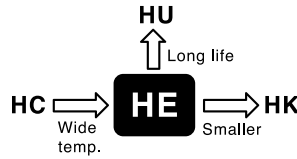


HE Wide Temperature Range, Standard Series

- Wide temperature range of -40(-25) ~ +105°C
- Standard snap-in terminal type
- Including height 20mm products, low profile sized (Voltage range of 160~450V)

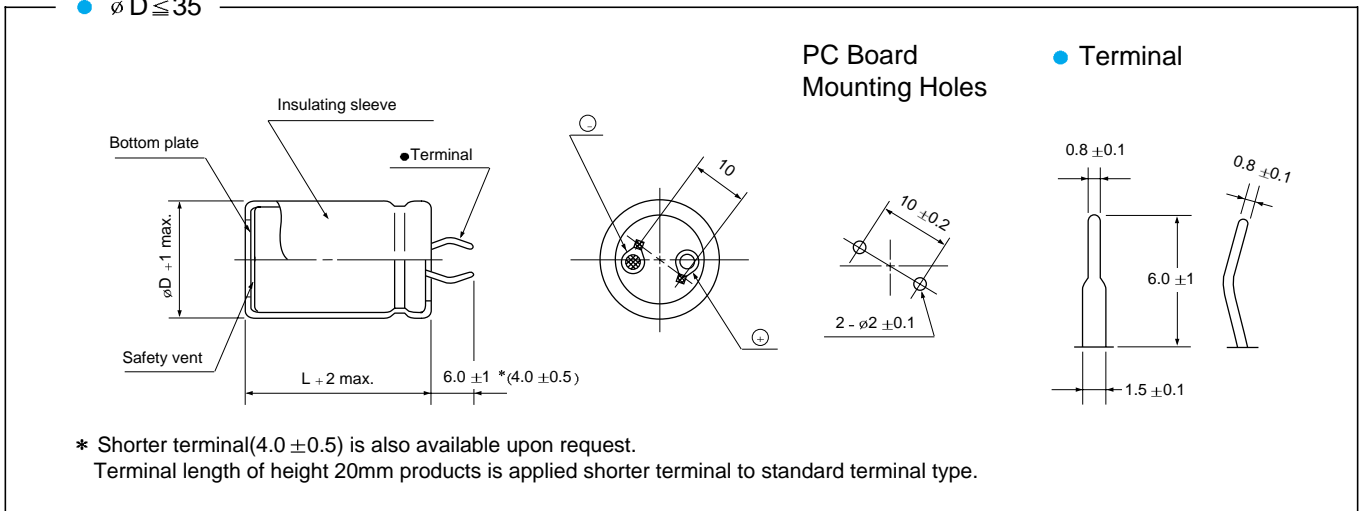


Item	Characteristics															
Operating temperature range	WV ≤ 400 : -40 ~ +105°C, WV = 450 : -25 ~ +105°C															
Capacitance tolerance	±20% at 120Hz, 20°C															
Leakage current max.	$I = 3\sqrt{CV}$ (μA) (after 5 minutes)															
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 μF : tan δ increases by 0.01 for each 1000 μF from below value.															
	<table border="1"> <thead> <tr> <th>WV</th> <th>6.3, 10</th> <th>16</th> <th>25, 35</th> <th>50, 63</th> <th>80, 100</th> <th>160~400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tan δ</td> <td>0.50</td> <td>0.40</td> <td>0.35</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	tan δ	0.50	0.40	0.35	0.25	0.20	0.15
WV	6.3, 10	16	25, 35	50, 63	80, 100	160~400	450									
tan δ	0.50	0.40	0.35	0.25	0.20	0.15	0.20									
Load life (after application of the rated voltage for 2000 hours at 105°C)	Leakage current	Less than specified value														
	Capacitance change	Within ±20% of initial value														
	tan δ	Less than 200% of specified value														
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and tan δ are same as load life value.															

