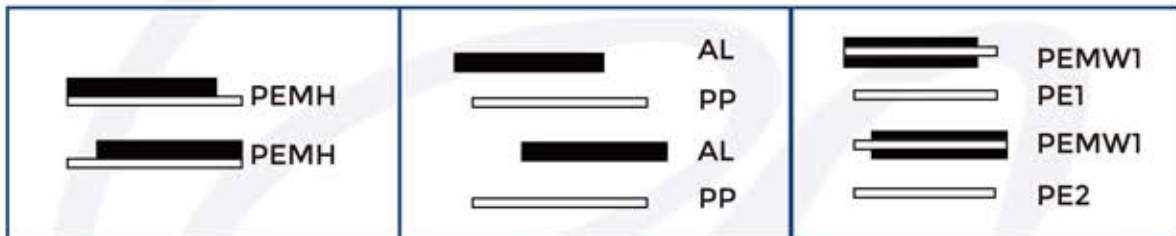
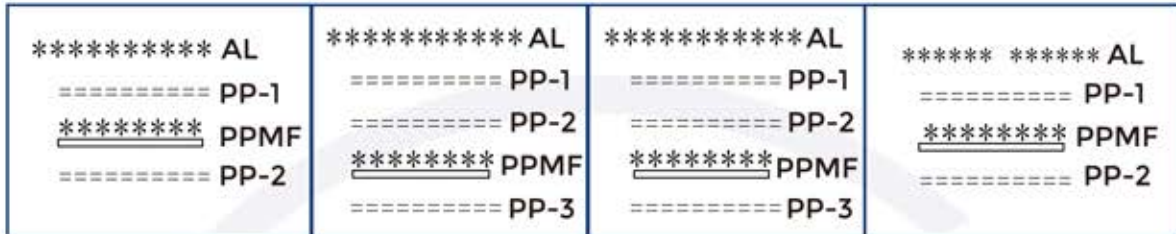




江森电子科技各类薄膜电容器结构图

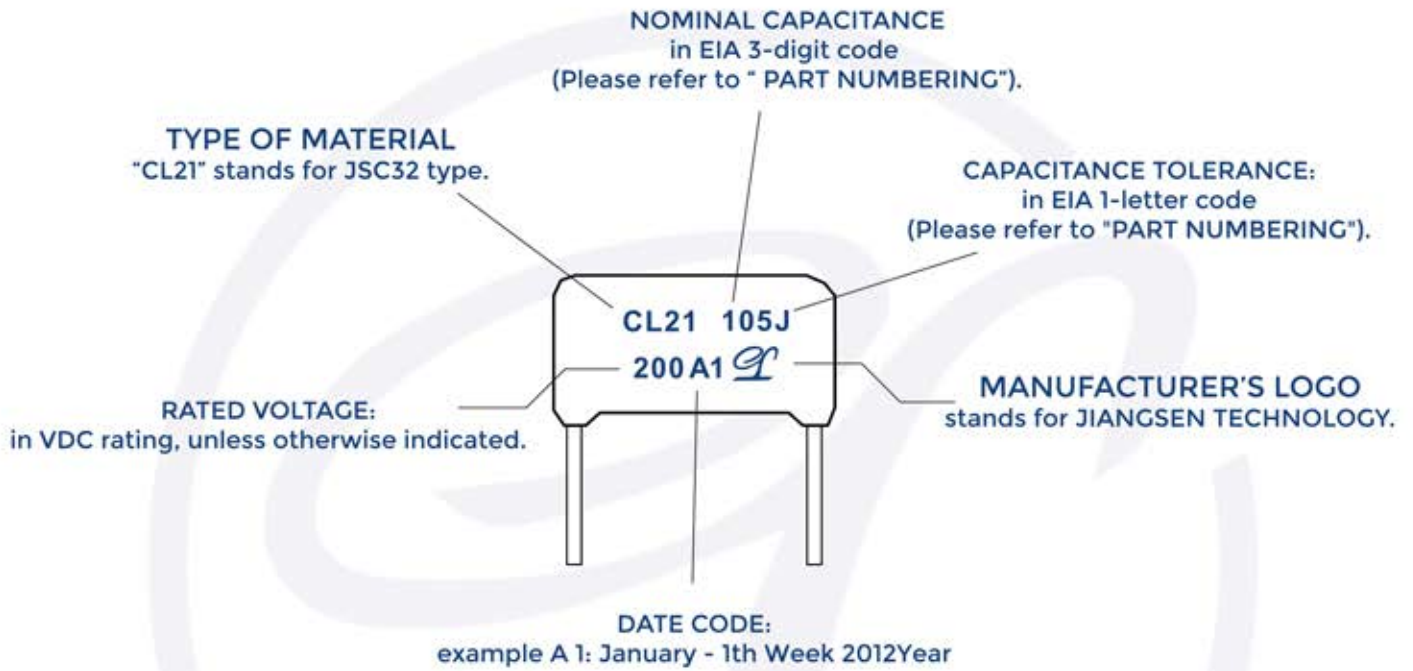


CALCULATION OF RMS VALUE IN VARIOUS WAVEFORMS

WAVEFORM							
RMS VALUE	$\frac{V_{o-p}}{\sqrt{2}}$	$V_{o-p} \sqrt{\frac{t}{2T}}$	$\frac{V_{o-p}}{\sqrt{2}}$	$\frac{V_{o-p}}{\sqrt{3}}$	$V_{o-p} \sqrt{\frac{t}{3T}}$	V_{o-p}	$V_{o-p} \sqrt{\frac{t}{T}}$



MARKING



Year	Month	Mark	Year	Month	Mark	Year	Month	Mark	Year	Month	Mark
2012 2016 2020 2024 2028 2032	1	A	2013 2017 2021 2025 2029 2033	1	N	2014 2018 2022 2026 2030 2034	1	a	2015 2019 2023 2027 2031 2035	1	n
	2	B		2	P		2	b		2	p
	3	C		3	Q		3	c		3	q
	4	D		4	R		4	d		4	r
	5	E		5	S		5	e		5	s
	6	F		6	T		6	f		6	t
	7	G		7	U		7	g		7	u
	8	H		8	V		8	h		8	v
	9	J		9	W		9	j		9	w
	10	K		10	X		10	k		10	x
	11	L		11	Y		11	l		11	y
	12	M		12	Z		12	m		12	z

1 - 5 WEEK



介质材料

DIELECTRIC MATERIALS

塑料薄膜电容器之电气特征主要取决于所使用之介质材料之性质。

The electrical characteristics of a plastic film capacitor are to a great extent dictated by the properties of the dielectric materials used.

聚乙烯(PE)膜

Polyester(PE) Film

PE膜具有较高之介质损耗,从而使其较适用于10KHZ以下之应用。

Higher dielectric losses,as a result, generally suitable for applications at frequencies 10KHZ or less.

同时PE膜具有较高之介质常数,因此可以较小之尺寸得到所需之容量。

it has higher dielectric constant , thus, it can produce high capacitance values in smaller package sizes.

而且PE膜之使用温度范围较其他常用之介质来得广阔。

it also has wider working temperature range than other common used dielectric materials.

PE薄膜电容器公认属于一般用途之电容器,具有最佳之体积效率,而且价格较低,最适合使用于各种直流电路之应用,例如去耦合、旁路、封锁及除噪等线路。

PE film capacitors are regarded as "general purpose capacitors",providing the best volume efficiency of all film capacitors at moderate cost and preferably used for DC applications, such as decoupling ,by-passing,blocking,and noise suppressions.

聚丙烯(PP)膜

Polypropylene(PP) Film

PP膜具有较低之损耗因素及介质损耗。从而使其适合高压高频及高脉冲电流之应用。

Relatively low dissipation factor and dielectric loss,as a result,is suitable for applications of high voltage,high frequency and high pulse current.

Pe膜也具有较窄之使用温度范围、较低之介质常数以及负温度系数等特性。

It has rather narrow working temperature range, a lower dielectric constant and a negative temperature coefficient.

PP薄膜电容器适用于高频之交流或脉冲电路之应用,例如驰返、调频及修正电路。

PP film capacitors are typically used in AC and pluse applications at high frequency,such as Flyback. tuning and correction.

