

# LARGE ALUMINUM ELECTROLYTIC CAPACITORS

## HC Snap-in Terminal Type, Standard Series

- Standard snap-in terminal type
- Including height 20mm products, low profile sized (Voltage range of 160 ~ 450V)
- Complied to the RoHS directive

**S**  
Solvent Proof  
WV ≤ 100V

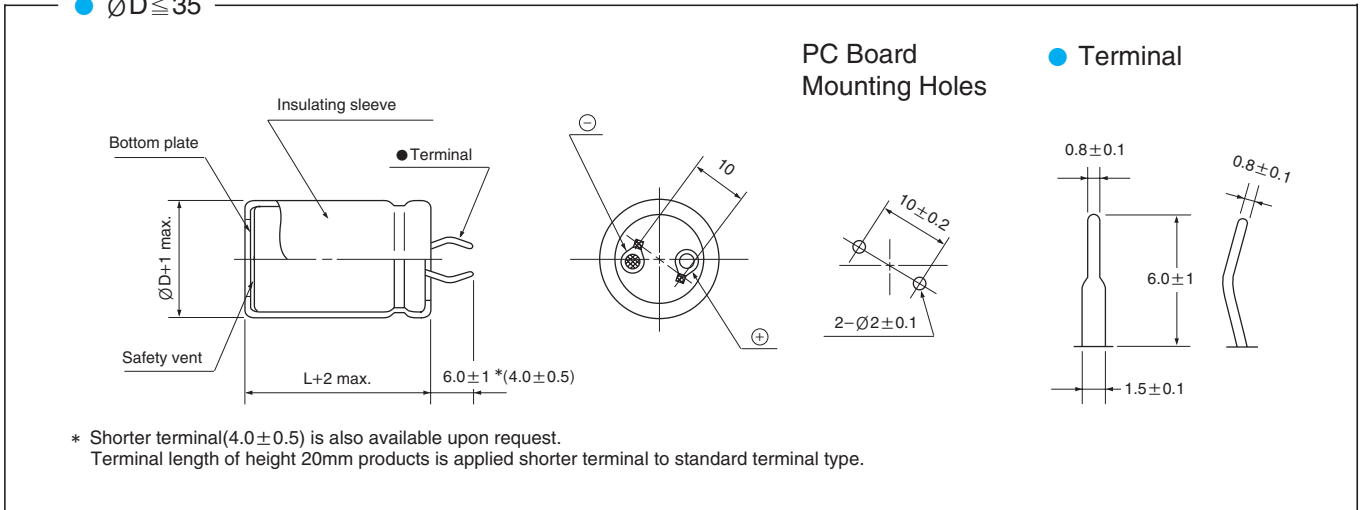


Item	Characteristics																	
Operating temperature range	WV ≤ 350 : -40 ~ +85°C, WV > 350 : -25 ~ +85°C																	
Capacitance tolerance	±20% at 120Hz, 20°C																	
Leakage current max.	$I = 3 \sqrt{CV}$ (µA) (after 5 minutes)																	
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000µF : tanδ increases by 0.01 for each 1000µF from below value.																	
	<table border="1"> <thead> <tr> <th>WV</th> <th>6.3</th> <th>10</th> <th>16, 25</th> <th>35</th> <th>50, 63</th> <th>80, 100</th> <th>160 ~ 400</th> <th>450, 500</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </tbody> </table>	WV	6.3	10	16, 25	35	50, 63	80, 100	160 ~ 400	450, 500	tanδ	0.45	0.40	0.35	0.30	0.25	0.20	0.15
WV	6.3	10	16, 25	35	50, 63	80, 100	160 ~ 400	450, 500										
tanδ	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.20										
Load life (after application of the rated voltage for 2000 hours at 85°C)	Leakage current	Less than specified value																
	Capacitance change	Within ±20% of initial value																
	tanδ	Less than 200% of specified value																
Shelf life (after leaving capacitors under no load at 85°C for 1000 hours)	Leakage current	Less than specified value																
	Capacitance change	Within ±15% of initial value																
	tanδ	Less than 150% of specified value																

