

■ 塑胶薄膜电容器

Technical Terms & Calculation Formulae

术语说明及计算公式

**介质材料**

塑料薄膜电容器之电气特性主要取决于所使用之介质材料之性质。

**聚乙烯酯 (PE) 膜**

PE 膜具有较高之介质损耗，从而使其较适用于 10KH 以下之应用。

同时 PE 膜具有较高之介质常数，因此可以较小尺寸得到所需之容值。

而且 PE 膜之使用温度范围较其他常用之介质来得广阔。

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，例如耦合，旁路，封锁及除噪等线路。

**聚丙烯 (PP) 膜**

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。

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，调频及校正电路。

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。

**薄膜电容器**

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。

**膜箔式电容器**

基本上膜箔式电容器由一双极版所构成，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。

**金属化膜电容器**

金属化膜电容器之电极由一层极薄（厚仅 0.02um~0.1um 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 0.9um 与 20um 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。

**金属化膜电容器之自愈性质**

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。自愈过程仅需数  $U_w$  之能量，而且通常在 10us 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。

■ 介质性质（典型参数）

| 参数 | 介质常数<br>25°C/50Hz | 最小厚度<br>(micron) | 最高工作温度<br>°C | 损耗因数<br>at 1KHz(%) | 绝缘电阻<br>(MΩ, μF) | 吸湿度%重<br>量比 | 温度系数<br>(ppm/°C) |
|----|-------------------|------------------|--------------|--------------------|------------------|-------------|------------------|
| PE | 3.2               | 1                | 125          | 0.5                | 25,000           | 0.4         | +400 ± 200       |
| PP | 2.2               | 4                | 105          | 0.02               | 100,000          | 0.01        | -200 ± 100       |

## Technical Terms & Calculation Formulae

### 术语说明及计算公式

#### 额定电压 (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°C以内,可以连续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值(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°C但低于最高湿度,则额定电压应予以降低。

#### 耐压强度或介质强度 (VT)

电容器之耐压强度高于其额定电压,但只能在有限时间内施加,一般耐压强度是在两电极间测试,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。

#### 交流电压 (VAC)

本型录中所提及之交流电压额定电压均指无脉冲之弦波电压。因此除MPX型号以外,本型录之其他电容器均不应使用电力应用上(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,降低比例请参见本型录中相关之,(容许交流电压 vs 频率曲线图)。

#### 脉冲电压

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))。

$$VR(AC) \geq VRMS$$

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))。

$$VR(AC) \geq Vo-p$$

#### 印加交流电压

当一交流电压印加于直流电压时,直流电压(VDC)与所印加交流电压峰值(Vo-p)之总和不可高于电容器之额定直流电压(VR(DC))。

$$VR(DC) \geq VDC + Vo-p$$

#### 周温 (Tamb)

所谓周温是指电容器近周之温度,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的。

#### 最高温度 (Tmax)

最高温度或称上限温度是指电容器仍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。

#### 最低温度(Tmin)

最低温度或称下限温度是指电容器仍可维持运作之最低温度。

#### 额定容值 (CR)

额定容值之定义为在电容器包括理想电容与等效串联电阻之等效串联电路中之电容那份。额定容值为电容器设计时设定之主要参数。

额定容值之测定应在测试电压1 VRMS max,测试频率在1KHz ±20%及周温+20°C条件下进行。容值容许差表示在+20°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,容值会随着频率之上升而降低。高相对湿度则会使容值上升,而此项改变是可逆的。

#### 容值漂移 (长期稳定性)

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,漂移现象会逐频减小趋于稳定,经常或剧烈之温度变化可能增大漂移值。

#### 温度系数 (TC)

温度系数是指在指定温度范围内,容值之平均变化率。

对电容器而言,一般在+20°C时之容值为基数计算,表示温度每变化1°C时容值之变化程度。温度系数为正为负依介质材料而定。

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

C1=温度 T1 时之容值 (uF)

C2=温度 T2 时之容值 (uF)

C20=+20±2°C时之参考容值(uF)

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#### 损耗因素(DF) (tan δ)

损耗因素，亦“tan δ”，为电容器之等效串联电阻（ESR）与其容抗之比值，或为在特定频率之正弦波电压下，电容器之主动功率与感应功率之比值。

损耗因素一般反应介质薄膜之极化损耗及电容器导体接触电阻引起之损耗之大小，对薄膜电容器而言，由绝缘电阻产生之并联损耗是可以忽略的。

损耗因素随温度及频率而异，并非固定值。

$$DF = \frac{ESR}{X_c}$$

损耗因素之倒数亦称为 Q 因素。

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

#### 等效串联电阻 (ESR)

等效串联电阻（ESR）系一等效串联电路之电阻部份，其值为假设电容器之所有损耗由与理想电容器串联之单一电阻来代表。下图右方为电容器之等效串联电路。



等效串联电阻（ESR）一般由介质材料之极化损耗（RP），绝缘电阻损耗（RI），及由导线导体之接触电阻所产生之损耗（RS）三部份构成。上图左为电容器代表性电路。

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

#### 绝缘电阻 (RI) 与时间常数 (t)

The insulation resistance is the ratio of an applied 绝缘电阻是电容器在充电停止后，该充电电压与流经介质及电容器外表面之漏电流之比值。

典型之绝缘电阻测试应在+20℃温度及相对湿度 50±2%环境下，于充电停止后 60±5sec 进行。

$$RI = \frac{VDC}{IL} (\Omega)$$

绝缘电阻随介质材料之种类及品质与电容器之结构而异，绝缘电阻亦随着环境温度及/或湿度之上升而下降而回升。

对较大容值之电容器而言，其绝缘电阻系以时间常数 (t) 来表示，其为绝缘电阻与容值之乘积，单位为秒或 MΩ . uF 。

$$t = RI \times C (M\Omega \cdot \mu F)$$

#### 电感量(L)

电容器之电感量取决于电容素子之结构设计及导电端子之长度与厚度幅向导线型电容器之典型电感值为 1.0nH/1mm 导线长。

#### 阻抗 (Z)

电容器之阻抗为其等效串联电阻（ESR）与容抗之向量和之大小。在此等效串联电路中一串联电感也列入考虑。

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

#### 损耗功率

$$PD = V_{RMS}^2 \times 2 \pi f c \times \tan \delta \times 1000 (mW)$$

PD=损耗功率 (mW)

VRMS=电压 RMS 有效值 (V)

F=频率 (Hz)

C=容值 (F)

Tan=在频率 F 下之损耗因素 (DF)

共振频率 (f R)

共振频率 (f R) 是电容器之容值 C 与电感量 L 之函数。在共振频率下，电容器之容抗与感抗相等 ((1/ω C = ω L) )

在此共振曲线之底部，只有电阻部份是有效的，其阻抗 Z 等于其等效串联电阻 (ESR)。高于共振频率后，感抗将大于容抗 。

#### 脉冲上升梯度 (dv/dt)

电容器之脉冲上升梯度表示其耐受快速之电压变化及相应之高电流峰值之能力。

脉冲上升梯度以 V/us 为单位，代表一脉冲电压（上升或下降）曲线中最陡峭的坡度。

电容器之脉冲上升梯度取决于介质材料之特性，厚度及电容结构。

对膜箔式电容器而言，dv/dt 几乎不受限，只要该脉冲负载所引致之温升仍不超限即可。

#### 脉冲负载与电流处理能力

为避免电容器过热，下列因素应详加考虑：

最大电压峰值 (Vp-p) . 脉冲形状，dv/dt，频率，脉冲电流，环境温度 (Tamb) 及冷却条件。

## ■ 塑胶薄膜电容器使用说明及注意事项

### 电容器工作电压

薄膜电容器的选用取决于施加的最高电压，并受施加的电压及电压波形，频率，环境，温度等因素的影响。使用前请确认施加到电容器两端的电压是否在额定电压值内，在任何时候都不要超过电容器的额定上限电压，即  $1.1U_r$ 。

### 电容器工作电流

通过电容器的脉冲电流等于电容量  $C$  与电压上升速率的乘积即  $I=C \times dv/dt$ 。通过电容的交流电流  $I=2\pi fcv$ 。（ $f$ -电容器的最高频率； $C$ -电容器的最高容量； $v$ -电容器的最高电压）在任何时候都不要超过电容器的额定上限电流，即  $1.3I_r$ 。

对于使用在频率较高或高脉冲及交流条件下，SINCERITY 推荐客户使用聚丙烯膜电容器。不允许直流电容器使用在交流场合。

为了承受较大电流，从设计来讲，可以增加电容器的  $dv/dt$  值，可以增加电容器的端面面积  $S$ ；也可以减小电容器的本体长度  $L$  或者增加电容器的电极的厚度，这需要确认电容器的使用场合和安装尺寸而不同。

### 电容器使用温度范围

电容器的使用温度定义为环境温度+电容器自身温度+环境辐射温度引起的温升，在交流或高频线路中电容器由于电流通过而发热，如温升过高将会烧毁电容器。

聚酯膜电容器温升在  $10^\circ\text{C}$  以下，聚丙烯膜温升在  $5^\circ\text{C}$  以下，可以正常使用。SINCERITY 建议电容器使用的温度不要超过其额定温度和自身温升范围内。

### 电容器机械谐振(噪音)

在交流及离散频率情形下，电容器的介质层可能产生机械振动而发出交流哼声(俗称噪音)，就目前的技术资料和 SINCERITY 试验判定对电容器的电性能使用没有任何影响，SINCERITY 还是建议使用前确认一下，目前只能尽量降低其交流哼声，完全杜绝是比较困难的。

### 电容器的电容量稳定性

尽管薄膜电容器以电容量稳定著称，如使用在 RC 定时电路中电容量稳定很高的场合，SINCERITY 推荐使用聚丙烯电容器或都由聚丙烯与聚脂混合介质薄膜而成的电容器。

### 抑制电源电磁干扰用电容器

一般分为两类“跨接电源线之间的 X 类抑制电源电磁干扰用电容器和跨接电线与地之间的 Y 类抑制电源电磁干扰用电容器”。

X 类与 Y 类电容器的峰值耐电压如下表：

| 类别 | 跨接绝缘类型 IEC664 | 使用时的脉冲峰值电压                         | 电路应用  | 耐久性试验前施加的脉冲峰值电压  |
|----|---------------|------------------------------------|-------|--|
| X1 | III           | $>2.5\text{KV}$<br>$<4.0\text{KV}$ | 高脉冲应用 | $CR \leq 1.0 \mu\text{F}, 4\text{KV}$<br>$CR > 1.0 \mu\text{F}, 4 \sqrt{CR}$     |
| X2 | II            | $\leq 2.5\text{KV}$                | 一般应用  | $CR \leq 1.0 \mu\text{F}, 2.5\text{KV}$<br>$CR > 1.0 \mu\text{F}, 2.5 \sqrt{CR}$ |
| X3 | -----         | $\leq 1.5\text{KV}$                | 一般应用  | -----  |
| Y1 | 双重绝缘或增强绝缘     | 4250VDC                            |       | 8KV  |
| Y2 | 基本绝缘或辅助绝缘     | $>150\text{VAC}$ $<250\text{VAC}$  |       | 5KV  |
| Y3 | 基本绝缘或辅助绝缘     | $>150\text{VAC}$ $<250\text{VAC}$  |       |  |
| Y4 | 基本绝缘或辅助绝缘     | $<150\text{VAC}$                   |       | 2.5KV  |

### 电容器取用及存储

应避免带有锋利尖锐器用力接触或碰撞电容器，会导致电容器的绝缘层的损坏引起电路板的短路，固定电容器时请使用阻燃材料，电容器的储存温度  $-10/+40^\circ\text{C}$ ，相对湿度不大于 75%。

■ 电容器的测试注意事项

电容量, 损耗角正切测试及环境

一般采用测试频率为 1KHz 均应在介质温度 20~25℃ 的范围进行。相对温度不大于 75%。气压为大气压。除另有约定外。

测试方法

端子间的电压:

测试漏电流一般设定在 10mA 但要根据电容器的电容量的大小适当增加或减小。电压施加的速度一般为 50V/S。若电压施加过快, 将使充电电流过大, 导致无法施加电压, 若采用交流测试, 其漏电流设定为  $I=2\pi fcv/1000(mA)$ , 测试时间为 5S。

端子与外壳之间:

测试电压为 2UR+1000VAC, 但不低于 2000VAC。漏电流设定为 0.5mA, 测试时间为 60S。

电容器充电后请不要短路放电, 否则将损坏电容器, 最好采用电阻放电。

绝缘电阻的测试:

额定电压小于 10V, 测试电压为额定电压。 额定电压 10~100V (不含 100V) 测试电压为 10V。

额定电压 100~500V (不含 500V) 测试电压为 100V。 额定电压 500V (含 500V) 测试电压为 500V。

对于抑制电源磁干扰用 X 类与 Y 类等电容器测试电压为 100V。

■ 电容器的试验条件

| 项目    | 施加条件  | 性能要求   |
|-------|---|--|
| 稳态湿热  | 温度: $40\pm 2^\circ\text{C}$<br>湿度: 93%RH<br>持续时间: 21 天或 56 天  | 电容量: $\Delta C/C \leq 5\%$<br>损耗角正切 (1KHz): 增加 $\leq 0.002$<br>无可见损伤, 标志清晰   |
|       | 绝缘电阻 IR;  | $\geq$ 额定值的 50%  |
| 而久性   | 额定温度 T0, 1000h<br>施加电压: 1.25 X 额定电压   | 电容量: $\Delta C/C \leq 10\%$<br>绝缘电阻 IR: $\geq$ 额定值的 50%  |
| 充电和放电 | 电容量: $\Delta C/C \leq$ 初始测量值的 $\pm 10\%$<br>损耗角正切 (1KHz): tg 的增加 $\leq 0.001$<br>绝缘电阻 IR: $\geq$ 额定值的 50% | Refitemm4.13<br>次数: 10000 次<br>充电持续时间: 0.5S<br>放电持续时间: 0.5S<br>充电电压为额定电压<br>充电电阻: 220/Cr ( ) 或 20 (取较大者)<br>Cr 为标称电容量 (uF)   |
| 阻燃性试验 | 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棉纸。   | IEC695-2-2 针焰法<br>耐燃性类别 C, 在火焰上暴露一次电容器体积: $V(\text{mm}^3) \leq 250$ , 在火焰上暴露时间为 5S<br>电容体积: $250 < V(\text{mm}^3) \leq 500$ , 在火焰上暴露时间为 10S<br>电容体积: $500 < V(\text{mm}^3) \leq 1750$ , 在火焰上暴露时间为 20S<br>电容体积: $V(\text{mm}^3) > 1750$ , 在火焰上暴露时间为 30S |

■ 在订购或索要样品之前, 请尽可能多的提供以下信息

1. 额定工作电压: DC, AC 或其他。
2. 电容量及允许误差。
3. 最终产品种类: 电视机, 显示器, 开关电源, 电子节能灯, 小家电等。  
用途或电路图: 直流回路, 交流脉冲回路 (S 校正电路, 行逆程电路, 尖峰吸收回路,) 跨线, 降压, 谐振, 滤波, 点火电路等。
5. 使用条件: 脉冲峰值, 频率, 波形, 电流等。电容器的使用环境温度。
6. 外形尺寸及形状: 电容器本体尺寸, 引线长度; 环氧包封或盒装, 直角, 成型, 编带等。
7. 安全性, 当电容器短路或者开路时是否对其他元器件有影响, 其他元器件异常是否对电容器有影响等。

