

HX Update!
series

- **Low ESR, high ripple current** 低等效串联电阻, 耐高纹波电流
- **Load life of 2000 hours at 150°C** 工作寿命 150°C-2000 小时
- **Compliant to the RoHS2.0 directive** 符合 RoHS2.0 规范
- **Compliant to AEC-Q200, contact us for more information** 符合 AEC-Q200 标准, 详情请另行咨询



Specifications 系列参数

Items 项目	Characteristics 特性	
Rated Voltage Range 额定电压范围	25V ~ 63V DC	
Capacitance Range 容量范围	33 ~ 680μF	
Capacitance Tolerance 容量偏差	M : ±20%	
Operating Temp. Range 工作温度范围	-55°C ~ +150°C	
Dissipation Factor 损耗角正切	Not to exceed the value specified 不超过规格值	
Leakage Current 漏电流	$I \leq 0.01CV$ (after 2 minutes) 充电 2 分钟后测试漏电流不超过 $0.01 \times (\text{静电容量 } \mu\text{F}) \times (\text{额定电压 } V)$	
ESR (100K~300KHz) 等效串联电阻	Not to exceed the value specified 不超过规格值	
Endurance: 150°C, 2000h Rated voltage applied (with the rated ripple current) 寿命: 150°C, 2000 小时 加载额定电压 (叠加额定纹波电流)	Capacitance Change 容量变化	Within ±30% of the value before test 初始值±30%以内
	Dissipation Factor 损耗角正切	Not to exceed 200% of the value specified 不超过 2 倍规格值
	ESR 等效串联电阻	Not to exceed 200% of the value specified 不超过 2 倍规格值
	Leakage current 漏电流	Not to exceed the value specified 不超过规格值
Moisture Resistance 85°C, RH85%, 2000h, Rated voltage applied 耐湿性 85°C, RH85% 加载额定电压连续工作 2000 小时	Capacitance Change 容量变化	Within ±30% of the value before test 初始值±30%以内
	Dissipation Factor 损耗角正切	Not to exceed 200% of the value specified 不超过 2 倍规格值
	ESR 等效串联电阻	Not to exceed 200% of the value specified 不超过 2 倍规格值
	Leakage Current 漏电流	Not to exceed the value specified 不超过规格值

Dimensions 尺寸 (Unit单位:mm)

Standard
标准产品

Technical drawing of a standard capacitor. The side view shows a cylindrical body with a diameter $D \pm 0.5\text{max}$ and a length $L \pm 0.3$. The end view shows a rectangular profile with a width $W \pm 0.2$, a height $H \pm 0.2$, and a central hole with a diameter $P \pm 0.2$. The distance from the center of the hole to the bottom edge is R , and the distance from the center of the hole to the side edge is $C \pm 0.2$. The top and bottom edges are labeled T_1 and T_2 respectively.

ΦD	L	W	H	C	P	R	T_1 , T_2
8	10.5	8.3	8.3	9.0	3.2	0.8~1.1	0.2max.
10	10.5	10.3	10.3	11.0	4.6	0.8~1.1	0.2max.
10	12.8	10.3	10.3	11.0	4.6	0.8~1.1	0.2max.
10	16.5	10.3	10.3	11.0	4.6	0.8~1.1	0.2max.

Anti-vibration
耐振产品

Technical drawing of an anti-vibration capacitor. The side view shows a cylindrical body with a diameter $D \pm 0.5\text{max}$ and a length $L \pm 0.3$. The end view shows a rectangular profile with a width $W \pm 0.2$, a height $H \pm 0.2$, and a central hole with a diameter $P \pm 0.2$. The distance from the center of the hole to the bottom edge is R , and the distance from the center of the hole to the side edge is $C \pm 0.2$. The top and bottom edges are labeled T_1 and T_2 respectively. Additional dimensions M , N , and S are shown in the end view, indicating the distance from the center of the hole to the bottom edge, the distance from the center of the hole to the side edge, and the distance from the center of the hole to the top edge, respectively.

ΦD	L	W	H	C	P	R	M	N	S	T_1 , T_2
8	10.5	8.3	8.3	9.0	3.2	0.8~1.1	1.35	0.7	5.40	0.2max.
10	10.5	10.3	10.3	11.0	4.6	0.8~1.1	1.35	1.0	6.74	0.2max.
10	12.8	10.3	10.3	11.0	4.6	0.8~1.1	1.35	1.0	6.74	0.2max.
10	16.5	10.3	10.3	11.0	4.6	0.8~1.1	1.35	1.0	6.74	0.2max.

Capacitance List 容量对照表

W.V (S.V) SIZE	25 (31)	35 (44)	50 (63)	63 (79)
8×10.5	100 ~ 220 μ F	82 ~ 150 μ F	47 ~ 68 μ F	33 ~ 47 μ F
10×10.5	180 ~ 470 μ F	120 ~ 270 μ F	68 ~ 100 μ F	47 ~ 82 μ F
10×12.8	220 ~ 560 μ F	150 ~ 330 μ F	82 ~ 150 μ F	56 ~ 120 μ F
10×16.5	330 ~ 680 μ F	220 ~ 470 μ F	120 ~ 220 μ F	82 ~ 150 μ F

Characteristics List 规格特性表

W.V. 工作电压 (V)	Capacitance 容量 (μ F)	tg δ 损耗角正切 (120Hz, 20°C)	ESR 等效串联电阻 (m Ω , 100kHz)	Rated Ripple Current 额定纹波电流 (150°C, mA, r.m.s)	Size 尺寸 Φ D×L(mm)	Part Number 物料编码
25	220	0.12	27	1600	8×10.5	PHX221M025F1ETR□□□□
	330	0.12	20	2000	10×10.5	PHX331M025G1ETR□□□□
	470	0.12	14	2500	10×12.8	PHX471M025G1DTR□□□□
	560	0.12	11	2900	10×16.5	PHX561M025G1HTR□□□□
35	150	0.10	27	1600	8×10.5	PHX151M035F1ETR□□□□
	220	0.10	20	2000	10×10.5	PHX221M035G1ETR□□□□
	330	0.10	14	2500	10×12.8	PHX331M035G1DTR□□□□
	470	0.10	11	2900	10×16.5	PHX471M035G1HTR□□□□
50	68	0.10	30	1250	8×10.5	PHX680M050F1ETR□□□□
	100	0.10	28	1600	10×10.5	PHX101M050G1ETR□□□□
	150	0.10	17	2250	10×12.8	PHX151M050G1DTR□□□□
	220	0.10	13	2600	10×16.5	PHX221M050G1HTR□□□□
63	47	0.08	30	1100	8×10.5	PHX470M063F1ETR□□□□
	82	0.08	28	1400	10×10.5	PHX820M063G1ETR□□□□
	120	0.08	19	2100	10×12.8	PHX121M063G1DTR□□□□
	150	0.08	15	2400	10×16.5	PHX151M063G1HTR□□□□

* For the last 4 digits of the part number, please refer to the part number system on page 178 .

物料编码的最后 4 位，请参考 178 页物料编码系统。

Frequency Coefficient for Ripple Current 纹波电流频率系数

Frequency 频率	120Hz≤freq.<1KHz	1KHz≤freq.<10KHz	10KHz≤freq.<50KHz	50KHz≤freq.<100KHz	100KHz≤freq.<1000KHz
Coefficient 系数 (C≤47 μ F)	0.05	0.25	0.55	0.80	1.00
Coefficient 系数 (C > 47 μ F)	0.05	0.30	0.70	0.85	1.00