

LARGE ALUMINUM ELECTROLYTIC CAPACITORS



Wide Temperature Range, Long Life Series

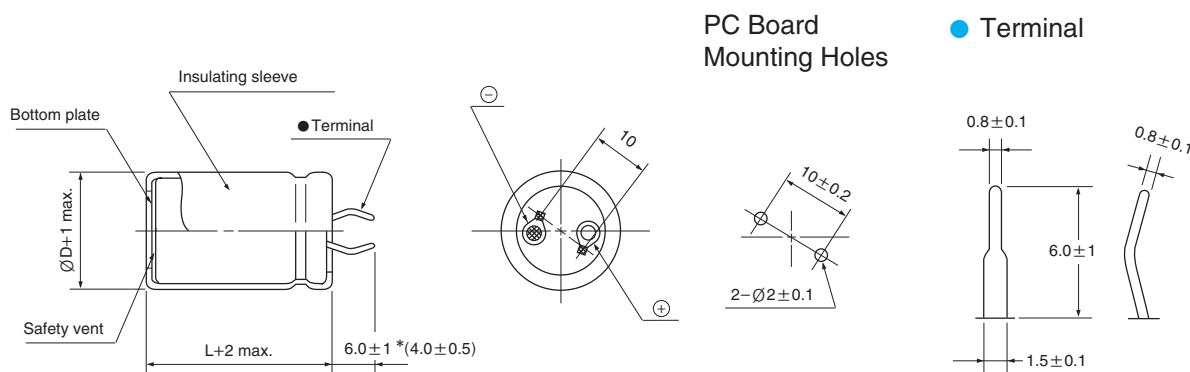
- Long life than HK series
- Load life of 5000 hours at 105°C
- Complied to the RoHS directive



Item	Characteristics						
Operating temperature range	WV< 350 : -40 ~ +105°C, WV ≥ 350 : -25 ~ +105°C						
Capacitance tolerance	± 20% (20°C,120Hz)						
Leakage current max.	I=3√CV (μA) (after 5 minutes)						
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000μF : tanδ increases by 0.01 for each 1000μF from below value.						
	Rated Voltage(V)	160	200	250	350	400	450
	tanδ	0.15	0.15	0.15	0.15	0.15	0.2
Load life (after application of the rated voltage for 5000 hours at 105°C)	Capacitance change		Within ± 25% of initial value				
	tanδ		Less than 250% of specified value				
	Leakage current		Less than specified value				
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20°C by the KS C 6503 clause 5.1.						

DRAWING

Unit : mm



FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

WV \ Frequency	60Hz	120Hz	300Hz	1kHz	10kHz ≤
160 ~ 250	0.85	1.00	1.20	1.25	1.45
300 ~	0.85	1.00	1.15	1.20	1.40

HL series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

$\frac{WV}{\mu F \quad \varnothing D}$	160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
120									22×20 0.56			
150					22×20 0.63				22×25 0.68	25.4×20 0.69		
180					22×20 0.69	25.4×20 0.76			22×25 0.74	25.4×20 0.76		
220	22×20 0.76				22×25 0.82	25.4×20 0.84			22×25 0.82	25.4×25 0.90	30×20 0.92	
270	22×25 0.91	25.4×20 0.93			22×25 0.91	25.4×25 1.00	30×20 1.02		22×30 0.97	25.4×25 1.00	30×20 1.02	
330	22×25 1.01	25.4×20 1.03			22×30 1.07	25.4×25 1.11	30×20 1.13		22×35 1.14	25.4×30 1.18	30×25 1.21	35×20 1.23
390	22×25 1.09	25.4×25 1.20	30×20 1.23		22×30 1.17	25.4×25 1.20	30×25 1.31	35×20 1.34	22×40 1.30	25.4×35 1.35	30×25 1.31	35×25 1.42
470	22×30 1.28	25.4×25 1.32	30×20 1.35		22×35 1.36	25.4×30 1.40	30×25 1.44	35×20 1.47	22×45 1.50	25.4×35 1.48	30×30 1.53	35×25 1.56
560	22×35 1.48	25.4×30 1.53	30×25 1.57	35×20 1.60	22×40 1.56	25.4×30 1.53	30×25 1.57	35×25 1.70	22×50 1.71	25.4×40 1.70	30×30 1.67	35×25 1.70
680	22×40 1.72	25.4×30 1.69	30×25 1.73	35×20 1.76	22×45 1.80	25.4×35 1.79	30×30 1.84	35×25 1.88		25.4×50 2.05	30×35 1.94	35×30 1.98
820	22×45 1.98	25.4×35 1.96	30×30 2.02	35×25 2.06		25.4×45 2.16	30×30 2.02	35×25 2.06			30×40 2.23	35×35 2.29
1000	22×50 2.28	25.4×40 2.28	30×30 2.23	35×25 2.28		25.4×50 2.48	30×35 2.35	35×30 2.41			30×50 2.68	35×40 2.65
1200		25.4×45 2.41	30×35 2.38	35×30 2.44			30×40 2.50	35×35 2.57				35×45 2.80
1500		25.4×50 2.81	30×40 2.79	35×35 2.73			30×50 3.04	35×40 3.00				35×50 3.25

$\frac{WV}{\mu F \quad \varnothing D}$	350				400				450			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
47					22×20 0.34							
56	22×20 0.37				22×20 0.37	25.4×20 0.41			22×25 0.40			
68	22×20 0.41	25.4×20 0.45			22×25 0.44	25.4×20 0.45			22×30 0.47	25.4×25 0.48		
82	22×25 0.48	25.4×20 0.49			22×25 0.48	25.4×25 0.53	30×20 0.54		22×30 0.51	25.4×25 0.53		
100	22×25 0.53	25.4×25 0.58	30×20 0.60		22×30 0.57	25.4×25 0.58	30×20 0.60		22×35 0.60	25.4×30 0.62	30×25 0.64	
120	22×30 0.62	25.4×25 0.64	30×20 0.65		22×35 0.66	25.4×25 0.64	30×25 0.70	35×20 0.71	22×40 0.69	25.4×30 0.68	30×25 0.70	35×25 0.76
150	22×35 0.74	25.4×30 0.76	30×25 0.78	35×20 0.80	22×40 0.78	25.4×30 0.76	30×25 0.78	35×20 0.80	22×45 0.81	25.4×40 0.85	30×30 0.83	35×25 0.85
180	22×40 0.85	25.4×30 0.83	30×25 0.86	35×20 0.87	22×45 0.89	25.4×35 0.88	30×30 0.91	35×25 0.93	22×50 0.93	25.4×40 0.93	30×30 0.91	35×25 0.93
220	22×45 0.98	25.4×35 0.98	30×30 1.00	35×25 1.03	22×50 1.03	25.4×40 1.03	30×30 1.00	35×25 1.03		25.4×45 1.07	30×35 1.06	35×25 1.03
270	22×50 1.14	25.4×40 1.14	30×30 1.11	35×25 1.14		25.4×45 1.19	30×35 1.17	35×30 1.20			30×40 1.23	35×30 1.20
330		25.4×45 1.31	30×35 1.30	35×30 1.33		25.4×50 1.37	30×40 1.36	35×30 1.33			30×45 1.42	35×35 1.40
390		25.4×50 1.49	30×40 1.48	35×35 1.52			30×45 1.54	35×35 1.52			30×50 1.61	35×40 1.59
470			30×45 1.69	35×35 1.67			30×50 1.76	35×40 1.74	← Case size $\varnothing D \times L$ (mm)			
560			30×50 1.92	35×40 1.90					↑ Ripple current (Arms) at 105°C, 120Hz			