■特性曲线图

**Soldering/Frequency/Temperature Curves**

焊锡温度、频率、温度特性曲线图

焊锡温度 VS 时间



频率特性



温度特性



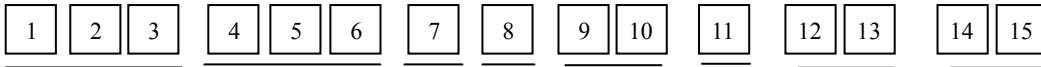
■ 薄膜电容器编码规定

电容器料号编制方法

一. 封装型和轴向型电容器料号 18 位数产品代码如下：例如：MPP105K6231017###\*\*



二. 盒装型电容器料号 15 位数产品代码如下：例如：MP2104KD2-###\*\*



三. 各部分组成内容

①型号（第 1~3 位数）例如：MPP=CBB21 或 MPX-X2=MP2 产品系列型号代码见下表：

| 封装型号与轴向型号对应代码表 |     |        |     |        |     | 盒装型号对应代码表 |     |         |     |
|----------------|-----|--------|-----|--------|-----|-----------|-----|---------|-----|
| 产品型号           | 代码  | 产品型号   | 代码  | 产品型号   | 代码  | 产品型号      | 代码  | 产品型号    | 代码  |
| CBB21          | MPP | CBB21A | MPS | CL11   | PEI | CL233X    | MEM | CBB21B  | MPB |
| CL21X          | MES | CBB13  | PPN | CBB20T | MPT | MPX-X2    | MP2 | CBB81B  | PPB |
| CBB81          | PPS | CL20A  | MEA | CL20T  | MET | MKP-X1    | MP1 | CBB61   | CB6 |
| CBB90T         | PPT | CBB90A | PPA | CBB20A | MPA | CL21B     | MEB | R. C 组件 | MRC |
| CL21           | MEF |        |     |        |     |           |     |         |     |

②标称容量（第 4~6 位数） 例如：104=10×10 PF=0.1μF

③标容量误差代码（第 7 位数） 例如：J=±5% K=±10% M=±20%

④额定电压（第 8 位数）额定电压代码对应表

| 代码 | 电压      | 代码 | 电压       | 代码 | 电压       | 代码 | 电压      | 代码 | 电压      |
|----|---------|----|----------|----|----------|----|---------|----|---------|
| 0  | 63 Vdc  | 6  | 630 Vdc  | D  | 2000 Vdc | 3  | 280 Vac | J  | 450 Vac |
| 1  | 100 Vdc | 8  | 800 Vdc  | E  | 3000 Vdc | R  | 300 Vac | K  | 500 Vac |
| 2  | 250 Vdc | A  | 1000 Vdc | F  | 125 Vac  | H  | 350 Vac | L  | 600 Vac |
| 4  | 400 Vdc | B  | 1250 Vdc | G  | 250 Vac  | W  | 400 Vac | M  | 700 Vac |
| 5  | 450 Vdc | C  | 1600 Vdc |    | 275 Vac  | T  | 440 Vac | S  | 2500Vdc |
| Q  | 520 Vdc |    |          |    |          |    |         |    |         |

注：当“G”用于 MP2 型号时代表 275 Vac，用于其它型号时代表 250 Vac

⑤外形编码（产品属于封装型和轴向型第 9~14 位数；产品属于盒装型第 9~10 位数）

⑥引线加工图形及切引线长度代码##（封装型和轴向型第 15、16 位数；盒装型第 12、13 位数）见附表 1

⑦塑壳颜色代码-（此码只适于盒装产品第 11 位数）

⑧内部识别码“\*\*”（封装型和轴向型第 17、18 位数；盒装型第 14、15 位数）

引脚加工图形及切引线长度附表 1

说明：盒装型号标准引线长度为 13MM，封装型号标准引线长度为 26MM；轴向型号标准引线长度为 35MM。

| 切引线标准长度  | 3.0±0.5 mm  | 3.5±0.5 mm | 4.0±0.5 mm   | 4.5±0.5 mm | 5.0±0.5 mm  | 5.5±0.5 mm |
|--|---|------------|--|------------|---|------------|
| 直切脚加工图形  | 外弯脚加工图形   |            | 内弯脚加工图形  |            | K 弯脚加工图形  |            |
|  |  |            |  |            |  |            |

## 用标准

GB10188(IEC384-13)

## ■结构

介质：聚丙烯膜

电极：金属真空蒸发层和铝箔

封装：阻燃粉末环氧树脂，符合 UL94 V-0

引脚：铜包钢镀锡（CP 线）或铜线

外壳：阻燃 PBT 塑壳，符合 UL94 V-0

## ■典型应用

高频、直流、交流及脉冲大电流场合

如：灯具、电源、显示器及彩电行逆程线路等

电子整流器，节能灯等

## ■特点

有良好自愈性能。高频损耗小，温升低，外观一致好

高冲击强度。内部串联结构，电压高，过电流大等

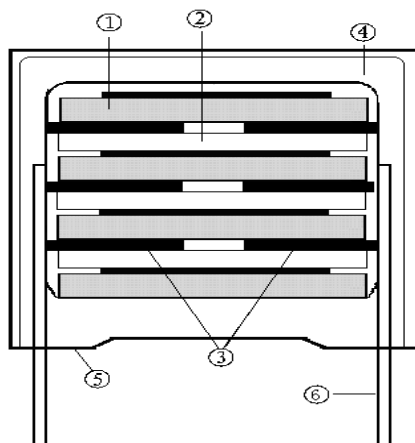
## ■符合 ROHS 标准

## ■技术参数

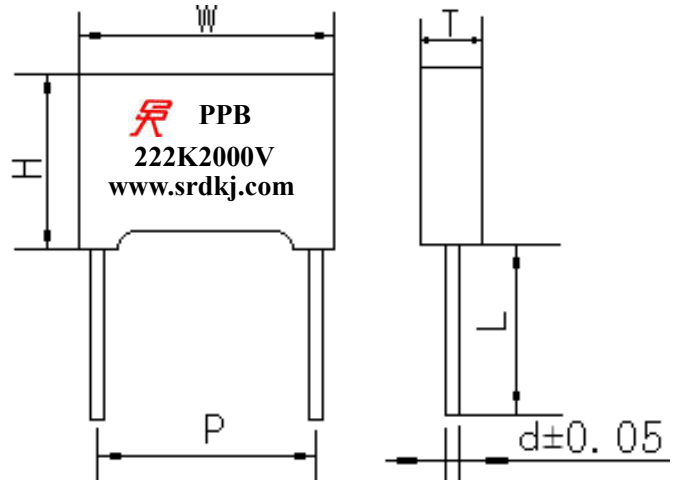
| 塑壳型号        | C 类  | D 类  | E 类  | F 类  | G 类  |
|-------------|------|------|------|------|------|
| 脚距 mm       | 10   | 15   | 22.5 | 27.5 | 31.5 |
| 引线直径 mm     | 0.6  | 0.8  |      |      |      |
| dv/dt(V/μs) | 1200 | 1500 | 1000 |      |      |

|               |   |  |
|---------------|---|--|
| 气候条件          | -40—+85 (105) °C/56d                                      |  |
| 额定电压          | 1000VDC、1250VDC、1600VDC、2000VDC、3000VDC                   |  |
| 容量误差          | J—±5%    K—±10%    M—±20%                                 |  |
| 容量范围          | 0.0010 μF—0.22 μF   |  |
| 耐电压           | 端子与端子：2.0UR 5S<br>端子与外壳：2000VAC 5S                        | 无击穿或飞狐   |
| 损耗角           | ≤0.0010 10KHZ   | 20°C；1V 测试电压   |
| 绝缘电阻<br>或时间常数 | CR≤0.1 μF    IR≥30000MΩ<br>CR>0.1 μF    IR≥10000S(MΩ. μF) | UR≤500V, 充电电压 100V<br>UR>500V, 充电电压 500V<br>20°C；充电 1min 测试后测得   |
| 稳态湿热          | 温度：40±2°C<br>湿度：93%RH<br>持续时间：56 天                        | 无可见损伤，标志清晰<br>IR：≥额定值的 50%<br>电容量：ΔC/C≤5%<br>损耗角（1KHZ）：增加≤0.0020 |
| 耐久性试验         | +85 (105) °C，连续 10000 小时<br>施加电压：1.25×额定电压                | 绝缘电阻 IR：≥额定值的 50%<br>电容量：ΔC/C≤10%                                |

## ■结构图



- ① 金属化聚丙烯薄膜
- ② 聚丙烯薄膜
- ③ 铝箔
- ④ 阻燃环氧树脂
- ⑤ 阻燃 PBT 外壳
- ⑥ 引脚



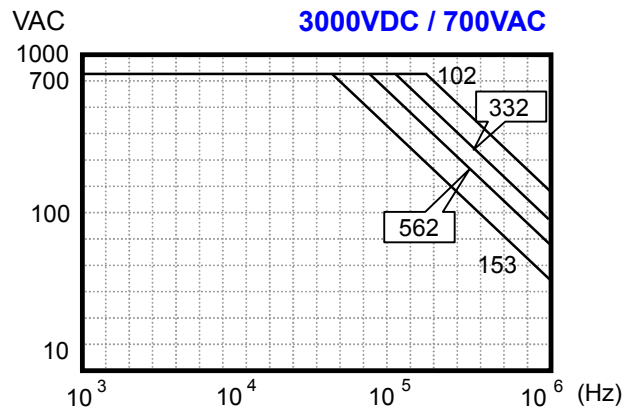
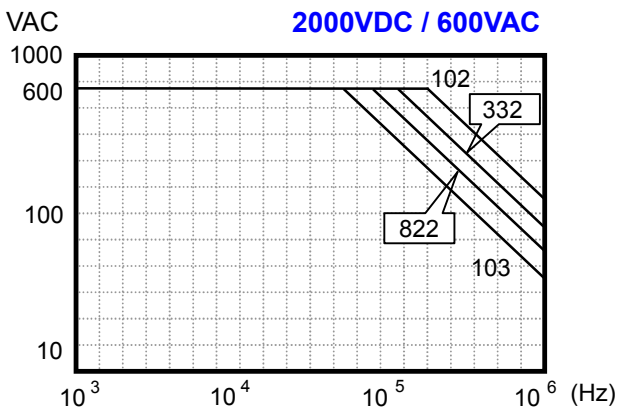
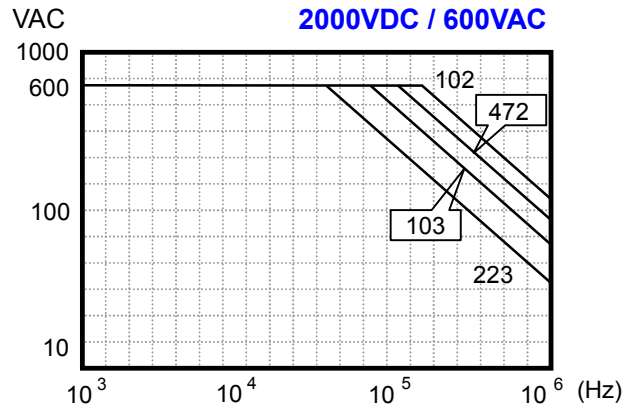
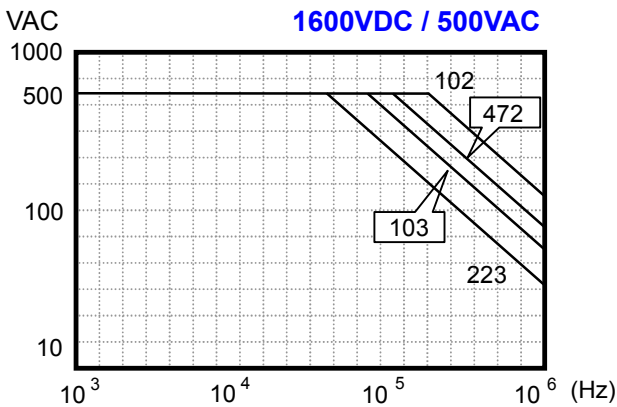
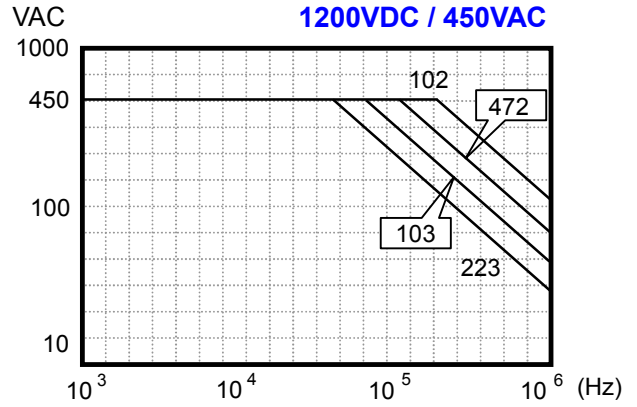
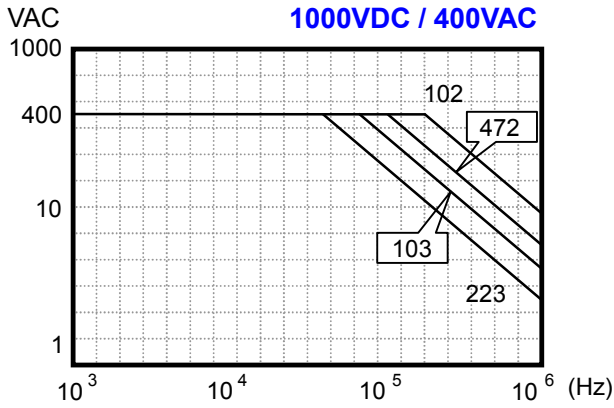