而且还广泛使用于开关式电源供应器、SNUBBER、频率辨别及滤波电路,还适用于储能方面之应用。

They are furthermore used in switching power supplies and snubber applications,in frequency discrimination and filter circuits,as well as in energy storage and sample & hold applications.

薄膜电容器

FILM CAPACITORS

塑料薄膜电容器可通分为膜箔式电容器与金属化膜电容器两大类。

Plastic film capacitors are generally subdivided into film/foil capacitors and metallized film capacitors.

膜箔式电容器

Film/Foil Capacitors

基本上膜箔式电容器由一双极板所构成,而极板间则由一绝缘塑料薄膜(亦称介质)分隔开。而端子



(或导线)则分别联接至一极板(一般为有感型),或者联接至电容素子之两端面(无感型)。膜箔式电容器具有高耐压强度、极佳之耐电流与耐脉冲能力、以及极佳之容值稳定性。

Film/foil capacitors basically consist of two metal foil electrodes that are separated by an insulating plastic film also called dielectric. The terminals are connected to either the surface of the electrodes (usually inductive type) or the endfaces of the electrodes (non-inductive type). Film/foil capacitors provide high dielectric strength, excellent current-carrying and pulse-handling capability and capacitance stability.

金属化膜电容器

Metallized Film Capacitors

金属化膜电容器之电极由一层极薄(厚仅 $0.02\mu\text{m}$ - $0.1\mu\text{m}$)之铝质真空镀于介质薄膜或另外之载体薄膜之上所构成。而目前使用于薄膜电容器之介质材料之厚度则在 $0.9\mu\text{m}$ 与 $20\mu\text{m}$ 之间。金属化膜电容器之素子端面需喷上焊接材料(俗称喷金层),而后再以焊接或熔接方式分别联接端子或导线。金属化膜电容器均具有高体积效率及具有自愈性之优点。

The electrodes of a metallized film capacitor consist of an extremely thin aluminum layer (thickness from $0.02\mu\text{m}$ to $0.1\mu\text{m}$) that is vacuum deposited either onto the dielectric film or onto a carrier film. The dielectric materials, currently used in capacitors, range from $0.9\mu\text{m}$ to $20\mu\text{m}$ thickness. The endfaces of a wound capacitor element are sprayed with some solder materials, and then respectively connected with one terminal by means of welding or soldering. These capacitors provide high volume efficiency and self-healing properties.

金属化膜电容器之自愈性质

Self-healing Properties of Metallized Film Capacitor

所谓自愈是指可以自行排除由针孔、薄膜瑕疵或外部瞬间高压所导致之层间短路不良,而恢复正常。在层间短路时电弧所产生之热能将失效点周围之极薄镀层蒸发,因此排除并隔离短路现象。

Self-healing is the removal of a defect caused by pinholes, film flaws or external voltage transients. The heat generated by the arcing during a breakdown, evaporates the extremely thin metallization of the film around the point of failure, thereby removing and isolating the short circuit conditions.

自愈过程仅需数 μW 之能量,而且通常在 $10\mu\text{s}$ 以内完成。较广泛而连续之自愈(例如误用)则会逐步降低容值。

The self-healing process requires only μW of power and a defect is normally isolated in less than $10\mu\text{s}$. Extensive and continuous self-healing (e.g. at misuses) will gradually decrease the capacitance value.

参数	介质常数	最小厚度	最高工作温度	损耗因数	绝缘电阻	吸湿度	温度系数
	$25^\circ\text{C}/50\text{Hz}$	(micron)	($^\circ\text{C}$)	at 1 KHZ (%)	$\text{M}\Omega \cdot \mu\text{F}$	%重量比	(ppm/ $^\circ\text{C}$)
PE	3.2	1	125	0.5	25,000	0.4	
PP	2.2	4	105	0.02	100,000	0.01	



术语说明及计算公式 Technical Terms & Calculation Formula

额定电压 (VR)

Rated Voltage (VR)

额定电压为电容器设计时予以设定之工作电压。指该电容器在操作温度+85℃以内，可以连续施加于电容器端子间之最大直流电压 (VDC) 或最大交流电压有效 (VRMS) 或脉冲电压。电容器之额定电压取决于介质材料特性、薄膜厚度及操作温度。如果操作温度高于+85℃但低于最高温度，则额定电压应于以降低。

The rated voltage is the voltage for which a capacitor is designed. It is defined as the maximum DC or AC (RMS) voltage or pulse voltage that may be applied continuously to the terminals of a capacitor up to an operating temperature of +85 C. The rated voltage is dependent upon the property of the dielectric material, the film thickness and the operating temperature. Above +85 C, but below the maximum temperature, the rated voltage has to be derated in accordance to the dielectric material used.

耐压强度或介质强度 (VT)

Test Voltage or Dielectric Strength (VT)

电容器之耐压强度高于额定电压，但只能在有限时间内施加。一般耐压强度是在电极间测试，典型的测试时间为2秒。对金属化膜电容器而言，在耐压测试过程中出现自愈现象是可以容许的。

The VT of a capacitor is higher than the VR and may only be applied for a limited time. The dielectric strength is measured between the electrodes. The time applied is typically two seconds. The occurrence of self-healing during the application of the test voltage is permitted for metallized film capacitors.

交流电压 (VAC)

AC Voltage (VAC)

本目录中所提及之交流电压额定均指无脉冲之正弦波电压。因此除X2、X1型号以外，本版之其它电容器均不应使用于电力应用上（例如直接跨接交流电源）。若使用于较高频率，则可使用之交流电压应予降低，降低比例请参照本版中相关“容许交流电压VS频率曲线图”。

The AC voltage rating in this catalogue refer to clean sinusoidal voltages without transients. The capacitors in this catalogue, except X2 X1 type, must, therefore not be operated in main applications (e.g. Across the line). For operations in a higher frequency range, the applied AC voltage has to be derated. The derated VAC are provided in the graphs "Permissible AC Voltage vs Frequency Curves" of this catalogue.

(脉冲电压)

Pulse Voltage

脉冲电压之RMS有效值，(VRMS) 不可高于电容器之额定交流电压 (VR“AC”)。

The RMS value of a pulse voltage (VRMS) must not exceed the rated AC voltage (VR(AC)) of the capacitor.

$$VR(AC) \geq VRMS$$

脉冲电压之峰值 (Vo-p) 不可高于电容器之额定直流电压 (VR“DC”)。

The peak value of the pulse voltage (Vo-p) must not exceed the rated DC voltage (VR(DC)) of the capacitor.



$$V_{R(DC)} \geq V_{o-p}$$

(施加交流电压)

Superimposed AC Voltage

当一交流电压施加于直流电压时，直流电压 (VDC) 与所施加交流电压峰值 (V_{o-p}) 之总和不可高于电容器之额定直流电压 ($V_{R(DC)}$)

When a AC voltage is superimposed to a DC voltage, The sum of both the DC voltage (VDC) and the peak value of the AC voltage (V_{o-p}) must not exceed the rated DC voltage ($V_{R(DC)}$) of the capacitor.

$$V_{R(DC)} \geq V_{DC} + V_{o-p}$$

周温 (T_{amb})

Ambient Temperature (T_{amb})

所谓周温是电容器近周之温度，并不一定是室温，通常，周温与未加负载之电容器表面温度是一致。

The ambient temperature is the temperature in the immediate surrounding of the capacitor. it is identical to the surface temperature of an unloaded capacitor.

最高温度 (T_{max})

Maximum Temperature (T_{max})

最高温度或者上限温度是指电容器乃可维持运作之最高温度。在负载情形下，周温与因负载引致之温升总和不可超过电容之最高温度。

The maximum temperature or upper category temperature is the highest temperature at which a capacitor may still be operated. At load operations, the sum of T_{amb} and temperature rise (ΔT) caused by the load conditions, must not exceed the maximum temperature (T_{max}).

最低温度 (T_{min})

Minimum Temperature (T_{min})

最低温度或称下限温度是指电容器乃可维持运作之最低温度。

The minimum temperature or lower category temperature is the lowest temperature at which a capacitor may still be operated.

