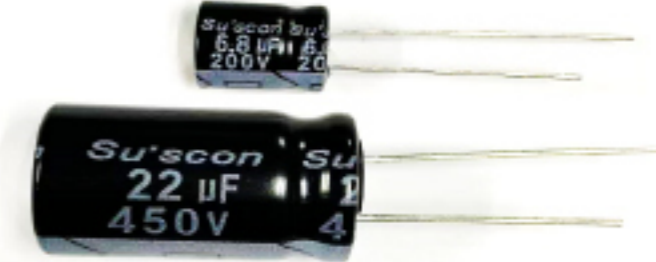


HW series

- On the basis of HH series life promotion product
- Suitable for LED Lighting Power supply Circuit
- RoHS Compliance
- 在HH 系列基礎上壽命提升品
- 適用於LED照明用電源電路



SPECIFICATIONS

Items 項目	Characteristics 特性					
Capacitance Tolerance 靜電容量誤差	± 20%(120Hz,20°C)					
Operating Temperature Range 適用溫度範圍	- 40 ~ +105°C			- 25 ~ +105°C		
Rated Voltage Range 額定電壓範圍	160 ~ 400VDC			450VDC		
Leakage Current 洩漏電流	$I \leq 0.04CV + 100$ (µA) (After 1 minutes application of DC rated voltage, at 20 °C)					
Leakage Current 散逸因素(tan δ)	Measurement Frequency:120Hz. Temperature: 20°C					
	Rated Voltage(V)	160 ~ 400			450	
	tan δ (Max)	0.24			0.24	
	When nominal capacitance over 1000µF, tan δ shall be added 0.02 to the listed value with increase of every 1000µF .					
Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值)	Measurement Frequency:120Hz					
	Rated Voltage(V)	160	200	250	400	450
	Z(-25°C) / Z(20°C)	3	3	3	6	6
	Z(-40°C) / Z(20°C)	8	8	8	10	-
Load Life 負荷壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C aftersubjected to DC voltage with the rated ripple current is applied for 20,000 hours(ΦD≤8:12,000 hours;ΦD≤10:15,000 hours) at 105°C.					
	Capacitance Change	within ±30% of Initial Value				
	tan δ	300% or less of Initial Specified Value				
	Leakage Current	Initial Specified Value or less				
Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000hours 105°C without voltage applied. Before the measurement. The Capacitance shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.					
	Capacitance Change	within ±30% of Initial Value				
	tan δ	300% or less of Initial Specified Value				
	Leakage Current	Initial Specified Value or less				
Standards 參照標準	JIS C 5101-4-1 (IEC 60384)					

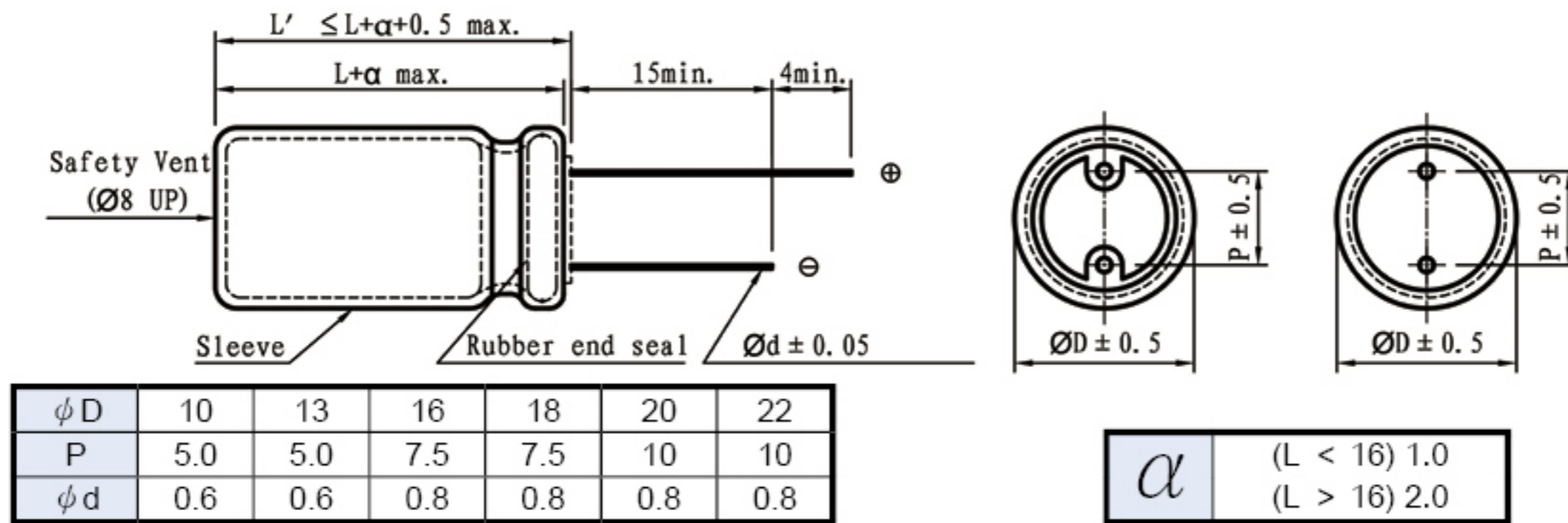
Frequency Coefficient of Permissible Ripple Current

Rated Voltage (V)	Capacitance (µF)	Frequency (Hz)			
		120	1K	10K	100K
160~400	2.2~5.6	1.00	1.60	1.80	2.00
	6.8~18	1.00	1.50	1.70	1.90
	22~33	1.00	1.40	1.60	1.80
450	4.7~15	0.30	0.60	0.90	1.00
	22~120	0.40	0.70	0.90	1.00

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

HW series

DIMENSIONS(mm)



STANDARD RATINGS

DxL(mm), R.C.(mA rms) at 105°C.

Cap (μF)	V (Code)	160			200			250		
	Item	D x L	R.C.		D x L	R.C.		D x L	R.C.	
			120HZ	100KHZ		120HZ	100KHZ		120HZ	100KHZ
5.6		6.3x11	52	104	8x10	56	112	8x12	62	124
6.8					8x10	62	117	8x12	68	129
8.2					8x10	66	125	10x10	76	144
10		8x10	70	133	8x12	80	152	10x13	90	171
12					10x10	88	167	10x13	97	184
15		8x12	92	174						
		10x10	95	180						
18					10x13	113	214	10x16	127	241
22		10x13	121	217	8x14	56	112			
27					10x16	149	268			
33		10x16	158	284						

Cap (μF)	V (Code)	400			450		
	Item	D x L	R.C.		D x L	R.C.	
			120HZ	100KHZ		120HZ	100KHZ
2.2		8x12	40	80			
2.7		8x12	43	86			
3.3		8x12	47	94			
		10x10	48	96			
3.9		10x13	57	114			
4.7		10x13	61	122	10x16	54	180
					10x20	66	220
6.8		10x16	85	162	10x20	84	280
8.2		10x16	88	167	10x20	84	280
10		10x20	115	219	13x21	135	450
15		13x21	150	285	13x25	180	600
22		13x21	209	376	13x25	240	600
					16x20	292	730
33		16x22	297	535	16x25	392	980
					18x20	312	780
47					18x25	480	1200
68					18x32	520	1300
82					18x35	574	1435
100					18x40	650	1625
120					20x45	720	1800

※ 13mm may be replaced by 12.5mm upon customer's request.

HW