# Permissible AC Voltage VS Frequency Curves

## CBB81B (PPB)

## 容许交流电压 VS 频率曲线图





# Permissible Pulse Current VS Frequency & Duty Tables

## CBB81B(PPB)

## 容许脉冲电流值 VS 频率与负载对照表

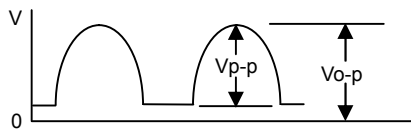
1000VDC

| CAP (uF) | 31.00KHz       |               |     |      |      |      | 37.00KHz       |               |     |      |      |      | 48.00KHz       |               |      |      |      |      | 56.00KHz       |               |      |      |      |      |
|----------|----------------|---------------|-----|------|------|------|----------------|---------------|-----|------|------|------|----------------|---------------|------|------|------|------|----------------|---------------|------|------|------|------|
|          | Vo-p (Volt)    | Duty Time(uS) |     |      |      |      | Vo-p (Volt)    | Duty Time(uS) |     |      |      |      | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      |
|          |                | 9.7           | 8.1 | 6.5  | 4.8  | 3.2  |                | 8.1           | 6.8 | 5.4  | 4.1  | 2.7  |                | 6.3           | 5.2  | 4.2  | 3.1  | 2.1  |                | 5.4           | 4.5  | 3.6  | 2.7  | 1.8  |
|          |                | Duty (%)      |     |      |      |      |                | Duty (%)      |     |      |      |      |                | Duty (%)      |      |      |      |      |                | Duty (%)      |      |      |      |      |
| max.     | 30             | 25            | 20  | 15   | 10   | max. | 30             | 25            | 20  | 15   | 10   | max. | 30             | 25            | 20   | 15   | 10   | max. | 30             | 25            | 20   | 15   | 10   |      |
|          | I p-p(Amp)max. |               |     |      |      |      | I p-p(Amp)max. |               |     |      |      |      | I p-p(Amp)max. |               |      |      |      |      | I p-p(Amp)max. |               |      |      |      |      |
| 0.0010   | 900            | 1.6           | 1.9 | 2.3  | 3.2  | 4.7  | 900            | 1.7           | 2.0 | 2.6  | 3.4  | 5.1  | 900            | 2.0           | 2.3  | 2.9  | 3.9  | 5.9  | 900            | 2.1           | 2.6  | 3.3  | 4.4  | 6.5  |
| 0.0012   | 900            | 1.8           | 2.1 | 2.6  | 3.5  | 5.2  | 900            | 2.0           | 2.3 | 2.9  | 3.9  | 5.8  | 900            | 2.2           | 2.7  | 3.4  | 4.6  | 6.8  | 900            | 2.4           | 2.9  | 3.6  | 4.8  | 7.3  |
| 0.0015   | 900            | 2.0           | 2.3 | 2.9  | 3.9  | 5.8  | 900            | 2.1           | 2.5 | 3.2  | 4.3  | 6.3  | 900            | 2.5           | 3.0  | 3.7  | 5.0  | 7.5  | 900            | 2.7           | 3.2  | 4.0  | 5.3  | 8.0  |
| 0.0018   | 900            | 2.1           | 2.5 | 3.1  | 4.2  | 6.3  | 900            | 2.3           | 2.8 | 3.3  | 4.7  | 7.0  | 900            | 2.8           | 3.2  | 4.1  | 5.4  | 8.3  | 900            | 3.0           | 3.4  | 4.4  | 5.9  | 8.8  |
| 0.0022   | 900            | 2.3           | 2.8 | 3.4  | 4.6  | 6.9  | 900            | 2.5           | 3.0 | 3.7  | 5.0  | 7.6  | 900            | 3.0           | 3.5  | 4.5  | 6.0  | 8.9  | 900            | 3.2           | 3.8  | 4.7  | 6.3  | 9.6  |
| 0.0027   | 900            | 2.6           | 3.1 | 3.8  | 5.1  | 7.7  | 900            | 2.8           | 3.3 | 4.2  | 5.6  | 8.4  | 900            | 3.3           | 3.9  | 4.8  | 6.4  | 9.7  | 900            | 3.4           | 4.1  | 5.2  | 6.9  | 10.3 |
| 0.0033   | 900            | 2.9           | 3.4 | 4.3  | 5.7  | 8.5  | 900            | 2.1           | 3.7 | 4.7  | 6.1  | 9.3  | 900            | 3.5           | 4.3  | 5.3  | 7.2  | 10.7 | 900            | 3.8           | 4.6  | 5.7  | 7.6  | 11.4 |
| 0.0036   | 900            | 3.0           | 3.5 | 4.4  | 5.9  | 8.8  | 900            | 3.3           | 3.8 | 4.8  | 6.4  | 9.7  | 900            | 3.7           | 4.5  | 5.6  | 7.4  | 11.2 | 900            | 4.0           | 4.7  | 6.0  | 7.9  | 11.9 |
| 0.0039   | 900            | 3.1           | 3.6 | 4.6  | 6.0  | 9.1  | 900            | 3.3           | 4.0 | 5.0  | 6.6  | 10.0 | 900            | 3.8           | 4.7  | 5.8  | 7.7  | 11.5 | 900            | 4.1           | 4.9  | 6.1  | 8.2  | 12.4 |
| 0.0043   | 900            | 3.2           | 3.7 | 4.7  | 6.2  | 9.3  | 900            | 3.4           | 4.1 | 5.1  | 6.8  | 10.2 | 900            | 3.9           | 4.7  | 6.0  | 7.9  | 11.8 | 900            | 4.2           | 5.1  | 6.3  | 8.5  | 12.6 |
| 0.0047   | 900            | 3.3           | 3.8 | 4.8  | 6.4  | 9.7  | 900            | 3.5           | 4.2 | 5.3  | 7.1  | 10.6 | 900            | 4.1           | 4.9  | 6.1  | 8.2  | 12.2 | 900            | 4.4           | 5.3  | 6.5  | 8.7  | 13.1 |
| 0.0051   | 900            | 3.3           | 4.0 | 5.0  | 6.7  | 10.0 | 900            | 3.7           | 4.4 | 5.5  | 7.3  | 11.1 | 900            | 4.3           | 5.1  | 6.4  | 8.6  | 12.7 | 900            | 4.6           | 5.5  | 6.8  | 9.1  | 13.7 |
| 0.0056   | 900            | 3.5           | 4.2 | 5.2  | 7.0  | 10.5 | 900            | 3.8           | 4.6 | 5.8  | 7.6  | 11.4 | 900            | 4.5           | 5.3  | 6.6  | 8.8  | 13.3 | 900            | 4.7           | 5.7  | 7.1  | 9.5  | 14.2 |
| 0.0062   | 900            | 3.6           | 4.4 | 5.5  | 7.3  | 11.0 | 900            | 4.0           | 4.7 | 6.0  | 8.0  | 11.9 | 900            | 4.7           | 5.5  | 6.9  | 9.2  | 13.9 | 900            | 4.9           | 6.0  | 7.4  | 9.9  | 14.8 |
| 0.0068   | 900            | 3.9           | 4.7 | 5.9  | 7.8  | 11.7 | 900            | 4.2           | 5.0 | 6.1  | 8.5  | 12.6 | 900            | 4.8           | 5.8  | 7.3  | 9.6  | 14.4 | 900            | 5.1           | 6.2  | 7.8  | 10.3 | 15.4 |
| 0.0075   | 900            | 4.0           | 4.8 | 6.0  | 8.1  | 12.1 | 900            | 4.3           | 5.2 | 6.4  | 8.7  | 12.9 | 900            | 5.0           | 6.0  | 7.4  | 10.0 | 15.0 | 900            | 5.3           | 6.4  | 8.1  | 10.7 | 16.0 |
| 0.0082   | 900            | 4.2           | 5.0 | 6.3  | 8.5  | 12.6 | 900            | 4.5           | 5.4 | 6.8  | 9.0  | 13.5 | 900            | 5.2           | 6.2  | 7.8  | 10.4 | 15.6 | 900            | 5.6           | 6.7  | 8.4  | 11.2 | 16.7 |
| 0.0091   | 900            | 4.4           | 5.2 | 6.5  | 8.7  | 13.1 | 900            | 4.7           | 5.7 | 7.1  | 9.4  | 14.0 | 900            | 5.4           | 6.5  | 8.2  | 10.9 | 16.3 | 800            | 5.9           | 7.0  | 8.7  | 11.6 | 17.5 |
| 0.010    | 900            | 4.6           | 5.5 | 6.9  | 9.1  | 13.7 | 900            | 4.9           | 6.0 | 7.4  | 10.0 | 14.9 | 800            | 5.8           | 6.9  | 8.6  | 11.5 | 17.3 | 800            | 6.1           | 7.3  | 9.2  | 12.3 | 18.5 |
| 0.012    | 900            | 5.1           | 6.2 | 7.7  | 10.3 | 15.4 | 900            | 5.5           | 6.6 | 8.3  | 11.1 | 16.6 | 800            | 6.3           | 7.5  | 9.4  | 12.6 | 18.9 | 800            | 6.7           | 8.1  | 10.0 | 13.5 | 20.2 |
| 0.015    | 900            | 5.7           | 6.9 | 8.6  | 11.4 | 17.1 | 800            | 6.1           | 7.3 | 9.2  | 12.3 | 18.4 | 800            | 7.1           | 8.5  | 10.6 | 14.0 | 21.1 | 800            | 7.5           | 9.0  | 11.3 | 15.1 | 22.6 |
| 0.018    | 900            | 6.4           | 7.6 | 9.6  | 12.7 | 19.2 | 800            | 6.9           | 8.3 | 10.3 | 13.8 | 20.6 | 800            | 7.9           | 9.5  | 11.8 | 15.8 | 23.6 | 800            | 8.5           | 10.1 | 12.6 | 16.9 | 25.3 |
| 0.022    | 800            | 7.1           | 8.6 | 10.6 | 14.2 | 21.3 | 800            | 7.6           | 9.1 | 11.4 | 15.3 | 22.9 | 800            | 8.7           | 10.5 | 13.1 | 17.5 | 26.2 | 700            | 9.4           | 11.3 | 14.0 | 18.8 | 28.1 |

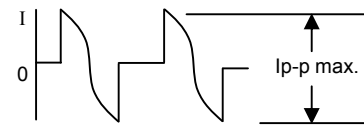
■ 测试条件

环境温度: +85°C ±5°C  
 相对湿度: 65% -- 95%  
 上升温度 (ΔT): 8°C max.

■ 电压波形



■ 电流波形



| CAP (uF) | 64.00KHz       |               |      |      |      |      | 70.00KHz       |               |      |      |      |      | 82.00KHz       |               |      |      |      |      | 96.00KHz       |               |      |      |      |      |
|----------|----------------|---------------|------|------|------|------|----------------|---------------|------|------|------|------|----------------|---------------|------|------|------|------|----------------|---------------|------|------|------|------|
|          | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      | Vo-p (Volt)    | Duty Time(uS) |      |      |      |      |
|          |                | 4.7           | 3.9  | 3.5  | 2.3  | 1.6  |                | 3.9           | 3.2  | 2.6  | 1.9  | 1.3  |                | 3.7           | 3.1  | 2.4  | 1.8  | 1.2  |                | 3.1           | 2.6  | 2.1  | 1.6  | 1.0  |
|          |                | Duty (%)      |      |      |      |      |                | Duty (%)      |      |      |      |      |                | Duty (%)      |      |      |      |      |                | Duty (%)      |      |      |      |      |
| max.     | 30             | 25            | 20   | 15   | 10   | max. | 30             | 25            | 20   | 15   | 10   | max. | 30             | 25            | 20   | 15   | 10   | max. | 30             | 25            | 20   | 15   | 10   |      |
|          | I p-p(Amp)max. |               |      |      |      |      | I p-p(Amp)max. |               |      |      |      |      | I p-p(Amp)max. |               |      |      |      |      | I p-p(Amp)max. |               |      |      |      |      |
| 0.0010   | 900            | 2.3           | 2.8  | 3.5  | 4.7  | 7.1  | 900            | 2.6           | 3.2  | 4.0  | 5.3  | 7.9  | 900            | 2.7           | 3.3  | 4.1  | 5.4  | 8.2  | 900            | 3.0           | 3.6  | 4.5  | 6.0  | 9.0  |
| 0.0012   | 900            | 2.5           | 3.1  | 3.8  | 5.1  | 7.6  | 900            | 2.9           | 3.4  | 4.3  | 5.7  | 8.6  | 900            | 3.0           | 3.5  | 4.5  | 5.9  | 8.8  | 900            | 3.3           | 3.9  | 4.8  | 6.5  | 9.8  |
| 0.0015   | 900            | 2.8           | 3.3  | 4.2  | 5.6  | 8.4  | 900            | 3.2           | 3.7  | 4.7  | 6.2  | 9.4  | 900            | 3.3           | 3.9  | 4.8  | 6.4  | 9.7  | 900            | 3.5           | 4.3  | 5.4  | 7.2  | 10.7 |
| 0.0018   | 900            | 3.0           | 3.6  | 4.7  | 6.1  | 9.3  | 900            | 3.3           | 4.0  | 5.2  | 6.9  | 10.3 | 900            | 3.5           | 4.3  | 5.3  | 7.2  | 10.7 | 900            | 3.9           | 4.7  | 5.9  | 7.9  | 11.8 |
| 0.0022   | 900            | 3.3           | 4.0  | 5.0  | 6.7  | 10.0 | 900            | 3.7           | 4.5  | 5.6  | 7.4  | 11.2 | 900            | 3.8           | 4.7  | 5.8  | 7.7  | 11.5 | 900            | 4.3           | 5.1  | 6.4  | 8.5  | 12.7 |
| 0.0027   | 900            | 3.6           | 4.4  | 5.4  | 7.3  | 10.9 | 900            | 4.1           | 4.8  | 6.0  | 8.1  | 12.1 | 900            | 4.2           | 5.0  | 6.2  | 8.4  | 12.5 | 900            | 4.7           | 5.5  | 6.9  | 9.1  | 13.8 |
| 0.0033   | 900            | 4.0           | 4.7  | 6.0  | 7.9  | 11.9 | 900            | 4.5           | 5.3  | 6.6  | 8.8  | 13.3 | 900            | 4.6           | 5.4  | 6.8  | 9.0  | 13.6 | 900            | 5.0           | 6.0  | 7.5  | 10.0 | 15.0 |
| 0.0036   | 900            | 4.2           | 4.9  | 6.2  | 8.3  | 12.6 | 900            | 4.7           | 5.6  | 6.9  | 9.3  | 13.9 | 900            | 4.7           | 5.7  | 7.1  | 9.4  | 14.1 | 900            | 5.2           | 6.3  | 7.9  | 10.5 | 15.5 |
| 0.0039   | 900            | 4.3           | 5.1  | 6.4  | 8.6  | 12.9 | 900            | 4.8           | 5.8  | 7.2  | 9.6  | 14.3 | 900            | 4.9           | 6.0  | 7.3  | 9.8  | 14.7 | 900            | 5.4           | 6.6  | 8.2  | 11.0 | 16.2 |
| 0.0043   | 900            | 4.4           | 5.3  | 6.6  | 8.9  | 13.3 | 900            | 5.0           | 6.0  | 7.4  | 9.9  | 14.8 | 900            | 5.1           | 6.1  | 7.6  | 10.1 | 15.3 | 900            | 5.6           | 6.8  | 8.5  | 11.3 | 16.8 |
| 0.0047   | 900            | 4.6           | 5.5  | 6.9  | 9.2  | 13.7 | 900            | 5.2           | 6.1  | 7.7  | 10.2 | 15.3 | 900            | 5.3           | 6.3  | 7.9  | 10.5 | 15.8 | 900            | 5.9           | 7.0  | 8.7  | 11.7 | 17.5 |
| 0.0051   | 900            | 4.7           | 5.8  | 7.2  | 9.6  | 14.2 | 900            | 5.4           | 6.4  | 8.0  | 10.7 | 16.0 | 900            | 5.5           | 6.6  | 8.2  | 11.0 | 16.6 | 900            | 6.0           | 7.3  | 9.0  | 12.1 | 18.0 |
| 0.0056   | 900            | 4.9           | 6.0  | 7.4  | 10.0 | 14.9 | 900            | 5.6           | 6.7  | 8.4  | 11.1 | 16.6 | 900            | 5.7           | 6.9  | 8.5  | 11.4 | 17.1 | 800            | 6.2           | 7.5  | 9.4  | 12.6 | 18.7 |
| 0.0062   | 900            | 5.2           | 6.2  | 7.7  | 10.3 | 15.5 | 900            | 5.8           | 7.0  | 8.6  | 11.5 | 17.2 | 900            | 5.9           | 7.2  | 8.8  | 11.9 | 17.7 | 800            | 6.5           | 7.8  | 9.8  | 13.0 | 19.3 |
| 0.0068   | 900            | 5.4           | 6.5  | 8.1  | 10.8 | 16.3 | 900            | 6.0           | 7.3  | 9.0  | 12.1 | 18.0 | 800            | 6.1           | 7.4  | 9.2  | 12.4 | 18.9 | 800            | 6.8           | 8.2  | 10.2 | 13.6 | 20.3 |
| 0.0075   | 900            | 5.6           | 6.8  | 8.5  | 11.3 | 16.7 | 800            | 6.3           | 7.5  | 9.4  | 12.6 | 18.8 | 800            | 6.4           | 7.7  | 9.6  | 12.8 | 19.3 | 800            | 7.1           | 8.6  | 10.7 | 14.2 | 21.3 |
| 0.0082   | 800            | 5.9           | 7.1  | 8.8  | 11.7 | 17.6 | 800            | 6.6           | 7.9  | 9.9  | 13.1 | 19.6 | 800            | 6.8           | 8.1  | 10.0 | 13.4 | 20.3 | 800            | 7.4           | 8.9  | 11.2 | 14.9 | 22.3 |
| 0.0091   | 800            | 6.1           | 7.3  | 9.2  | 12.2 | 18.3 | 800            | 6.9           | 8.2  | 10.3 | 13.7 | 20.5 | 800            | 7.1           | 8.5  | 10.5 | 14.0 | 21.1 | 800            | 7.8           | 9.3  | 11.6 | 15.5 | 23.3 |
| 0.010    | 800            | 6.4           | 7.8  | 9.7  | 12.9 | 19.3 | 800            | 7.3           | 8.6  | 10.8 | 14.4 | 21.7 | 800            | 7.3           | 8.8  | 11.1 | 14.8 | 22.1 | 700            | 8.2           | 9.8  | 12.3 | 16.4 | 24.5 |
| 0.012    | 800            | 7.1           | 8.5  | 10.6 | 14.1 | 21.1 | 800            | 7.9           | 9.5  | 11.8 | 15.8 | 23.6 | 700            | 8.1           | 9.8  | 12.2 | 16.3 | 24.4 | 700            | 8.9           | 10.8 | 13.5 | 17.9 | 26.9 |
| 0.015    | 800            | 7.9           | 9.5  | 11.9 | 15.8 | 23.7 | 700            | 8.7           | 10.5 | 13.1 | 17.5 | 26.3 | 700            | 9.0           | 10.8 | 13.6 | 18.0 | 27.1 | 700            | 10.0          | 12.0 | 15.0 | 19.9 | 29.9 |
| 0.018    | 700            | 8.8           | 10.6 | 13.3 | 17.7 | 26.5 | 700            | 9.4           | 11.3 | 14.0 | 18.8 | 28.2 | 700            | 9.8           | 11.7 | 14.6 | 19.5 | 29.3 | 700            | 10.7          | 12.8 | 16.0 | 21.4 | 32.1 |
| 0.022    | 700            | 9.9           | 11.8 | 14.8 | 19.6 | 29.5 | 700            | 10.4          | 12.5 | 15.5 | 20.7 | 31.2 | 700            | 10.8          | 12.9 | 16.2 | 21.6 | 32.4 | 600            | 11.7          | 14.0 | 17.6 | 23.4 | 35.2 |