额定容值 (CR)

Rated Capacitance (CR)

额定容值之定义为电容器包刮理想电容与等效串联电阻之等效串联电路中之电容部分。额定容值为电容器之设计时之主要参数。额定容值之测定应在测试电压 $1.0V_{RMS max}$ ，测试频率在 $1KHz \pm 20\%$ 及周温 $20^{\circ}C$ 条件下进行。容值容许差表示在 $20^{\circ}C$ 条件下电容器之容值与额定容值间可接受之最大偏移范围。由于介质薄膜之介质常数与频率有关，容值会随频率之上升而降低。相对湿度则会使容值上升，而此项改变是可逆的。

The rated capacitance is defined as the capacitive part of an equivalent series circuit consisting of capacitance and equivalent series resistance (ESR). CR is the capacitance for which



the capacitor is designed. Its value is typically measured at a voltage of 1 VRMS maximum, a frequency of 1 KHz \pm 20%, and a temperature of +20't. The capacitance tolerance indicates the acceptable deviation from the CR at +20't. As the dielectric constant of plastic film is frequency dependent, the capacitance value will decrease with increasing frequency. High relative humidity may increase the capacitance value. And the capacitance changes due to moisture are reversible.

容值漂移 (长期稳定性)
Capacitance Drift (Longterm Stability)

除了可逆性变化以外，电容器之容值也会有些不可逆之变化，亦称漂移。漂移之方向与程度主要取决于介质材料。随着时间推移，漂移现象会逐步减少趋于稳定。经常或剧烈之温度变化可能增大漂移值。

in addition to reversible changes, the capacitance of a capacitor is also subject to irreversible changes (also known as "drift"). The drift is dependent upon the dielectric material. The drift decrease gradually over the time. Frequent and extreme temperature changes may increase the drift value.

温度系数 (TC)
Temperature Coefficient (TC)

温度系数是指在温度范围内，容值之平均变化率。对电容器而言，一般以在20℃时之容值为基数计算，表示温度每变化1℃时容值之变化程度。温度系数为正为负依介质材料而定。

The temperature coefficient is the average capacitance change over a specified temperature range. it indicates how much a capacitance changes referred to +20 C, if the temperature changes by 1 C. The TC is typically expressed in ppm / C. The TC can either be positive or negative, depending upon the dielectric material.

$$TC = \frac{(C2 - C1) \times 1,000,000}{C20 \times (T2 - T1)} \quad (\text{ppm} / ^\circ\text{C})$$

- C1=capacitance at temperature T1 (uF)
- C2=capacitance at temperature T2 (uF)
- C20=reference capacitance at +20 \pm 2 $^\circ\text{C}$ (uF)
- C1=温度T1时之容值 (uF)
- C2=温度T2时之容值(uF)
- C3=20 \pm 2 $^\circ\text{C}$ 时之参考容值 (uF)



Dissipation Factor (DF) ($\tan \delta$)

The dissipation factor, also known as " $\tan \delta$ ", is the ratio of the ESR to the capacitive reactance X_C (series capacitance) or the active power to the reactive power at a sinusoidal voltage of a specified frequency. The DF reflects the polarization losses of the dielectric film and the losses caused by the contact resistances of the capacitor. Parallel losses due to the insulation resistance of film capacitors can be neglected.

The DF is temperature and frequency dependent.

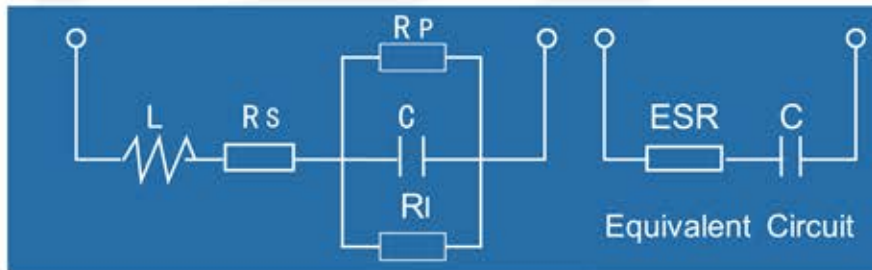
$$DF = \tan \delta = \frac{ESR}{X_C}$$

The reciprocal value of DF is also known as Q-factor.

$$Q = \frac{1}{\tan \delta}$$

Equivalent Series Resistance (ESR)

The ESR is the ohmic part of an equivalent series circuit. Its value assumes all losses to be represented by a single resistance in series with the idealized capacitor.



The ESR consists of the polarization losses of the dielectric material (R_P), the insulation resistance (R_I) and the losses caused by resistance of the leads, termination and electrodes (R_S).

$$ESR = \frac{\tan \delta}{2 \pi f C} \quad (\Omega)$$

Insulation Resistance (R_I) and Time Constant (t)

The insulation resistance is the ratio of an applied DC voltage to the resulting leakage current (I_L), flowing through the dielectric and over its body surface after the initial charging current has ceased. The R_I is typically measured after 60 ± 5 sec. At $+20^\circ\text{C}$ and a relative humidity (R.H.) of $50 \pm 2\%$.

$$R_I = \frac{V_{DC}}{I_L} \quad (\Omega)$$

The R_I depends upon the property and the quality of the dielectric material and the capacitor's construction. The R_I decreases with increasing temperature and / or increasing humidity. R_I changes due to moisture are reversible. For capacitors with high C values, the R_I is shown as time constant (t). it is the product of R_I and capacitance and is expressed in second Or $M\Omega \cdot \mu\text{F}$.



$$t = Rl \times C \text{ (M}\Omega \cdot \mu\text{F)}$$

Inductance (L)

The inductance of a capacitor is dependent upon the geometric design of the capacitor element and the length and the thickness of the contacting terminals. Typical inductance values of radial leaded capacitor types are 1.0 nH / 1 mm lead length.

Impedance (Z)

The impedance Z is the magnitude of the vectorial sum of ESR and the capacitive reactance XC in an equivalent series circuit under consideration of the series inductance L.

$$Z = \sqrt{\text{ESR}^2 + (\omega L - 1/\omega C)^2}$$

Dissipation Power (PD)

$$\text{PD} = \text{VRMS}^2 \times 2 \pi f C \times \tan \delta \times 1000 \text{ (mW)}$$

PD = dissipation power (m W)

VRMS = applied RMS voltage (V)

f = frequency (Hz)

C = capacitance (F)

Tan δ = dissipation factor at frequency f

Resonant Frequency (fR)

The fR is a function of the capacitance C and the inductance L of a capacitor. At resonant frequency, the capacitive reactance equals the inductive reactance ($1/\omega C = \omega L$) At its lowest point of the resonant curve, only ohmic value is effective, and the impedance Z equals the ESR. Above the fR, the inductive part of the capacitor prevails

Pulse Rise Time (dv/dt)

The Pulse rise time indicates the ability of a capacitor to withstand rapid voltage changes and hence high current peaks. The dv/dt value, expressed in V / us, represents the steepest voltage gradient of the pulse (rise or fall time). The dv/dt value depends upon the properties of the dielectric material, the film thickness and the capacitor's construction. For film-foil capacitors the applied dv/dt is not limited, if the temperature rise caused by the pulse load is still under its limit.

Pulse Load and Current Handling Capability

To prevent a capacitor from overheating, the following factors of applied pulse load have to be considered: maximum pulse voltage (Vp-p), pulse shape, dv/dt, frequency, pulse current, Tamb and cooling conditions.

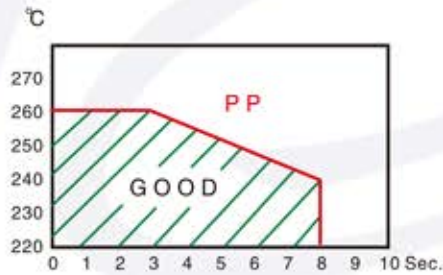
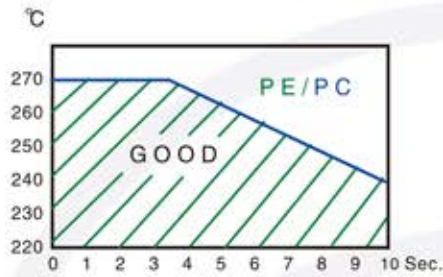
For critical applications, please forward your voltage and current waveforms (the worst case conditions) for our type proposal.