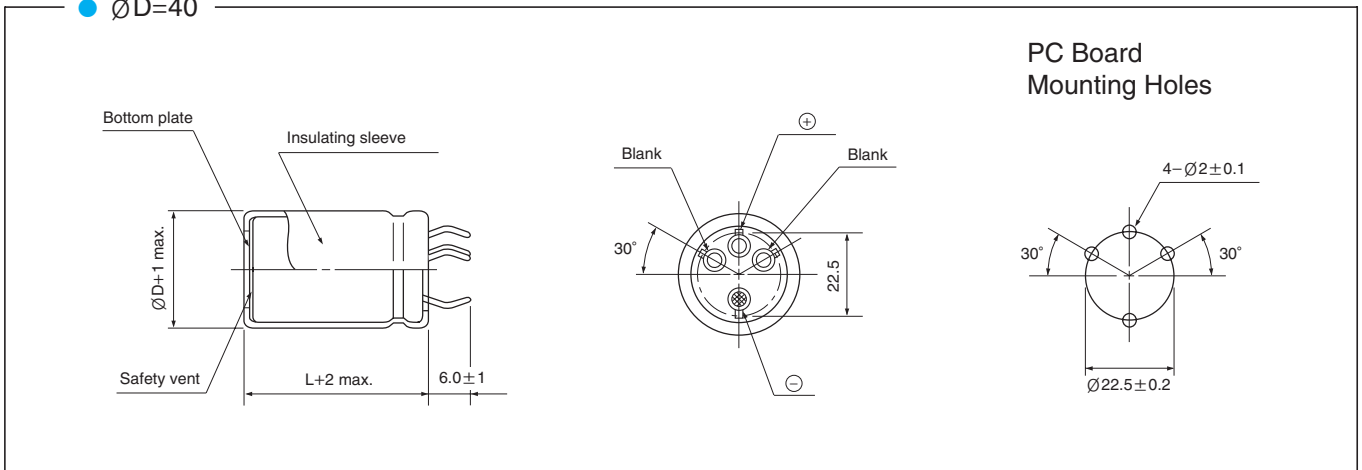
### ● DRAWING

Unit : mm

#### ● ØD ≤ 35



#### ● ØD=40



# LARGE ALUMINUM ELECTROLYTIC CAPACITORS



## HC series

### ● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF ∅D	6.3					10					16				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
10000											22×25 3.32				
12000						22×25 3.31					22×30 3.55	25.4×25 3.89			
15000	22×25 3.39					22×30 3.82	25.4×25 3.39				22×35 4.29	25.4×30 4.45	30×25 4.56		
18000	22×30 3.85	25.4×25 3.96				22×35 4.28	25.4×25 4.17				22×40 4.77	25.4×35 4.96	30×30 5.10		
22000	22×35 4.34	25.4×25 4.22				22×40 4.79	25.4×30 4.71	30×25 4.83			22×50 5.51	25.4×40 5.51	30×30 5.39		
27000	22×40 4.85	25.4×30 4.77	30×25 4.89			22×45 5.30	25.4×35 5.26	30×30 5.41				25.4×45 6.06	30×35 5.98	35×25 5.80	
33000	22×45 5.36	25.4×35 5.32	30×30 5.47			22×50 5.82	25.4×40 5.81	30×30 5.69	35×25 5.81				30×40 6.56	35×30 6.41	
39000	22×50 5.83	25.4×40 5.82	30×30 5.70	35×25 5.82			25.4×45 6.31	30×35 6.22	35×30 6.38				30×45 7.08	35×35 6.96	
47000		25.4×45 6.35	30×35 6.26	35×30 6.41			25.4×50 6.83	30×40 6.78	35×30 6.62				30×50 7.62	35×40 7.54	
56000		25.4×50 6.85	30×40 6.80	35×30 6.64				30×45 7.31	35×35 7.18					35×45 8.08	40×40 8.23
68000			30×45 7.35	35×35 7.23					35×40 7.76					35×50 8.63	40×50 9.13
100000				35×45 8.34	40×40 8.49					40×50 9.35					40×60 10.2

