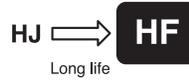


# LARGE ALUMINUM ELECTROLYTIC CAPACITORS



## HF Snap-in Terminal Type, Long life Series

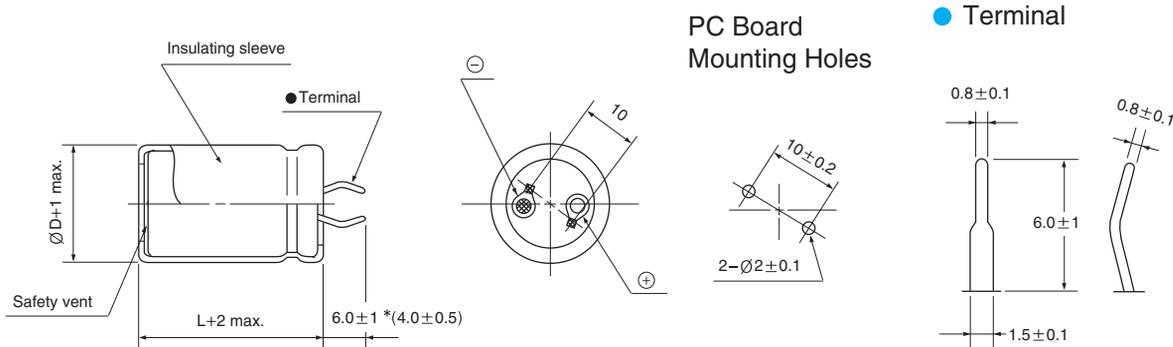
- Long life than HJ series
- Load life at 5000 hours at 85°C
- Complied to the RoHS directive



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>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> </tr> </tbody> </table>	WV	160	200	250	350	400	450	tanδ	0.15	0.15	0.15	0.15	0.15
WV	160	200	250	350	400	450								
tanδ	0.15	0.15	0.15	0.15	0.15	0.20								
Load life (after application of the rated voltage for 5000 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 (at 85°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 IEC 60384 - 4													

### ● DRAWING

Unit : mm

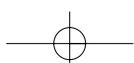


\* Shorter terminal(4.0±0.5) is also available upon request.  
Terminal length of height 20mm products is applied shorter terminal to standard terminal type.

### ● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

WV	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz ≤
160 ~ 250		0.85	1.00	1.20	1.25	1.45
350 ~		0.85	1.00	1.15	1.20	1.40

LARGE TYPES



# LARGE ALUMINUM ELECTROLYTIC CAPACITORS

**HF** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF / ØD	160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
150									22×20 0.97			
180					22×20 0.91				22×20 1.06			
220					22×20 1.18				22×25 1.24	25.4×20 1.22		
270	22×20 1.30				22×25 1.37	25.4×20 1.35			22×25 1.50	25.4×25 1.32		
330	22×25 1.50				22×25 1.51	25.4×20 1.49			22×30 1.66	25.4×25 1.61	30×20 1.58	
390	22×25 1.63	25.4×20 1.62			22×25 1.73	25.4×25 1.71	30×20 1.71		22×35 1.88	25.4×30 1.88	30×25 1.86	
470	22×30 1.86	25.4×20 1.86			22×30 1.97	25.4×25 1.95	30×20 1.88		22×35 2.15	25.4×35 2.15	30×25 2.04	
560	22×30 2.15	25.4×25 2.15	30×20 2.05		22×35 2.18	25.4×30 2.15	30×25 2.15		22×40 2.48	25.4×35 2.35	30×25 2.35	35×25 2.35
680	22×35 2.35	25.4×30 2.33	30×25 2.33		22×40 2.48	25.4×30 2.48	30×25 2.48	35×25 2.33	22×50 2.61	25.4×40 2.67	30×30 2.71	35×25 2.58
820	22×40 2.68	25.4×30 2.65	30×25 2.64		22×45 2.81	25.4×35 2.79	30×30 2.80	35×25 2.83		25.4×45 3.01	30×35 2.98	35×30 2.96
1000	22×45 3.02	25.4×35 3.00	30×30 2.96	35×25 3.13	22×50 3.28	25.4×40 3.28	30×35 3.15	35×30 3.26			30×40 3.56	35×35 3.48
1200	22×50 3.47	25.4×40 3.43	30×30 3.41	35×25 3.40		25.4×45 3.61	30×35 3.61	35×30 3.57			30×45 3.99	35×35 3.84
1500		25.4×45 3.96	30×35 3.96	35×30 3.94			30×45 4.13	35×35 4.06			30×50 4.33	35×40 4.33
1800			30×40 4.31	35×35 4.28			30×50 4.60	35×40 4.59				35×50 4.76
2200			30×50 4.96	35×40 4.96				35×45 5.25				
2700				35×45 5.57								
3300				35×50 6.21								

WV μF / ØD	350				400				450			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
56									22×20 0.61			
68					22×20 0.65				22×20 0.71			
82					22×20 0.85				22×25 0.86	25.4×20 0.84		
100	22×20 0.80				22×25 0.99	25.4×20 0.82			22×25 0.95	25.4×25 0.97		
120	22×25 1.04	25.4×20 0.90			22×25 1.09	25.4×20 1.13			22×30 1.07	25.4×25 1.09	30×20 1.12	
150	22×25 1.20	25.4×25 1.22			22×30 1.24	25.4×25 1.27	30×20 1.20		22×35 1.18	25.4×30 1.25	30×25 1.29	
180	22×30 1.34	25.4×25 1.37			22×30 1.41	25.4×25 1.44	30×25 1.52		22×35 1.32	25.4×35 1.40	30×25 1.45	
220	22×30 1.47	25.4×30 1.53	30×25 1.54		22×35 1.58	25.4×30 1.64	30×25 1.66		22×40 1.48	25.4×35 1.59	30×25 1.64	35×25 1.59
270	22×35 1.70	25.4×30 1.73	30×25 1.80		22×40 1.65	25.4×35 1.79	30×30 1.82	35×25 1.63	22×50 1.88	25.4×40 1.87	30×30 1.89	35×25 1.90
330	22×45 1.87	25.4×35 1.97	30×30 2.03	35×25 1.80	22×50 1.95	25.4×40 2.00	30×30 2.05	35×25 2.05		25.4×45 2.12	30×35 2.12	35×30 2.15
390	22×50 2.08	25.4×40 2.14	30×30 2.23	35×25 2.30		25.4×45 2.12	30×35 2.26	35×30 2.28			30×40 2.23	35×35 2.29
470		25.4×45 2.55	30×35 2.53	35×30 2.55		25.4×50 2.46	30×40 2.51	35×30 2.51			30×45 2.68	35×35 2.68
560		25.4×50 2.64	30×40 2.73	35×35 2.75			30×45 2.85	35×35 2.85				35×40 2.88
680			30×45 3.15	35×35 3.15			30×50 3.01	35×40 3.01				35×50 3.44
820				35×40 3.47				35×50 3.31	← Case size ØD×L (mm) ← Ripple current (Arms) at 85°C, 120Hz			
1000				35×45 3.65								

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