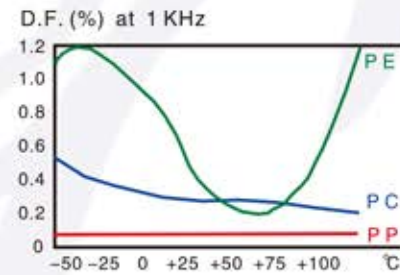
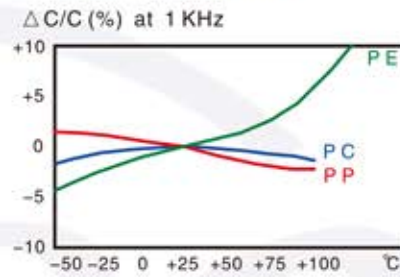
焊锡温度、频率、温度特性曲线图

Soldering / Frequency / Temperature Curves

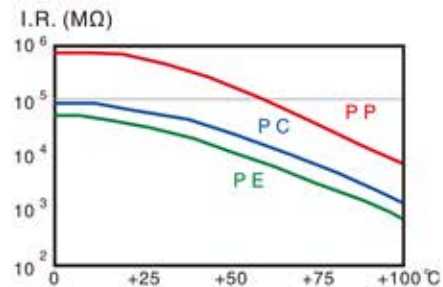
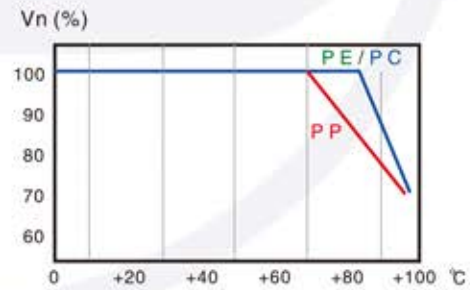
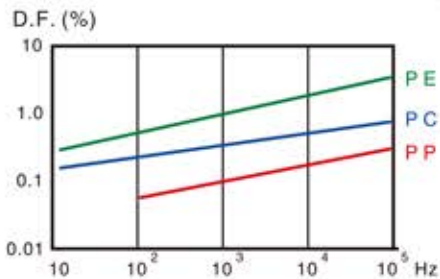
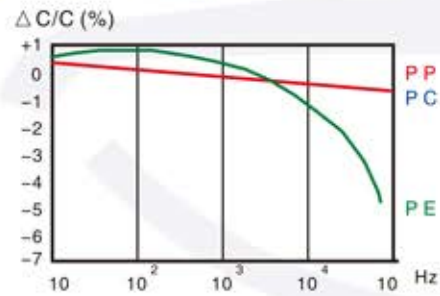
Soldering Temperature VS Time



Temperature Characteristics



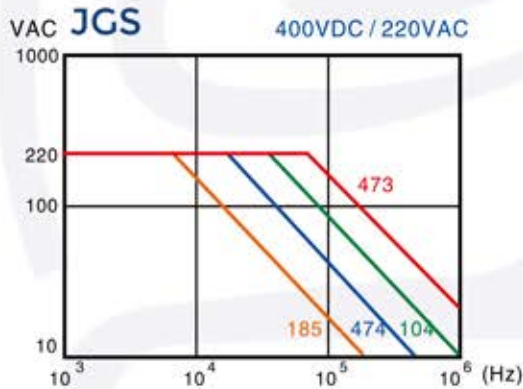
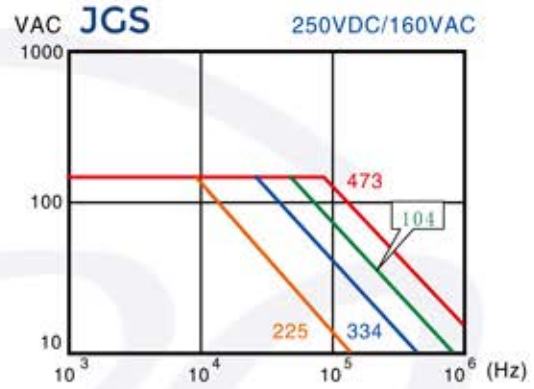
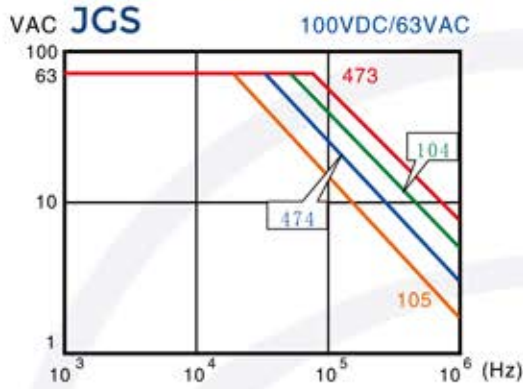
Frequency Characteristics



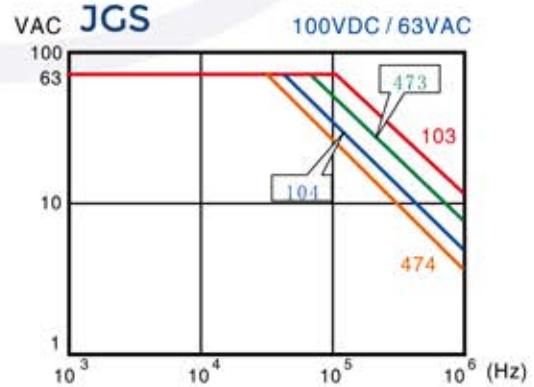
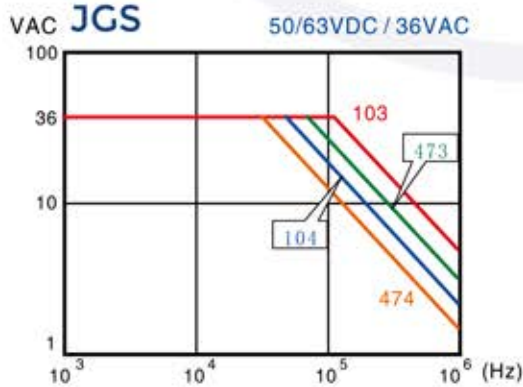