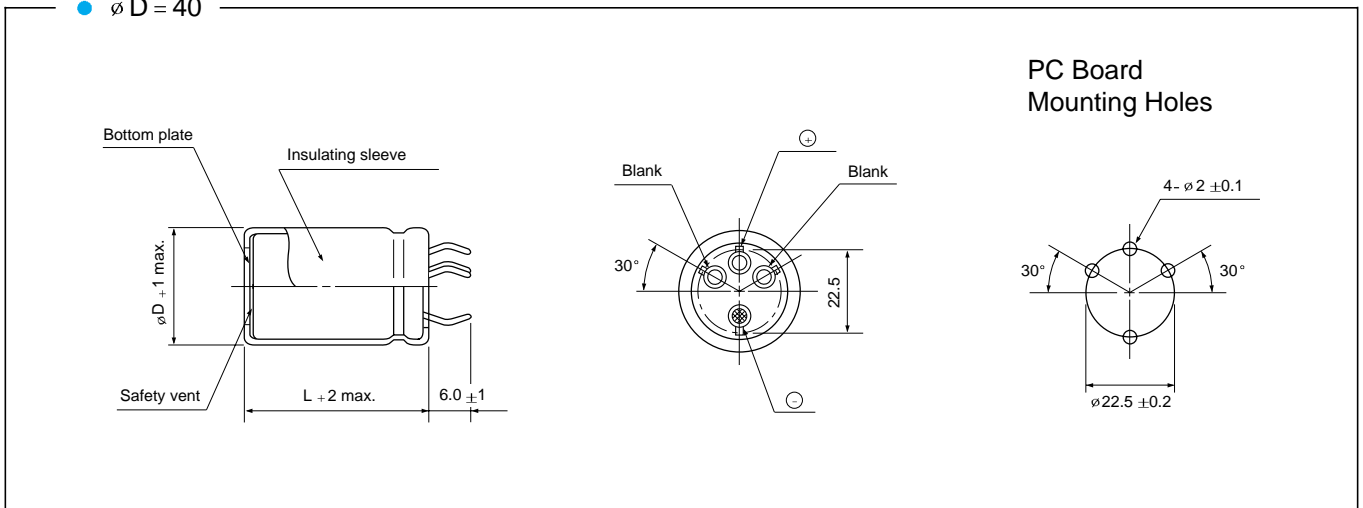
● DRAWING

Unit : mm

● φD ≤ 35



● φD = 40



LARGE ALUMINUM ELECTROLYTIC CAPACITORS



HE series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF / ∅D	160					200					250				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
150						22 × 20 0.63					22 × 25 0.68	25.4 × 20 0.69			
180	22 × 20 0.69					22 × 20 0.69					22 × 25 0.74	25.4 × 20 0.76	30 × 20 0.83		
220	22 × 20 0.76					22 × 25 0.82	25.4 × 20 0.84				22 × 30 0.88	25.4 × 25 0.90	30 × 20 0.92		
270	22 × 25 0.91	25.4 × 20 0.93				22 × 30 0.91	25.4 × 25 1.00	30 × 20 1.02			22 × 35 1.03	25.4 × 30 1.06	30 × 25 1.09	35 × 20 1.11	
330	22 × 25 1.01	25.4 × 25 1.10	30 × 20 1.13			22 × 30 1.07	25.4 × 25 1.11	30 × 20 1.13			22 × 40 1.20	25.4 × 30 1.18	30 × 25 1.21	35 × 20 1.23	
390	22 × 30 1.17	25.4 × 25 1.20	30 × 20 1.23			22 × 35 1.24	25.4 × 30 1.28	30 × 25 1.31	35 × 20 1.34		22 × 45 1.36	25.4 × 40 1.42	30 × 30 1.39	35 × 25 1.42	
470	22 × 35 1.36	25.4 × 25 1.32	30 × 25 1.44	35 × 20 1.47		22 × 40 1.43	25.4 × 35 1.40	30 × 25 1.44	35 × 25 1.56		22 × 50 1.56	25.4 × 40 1.56	30 × 30 1.53	35 × 25 1.56	
560	22 × 40 1.56	25.4 × 30 1.53	30 × 25 1.57	35 × 25 1.70		22 × 45 1.63	25.4 × 40 1.62	30 × 30 1.67	35 × 25 1.70			25.4 × 50 1.86	30 × 35 1.76	35 × 30 1.80	
680	22 × 45 1.80	25.4 × 35 1.79	30 × 25 1.73	35 × 25 1.88		22 × 50 1.88	25.4 × 45 1.96	30 × 30 1.84	35 × 25 1.88				30 × 45 2.12	35 × 35 2.09	
820	22 × 50 2.06	25.4 × 40 2.06	30 × 30 2.02	35 × 25 2.06			25.4 × 50 2.25	30 × 35 2.13	35 × 30 2.18					35 × 40 2.40	
1000		25.4 × 45 2.38	30 × 35 2.35	35 × 30 2.41				30 × 45 2.57	35 × 35 2.53					35 × 45 2.76	40 × 40 2.81
1200		25.4 × 50 2.52	30 × 40 2.50	35 × 30 2.44				30 × 50 2.72	35 × 35 2.57	40 × 40 2.85				35 × 50 2.91	40 × 50 3.08
1500				35 × 40 3.00	40 × 40 3.19				35 × 45 3.13	40 × 50 3.44					40 × 60 3.68