# Permissible Pulse Current VS Frequency & Duty Tables

## CBB81B(PPB)

## 容许脉冲电流值 VS 频率与负载对照表

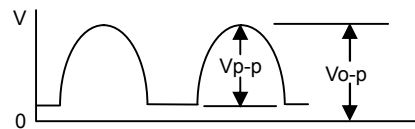
1200VDC

| CAP<br>(uF)    | 31.00 KHz              |               |     |      |      | 37.00 KHz |                        |               |     |      | 48.00 KHz |      |                        |               |      | 56.00 KHz |      |      |                        |               |      |      |      |      |
|----------------|------------------------|---------------|-----|------|------|-----------|------------------------|---------------|-----|------|-----------|------|------------------------|---------------|------|-----------|------|------|------------------------|---------------|------|------|------|------|
|                | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |     |      |      |           | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |     |      |           |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |           |      |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |      |      |
|                |                        | Duty (%)      |     |      |      |           |                        | Duty (%)      |     |      |           |      |                        | Duty (%)      |      |           |      |      |                        | Duty (%)      |      |      |      |      |
|                |                        | 9.7           | 8.1 | 6.5  | 4.8  | 3.2       |                        | 8.1           | 6.8 | 5.4  | 4.1       | 2.7  |                        | 6.3           | 5.2  | 4.2       | 3.1  | 2.1  |                        | 5.4           | 4.5  | 3.6  | 2.7  | 1.8  |
| 30             | 25                     | 20            | 15  | 10   | 30   | 25        | 20                     | 15            | 10  | 30   | 25        | 20   | 15                     | 10            | 30   | 25        | 20   | 15   | 10                     |               |      |      |      |      |
| I p-p(Amp)max. |                        |               |     |      |      |           |                        |               |     |      |           |      |                        |               |      |           |      |      |                        |               |      |      |      |      |
| 0.0010         | 1000                   | 1.7           | 2.0 | 2.5  | 3.3  | 5.0       | 1000                   | 1.9           | 2.2 | 2.7  | 3.6       | 5.5  | 1000                   | 2.0           | 2.5  | 3.1       | 4.2  | 6.2  | 1000                   | 2.3           | 2.8  | 3.4  | 4.7  | 6.9  |
| 0.0012         | 1000                   | 1.9           | 2.2 | 2.8  | 3.7  | 5.6       | 1000                   | 2.0           | 2.5 | 3.1  | 4.1       | 6.1  | 1000                   | 2.4           | 2.9  | 3.6       | 4.8  | 7.3  | 1000                   | 2.6           | 3.1  | 3.9  | 5.2  | 7.8  |
| 0.0015         | 1000                   | 2.0           | 2.5 | 3.1  | 4.1  | 6.1       | 1000                   | 2.2           | 2.7 | 3.3  | 4.5       | 6.8  | 1000                   | 2.7           | 3.2  | 4.0       | 5.3  | 8.0  | 1000                   | 2.9           | 3.4  | 4.3  | 5.7  | 8.6  |
| 0.0018         | 1000                   | 2.2           | 2.7 | 3.3  | 4.5  | 6.8       | 1000                   | 2.4           | 3.0 | 3.7  | 4.9       | 7.3  | 1000                   | 2.9           | 3.4  | 4.4       | 5.9  | 8.7  | 1000                   | 3.2           | 3.7  | 4.7  | 6.2  | 9.4  |
| 0.0022         | 1000                   | 2.4           | 2.9 | 3.7  | 4.9  | 7.4       | 1000                   | 2.7           | 3.2 | 4.1  | 5.3       | 8.0  | 1000                   | 3.2           | 3.8  | 4.7       | 6.3  | 9.5  | 1000                   | 3.3           | 4.1  | 5.1  | 6.8  | 10.1 |
| 0.0027         | 1000                   | 2.7           | 3.3 | 4.1  | 5.5  | 8.2       | 1000                   | 3.0           | 3.5 | 4.5  | 5.9       | 8.8  | 1000                   | 3.4           | 4.2  | 5.1       | 6.9  | 10.2 | 1000                   | 3.6           | 4.5  | 5.5  | 7.3  | 11.1 |
| 0.0033         | 1000                   | 3.0           | 3.6 | 4.6  | 6.0  | 9.0       | 1000                   | 3.3           | 3.9 | 4.9  | 6.6       | 10.0 | 1000                   | 3.8           | 4.6  | 5.7       | 7.6  | 11.4 | 1000                   | 4.1           | 4.8  | 6.0  | 8.1  | 12.2 |
| 0.0036         | 1000                   | 3.2           | 3.7 | 4.7  | 6.2  | 9.4       | 1000                   | 3.4           | 4.1 | 5.1  | 6.8       | 10.2 | 1000                   | 4.0           | 4.7  | 6.0       | 7.9  | 11.9 | 1000                   | 4.3           | 5.1  | 6.3  | 8.5  | 12.7 |
| 0.0039         | 1000                   | 3.3           | 4.0 | 4.9  | 6.6  | 9.9       | 1000                   | 3.5           | 4.3 | 5.3  | 7.2       | 10.8 | 1000                   | 4.2           | 5.0  | 6.2       | 8.4  | 12.6 | 1000                   | 4.5           | 5.4  | 6.7  | 8.9  | 13.4 |
| 0.0043         | 1000                   | 3.3           | 4.1 | 5.0  | 6.8  | 10.1      | 1000                   | 3.6           | 4.4 | 5.5  | 7.3       | 11.1 | 1000                   | 4.3           | 5.1  | 6.4       | 8.6  | 12.8 | 1000                   | 4.6           | 5.5  | 6.9  | 9.1  | 13.8 |
| 0.0047         | 1000                   | 3.4           | 4.2 | 5.1  | 6.8  | 10.2      | 1000                   | 3.7           | 4.5 | 5.6  | 7.4       | 11.3 | 1000                   | 4.4           | 5.2  | 6.5       | 8.6  | 13.0 | 1000                   | 4.7           | 5.6  | 7.0  | 9.3  | 14.0 |
| 0.0051         | 1000                   | 3.5           | 4.3 | 5.3  | 7.1  | 10.6      | 1000                   | 3.9           | 4.7 | 5.8  | 7.7       | 11.6 | 1000                   | 4.5           | 5.4  | 6.7       | 8.9  | 13.5 | 1000                   | 4.8           | 5.8  | 7.2  | 9.6  | 14.4 |
| 0.0056         | 1000                   | 3.7           | 4.4 | 5.5  | 7.3  | 11.1      | 1000                   | 4.0           | 4.8 | 6.0  | 8.1       | 12.1 | 1000                   | 4.7           | 5.6  | 7.0       | 9.3  | 14.0 | 1000                   | 5.0           | 6.0  | 7.4  | 10.0 | 15.0 |
| 0.0062         | 1000                   | 3.8           | 4.7 | 5.8  | 7.7  | 11.5      | 1000                   | 4.2           | 5.0 | 6.3  | 8.4       | 12.6 | 1000                   | 4.8           | 5.9  | 7.3       | 9.7  | 14.6 | 1000                   | 5.2           | 6.2  | 7.8  | 10.4 | 15.6 |
| 0.0068         | 1000                   | 4.0           | 4.8 | 6.0  | 8.0  | 12.1      | 1000                   | 4.4           | 5.2 | 6.5  | 8.7       | 13.1 | 1000                   | 5.0           | 6.0  | 7.5       | 10.0 | 15.2 | 1000                   | 5.4           | 6.5  | 8.1  | 10.8 | 16.2 |
| 0.0075         | 1000                   | 4.3           | 5.1 | 6.4  | 8.6  | 12.7      | 1000                   | 4.6           | 5.5 | 6.8  | 9.1       | 13.6 | 1000                   | 5.2           | 6.3  | 7.9       | 10.5 | 15.7 | 1000                   | 5.6           | 6.7  | 8.5  | 11.3 | 16.8 |
| 0.0082         | 1000                   | 4.5           | 5.4 | 6.8  | 9.0  | 13.5      | 1000                   | 4.8           | 5.8 | 7.2  | 9.6       | 14.4 | 1000                   | 5.6           | 6.7  | 8.4       | 11.1 | 16.6 | 1000                   | 6.0           | 7.2  | 8.9  | 11.9 | 17.9 |
| 0.0091         | 1000                   | 4.7           | 5.6 | 7.0  | 9.3  | 14.0      | 1000                   | 5.0           | 6.0 | 7.5  | 10.0      | 15.0 | 1000                   | 5.8           | 7.0  | 8.6       | 11.5 | 17.4 | 900                    | 6.2           | 7.4  | 9.3  | 12.4 | 18.6 |
| 0.010          | 1000                   | 4.8           | 5.9 | 7.3  | 9.7  | 14.5      | 1000                   | 5.3           | 6.3 | 7.9  | 10.6      | 15.9 | 900                    | 6.1           | 7.3  | 9.2       | 12.3 | 18.4 | 900                    | 6.5           | 7.9  | 9.9  | 13.1 | 19.6 |
| 0.012          | 1000                   | 5.6           | 6.7 | 8.3  | 11.1 | 16.6      | 1000                   | 6.0           | 7.2 | 8.9  | 11.9      | 17.8 | 900                    | 6.8           | 8.1  | 10.1      | 13.5 | 20.3 | 900                    | 7.3           | 8.6  | 10.9 | 14.4 | 21.7 |
| 0.015          | 1000                   | 6.0           | 7.3 | 9.1  | 12.2 | 18.2      | 900                    | 6.5           | 7.8 | 9.8  | 13.0      | 19.6 | 900                    | 7.5           | 9.0  | 11.3      | 15.0 | 22.5 | 900                    | 8.0           | 9.6  | 12.0 | 16.0 | 24.1 |
| 0.018          | 1000                   | 6.8           | 8.2 | 10.2 | 13.6 | 20.4      | 900                    | 7.3           | 8.7 | 11.0 | 14.6      | 21.9 | 900                    | 8.4           | 10.0 | 12.6      | 16.7 | 25.2 | 900                    | 9.0           | 10.8 | 13.5 | 17.9 | 27.0 |
| 0.022          | 900                    | 7.5           | 9.0 | 11.3 | 15.1 | 22.6      | 900                    | 8.1           | 9.8 | 12.2 | 16.3      | 24.4 | 900                    | 9.3           | 11.2 | 14.0      | 18.6 | 28.0 | 800                    | 10.0          | 12.0 | 15.0 | 19.9 | 29.9 |

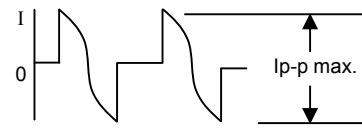
■ 测试条件

环境温度: +85°C ±5°C  
 相对湿度: 65% -- 95%  
 上升温度 (ΔT): 8°C max.