容许交流电压 vs 频率曲线图

JGS32 JGS35 JGS36 JGS37

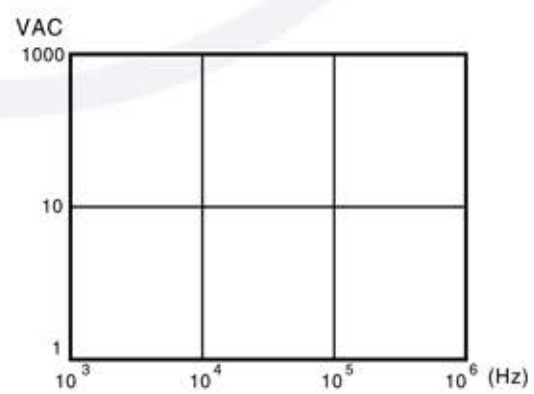
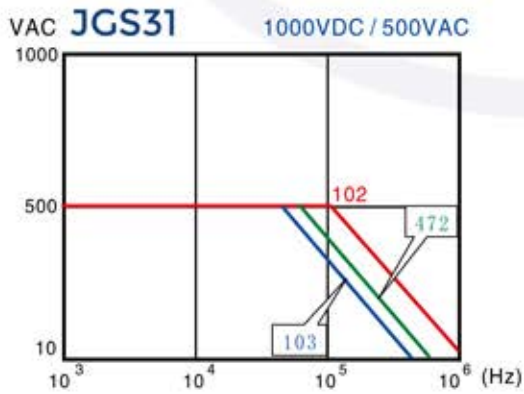
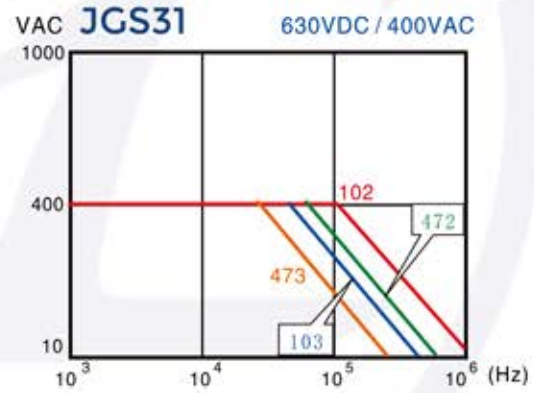
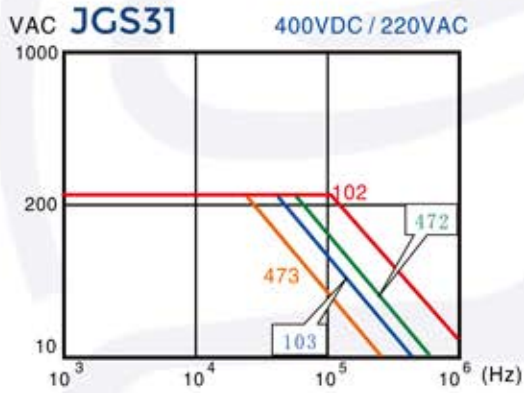
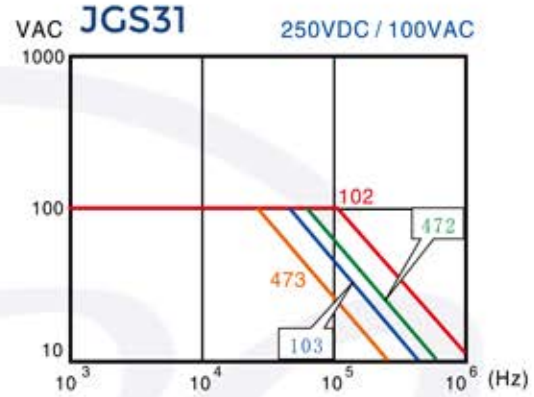
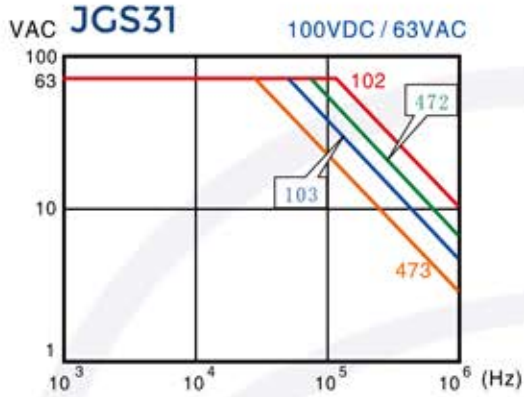


JGS33 JGS34



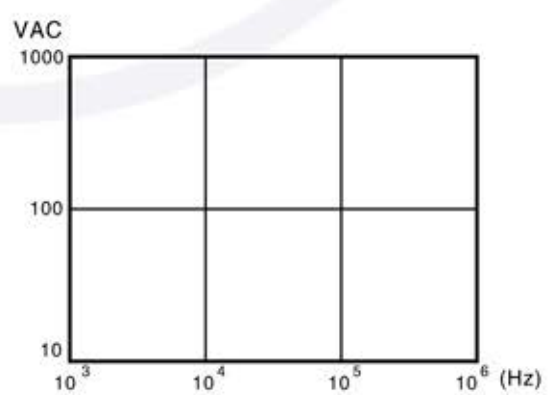
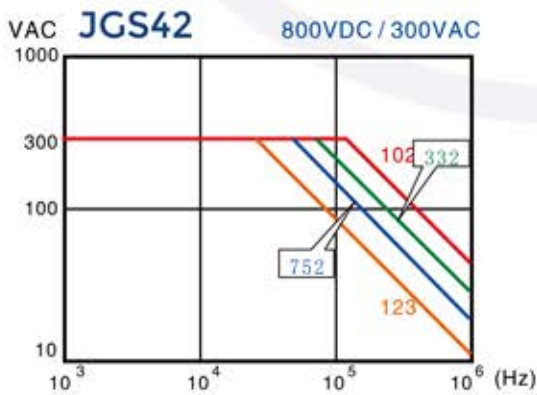
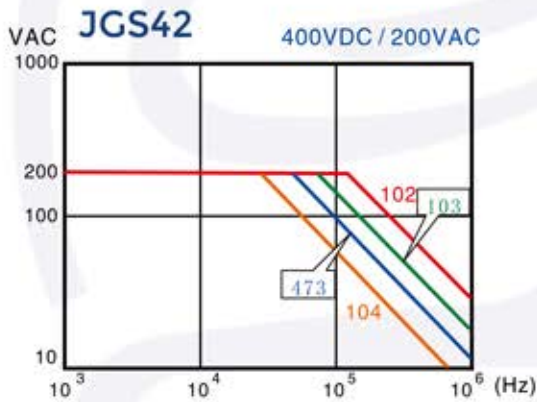
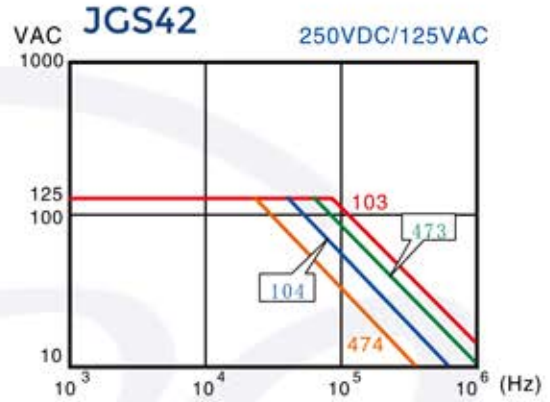


容许交流电压 vs 频率曲线图





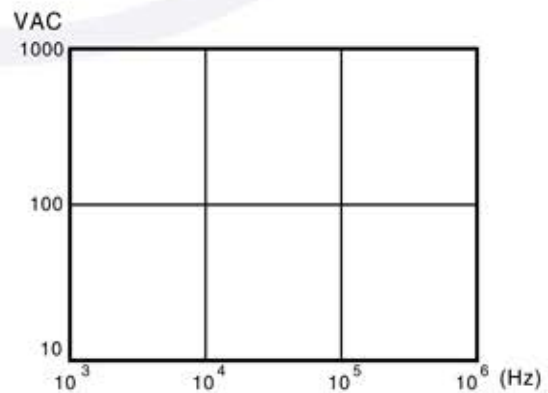
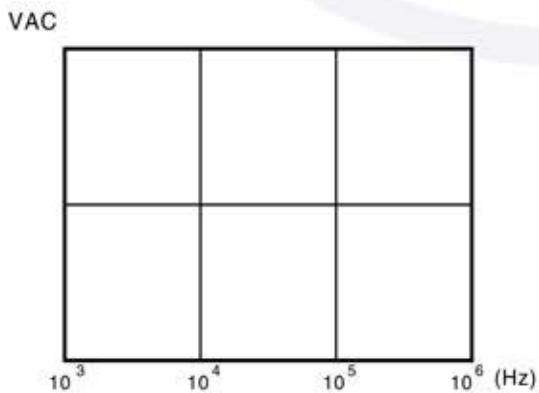
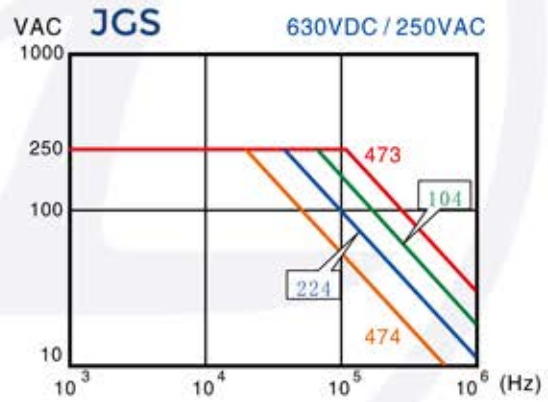
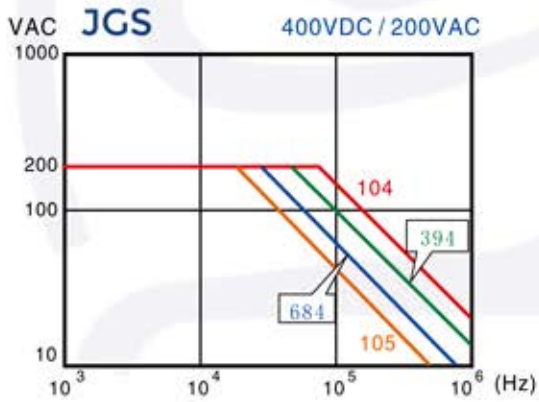
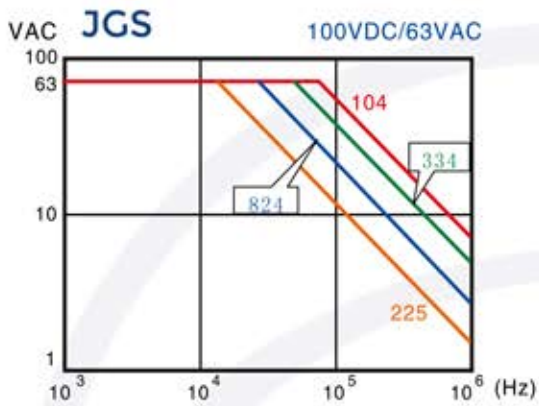
容许交流电压 VS 频率曲线图