WV μF / ∅D	315					350					400				
	22	25.4	30	35	40	22	25.4	30	35	40	22	25.4	30	35	40
56											22 × 20 0.37				
68						22 × 20 0.41					22 × 25 0.44	25.4 × 20 0.45			
82	22 × 20 0.45					22 × 25 0.48	25.4 × 20 0.49				22 × 30 0.51	25.4 × 25 0.53	30 × 20 0.54		
100	22 × 25 0.53	25.4 × 20 0.55				22 × 25 0.53	25.4 × 25 0.59	30 × 20 0.60			22 × 35 0.60	25.4 × 30 0.62	30 × 20 0.60		
120	22 × 30 0.62	25.4 × 25 0.64	30 × 20 0.65			22 × 30 0.62	25.4 × 25 0.64	30 × 20 0.65			22 × 40 0.69	25.4 × 30 0.68	30 × 25 0.70	35 × 20 0.71	
150	22 × 35 0.74	25.4 × 30 0.76	30 × 20 0.73			22 × 40 0.78	25.4 × 30 0.76	30 × 25 0.78	35 × 20 0.80		22 × 45 0.81	25.4 × 35 0.81	30 × 30 0.83	35 × 20 0.80	
180	22 × 40 0.85	25.4 × 35 0.88	30 × 25 0.86	35 × 20 0.87		22 × 45 0.89	25.4 × 35 0.88	30 × 30 0.91	35 × 20 0.87		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 × 20 0.96		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 × 30 1.08	
270		25.4 × 45 1.19	30 × 35 1.17	35 × 25 1.14			25.4 × 45 1.19	30 × 35 1.17	35 × 30 1.20			25.4 × 50 1.24	30 × 40 1.23	35 × 30 1.20	
330		25.4 × 50 1.37	30 × 40 1.36	35 × 30 1.33				30 × 40 1.36	35 × 35 1.40				30 × 45 1.42	35 × 35 1.40	
390			30 × 45 1.54	35 × 35 1.52				30 × 45 1.54	35 × 40 1.59				30 × 50 1.61	35 × 40 1.59	
470			30 × 50 1.76	35 × 40 1.74					35 × 45 1.82					35 × 45 1.82	40 × 40 1.85
560				35 × 40 1.90					35 × 50 2.06	40 × 40 2.02				35 × 50 2.06	40 × 50 2.18
680				35 × 50 2.27	40 × 40 2.23					40 × 50 2.40					40 × 60 2.57

WV μF / ∅D	450				
	22	25.4	30	35	40
47	22 × 20 0.25				
56	22 × 25 0.29	25.4 × 20 0.30			
68	22 × 30 0.34	25.4 × 25 0.35	30 × 20 0.36		
82	22 × 35 0.40	25.4 × 30 0.41	30 × 20 0.40		
100	22 × 40 0.47	25.4 × 30 0.46	30 × 25 0.47	35 × 20 0.48	
120	22 × 45 0.53	25.4 × 35 0.53	30 × 30 0.55	35 × 25 0.56	
150	22 × 50 0.62	25.4 × 40 0.62	30 × 30 0.61	35 × 25 0.62	
180		25.4 × 45 0.71	30 × 35 0.70	35 × 30 0.78	
220		25.4 × 50 0.82	30 × 40 0.82	35 × 30 0.80	
270			30 × 45 0.95	35 × 35 0.93	
330			30 × 50 1.09	35 × 40 1.08	
390				35 × 45 1.22	
470				35 × 50 1.39	40 × 40 1.36
560					40 × 50 1.61

● PERMISSIBLE RIPPLE CURRENT MULTIPLIERS

WV	Frequency				
	50Hz	120Hz	300Hz	1kHz	10kHz ~
~ 100	0.88	1	1.06	1.15	1.20
160 ~ 250	0.85	1	1.20	1.25	1.45
315 ~	0.88	1	1.15	1.20	1.40

← Case size ∅D × L (mm)
← Ripple current (Arms) at 105°C, 120Hz