■ 电压波形



■ 电流波形



| CAP<br>(uF)    | 64.00 KHz              |               |      |      |      | 78.00KHz |                        |               |      |      | 82.00KHz |      |                        |               |      | 96.00KHz |      |      |                        |               |      |      |      |      |
|----------------|------------------------|---------------|------|------|------|----------|------------------------|---------------|------|------|----------|------|------------------------|---------------|------|----------|------|------|------------------------|---------------|------|------|------|------|
|                | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |      |          | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |          |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |          |      |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |      |      |
|                |                        | Duty (%)      |      |      |      |          |                        | Duty (%)      |      |      |          |      |                        | Duty (%)      |      |          |      |      |                        | Duty (%)      |      |      |      |      |
|                |                        | 4.7           | 3.9  | 3.5  | 2.3  | 1.6      |                        | 3.9           | 3.2  | 2.6  | 1.9      | 1.3  |                        | 3.7           | 3.1  | 2.4      | 1.8  | 1.2  |                        | 3.1           | 2.6  | 2.1  | 1.6  | 1.0  |
| 30             | 25                     | 20            | 15   | 10   | 30   | 25       | 20                     | 15            | 10   | 30   | 25       | 20   | 15                     | 10            | 30   | 25       | 20   | 15   | 10                     |               |      |      |      |      |
| I p-p(Amp)max. |                        |               |      |      |      |          |                        |               |      |      |          |      |                        |               |      |          |      |      |                        |               |      |      |      |      |
| 0.0010         | 1000                   | 2.5           | 3.0  | 3.7  | 5.0  | 7.5      | 1000                   | 2.8           | 3.3  | 4.2  | 5.6      | 8.5  | 1000                   | 2.9           | 3.4  | 4.4      | 5.8  | 8.6  | 1000                   | 3.2           | 3.8  | 4.8  | 6.4  | 9.6  |
| 0.0012         | 1000                   | 2.7           | 3.3  | 4.1  | 5.4  | 8.2      | 1000                   | 3.1           | 3.6  | 4.6  | 6.0      | 9.1  | 1000                   | 3.2           | 3.7  | 4.7      | 6.2  | 9.4  | 1000                   | 3.4           | 4.2  | 5.2  | 6.9  | 10.4 |
| 0.0015         | 1000                   | 3.0           | 3.5  | 4.5  | 6.0  | 8.9      | 1000                   | 3.3           | 4.0  | 5.0  | 6.7      | 10.0 | 1000                   | 3.4           | 4.1  | 5.1      | 6.9  | 10.3 | 1000                   | 3.8           | 4.5  | 5.7  | 7.6  | 11.3 |
| 0.0018         | 1000                   | 3.3           | 3.9  | 4.9  | 6.6  | 9.9      | 1000                   | 3.7           | 4.4  | 5.5  | 7.3      | 11.1 | 1000                   | 3.8           | 4.6  | 5.7      | 7.5  | 11.3 | 1000                   | 4.2           | 5.0  | 6.2  | 8.4  | 12.6 |
| 0.0022         | 1000                   | 3.5           | 4.3  | 5.3  | 7.1  | 10.6     | 1000                   | 4.0           | 4.7  | 6.0  | 7.9      | 11.9 | 1000                   | 4.1           | 4.9  | 6.1      | 8.2  | 12.3 | 1000                   | 4.6           | 5.4  | 6.8  | 9.0  | 13.5 |
| 0.0027         | 1000                   | 3.8           | 4.7  | 5.8  | 7.7  | 11.5     | 1000                   | 4.3           | 5.1  | 6.4  | 8.6      | 12.9 | 1000                   | 4.5           | 5.3  | 6.7      | 8.8  | 13.3 | 1000                   | 4.9           | 5.9  | 7.3  | 9.8  | 14.7 |
| 0.0033         | 1000                   | 4.2           | 5.1  | 6.3  | 8.5  | 12.6     | 1000                   | 4.7           | 5.7  | 7.1  | 9.5      | 14.1 | 1000                   | 4.8           | 5.8  | 7.3      | 9.8  | 14.5 | 1000                   | 5.3           | 6.4  | 8.0  | 10.7 | 16.0 |
| 0.0036         | 1000                   | 4.5           | 5.3  | 6.7  | 8.8  | 13.3     | 1000                   | 4.9           | 6.0  | 7.4  | 10.0     | 14.9 | 1000                   | 5.1           | 6.1  | 7.6      | 10.2 | 15.3 | 1000                   | 5.7           | 6.8  | 8.5  | 11.3 | 16.9 |
| 0.0039         | 1000                   | 4.7           | 5.7  | 7.1  | 9.4  | 14.0     | 1000                   | 5.1           | 6.3  | 7.9  | 10.5     | 15.7 | 1000                   | 5.4           | 6.5  | 8.1      | 10.8 | 16.2 | 1000                   | 6.0           | 7.2  | 8.9  | 11.9 | 17.9 |
| 0.0043         | 1000                   | 4.8           | 5.8  | 7.2  | 9.6  | 14.4     | 1000                   | 5.3           | 6.4  | 8.1  | 10.7     | 16.1 | 1000                   | 5.5           | 6.6  | 8.3      | 11.1 | 16.6 | 1000                   | 6.1           | 7.3  | 9.2  | 12.2 | 18.3 |
| 0.0047         | 1000                   | 4.9           | 5.9  | 7.3  | 9.8  | 14.6     | 1000                   | 5.5           | 6.5  | 8.2  | 10.9     | 16.3 | 1000                   | 5.6           | 6.7  | 8.4      | 11.2 | 16.8 | 1000                   | 6.2           | 7.4  | 9.3  | 12.4 | 18.6 |
| 0.0051         | 1000                   | 5.0           | 6.0  | 7.5  | 10.0 | 15.1     | 1000                   | 5.7           | 6.8  | 8.5  | 11.3     | 16.9 | 1000                   | 5.8           | 7.0  | 8.7      | 11.6 | 17.4 | 1000                   | 6.3           | 7.7  | 9.6  | 12.8 | 19.3 |
| 0.0056         | 1000                   | 5.2           | 6.3  | 7.8  | 10.5 | 15.7     | 1000                   | 5.9           | 7.0  | 8.7  | 11.7     | 17.6 | 1000                   | 6.0           | 7.3  | 9.0      | 12.1 | 18.1 | 900                    | 6.7           | 8.0  | 10.0 | 13.3 | 20.0 |
| 0.0062         | 1000                   | 5.5           | 6.5  | 8.2  | 10.9 | 16.4     | 1000                   | 6.1           | 7.3  | 9.1  | 12.2     | 18.3 | 1000                   | 6.2           | 7.4  | 9.3      | 12.5 | 18.7 | 900                    | 6.9           | 8.3  | 10.3 | 13.8 | 20.6 |
| 0.0068         | 1000                   | 5.7           | 6.8  | 8.5  | 11.3 | 17.0     | 1000                   | 6.3           | 7.6  | 9.5  | 12.6     | 19.0 | 900                    | 6.4           | 7.7  | 9.7      | 12.9 | 19.3 | 900                    | 7.2           | 8.6  | 10.7 | 14.2 | 21.4 |
| 0.0075         | 1000                   | 5.9           | 7.1  | 8.8  | 11.8 | 17.7     | 900                    | 6.6           | 7.9  | 9.9  | 13.1     | 19.7 | 900                    | 6.8           | 8.1  | 10.1     | 13.6 | 20.4 | 900                    | 7.5           | 9.0  | 11.3 | 15.0 | 22.5 |
| 0.0082         | 900                    | 6.2           | 7.4  | 9.4  | 12.5 | 18.7     | 900                    | 7.0           | 8.4  | 10.4 | 14.0     | 20.9 | 900                    | 7.2           | 8.6  | 10.8     | 14.4 | 21.6 | 900                    | 7.9           | 9.5  | 11.9 | 15.9 | 23.8 |
| 0.0091         | 900                    | 6.5           | 7.8  | 9.8  | 13.0 | 19.4     | 900                    | 7.3           | 8.7  | 10.9 | 14.5     | 21.8 | 900                    | 7.4           | 9.0  | 11.3     | 15.0 | 22.4 | 800                    | 8.3           | 10.0 | 12.4 | 16.6 | 24.8 |
| 0.010          | 900                    | 6.9           | 8.3  | 10.3 | 13.8 | 20.6     | 900                    | 7.7           | 9.2  | 11.5 | 15.3     | 23.1 | 900                    | 7.9           | 9.4  | 11.8     | 15.7 | 23.6 | 800                    | 8.6           | 10.4 | 13.0 | 17.4 | 26.0 |
| 0.012          | 900                    | 7.6           | 9.1  | 11.3 | 15.2 | 22.8     | 900                    | 8.5           | 10.1 | 12.7 | 16.9     | 25.4 | 800                    | 8.7           | 10.5 | 13.1     | 17.5 | 26.2 | 800                    | 9.7           | 11.5 | 14.5 | 19.3 | 28.9 |
| 0.015          | 900                    | 8.4           | 10.1 | 12.6 | 16.8 | 25.2     | 800                    | 9.3           | 11.2 | 14.0 | 18.6     | 28.0 | 800                    | 9.6           | 11.5 | 14.4     | 19.3 | 28.8 | 800                    | 10.6          | 12.7 | 15.9 | 21.2 | 31.8 |
| 0.018          | 800                    | 9.4           | 11.3 | 14.1 | 18.8 | 28.3     | 800                    | 10.0          | 12.0 | 15.0 | 20.0     | 29.9 | 800                    | 10.4          | 12.5 | 15.6     | 20.7 | 31.2 | 800                    | 11.3          | 13.7 | 17.0 | 22.7 | 34.1 |
| 0.022          | 800                    | 10.4          | 12.6 | 15.7 | 20.9 | 31.3     | 800                    | 11.1          | 13.2 | 16.6 | 22.0     | 33.1 | 800                    | 11.5          | 13.8 | 17.2     | 23.0 | 34.5 | 700                    | 12.5          | 15.0 | 18.7 | 24.9 | 37.4 |



# Permissible Pulse Current VS Frequency & Duty Tables

## CBB81B(PPB)

## 容许脉冲电流值 VS 频率与负载对照表

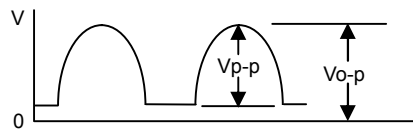
1600VDC

| CAP<br>(uF)    | 31.00 KHz              |               |      |      |                | 37.00 KHz |                        |               |      |                | 48.00 KHz |      |                        |               |                | 56.00 KHz |      |      |                        |               |      |      |      |      |
|----------------|------------------------|---------------|------|------|----------------|-----------|------------------------|---------------|------|----------------|-----------|------|------------------------|---------------|----------------|-----------|------|------|------------------------|---------------|------|------|------|------|
|                | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |                |           | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |                |           |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |                |           |      |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |      |      |
|                |                        | Duty (%)      |      |      |                |           |                        | Duty (%)      |      |                |           |      |                        | Duty (%)      |                |           |      |      |                        | Duty (%)      |      |      |      |      |
|                |                        | 9.7           | 8.1  | 6.5  | 4.8            | 3.2       |                        | 8.1           | 6.8  | 5.4            | 4.1       | 2.7  |                        | 6.3           | 5.2            | 4.2       | 3.1  | 2.1  |                        | 5.4           | 4.5  | 3.6  | 2.7  | 1.8  |
| 30             | 25                     | 20            | 15   | 10   | 30             | 25        | 20                     | 15            | 10   | 30             | 25        | 20   | 15                     | 10            | 30             | 25        | 20   | 15   | 10                     |               |      |      |      |      |
| I p-p(Amp)max. |                        |               |      |      | I p-p(Amp)max. |           |                        |               |      | I p-p(Amp)max. |           |      |                        |               | I p-p(Amp)max. |           |      |      |                        |               |      |      |      |      |
| 0.0010         | 1500                   | 1.8           | 2.1  | 2.7  | 3.6            | 5.4       | 1500                   | 2.0           | 2.4  | 3.0            | 4.0       | 6.0  | 1500                   | 2.2           | 2.7            | 3.3       | 4.6  | 6.8  | 1500                   | 2.5           | 3.0  | 3.7  | 5.0  | 7.5  |
| 0.0012         | 1500                   | 2.0           | 2.4  | 3.1  | 4.1            | 6.1       | 1500                   | 2.2           | 2.7  | 3.3            | 4.5       | 6.7  | 1500                   | 2.6           | 3.2            | 4.0       | 5.3  | 7.9  | 1500                   | 2.8           | 3.4  | 4.3  | 5.7  | 8.5  |
| 0.0015         | 1500                   | 2.2           | 2.7  | 3.3  | 4.5            | 6.8       | 1500                   | 2.5           | 3.0  | 3.7            | 4.9       | 7.4  | 1500                   | 2.9           | 3.5            | 4.4       | 5.9  | 8.7  | 1500                   | 3.1           | 3.7  | 4.7  | 6.2  | 9.3  |
| 0.0018         | 1500                   | 2.5           | 3.0  | 3.7  | 4.9            | 7.4       | 1500                   | 2.7           | 3.3  | 4.1            | 5.4       | 8.1  | 1500                   | 3.3           | 3.8            | 4.8       | 6.4  | 9.7  | 1500                   | 3.4           | 4.1  | 5.1  | 6.9  | 10.3 |
| 0.0022         | 1500                   | 2.7           | 3.3  | 4.1  | 5.5            | 8.2       | 1500                   | 3.0           | 3.5  | 4.4            | 6.0       | 8.8  | 1500                   | 3.4           | 4.2            | 5.2       | 7.0  | 10.4 | 1500                   | 3.6           | 4.5  | 5.6  | 7.4  | 11.2 |
| 0.0027         | 1500                   | 3.0           | 3.6  | 4.5  | 6.0            | 9.0       | 1500                   | 3.3           | 3.9  | 4.9            | 6.5       | 9.8  | 1500                   | 3.8           | 4.6            | 5.7       | 7.5  | 11.3 | 1500                   | 4.0           | 4.8  | 6.0  | 8.1  | 12.1 |
| 0.0033         | 1500                   | 3.3           | 4.0  | 5.0  | 6.7            | 10.0      | 1500                   | 3.6           | 4.4  | 5.5            | 7.3       | 11.0 | 1500                   | 4.2           | 5.0            | 6.3       | 8.4  | 12.6 | 1500                   | 4.5           | 5.4  | 6.7  | 8.9  | 13.4 |
| 0.0036         | 1500                   | 3.4           | 4.2  | 5.2  | 6.9            | 10.3      | 1500                   | 3.8           | 4.6  | 5.7            | 7.5       | 11.3 | 1500                   | 4.4           | 5.3            | 6.6       | 8.7  | 13.1 | 1500                   | 4.7           | 5.7  | 7.1  | 9.4  | 14.0 |
| 0.0039         | 1500                   | 3.6           | 4.4  | 5.5  | 7.3            | 11.0      | 1500                   | 4.0           | 4.8  | 6.0            | 8.0       | 12.0 | 1500                   | 4.7           | 5.6            | 7.0       | 9.3  | 14.0 | 1500                   | 4.9           | 6.0  | 7.4  | 10.0 | 14.9 |
| 0.0043         | 1500                   | 3.8           | 4.6  | 5.8  | 7.6            | 11.5      | 1500                   | 4.2           | 5.0  | 6.3            | 8.4       | 12.6 | 1500                   | 4.8           | 5.9            | 7.3       | 9.8  | 14.6 | 1500                   | 5.2           | 6.2  | 7.8  | 10.4 | 15.6 |
| 0.0047         | 1500                   | 4.0           | 4.7  | 6.0  | 7.9            | 11.9      | 1500                   | 4.4           | 5.2  | 6.5            | 8.6       | 13.0 | 1500                   | 5.0           | 6.0            | 7.5       | 10.0 | 15.1 | 1500                   | 5.4           | 6.5  | 8.1  | 10.8 | 16.2 |
| 0.0051         | 1500                   | 4.2           | 5.0  | 6.3  | 8.5            | 12.6      | 1500                   | 4.7           | 5.5  | 6.9            | 9.2       | 13.9 | 1500                   | 5.3           | 6.4            | 8.0       | 10.7 | 16.0 | 1400                   | 5.7           | 6.9  | 8.6  | 11.4 | 17.1 |
| 0.0056         | 1500                   | 4.5           | 5.4  | 6.7  | 8.9            | 13.5      | 1500                   | 4.9           | 5.9  | 7.3            | 9.9       | 14.7 | 1500                   | 5.7           | 6.8            | 8.6       | 11.3 | 17.0 | 1400                   | 6.0           | 7.3  | 9.1  | 12.2 | 18.2 |
| 0.0062         | 1500                   | 4.7           | 5.7  | 7.1  | 9.5            | 14.1      | 1500                   | 5.1           | 6.1  | 7.7            | 10.3      | 15.4 | 1500                   | 6.0           | 7.2            | 8.9       | 11.9 | 17.9 | 1400                   | 6.4           | 7.6  | 9.6  | 12.7 | 19.2 |
| 0.0068         | 1500                   | 4.9           | 6.0  | 7.4  | 10.0           | 14.9      | 1500                   | 5.4           | 6.5  | 8.1            | 10.8      | 16.2 | 1400                   | 6.2           | 7.4            | 9.3       | 12.5 | 18.7 | 1300                   | 6.7           | 8.0  | 10.0 | 13.3 | 20.0 |
| 0.0075         | 1500                   | 5.3           | 6.4  | 8.0  | 10.6           | 16.0      | 1500                   | 5.7           | 6.8  | 8.6            | 11.3      | 17.0 | 1400                   | 6.5           | 7.9            | 9.9       | 13.1 | 19.6 | 1300                   | 7.0           | 8.5  | 10.5 | 14.0 | 21.0 |
| 0.0082         | 1500                   | 5.6           | 6.8  | 8.5  | 11.3           | 16.8      | 1400                   | 6.0           | 7.2  | 9.0            | 12.0      | 17.9 | 1400                   | 7.0           | 8.4            | 10.4      | 13.9 | 20.8 | 1300                   | 7.4           | 8.9  | 11.2 | 14.9 | 22.3 |
| 0.0091         | 1500                   | 5.9           | 7.0  | 8.7  | 11.6           | 17.5      | 1400                   | 6.2           | 7.5  | 9.4            | 12.6      | 18.8 | 1300                   | 7.3           | 8.7            | 10.9      | 14.5 | 21.8 | 1200                   | 7.7           | 9.3  | 11.6 | 15.5 | 23.3 |
| 0.010          | 1400                   | 6.1           | 7.3  | 9.1  | 12.2           | 18.3      | 1400                   | 6.6           | 8.0  | 10.0           | 13.3      | 19.9 | 1300                   | 7.7           | 9.2            | 11.5      | 15.3 | 23.1 | 1200                   | 8.3           | 9.9  | 12.4 | 16.5 | 24.7 |
| 0.012          | 1400                   | 7.0           | 8.4  | 10.5 | 14.0           | 20.9      | 1300                   | 7.4           | 8.9  | 11.3           | 15.0      | 22.4 | 1200                   | 8.5           | 10.2           | 12.7      | 17.0 | 25.5 | 1100                   | 9.1           | 10.9 | 13.7 | 18.2 | 27.3 |
| 0.015          | 1400                   | 7.6           | 9.2  | 11.5 | 15.3           | 23.0      | 1300                   | 8.3           | 9.9  | 12.4           | 16.5      | 24.7 | 1200                   | 9.5           | 11.3           | 14.2      | 18.9 | 28.4 | 1100                   | 10.1          | 12.2 | 15.2 | 20.3 | 30.4 |
| 0.018          | 1300                   | 8.8           | 10.3 | 12.9 | 17.2           | 25.9      | 1200                   | 9.2           | 11.1 | 13.9           | 18.5      | 27.7 | 1100                   | 10.6          | 12.7           | 15.9      | 21.2 | 31.9 | 1000                   | 11.3          | 13.7 | 17.0 | 22.7 | 34.1 |
| 0.022          | 1300                   | 9.6           | 11.5 | 14.3 | 19.2           | 28.7      | 1200                   | 10.3          | 12.4 | 15.4           | 20.5      | 30.9 | 1000                   | 11.8          | 14.2           | 17.8      | 23.6 | 35.4 | 1000                   | 12.6          | 15.2 | 19.0 | 25.3 | 37.9 |