容许交流电压 vs 频率曲线图

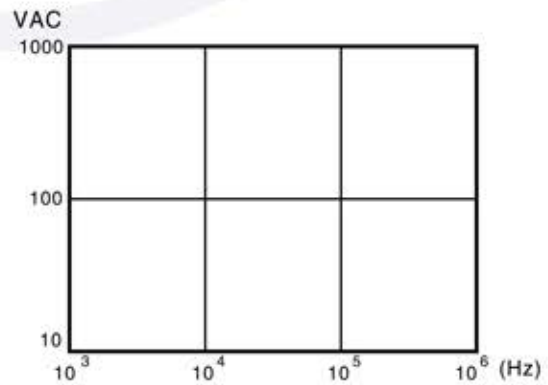
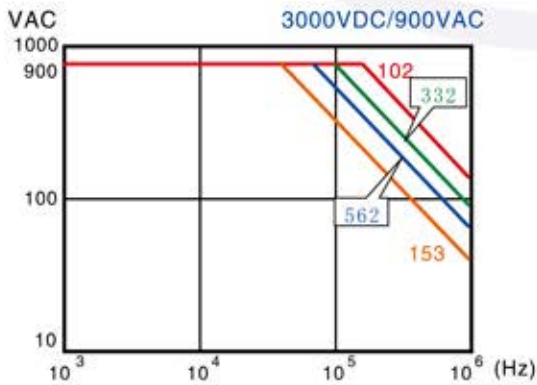
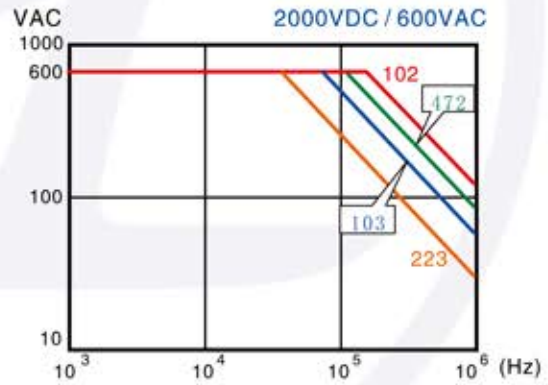
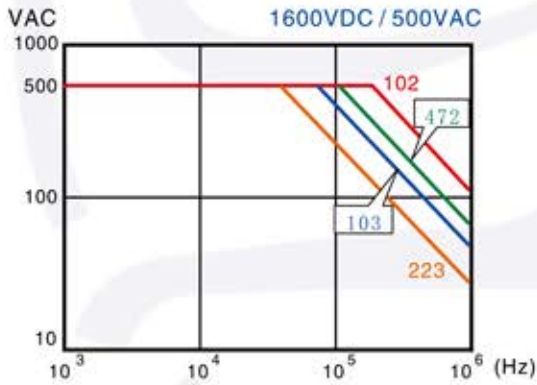
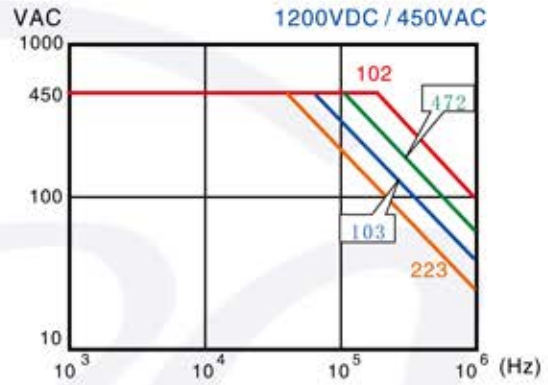
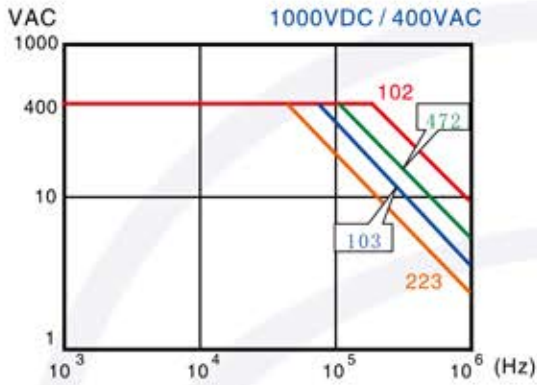
JGS43 JGS46 JGS47 JGS48





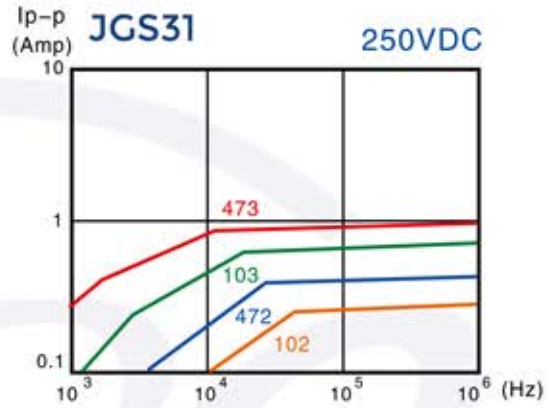
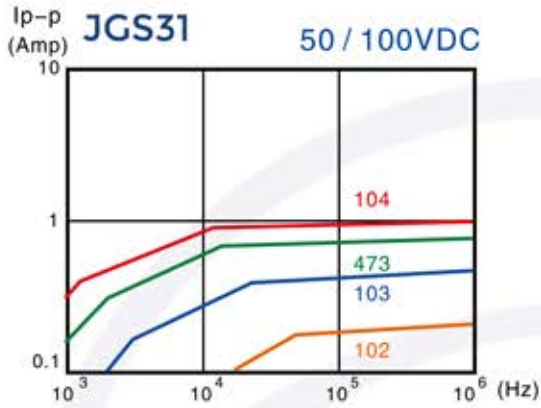
容许交流电压 vs 频率曲线图

JGS51 JGS52

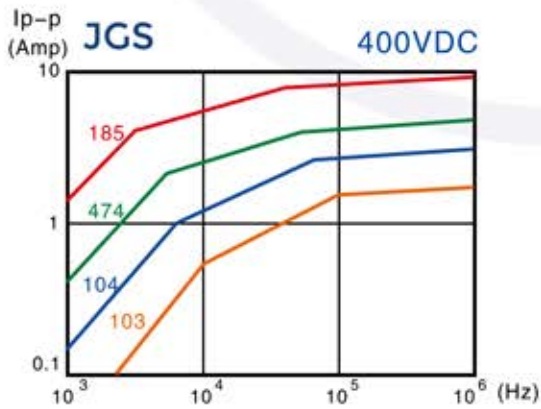
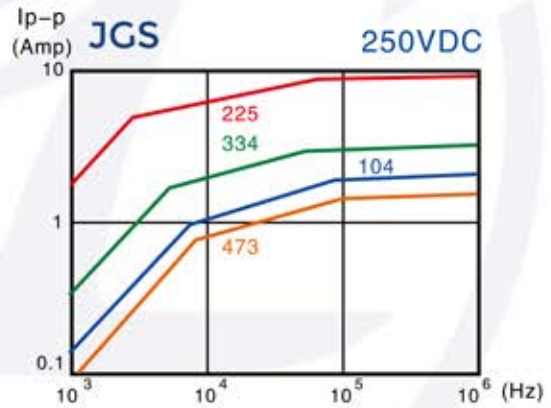