WV μF ∅D	25					35					50				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
3300											22×30 2.97	25.4×25 3.06			
4700						22×30 3.06	25.4×25 2.98				22×40 3.83	25.4×35 3.98	30×25 3.86	35×25 4.19	
5600	22×25 2.65					22×35 3.28	25.4×30 3.39				22×45 4.26	25.4×40 4.44	30×30 4.35	35×25 4.44	
6800	22×30 3.06	25.4×25 3.15				22×40 3.73	25.4×30 3.67	30×25 3.76			22×50 4.77	25.4×40 4.76	30×35 4.92	35×30 5.04	
8200	22×35 3.45	25.4×30 3.57				22×45 4.13	25.4×35 4.10	30×30 4.22				25.4×50 5.43	30×40 5.38	35×30 5.26	
10000	22×40 3.95	25.4×30 3.89	30×25 3.99			22×50 4.68	25.4×40 4.68	30×30 4.58					30×45 6.07	35×35 5.97	
12000	22×45 4.41	25.4×35 4.37	30×30 4.50				25.4×45 5.18	30×35 5.11	35×30 5.24				30×50 6.62	35×40 6.55	
15000	22×50 4.94	25.4×40 4.94	30×35 5.10					30×40 5.72	35×35 5.88					35×45 7.20	
18000		25.4×45 5.45	30×35 5.38	35×30 5.51				30×45 6.28	35×40 6.46					35×50 7.74	40×40 7.62
22000			30×45 6.22	35×35 6.12					35×45 7.07	40×40 7.20					40×50 8.54
27000			30×50 6.82	35×40 6.74						40×50 8.14					40×60 9.45
33000				35×45 7.35	40×40 7.48					40×50 8.46					

WV μF ∅D	63					80					100				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
1200						22×25 2.24					22×30 2.39	25.4×25 2.46			
1500						22×30 2.67					22×35 2.83	25.4×30 2.93	30×25 3.00		
1800	22×25 2.20					22×30 2.92	25.4×25 3.01				22×40 3.26	25.4×35 3.39	30×30 3.49		
2200	22×30 2.50	25.4×25 2.58				22×35 3.25	25.4×30 3.36	30×25 3.45			22×45 3.58	25.4×40 3.74	30×30 3.66		
2700	22×35 2.94	25.4×30 3.04				22×40 3.79	25.4×35 3.94	30×30 4.05				25.4×45 4.33	30×35 4.27	35×30 4.37	
3300	22×35 3.14	25.4×30 3.26	30×25 3.34			22×45 4.18	25.4×40 4.36	30×30 4.27				25.4×50 4.76	30×40 4.72	35×35 4.85	
3900	22×40 3.60	25.4×35 3.74	30×30 3.85			22×50 4.75	25.4×45 4.96	30×35 4.89					30×45 5.36	35×35 5.27	
4700	22×50 4.19	25.4×40 4.19	30×35 4.10	35×30 4.19			25.4×50 5.44	30×40 5.39	35×30 5.27				30×50 5.86	35×40 5.80	
5600		25.4×45 4.65	30×35 4.58	35×30 4.70				30×45 5.91	35×35 5.81					35×45 6.34	40×40 6.45
6800		25.4×50 5.20	30×40 5.16	35×30 5.04					35×40 6.45						40×50 7.40
8200			30×45 5.62	35×35 5.53					35×45 6.91	40×40 7.04					40×50 7.60
10000			30×50 6.32	35×40 6.25						40×50 8.14	← Case size ∅D×L (mm) ← Ripple current (Arms) at 85°C, 120Hz				
12000				35×45 6.83	40×40 6.95										

\* Note: Case diameter (∅D) is available upon request.

# LARGE ALUMINUM ELECTROLYTIC CAPACITORS

**HC** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF ØD	160					200					250				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
150											22×25 0.90	25.4×20 0.92			
180						22×20 0.91					22×25 0.90	25.4×20 1.01			
220	22×20 1.01					22×25 1.09	25.4×20 1.11				22×25 1.09	25.4×25 1.19	30×20 1.22		
270	22×25 1.20	25.4×20 1.32				22×25 1.20	25.4×25 1.32	30×20 1.35			22×30 1.28	25.4×25 1.32	30×20 1.35		
330	22×25 1.33	25.4×20 1.36				22×30 1.42	25.4×25 1.46	30×20 1.49			22×35 1.50	25.4×30 1.56	30×25 1.60	35×20 1.62	
390	22×25 1.45	25.4×20 1.59	30×20 1.62			22×30 1.54	25.4×25 1.59	30×25 1.74	35×20 1.77		22×40 1.72	25.4×30 1.69	30×25 1.73	35×20 1.77	
470	22×30 1.69	25.4×25 1.75	30×20 1.78			22×35 1.79	25.4×30 1.86	30×25 1.90	35×20 1.94		22×45 1.98	25.4×35 1.96	30×30 2.02	35×25 2.06	
560	22×35 1.96	25.4×30 2.03	30×25 2.08	35×20 2.12		22×40 2.06	25.4×35 2.14	30×25 2.08	35×25 2.25		22×50 2.26	25.4×40 2.25	30×30 2.20	35×25 2.25	
680	22×40 2.27	25.4×30 2.23	30×25 2.29	35×20 2.33		22×45 2.38	25.4×40 2.48	30×30 2.43	35×25 2.48			25.4×45 2.60	30×35 2.56	35×30 2.62	
820	22×45 2.61	25.4×35 2.59	30×30 2.67	35×25 2.73		22×50 2.73	25.4×45 2.85	30×35 2.81	35×30 2.88				30×40 2.95	35×35 3.03	
1000	22×50 3.01	25.4×40 3.01	30×30 2.95	35×25 3.01				30×40 3.26	35×30 3.18				30×45 3.40	35×40 3.50	
1200		25.4×45 3.23	30×35 3.18	35×30 3.26				30×45 3.49	35×35 3.43					35×45 3.74	40×40 3.81
1500			30×40 3.73	35×35 3.83				30×50 4.06	35×40 4.01					35×50 4.35	40×50 4.60
1800				35×40 4.39	40×40 4.66				35×45 4.58	40×40 4.66					40×60 5.39