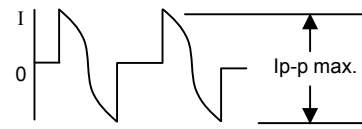
■ 测试条件

环境温度: +85°C ±5°C  
 相对湿度: 65% -- 95%  
 上升温度 (ΔT): 8°C max.

■ 电压波形



■ 电流波形



| CAP<br>(uF)    | 64.00 KHz              |               |      |      |                | 78.00 KHz |                        |               |      |                | 82.00 KHz |      |                        |               |                | 96.00 KHz |      |      |                        |               |      |      |      |      |
|----------------|------------------------|---------------|------|------|----------------|-----------|------------------------|---------------|------|----------------|-----------|------|------------------------|---------------|----------------|-----------|------|------|------------------------|---------------|------|------|------|------|
|                | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |                |           | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |                |           |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |                |           |      |      | Vo-p<br>(Volt)<br>max. | Duty Time(uS) |      |      |      |      |
|                |                        | Duty (%)      |      |      |                |           |                        | Duty (%)      |      |                |           |      |                        | Duty (%)      |                |           |      |      |                        | Duty (%)      |      |      |      |      |
|                |                        | 4.7           | 3.9  | 3.1  | 2.3            | 1.6       |                        | 3.9           | 3.2  | 2.6            | 1.9       | 1.3  |                        | 3.7           | 3.1            | 2.4       | 1.8  | 1.2  |                        | 3.1           | 2.6  | 2.1  | 1.6  | 1.0  |
| 30             | 25                     | 20            | 15   | 10   | 30             | 25        | 20                     | 15            | 10   | 30             | 25        | 20   | 15                     | 10            | 30             | 25        | 20   | 15   | 10                     |               |      |      |      |      |
| I p-p(Amp)max. |                        |               |      |      | I p-p(Amp)max. |           |                        |               |      | I p-p(Amp)max. |           |      |                        |               | I p-p(Amp)max. |           |      |      |                        |               |      |      |      |      |
| 0.0010         | 1500                   | 2.7           | 3.3  | 4.1  | 5.5            | 8.2       | 1500                   | 3.1           | 3.6  | 4.6            | 6.1       | 9.1  | 1500                   | 3.2           | 3.8            | 4.7       | 6.3  | 9.4  | 1500                   | 3.4           | 4.2  | 5.2  | 7.0  | 10.4 |
| 0.0012         | 1500                   | 3.0           | 3.5  | 4.5  | 6.0            | 8.9       | 1500                   | 3.3           | 4.0  | 5.0            | 6.6       | 10.0 | 1500                   | 3.4           | 4.1            | 5.1       | 6.9  | 10.2 | 1500                   | 3.8           | 4.6  | 5.7  | 7.5  | 11.3 |
| 0.0015         | 1500                   | 3.3           | 3.9  | 4.9  | 6.5            | 9.8       | 1500                   | 3.6           | 4.4  | 5.5            | 7.3       | 11.0 | 1500                   | 3.7           | 4.6            | 5.7       | 7.5  | 11.3 | 1500                   | 4.2           | 5.0  | 6.2  | 8.3  | 12.5 |
| 0.0018         | 1500                   | 3.6           | 4.4  | 5.4  | 7.3            | 10.8      | 1500                   | 4.0           | 4.8  | 6.0            | 8.1       | 12.1 | 1500                   | 4.2           | 5.0            | 6.2       | 8.3  | 12.5 | 1500                   | 4.6           | 5.5  | 6.9  | 9.2  | 13.8 |
| 0.0022         | 1500                   | 3.9           | 4.7  | 5.9  | 7.8            | 11.7      | 1500                   | 4.4           | 5.2  | 6.5            | 8.7       | 13.1 | 1500                   | 4.5           | 5.4            | 6.7       | 9.0  | 13.5 | 1500                   | 4.9           | 6.0  | 7.4  | 10.0 | 14.9 |
| 0.0027         | 1500                   | 4.3           | 5.1  | 6.3  | 8.5            | 12.7      | 1500                   | 4.7           | 5.7  | 7.1            | 9.5       | 14.2 | 1500                   | 4.9           | 5.9            | 7.3       | 9.8  | 14.7 | 1500                   | 5.4           | 6.5  | 8.1  | 10.8 | 16.2 |
| 0.0033         | 1500                   | 4.7           | 5.6  | 7.0  | 9.2            | 14.0      | 1500                   | 5.2           | 6.2  | 7.8            | 10.1      | 15.7 | 1500                   | 5.3           | 6.4            | 8.0       | 10.7 | 16.0 | 1400                   | 5.9           | 7.1  | 8.8  | 11.8 | 17.7 |
| 0.0036         | 1500                   | 4.9           | 5.9  | 7.3  | 9.9            | 14.8      | 1500                   | 5.5           | 6.6  | 8.3            | 11.0      | 16.5 | 1400                   | 5.7           | 6.8            | 8.5       | 11.3 | 17.0 | 1400                   | 6.2           | 7.5  | 9.4  | 12.6 | 18.8 |
| 0.0039         | 1500                   | 5.2           | 6.2  | 7.8  | 10.4           | 15.6      | 1400                   | 5.9           | 7.0  | 8.7            | 11.6      | 17.5 | 1400                   | 6.0           | 7.3            | 9.0       | 12.0 | 18.0 | 1300                   | 6.6           | 8.0  | 10.0 | 13.3 | 19.9 |
| 0.0043         | 1500                   | 5.5           | 6.5  | 8.2  | 10.9           | 16.4      | 1400                   | 6.1           | 7.3  | 9.1            | 12.2      | 18.3 | 1300                   | 6.3           | 7.5            | 9.4       | 12.6 | 18.9 | 1300                   | 7.0           | 8.4  | 10.4 | 13.9 | 20.8 |
| 0.0047         | 1400                   | 5.7           | 6.8  | 8.5  | 11.3           | 16.9      | 1400                   | 6.3           | 7.6  | 9.5            | 12.6      | 19.0 | 1300                   | 6.5           | 7.8            | 9.8       | 13.0 | 19.5 | 1200                   | 7.2           | 8.6  | 10.8 | 14.4 | 21.6 |
| 0.0051         | 1400                   | 6.0           | 7.2  | 9.0  | 12.0           | 17.9      | 1300                   | 6.7           | 8.0  | 10.0           | 13.4      | 20.1 | 1200                   | 6.9           | 8.3            | 10.3      | 13.8 | 20.7 | 1200                   | 7.6           | 9.1  | 11.4 | 15.3 | 22.9 |
| 0.0056         | 1300                   | 6.4           | 7.6  | 9.6  | 12.7           | 19.2      | 1200                   | 7.2           | 8.6  | 10.7           | 14.2      | 21.4 | 1200                   | 7.3           | 8.8            | 11.1      | 14.7 | 22.0 | 1100                   | 8.1           | 9.8  | 12.2 | 16.3 | 24.4 |
| 0.0062         | 1300                   | 6.7           | 8.0  | 10.0 | 13.4           | 20.1      | 1200                   | 7.4           | 9.0  | 11.3           | 15.0      | 22.4 | 1100                   | 7.6           | 9.2            | 11.4      | 15.3 | 22.9 | 1100                   | 8.5           | 10.1 | 12.6 | 16.8 | 25.3 |
| 0.0068         | 1200                   | 7.0           | 8.4  | 10.5 | 14.0           | 20.9      | 1100                   | 7.8           | 9.4  | 11.7           | 15.6      | 23.4 | 1100                   | 8.0           | 9.6            | 12.0      | 15.9 | 23.9 | 1000                   | 8.8           | 10.6 | 13.2 | 17.6 | 26.4 |
| 0.0075         | 1200                   | 7.3           | 8.8  | 11.1 | 14.7           | 22.0      | 1100                   | 7.8           | 9.9  | 12.4           | 16.5      | 24.6 | 1000                   | 8.5           | 10.1           | 12.7      | 16.9 | 25.4 | 1000                   | 9.4           | 11.3 | 14.0 | 18.7 | 28.1 |
| 0.0082         | 1100                   | 7.8           | 9.4  | 11.7 | 15.6           | 23.3      | 1000                   | 8.7           | 10.4 | 13.1           | 17.4      | 26.1 | 1000                   | 9.0           | 10.8           | 13.5      | 17.9 | 27.0 | 1000                   | 10.0          | 11.9 | 14.9 | 19.8 | 29.8 |
| 0.0091         | 1100                   | 8.1           | 9.8  | 12.2 | 16.3           | 24.4      | 1000                   | 9.1           | 10.9 | 13.7           | 18.2      | 27.2 | 900                    | 9.4           | 11.3           | 14.0      | 18.8 | 28.1 | 900                    | 10.3          | 12.5 | 15.5 | 20.7 | 31.1 |
| 0.010          | 1000                   | 8.6           | 10.3 | 12.9 | 17.3           | 25.9      | 900                    | 9.7           | 11.6 | 14.5           | 19.3      | 28.9 | 900                    | 9.9           | 11.8           | 14.8      | 19.7 | 29.7 | 900                    | 10.9          | 13.1 | 16.4 | 21.9 | 32.7 |
| 0.012          | 1000                   | 9.6           | 11.4 | 14.3 | 19.1           | 28.6      | 900                    | 10.7          | 12.8 | 16.3           | 21.4      | 32.0 | 900                    | 11.0          | 13.2           | 16.5      | 22.0 | 33.0 | 800                    | 12.2          | 14.6 | 18.2 | 24.3 | 36.5 |
| 0.015          | 900                    | 10.6          | 12.7 | 15.9 | 21.2           | 31.9      | 900                    | 11.8          | 14.1 | 17.7           | 23.5      | 35.3 | 800                    | 12.1          | 14.5           | 18.2      | 24.3 | 36.4 | 800                    | 13.4          | 16.1 | 20.1 | 26.8 | 40.2 |
| 0.018          | 900                    | 11.9          | 14.3 | 17.9 | 23.8           | 35.7      | 800                    | 12.5          | 15.2 | 19.0           | 25.3      | 37.9 | 800                    | 13.1          | 15.8           | 19.7      | 26.3 | 39.4 | 800                    | 14.4          | 17.3 | 21.6 | 29.4 | 43.2 |
| 0.022          | 900                    | 13.3          | 15.9 | 19.9 | 26.5           | 39.8      | 800                    | 14.0          | 16.8 | 21.0           | 28.0      | 42.0 | 800                    | 14.6          | 17.5           | 21.9      | 29.2 | 43.7 | 700                    | 15.8          | 19.0 | 23.7 | 31.6 | 47.4 |