容许交流电压 vs 频率曲线图

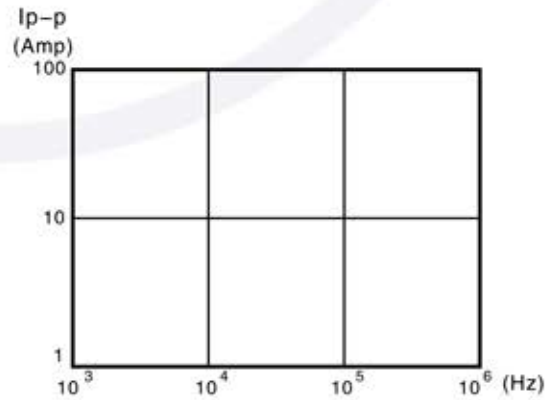
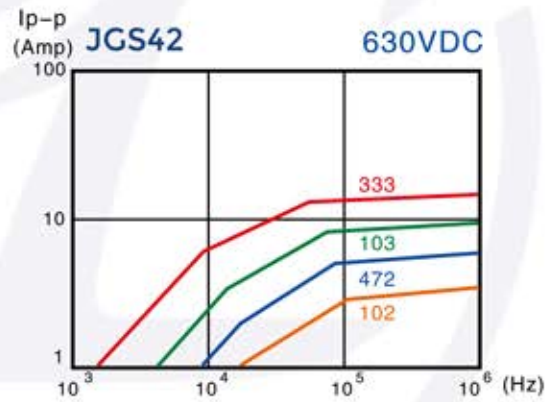
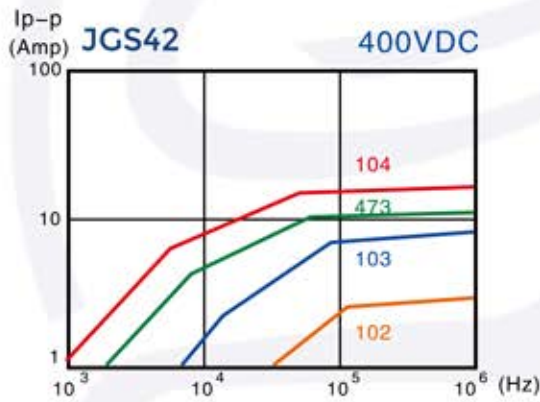


JGS32 JGS35 JGS36 JGS37





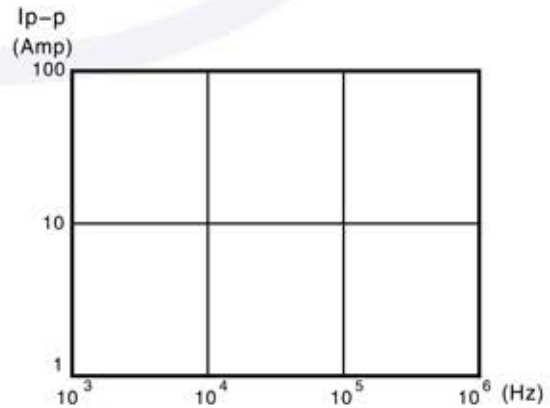
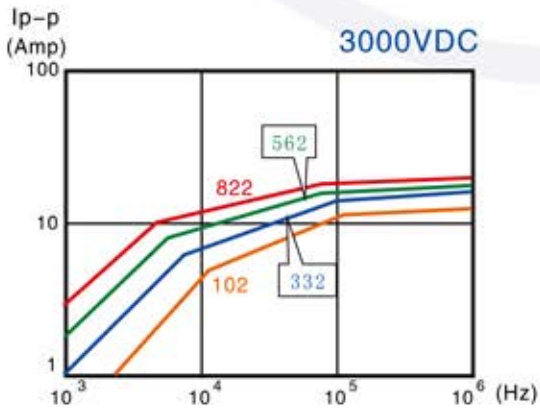
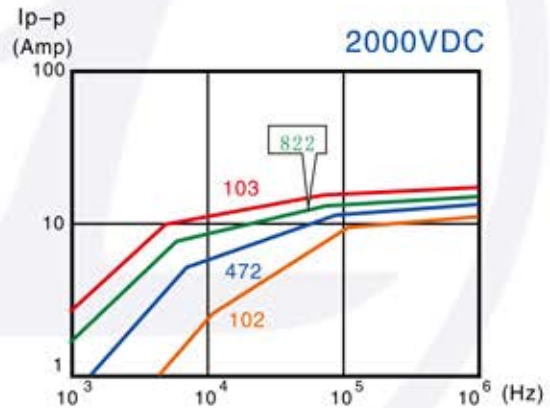
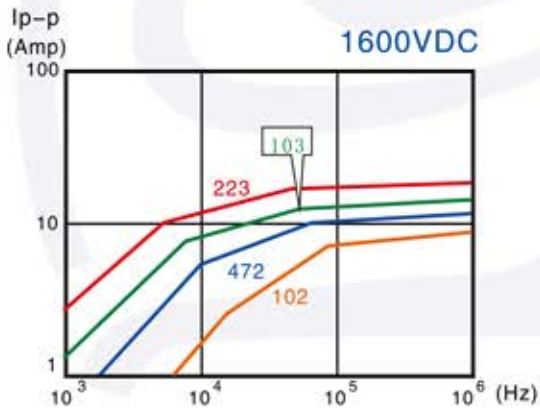
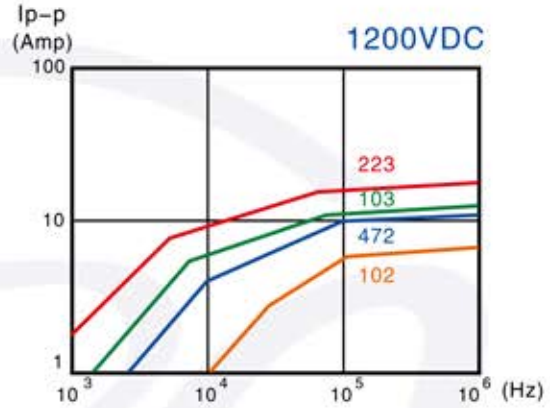
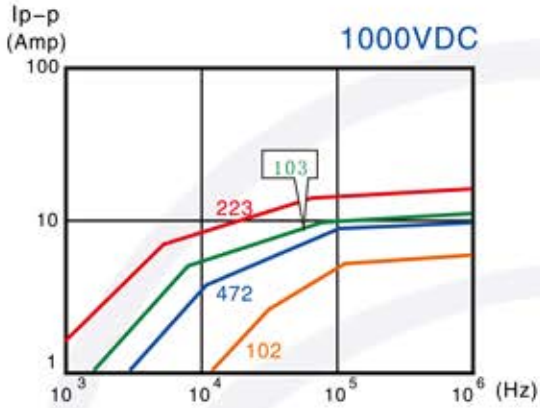
容许交流电压 vs 频率曲线图





