

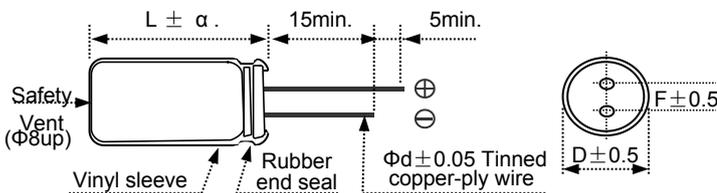
# HK Series

- High ripple current ,long life,down sized
- Endurance:12,000 to 20,000 hours at 105°C
- RoHS2.0 Compliant

## 规格表 Specifications

项目 Items	特性参数 Characteristics		
使用温度范围 Category Temperture Range	-40 ~ +105°C		
额定工作电压范围 Rated Voltage Range	160 ~ 450V.DC		
静电容量允许偏差 Capacitance Tolerance	±20%(M) (at 20°C,120Hz)		
漏电流 Leakage Current	I≤0.02CV+10(μA) (施加额定工作电压2分钟后) (After 2 minute application of rated voltage ) Note: I=Max.leakage current (μA), C=Nominal capacitance(μF), V=Rated voltage(V) (at 20°C)		
损耗角正切值tanδ Dissipation Factor	Rated voltage(Vdc)	160~400V	(at 20°C,120Hz)
	tanδ (Max.)	0.24	
低温特性 Low Temperature Characteristics (Max.Impedance Ratio)	阻抗比值不得超过下表中列出的值 The impedance ratio shall not exceed the values listed in the below table.		
	Rated voltage(Vdc)	160~250	400~450
	Z(-25°C)/Z(+20°C)	3	6
	Z(-40°C)/Z(+20°C)	8	10
	(at 120Hz)		
耐久性 Endurance	在105°C环境中，不超过额定电压的范围内叠加最大允许纹波电流，连续加载右表时间，经恢复到20°C后电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored to 20°C after applied within maximum allowable ripple current and not over rated voltage range for the time in the table at 105°C.		
	Capacitance change	≅±30% of the initial value	ΦD 时间 (hrs)
	D.F.(tanδ)	≅300% of the initial specified value	≤Φ10 12,000
	Leakage current	≅The initial specified value	>Φ10 20,000
高温储存特性 Shelf Life	在105°C环境中，不施加电压条件下储存1000小时，经恢复到20°C后，电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored at 20°C after exposing them for 1000 hours at 105°C without voltage applied.		
	Capacitance change	≅±30% of the initial value	
	D.F.(tanδ)	≅300% of the initial specified value	
	Leakage current	≅200%of the initial specified value	

## 尺寸图 (单位: mm) DIMENSIONS (Unit:mm)



ΦD	8	10	13	16	18
F	3.5	5.0	5.0	7.5	7.5
Φd	0.6	0.6	0.6	0.8	0.8

α	(L<20)1.5
	(L≥20)2.0

## 纹波电流修正系数 Rated Ripple Current Coefficient

### ● 频率系数 Frequency Coefficient

160 ~ 400V.DC

Frequency(Hz)	120	1k	10k	100k
Capacitance(μF)	5.6~68	1.00	1.75	2.25
		2.25	2.50	

450V.DC

Frequency(Hz)	120	1k	10k	100k
Capacitance(μF)	4.7 ~ 15	0.3	0.6	0.9
	22 ~ 68	0.4	0.7	0.9

**HW Series**◆ 标准品一览表 **Standard Ratings**

WV (Vdc)	Cap ( $\mu$ F)	Case size $\phi$ D×L (mm)	Rated ripple current (mA <sub>rms</sub> )
160	22	10X12.5	121
	33	10X16	158
200	18	10X12.5	113
	27	10X16	149
250	10	10X12.5	90
	12	10X12.5	97
	18	10X16	129
400	5.6	10X12.5	64
	8.2	10X16	88
450	6.8	10X16	62
	8.2	10X16	88
	10	10X20	92
	15	12.5X20	140
	22	12.5X25	240
	27	16X20	305
	33	16X25	392
	33	18X20	312
	47	18X25	480
68	18X31.5	520	

※铝电解电容器由于在纹波电流叠加时自我发热、温度上升而老化，中心温度每升温5℃寿命减少一半。要想保持长寿命请在使用过程中降低纹波电流。

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.