WV μF ØD	315					350					400				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
68											22×20 0.56				
82						22×20 0.62					22×25 0.66	25.4×20 0.68			
100	22×20 0.68					22×25 0.73	25.4×20 0.75				22×30 0.78	25.4×25 0.81	30×20 0.82		
120	22×25 0.80	25.4×20 0.82				22×30 0.86	25.4×25 0.88	30×20 0.90			22×30 0.86	25.4×25 0.88	30×20 0.90		
150	22×30 0.96	25.4×25 0.99	30×20 1.01			22×35 1.01	25.4×30 1.05	30×20 1.01			22×35 1.01	25.4×30 1.05	30×25 1.08	35×20 1.09	
180	22×35 1.11	25.4×30 1.15	30×25 1.18	35×20 1.20		22×40 1.17	25.4×35 1.21	30×25 1.18	35×20 1.20		22×40 1.17	25.4×35 1.21	30×25 1.18	35×25 1.28	
220	22×40 1.29	25.4×30 1.27	30×25 1.30	35×20 1.33		22×45 1.35	25.4×35 1.34	30×30 1.38	35×25 1.41		22×45 1.35	25.4×40 1.41	30×30 1.38	35×25 1.41	
270	22×45 1.50	25.4×35 1.49	30×30 1.53	35×25 1.56			25.4×45 1.64	30×35 1.61	35×25 1.65			25.4×45 1.64	30×35 1.61	35×30 1.65	
330	22×50 1.73	25.4×40 1.73	30×35 1.78	35×30 1.83			25.4×50 1.89	30×40 1.87	35×30 1.83			25.4×50 1.89	30×40 1.87	35×30 1.83	
390		25.4×45 1.97	30×35 1.94	35×30 1.99				30×45 2.12	35×35 2.09				30×45 2.12	35×35 2.09	
470			30×40 2.23	35×35 2.29				30×50 2.43	35×40 2.40				30×50 2.43	35×40 2.40	
560				35×40 2.62					35×45 2.73					35×45 2.73	40×40 2.78
680				35×45 3.01					35×50 3.13	40×40 3.06					40×50 3.31
820				35×50 3.44	40×40 3.37					40×50 3.63					40×60 3.89

WV μF ØD	450					500				
	22	25.4	30	35	40	22	25.4	30	35	40
56	22×20 0.51									
68	22×25 0.60	25.4×20 0.62				22×30 0.49				
82	22×30 0.71	25.4×25 0.73	30×20 0.74			22×35 0.57	25.4×30 0.59			
100	22×35 0.83	25.4×30 0.86	30×25 0.88	35×20 0.89		22×40 0.67	25.4×35 0.69			
120	22×40 0.95	25.4×35 0.99	30×25 0.96	35×20 0.98			25.4×40 0.80			
150	22×50 1.17	25.4×40 1.17	30×30 1.14	35×25 1.17				30×35 0.92		
180		25.4×45 1.34	30×35 1.32	35×25 1.28				30×40 1.06		
220		25.4×50 1.54	30×40 1.53	35×30 1.49				30×45 1.22		
270			30×45 1.77	35×35 1.74					35×45 1.45	
330			30×50 2.03	35×40 2.01					35×50 1.66	
390				35×45 2.28						
470				35×50 2.60	40×40 2.55					40×50 2.10
560				40×50 3.00						40×60 2.45
680				40×60 3.54						40×60 2.70

← Case size ØD×L (mm)  
← Ripple current (Arms) at 85°C, 120Hz