容许交流电压 vs 频率曲线图

JGS51 JGS52





容许脉冲电流值 VS 频率与负载对照表

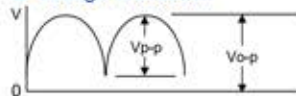
CBB JGS		250 VDC									
F(KHz)	15.75	21.0	31.0	37.0	48.0	56.0	64.0	78.0	82.0	96.0	
Cap(uF)	I p-p (Amp)										
0.047	2.0	2.3	2.8	3.2	3.7	4.1	4.5	5.1	5.3	5.6	
0.056	2.2	2.5	3.1	3.9	4.3	4.7	5.0	5.4	5.7	5.9	
0.068	2.6	3.2	3.9	4.5	4.9	5.3	5.6	5.9	6.1	6.3	
0.082	3.0	3.6	4.3	5.0	5.3	5.8	5.9	6.2	6.4	6.8	
0.10	3.3	3.9	4.9	5.5	5.9	6.2	6.4	6.8	6.9	7.2	
0.12	3.5	4.1	5.2	5.7	6.1	6.4	6.6	7.0	7.2	7.4	
0.15	3.9	4.5	5.6	6.1	6.5	6.8	7.0	7.4	7.6	7.8	
0.18	4.3	5.0	6.1	6.7	7.2	7.5	7.7	8.1	8.2	8.6	
0.20	4.7	5.5	6.7	7.3	7.8	8.1	8.4	8.8	9.0	9.3	
0.22	5.1	5.9	7.2	7.9	8.5	8.8	9.1	9.6	9.7	10.1	
0.24	5.4	6.3	7.7	8.4	9.0	9.3	9.6	10.1	10.3	10.7	
0.27	5.7	6.6	8.1	8.8	9.4	9.8	10.1	10.6	11.8	11.2	
0.30	6.0	7.0	8.5	9.3	9.9	10.3	10.6	11.2	11.3	11.8	
0.33	6.2	7.2	8.8	9.6	10.2	10.6	11.0	11.6	11.7	12.2	
0.36	6.4	7.4	9.1	9.9	10.5	10.9	11.3	11.9	12.1	12.6	
0.39	6.6	7.7	9.3	10.2	10.8	11.3	11.7	12.1	12.4	13.0	
0.43	7.1	9.1	9.6	10.5	11.1	11.6	12.0	12.6	12.8	13.3	
0.47	7.5	8.6	10.1	10.7	11.4	11.9	12.1	13.0	13.4	13.7	
0.51	7.8	9.0	10.3	11.0	12.0	12.3	12.7	13.3	13.5	14.0	
0.56	8.2	9.5	10.7	11.5	12.2	12.7	13.1	13.9	14.1	14.5	
0.62	8.6	10.0	11.1	11.7	12.4	12.8	13.3	13.9	14.1	14.6	
0.64	8.8	10.2	11.3	11.9	12.6	13.0	13.4	14.1	14.3	14.8	
0.68	9.0	10.4	11.5	12.0	12.8	13.2	13.7	14.4	14.6	14.9	
0.75	9.4	9.8	10.8	11.3	12.0	12.5	12.9	13.6	13.9	14.1	
0.82	9.8	11.1	12.3	12.8	13.6	14.1	14.6	15.4	15.6	15.9	
0.91	10.2	11.4	12.6	13.2	14.0	14.5	15.0	15.8	16.0	16.3	
1.0	10.6	11.7	13.2	14.0	14.5	15.0	15.3	15.7	16.0	16.5	
1.2	11.0	11.9	13.2	13.6	14.6	15.3	15.5	15.9	16.2	16.7	
1.5	11.6	12.5	13.8	14.4	15.3	15.9	16.4	17.2	17.4	17.7	

CBB JGS		400 VDC									
F(KHz)	15.75	21.0	31.0	37.0	48.0	56.0	64.0	78.0	82.0	96.0	
Cap(uF)	I p-p (Amp)										
0.068	2.8	3.4	4.5	5.0	5.4	5.6	5.9	6.4	6.6	6.9	
0.075	3.6	4.2	5.3	5.8	6.2	6.4	6.7	7.2	7.4	7.7	
0.082	4.3	4.9	6.0	6.5	6.9	7.1	7.4	7.9	8.1	8.4	
0.10	4.9	5.5	6.6	7.1	7.5	7.7	8.0	8.5	8.7	9.0	
0.12	5.5	6.2	7.4	8.0	8.4	8.7	9.0	9.6	9.8	10.3	
0.15	6.1	6.9	7.6	8.3	8.8	9.2	9.5	10.1	10.4	10.8	
0.18	6.6	7.5	7.9	8.7	9.2	9.6	9.9	11.5	11.7	12.1	
0.20	7.0	8.0	9.4	9.7	10.1	10.5	10.9	11.5	11.8	12.2	
0.22	7.3	8.3	9.7	10.1	10.4	10.8	11.2	12.2	12.5	12.9	
0.24	7.6	8.5	10.0	10.4	10.7	11.1	11.5	12.5	12.8	13.2	
0.27	7.9	9.0	10.4	10.7	11.0	11.4	11.8	12.8	13.1	13.5	
0.30	8.2	9.3	10.7	11.0	11.3	11.7	12.1	13.1	13.5	13.8	
0.33	8.6	9.9	11.0	11.3	11.6	12.0	12.4	13.4	13.8	14.1	
0.34	8.7	10.1	11.2	11.5	11.8	12.2	12.6	13.6	14.0	14.3	
0.36	9.0	10.2	11.5	11.8	12.1	12.5	12.9	13.9	14.3	14.6	
0.39	9.3	10.7	11.9	12.2	12.4	12.8	13.2	14.2	14.6	14.9	
0.43	9.6	10.9	12.0	12.5	12.7	13.2	13.6	14.6	15.0	15.3	
0.47	9.9	11.4	12.5	12.9	13.4	13.8	14.2	15.1	15.4	15.7	
0.51	10.3	11.7	12.7	13.1	13.8	14.2	14.5	15.3	15.8	16.0	
0.56	10.7	12.0	12.9	13.4	14.0	14.6	14.8	15.6	16.1	16.3	
0.60	11.2	12.3	13.2	13.7	14.3	14.9	15.1	15.8	16.2	16.5	
0.62	11.6	12.5	13.5	14.0	14.6	15.1	15.4	16.0	16.5	16.7	
0.64	11.9	12.7	13.8	14.2	14.7	15.3	15.7	16.1	16.6	16.9	
0.68	12.0	12.9	13.9	14.4	14.9	15.5	15.9	16.3	16.9	17.1	
0.75	12.5	13.2	14.2	14.7	15.2	15.7	16.1	16.6	17.1	17.3	
0.82	12.8	13.4	14.4	14.9	15.4	15.9	16.3	16.8	17.3	17.5	
0.91	13.1	13.6	14.6	15.1	15.6	16.1	16.5	17.1	17.5	17.7	
1.0	13.5	14.1	15.2	15.7	16.9	17.3	17.6	18.1	18.4	18.7	

■ Test Conditions

Ambient Temperature: +85°C±5°C.
Relative Humidity (RH): 65%~95%.
Temperature Rise (ΔT): 8°C max.

■ Voltage Waveform



■ Current Waveform





容许脉冲电流值 VS 频率与负载对照表

CBB JGS 51-M(小型化)

1600 VDC

Table with 4 main frequency columns (31.00 KHz, 37.00 KHz, 48.00 KHz, 56.00 KHz) and multiple sub-columns for Duty Time (uS), Duty (%), Vo-p (Volt), and I p-p (Amp) max. Rows list capacitance values from 0.0010 to 0.022 uF.

■ Test Conditions
Ambient Temperature: +85°C±5°C.
Relative Humidity (RH): 65%~95%.
Temperature Rise (ΔT): 8°C max.

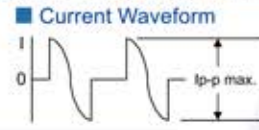


Table with 4 main frequency columns (64.00 KHz, 78.00 KHz, 82.00 KHz, 96.00 KHz) and multiple sub-columns for Duty Time (uS), Duty (%), Vo-p (Volt), and I p-p (Amp) max. Rows list capacitance values from 0.0010 to 0.022 uF.



容许脉冲电流值 VS 频率与负载对照表

CBB JGS 52

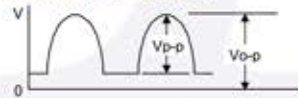
2000 VDC

Table with columns for CAP (uF), Frequency (31.00 KHz, 37.00 KHz, 48.00 KHz, 56.00 KHz), Duty Time (uS), Vo-p (Volt) max., Duty (%), and I p-p (Amp) max. The table lists current values for various capacitance ranges from 0.0010 to 0.022 uF.

Test Conditions

Ambient Temperature: +85°C±5°C.
Relative Humidity (RH): 65%-95%.
Temperature Rise (ΔT): 8°C max.

Voltage Waveform



Current Waveform

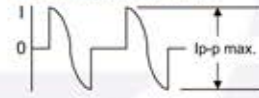


Table with columns for CAP (uF), Frequency (64.00 KHz, 78.00 KHz, 82.00 KHz, 96.00 KHz), Duty Time (uS), Vo-p (Volt) max., Duty (%), and I p-p (Amp) max. The table lists current values for various capacitance ranges from 0.0010 to 0.022 uF.