# Permissible Pulse Current VS Frequency & Duty Tables

## CBB81B(PPB) 容许脉冲电流值 VS 频率与负载对照表

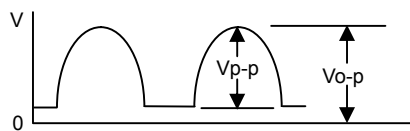
2000VDC

| CAP (uF)       | 31.00KHz    |                  |      |      |                | 37.00KHz |             |               |      |                | 48.00KHz |      |             |               |                | 56.00KHz |      |      |             |               |      |      |      |      |
|----------------|-------------|------------------|------|------|----------------|----------|-------------|---------------|------|----------------|----------|------|-------------|---------------|----------------|----------|------|------|-------------|---------------|------|------|------|------|
|                | Vo-p (Volt) | Duty Time(uS 10) |      |      |                |          | Vo-p (Volt) | Duty Time(uS) |      |                |          |      | Vo-p (Volt) | Duty Time(uS) |                |          |      |      | Vo-p (Volt) | Duty Time(uS) |      |      |      |      |
|                |             | Duty (%)         |      |      |                |          |             | Duty (%)      |      |                |          |      |             | Duty (%)      |                |          |      |      |             | Duty (%)      |      |      |      |      |
|                | max.        | 30               | 25   | 20   | 15             | 10       | max.        | 30            | 25   | 20             | 15       | 10   | max.        | 30            | 25             | 20       | 15   | 10   | max.        | 30            | 25   | 20   | 15   | 10   |
| I p-p(Amp)max. |             |                  |      |      | I p-p(Amp)max. |          |             |               |      | I p-p(Amp)max. |          |      |             |               | I p-p(Amp)max. |          |      |      |             |               |      |      |      |      |
| 0.0010         | 1800        | 2.6              | 3.1  | 3.9  | 5.2            | 7.7      | 1800        | 2.8           | 3.4  | 4.3            | 5.7      | 8.5  | 1800        | 3.3           | 3.9            | 4.9      | 6.5  | 9.9  | 1800        | 3.6           | 4.4  | 5.5  | 7.3  | 10.9 |
| 0.0012         | 1800        | 2.9              | 3.5  | 4.4  | 5.9            | 8.7      | 1800        | 3.3           | 3.9  | 4.8            | 6.4      | 9.7  | 1800        | 3.8           | 4.6            | 5.7      | 7.6  | 11.3 | 1800        | 4.1           | 4.8  | 6.1  | 8.1  | 12.2 |
| 0.0015         | 1800        | 3.2              | 3.7  | 4.7  | 6.2            | 9.4      | 1800        | 3.4           | 4.1  | 5.1            | 6.8      | 10.2 | 1800        | 4.0           | 4.8            | 6.0      | 8.1  | 12.1 | 1800        | 4.3           | 5.2  | 6.5  | 8.6  | 12.9 |
| 0.0018         | 1800        | 3.3              | 4.0  | 5.0  | 6.7            | 10.0     | 1800        | 3.6           | 4.4  | 5.5            | 7.3      | 11.0 | 1800        | 4.4           | 5.2            | 6.5      | 8.7  | 13.1 | 1800        | 4.7           | 5.6  | 7.0  | 9.3  | 14.0 |
| 0.0022         | 1800        | 3.7              | 4.4  | 5.5  | 7.3            | 10.9     | 1800        | 4.0           | 4.7  | 6.0            | 8.0      | 12.0 | 1800        | 4.7           | 5.7            | 7.1      | 9.5  | 14.1 | 1800        | 5.0           | 6.0  | 7.5  | 10.1 | 15.2 |
| 0.0027         | 1800        | 4.1              | 4.8  | 6.1  | 8.1            | 12.2     | 1800        | 4.4           | 5.3  | 6.6            | 8.8      | 13.2 | 1800        | 5.1           | 6.1            | 7.6      | 10.2 | 15.3 | 1800        | 5.5           | 6.6  | 8.2  | 11.0 | 16.5 |
| 0.0033         | 1800        | 4.5              | 5.3  | 6.7  | 8.9            | 13.4     | 1800        | 4.8           | 5.9  | 7.3            | 9.8      | 14.6 | 1800        | 5.6           | 6.7            | 8.4      | 11.2 | 16.7 | 1800        | 6.0           | 7.2  | 8.9  | 11.9 | 17.9 |
| 0.0036         | 1800        | 4.7              | 5.5  | 6.9  | 9.2            | 13.8     | 1800        | 5.0           | 6.0  | 7.5            | 10.0     | 15.2 | 1800        | 5.9           | 7.0            | 8.7      | 11.6 | 17.5 | 1800        | 6.2           | 7.5  | 9.4  | 12.5 | 18.7 |
| 0.0039         | 1800        | 4.8              | 5.8  | 7.3  | 9.7            | 14.5     | 1800        | 5.3           | 6.3  | 7.9            | 10.6     | 15.9 | 1800        | 6.1           | 7.3            | 9.2      | 12.3 | 18.4 | 1800        | 6.6           | 7.9  | 9.9  | 13.1 | 19.7 |
| 0.0043         | 1800        | 5.0              | 6.0  | 7.6  | 10.1           | 15.2     | 1800        | 5.6           | 6.6  | 8.3            | 11.1     | 16.6 | 1800        | 6.4           | 7.7            | 9.6      | 12.8 | 19.3 | 1800        | 6.9           | 8.3  | 10.3 | 13.8 | 20.6 |
| 0.0047         | 1800        | 5.3              | 6.3  | 7.9  | 10.6           | 15.8     | 1800        | 5.8           | 7.0  | 8.6            | 11.5     | 17.4 | 1800        | 6.7           | 8.0            | 10.0     | 13.4 | 20.1 | 1700        | 7.2           | 8.6  | 10.8 | 14.3 | 21.5 |
| 0.0051         | 1800        | 5.6              | 6.7  | 8.4  | 11.2           | 16.6     | 1800        | 6.0           | 7.3  | 9.1            | 12.2     | 18.2 | 1800        | 7.1           | 8.5            | 10.6     | 14.1 | 21.1 | 1700        | 7.5           | 9.0  | 11.3 | 15.1 | 22.6 |
| 0.0056         | 1800        | 5.9              | 7.1  | 8.8  | 11.8           | 17.7     | 1800        | 6.4           | 7.7  | 9.7            | 12.9     | 19.3 | 1800        | 7.4           | 8.9            | 11.3     | 15.0 | 22.4 | 1700        | 8.0           | 9.6  | 12.0 | 16.0 | 24.0 |
| 0.0062         | 1800        | 6.3              | 7.5  | 9.4  | 12.6           | 18.9     | 1800        | 6.9           | 8.2  | 10.2           | 13.7     | 20.6 | 1800        | 7.9           | 9.5            | 11.9     | 15.9 | 23.8 | 1600        | 8.5           | 10.2 | 12.7 | 17.0 | 25.5 |
| 0.0068         | 1800        | 6.7              | 8.0  | 10.0 | 13.3           | 20.0     | 1800        | 7.3           | 8.6  | 10.9           | 14.4     | 21.7 | 1800        | 8.4           | 10.0           | 12.6     | 16.7 | 25.0 | 1600        | 8.9           | 10.7 | 13.4 | 17.9 | 26.8 |
| 0.0075         | 1800        | 7.1              | 8.5  | 10.5 | 14.1           | 21.3     | 1800        | 7.5           | 9.1  | 11.3           | 15.2     | 22.7 | 1700        | 8.7           | 10.5           | 13.1     | 17.5 | 26.2 | 1600        | 9.3           | 11.3 | 14.0 | 18.7 | 28.0 |
| 0.0082         | 1800        | 7.4              | 8.9  | 11.2 | 14.9           | 22.3     | 1800        | 7.9           | 9.5  | 11.9           | 15.9     | 23.8 | 1700        | 9.2           | 11.1           | 13.8     | 18.4 | 27.5 | 1500        | 9.9           | 11.8 | 14.8 | 19.7 | 29.5 |
| 0.0091         | 1800        | 7.7              | 9.3  | 11.6 | 15.5           | 23.3     | 1800        | 8.4           | 10.0 | 12.5           | 16.6     | 25.0 | 1600        | 9.7           | 11.5           | 14.5     | 19.3 | 28.9 | 1500        | 10.3          | 12.4 | 15.5 | 20.6 | 31.0 |
| 0.010          | 1800        | 8.1              | 9.7  | 12.1 | 16.1           | 24.2     | 1800        | 8.7           | 10.5 | 13.1           | 17.6     | 26.3 | 1600        | 10.1          | 12.2           | 15.3     | 20.4 | 30.5 | 1400        | 10.9          | 13.0 | 16.3 | 21.8 | 32.6 |
| 0.012          | 1800        | 8.8              | 10.8 | 13.5 | 17.9           | 27.0     | 1700        | 9.7           | 11.5 | 14.4           | 19.3     | 28.9 | 1600        | 11.0          | 13.1           | 16.5     | 21.9 | 32.9 | 1400        | 11.7          | 14.0 | 17.6 | 23.4 | 35.2 |
| 0.015          | 1800        | 9.3              | 11.2 | 14.0 | 18.6           | 27.8     | 1700        | 10.1          | 12.2 | 15.3           | 20.3     | 30.5 | 1500        | 11.6          | 14.0           | 17.5     | 23.3 | 35.0 | 1400        | 12.5          | 15.0 | 18.7 | 24.9 | 37.5 |
| 0.018          | 1700        | 10.3             | 12.4 | 15.4 | 20.6           | 30.9     | 1700        | 11.2          | 13.4 | 16.7           | 22.3     | 33.5 | 1500        | 12.8          | 15.3           | 19.3     | 25.7 | 38.5 | 1300        | 13.8          | 16.5 | 20.6 | 27.4 | 41.2 |
| 0.022          | 1700        | 11.2             | 13.4 | 16.7 | 22.3           | 33.5     | 1600        | 12.0          | 14.4 | 18.0           | 24.0     | 36.0 | 1400        | 13.8          | 16.6           | 20.6     | 27.5 | 41.4 | 1300        | 14.8          | 17.7 | 22.1 | 29.5 | 44.3 |

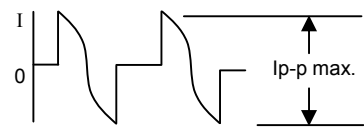
■ 测试条件

环境温度: +85°C ±5°C  
 相对湿度: 65% -- 95%  
 上升温度 (ΔT): 8°C max.

■ 电压波形



■ 电流波形

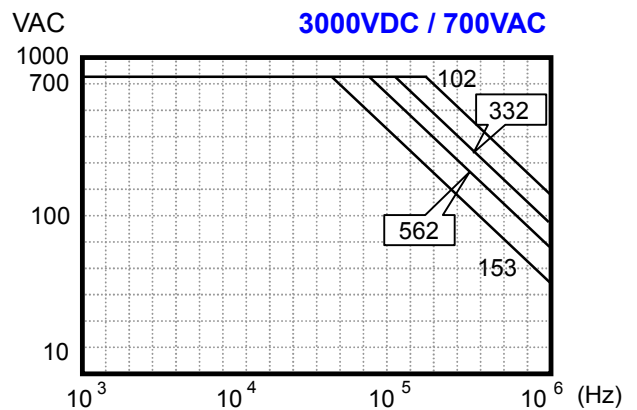
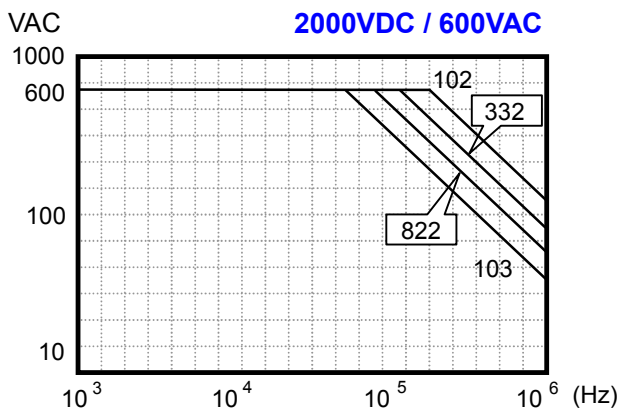
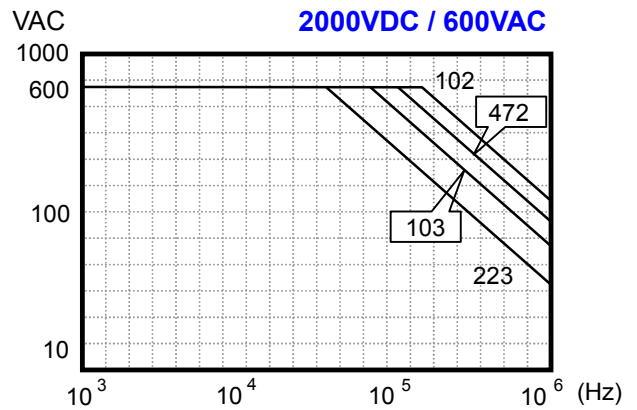
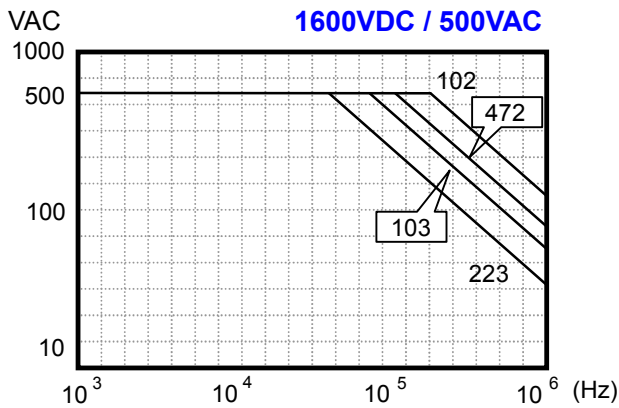
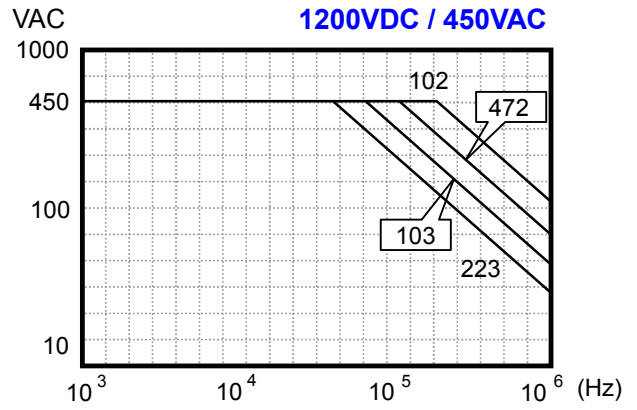
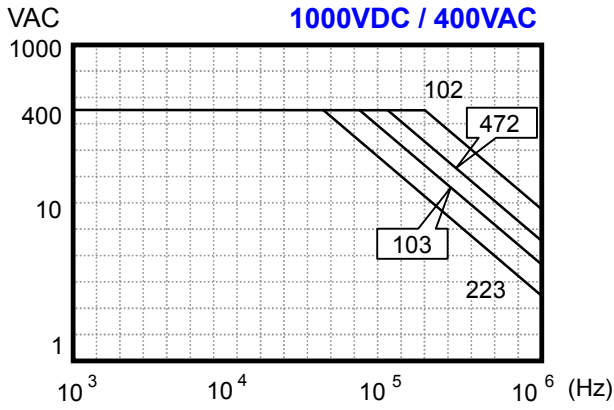


| CAP (uF)       | 64.00KH6    |               |      |      |                | 78.00KHz |             |               |      |                | 82.00KHz |      |             |               |                | 96.00KHz |      |      |             |               |      |      |      |      |
|----------------|-------------|---------------|------|------|----------------|----------|-------------|---------------|------|----------------|----------|------|-------------|---------------|----------------|----------|------|------|-------------|---------------|------|------|------|------|
|                | Vo-p (Volt) | Duty Time(uS) |      |      |                |          | Vo-p (Volt) | Duty Time(uS) |      |                |          |      | Vo-p (Volt) | Duty Time(uS) |                |          |      |      | Vo-p (Volt) | Duty Time(uS) |      |      |      |      |
|                |             | Duty (%)      |      |      |                |          |             | Duty (%)      |      |                |          |      |             | Duty (%)      |                |          |      |      |             | Duty (%)      |      |      |      |      |
|                | max.        | 30            | 25   | 20   | 15             | 10       | max.        | 30            | 25   | 20             | 15       | 10   | max.        | 30            | 25             | 20       | 15   | 10   | max.        | 30            | 25   | 20   | 15   | 10   |
| I p-p(Amp)max. |             |               |      |      | I p-p(Amp)max. |          |             |               |      | I p-p(Amp)max. |          |      |             |               | I p-p(Amp)max. |          |      |      |             |               |      |      |      |      |
| 0.0010         | 1800        | 4.0           | 4.7  | 6.0  | 7.9            | 11.9     | 1800        | 4.5           | 5.3  | 6.6            | 8.8      | 13.3 | 1800        | 4.6           | 5.5            | 6.9      | 9.1  | 13.7 | 1800        | 5.1           | 6.1  | 7.6  | 10.2 | 15.3 |
| 0.0012         | 1800        | 4.3           | 5.1  | 6.4  | 8.6            | 12.7     | 1800        | 4.7           | 5.7  | 7.2            | 9.5      | 14.3 | 1800        | 4.9           | 5.9            | 7.3      | 9.9  | 14.7 | 1800        | 5.5           | 6.5  | 8.3  | 11.1 | 16.6 |
| 0.0015         | 1800        | 4.6           | 5.4  | 6.8  | 9.0            | 13.6     | 1800        | 5.0           | 6.0  | 7.6            | 10.1     | 15.2 | 1800        | 5.2           | 6.2            | 7.8      | 10.4 | 15.6 | 1800        | 6.0           | 7.1  | 8.9  | 11.8 | 17.8 |
| 0.0018         | 1800        | 4.9           | 5.9  | 7.3  | 9.8            | 14.7     | 1800        | 5.5           | 6.6  | 8.2            | 11.0     | 16.4 | 1800        | 5.7           | 6.8            | 8.5      | 11.3 | 16.9 | 1800        | 6.4           | 7.7  | 9.7  | 12.8 | 19.3 |
| 0.0022         | 1800        | 5.3           | 6.3  | 7.9  | 10.6           | 15.9     | 1800        | 6.0           | 7.1  | 8.9            | 11.8     | 17.8 | 1800        | 6.1           | 7.3            | 9.1      | 12.2 | 18.3 | 1700        | 7.0           | 8.4  | 10.5 | 14.0 | 21.0 |
| 0.0027         | 1800        | 5.8           | 6.9  | 8.6  | 11.4           | 17.2     | 1800        | 6.4           | 7.7  | 9.6            | 12.8     | 19.3 | 1700        | 6.6           | 7.9            | 10.0     | 13.2 | 19.8 | 1700        | 7.6           | 9.1  | 11.4 | 15.3 | 22.9 |
| 0.0033         | 1800        | 6.2           | 7.4  | 9.3  | 12.5           | 18.7     | 1700        | 7.0           | 8.4  | 10.4           | 14.0     | 20.8 | 1600        | 7.2           | 8.6            | 10.8     | 14.3 | 21.5 | 1600        | 8.3           | 9.9  | 12.4 | 16.5 | 24.7 |
| 0.0036         | 1700        | 6.5           | 7.9  | 9.9  | 13.1           | 19.6     | 1700        | 7.3           | 8.7  | 11.0           | 14.6     | 21.9 | 1600        | 7.5           | 9.0            | 11.3     | 15.1 | 22.6 | 1500        | 8.6           | 10.4 | 13.0 | 17.4 | 26.1 |
| 0.0039         | 1700        | 6.9           | 8.3  | 10.3 | 13.8           | 20.6     | 1600        | 7.7           | 9.2  | 11.5           | 15.4     | 23.2 | 1600        | 7.9           | 9.5            | 11.9     | 15.9 | 23.8 | 1500        | 9.1           | 11.0 | 13.7 | 18.2 | 27.3 |
| 0.0043         | 1700        | 7.2           | 8.6  | 10.8 | 14.4           | 21.6     | 1600        | 8.0           | 9.7  | 12.1           | 16.1     | 24.1 | 1500        | 8.3           | 10.0           | 12.5     | 16.6 | 24.8 | 1500        | 9.6           | 11.5 | 14.4 | 19.3 | 28.8 |
| 0.0047         | 1600        | 7.5           | 9.0  | 11.3 | 15.1           | 22.6     | 1600        | 8.4           | 10.0 | 12.6           | 16.8     | 25.2 | 1500        | 8.6           | 10.4           | 13.0     | 17.3 | 26.0 | 1400        | 10.0          | 12.1 | 15.1 | 20.1 | 30.1 |
| 0.0051         | 1600        | 7.9           | 9.5  | 11.9 | 15.8           | 23.7     | 1500        | 8.8           | 10.6 | 13.3           | 17.7     | 26.5 | 1500        | 9.1           | 11.0           | 13.7     | 18.2 | 27.3 | 1400        | 10.5          | 12.7 | 15.9 | 21.2 | 31.8 |
| 0.0056         | 1600        | 8.4           | 10.0 | 12.6 | 16.7           | 25.2     | 1500        | 9.4           | 11.3 | 14.0           | 18.8     | 28.2 | 1400        | 9.7           | 11.6           | 14.5     | 19.3 | 29.0 | 1400        | 11.1          | 13.3 | 16.6 | 22.2 | 33.3 |
| 0.0062         | 1500        | 8.9           | 10.7 | 13.4 | 17.8           | 26.7     | 1500        | 10.0          | 11.9 | 14.9           | 19.9     | 29.9 | 1400        | 10.1          | 12.2           | 15.3     | 20.3 | 30.5 | 1400        | 11.6          | 14.0 | 17.5 | 23.3 | 35.0 |
| 0.0068         | 1500        | 9.4           | 11.3 | 14.0 | 18.8           | 28.1     | 1400        | 10.5          | 12.6 | 15.7           | 20.9     | 31.4 | 1400        | 10.7          | 12.6           | 16.1     | 21.4 | 32.1 | 1300        | 12.3          | 14.7 | 18.4 | 24.6 | 36.8 |
| 0.0075         | 1500        | 9.8           | 11.7 | 14.7 | 19.6           | 29.4     | 1400        | 11.0          | 13.1 | 16.5           | 21.9     | 32.8 | 1300        | 11.3          | 13.6           | 16.9     | 22.6 | 33.9 | 1300        | 12.9          | 15.5 | 19.4 | 25.9 | 38.9 |
| 0.0082         | 1400        | 10.3          | 12.4 | 15.4 | 20.6           | 31.0     | 1400        | 11.5          | 13.9 | 17.3           | 23.1     | 34.6 | 1300        | 11.9          | 14.2           | 17.9     | 23.8 | 35.6 | 1300        | 13.7          | 16.4 | 20.5 | 27.2 | 40.9 |
| 0.0091         | 1400        | 10.8          | 13.0 | 16.3 | 21.7           | 32.5     | 1300        | 12.1          | 14.5 | 18.1           | 24.2     | 36.4 | 1300        | 12.5          | 15.0           | 18.7     | 24.9 | 37.5 | 1300        | 14.3          | 17.2 | 21.5 | 28.6 | 43.0 |
| 0.010          | 1400        | 11.4          | 13.7 | 17.1 | 22.8           | 34.2     | 1300        | 12.7          | 15.3 | 19.2           | 25.5     | 38.2 | 1300        | 13.0          | 15.6           | 19.6     | 26.1 | 39.2 | 1200        | 15.2          | 18.1 | 22.7 | 30.2 | 45.4 |
| 0.012          | 1400        | 12.3          | 14.8 | 18.4 | 24.6           | 36.9     | 1300        | 13.8          | 16.5 | 20.6           | 27.5     | 41.3 | 1300        | 14.1          | 17.0           | 21.3     | 28.4 | 42.5 | 1200        | 16.5          | 19.7 | 24.6 | 32.8 | 49.3 |
| 0.015          | 1300        | 13.1          | 15.7 | 19.6 | 26.1           | 39.2     | 1300        | 14.6          | 17.6 | 21.9           | 29.3     | 43.9 | 1200        | 15.1          | 18.1           | 22.6     | 30.1 | 45.3 | 1200        | 17.5          | 21.0 | 26.2 | 35.0 | 52.5 |
| 0.018          | 1300        | 14.4          | 17.3 | 21.6 | 28.7           | 43.2     | 1200        | 16.1          | 19.3 | 24.1           | 32.2     | 48.3 | 1200        | 16.6          | 19.9           | 24.8     | 33.2 | 49.8 | 1200        | 19.3          | 23.1 | 28.8 | 38.4 | 53.9 |
| 0.022          | 1200        | 15.4          | 18.6 | 23.2 | 31.0           | 46.4     | 1200        | 17.3          | 20.7 | 25.9           | 34.6     | 51.9 | 1200        | 17.9          | 21.4           | 26.8     | 35.6 | 53.5 | 1100        | 20.5          | 24.6 | 30.7 | 40.9 | 55.8 |

# Permissible AC Voltage VS Frequency Curves

## CBB81B (PPB)

## 容许脉冲电流 VS 频率曲线图



## CBB81B 系列尺寸表

| CBB81B 系列        |               |      |      |      |      |
|------------------|---------------|------|------|------|------|
| 1000V/1250V 系列   |               |      |      |      |      |
| 容量 $\mu\text{F}$ | 成品料号          | W    | T    | H    | P    |
| 0.001            | PPB102KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0012           | PPB122KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0015           | PPB152KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0018           | PPB182KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0022           | PPB222KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0027           | PPB272KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0033           | PPB332KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0039           | PPB392KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0047           | PPB472KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0056           | PPB562KAC3R00 | 13.0 | 6.0  | 12.0 | 10   |
| 0.0068           | PPB682KAC5R00 | 13.0 | 7.8  | 13.8 | 10   |
| 0.0082           | PPB822KAC5R00 | 13.0 | 7.8  | 13.8 | 10   |
| 0.01             | PPB103KAC5R00 | 13.0 | 7.8  | 13.8 | 10   |
| 0.001            | PPB102KAD1R00 | 18.0 | 5.0  | 11.0 | 15   |
| 0.0022           | PPB222KAD1R00 | 18.0 | 5.0  | 11.0 | 15   |
| 0.0033           | PPB332KAD2R00 | 18.0 | 6.0  | 12.0 | 15   |
| 0.0047           | PPB472KAD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0056           | PPB562KAD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0068           | PPB682KAD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0082           | PPB822KAD4R00 | 18.0 | 8.4  | 14.5 | 15   |
| 0.01             | PPB103KADAR00 | 18.0 | 10.0 | 15.8 | 15   |
| 0.022            | PPB223KAD8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.033            | PPB333KAE5R00 | 26.5 | 11.0 | 20.0 | 22.5 |
| 0.047            | PPB473KAE7R00 | 26.5 | 13.0 | 23.0 | 22.5 |
| 0.056            | PPB563KAF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.068            | PPB683KAF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.082            | PPB823KAF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.1              | PPB104KAF4R00 | 31.5 | 16.0 | 25.5 | 27.5 |
| 0.12             | PPB124KAF7R00 | 31.5 | 18.0 | 26.0 | 27.5 |
| 0.15             | PPB154KAF8R00 | 31.5 | 22.0 | 31.0 | 27.5 |
| 0.18             | PPB184KAG5R00 | 38.0 | 20.0 | 30.0 | 31.5 |
| 0.22             | PPB224KAG6R00 | 38.0 | 22.0 | 32.0 | 31.5 |
| 1600V 系列         |               |      |      |      |      |
| 0.001            | PPB102KCD1R00 | 18.0 | 5.0  | 11.0 | 15   |
| 0.0022           | PPB222KCD1R00 | 18.0 | 5.0  | 11.0 | 15   |
| 0.0033           | PPB332KCD2R00 | 18.0 | 6.0  | 12.0 | 15   |
| 0.0047           | PPB472KCD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0056           | PPB562KCD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0068           | PPB682KCD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0082           | PPB822KCD4R00 | 18.0 | 8.4  | 14.5 | 15   |
| 0.01             | PPB103KCDAR00 | 18.0 | 10.0 | 15.8 | 15   |

## Metallized Polypropylene Film And Foil Capacitors-Box

## 金属化聚丙烯膜箔式高压盒装电容器

|          |               |      |      |      |      |
|----------|---------------|------|------|------|------|
| 0.022    | PPB223KCD8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.033    | PPB333KCE5R00 | 26.5 | 11.0 | 20.0 | 22.5 |
| 0.047    | PPB473KCE7R00 | 26.5 | 13.0 | 23.0 | 22.5 |
| 0.056    | PPB563KCF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.068    | PPB683KCF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.082    | PPB823KCF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.1      | PPB104KCF4R00 | 31.5 | 16.0 | 25.5 | 27.5 |
| 0.15     | PPB154KCF8R00 | 31.5 | 22.0 | 31.0 | 27.5 |
| 0.18     | PPB184KCG5R00 | 38.0 | 20.0 | 30.0 | 31.5 |
| 0.22     | PPB224KCG6R00 | 38.0 | 22.0 | 32.0 | 31.5 |
| 2000V 系列 |               |      |      |      |      |
| 0.001    | PPB102KDD3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0022   | PPB222KDDAR00 | 18.0 | 10.0 | 15.8 | 15   |
| 0.0033   | PPB332KDD8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.0047   | PPB472KDD8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.0056   | PPB562KDE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.0068   | PPB682KDE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.0082   | PPB822KDE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.01     | PPB103KDE7R00 | 26.5 | 13.0 | 23.0 | 22.5 |
| 0.012    | PPB123KDF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.015    | PPB153KDF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.018    | PPB183KDF3R00 | 31.5 | 14.0 | 25.0 | 27.5 |
| 0.022    | PPB223KDF4R00 | 31.5 | 16.0 | 25.5 | 27.5 |
| 0.027    | PPB273KDF7R00 | 31.5 | 18.0 | 26.0 | 27.5 |
| 0.033    | PPB333KDF8R00 | 31.5 | 22.0 | 31.0 | 27.5 |
| 3000V 系列 |               |      |      |      |      |
| 0.001    | PPB102KED3R00 | 18.0 | 7.5  | 13.5 | 15   |
| 0.0022   | PPB222KEDAR00 | 18.0 | 10.0 | 15.8 | 15   |
| 0.0033   | PPB332KED8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.0047   | PPB472KED8R00 | 18.0 | 11.2 | 19.2 | 15   |
| 0.0056   | PPB562KEE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.0068   | PPB682KEE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.0082   | PPB822KEE4R00 | 26.5 | 10.0 | 19.0 | 22.5 |
| 0.01     | PPB103KEE7R00 | 26.5 | 13.0 | 23.0 | 22.5 |
| 0.012    | PPB123KEF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.015    | PPB153KEF2R00 | 31.5 | 13.0 | 21.6 | 27.5 |
| 0.018    | PPB183KEF3R00 | 31.5 | 14.0 | 25.0 | 27.5 |
| 0.022    | PPB223KEF4R00 | 31.5 | 16.0 | 25.5 | 27.5 |
| 0.027    | PPB273KEF7R00 | 31.5 | 18.0 | 26.0 | 27.5 |
| 0.033    | PPB333KEF8R00 | 31.5 | 22.0 | 31.0 | 27.5 |