CHANGYU

Large Can Aluminum Electrolytic Capacitors

Series

CHP

FEATURESS

1. Highly reliable capacitors that withstand under high ripple current.
2. Tow or three dimensions with same ratings.
3. Aluminum case designed explosion-proof vent.
4. Best for switching power supplies

SPECIFICATIONS

Item	Performance Characteristics
Operating Temperature Range	-40 to +105℃
Rated Working voltage Range	16 to 450V DC
Nominal Capacitance Range	56~47000(uF)
Capacitance Tolerance	±20%（120Hz，+20℃）
Leakage Current	I≤3 $\sqrt{CV}$ after 5minutes application of rated working voltage at +20℃

Dissipation Factor tan δ (120Hz+20℃)

Working voltage(V)	10~16	25	35～50	63	80	100	160~200	250	315~450
tan δ (max.)	0.50	0.40	0.35	0.30	0.25	0.20	0.15	0.15	0.25

Low Temperature characteristics

Impedance ratio max. at 120Hz

Working voltage(V)	16	25	35	50	63	80	100	160	200	250	315	400	450
Z-25℃/Z+20℃	6	6	6	4	3	3	3	8	8	8	8	8	8
Z-40℃/Z+20℃	15	15	10	8	6	6	6	8	8	8	8	8	8

Surge voltage

Working voltage(V)	10	16	25	35	40	50	63	100
Surge voltage	13	20	32	44	50	63	79	125

Working voltage(V)	160	200	250	350	400	450
Surge voltage	200	250	300	400	450	500

High temperature Loading

Test conditions
After 2000 hours application of rated voltage at +105℃the capacitor shall meet the following limits
Post test requirements at +20℃
Leakage current : ≤ Initial specified value
Capacitance change : ≤±20% of initial measured value
tan δ : ≤200% of initial specified value

Shelf life

At 105℃ no voltage applied after 1000hours the capacitors shall meet the following limite
Post test requirements at+20℃
Leakage current :≤200 of Initial specified value
Capacitance change :≤±15% of initial measured value
Tan δ :≤150% of initial specified value

Others: JIS C-5141 JIS C-5102

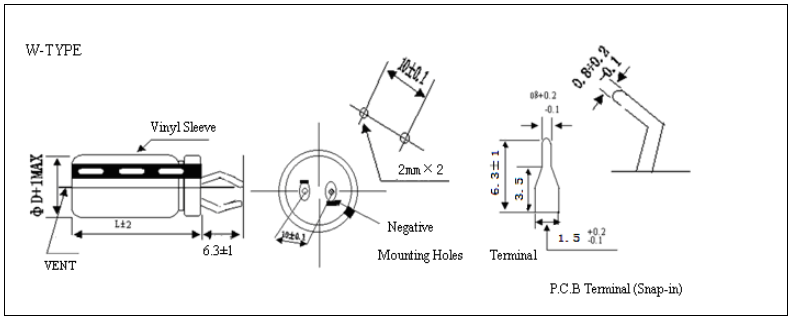
Ripple current MULTIPLIERS

1)Maximum rims ripple current at 120Hz,105℃ are given in the table

2)Temperature multiplying factor: Where capacitors are operated at temperature other than 105℃,the maximum ripple current must be multiplied by the figure shown in the table below.

Temperature coefficient

Temperature (℃)	20~45	65	75	105
Factor	1	0.91	0.73	0.36



3) Frequency multiplying factor:

If capacitor are used to filter circuits at a frequency other than120Hz, the maximum ripple current must be multiplied by the figure shown in the table below.

Frequency coefficient

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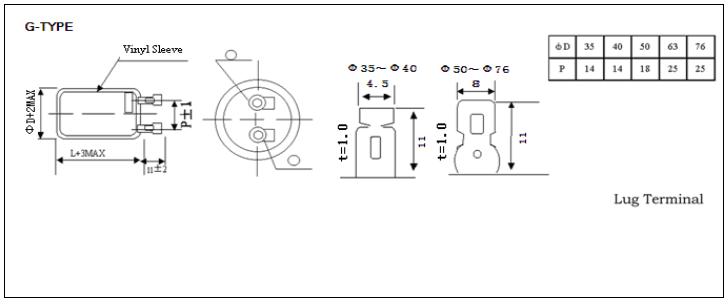
Frequency(Hz)	60	120	1k	10~50k
10~100V	0.9	1.0	1.15	1.25
160~250V	0.8	1.0	1.25	1.47
350~450V	0.8	1.0	1.30	1.47



ΦD×L(mm)

Voltage		16V(1C)				25V(1E)				35V(1V)			
Cap.(uF) Code	ΦD	22	25	30	35	22	25	30	35	22	25	30	35
3300	338									22×25			
										1.43			
4700	478					22×25				22×30			
						1.55				1.65			
5600	568					22×30				22×35	25×25		
						1.76				1.89	1.78		
6800	688	22×25				22×30	25×25			22×35	25×30	30×25	
		1.60				1.91	1.91			2.02	2.04	2.12	
8200	828	22×30				22×35	25×30	30×25		22×40	25×35		
		1.75				2.14	2.16	2.25		2.28	2.31		
10000	109	22×30	25×25			22×40	25×35			22×50	25×40	30×30	
		1.99	1.99			2.40	2.44			2.67	2.60	2.56	
12000	129	22×35	25×35	30×25		22×45	25×40	30×30			25×45	30×35	
		2.28	2.68	2.38		2.69	2.74	2.70			2.92	2.92	
15000	159	22×40	25×40	30×30			25×45	30×35	35×30		25×50	30×40	35×30
		2.64	3.04	3.00			3.15	3.13	3.22		3.26	3.28	3.20
18000	189	22×45	22×45	30×35			25×50	30×40				30×45	35×35
		2.98	3.40	3.39			3.54	3.54				3.74	3.69
22000	229		25×50	30×40				30×45	35×35				35×40
			3.81	3.83				4.24	3.96				4.16
27000	279			30×45	35×30				35×45				35×50
				4.30	3.74				4.75				4.92
33000	339			30×50	35×35				35×50				
				4.74	4.24				5.39				
39000	399				35×40								
					4.72								
47000	479				35×45							Case Size	
					5.27							Allowable ripple	

Allowable Ripple (A rms)at 105℃120Hz

ΦD×L(mm)

Voltage		50V(1H)				63V(1J)				80V(1K)			
Cap.(uF) Code	ΦD	22	25	30	35	22	25	30	35	22	25	30	35
820	827									22×25			
										1.11			
1000	109									22×30	25×25		
										1.29	1.29		
1200	128					22×25				22×30	25×25		
						1.25				1.39	1.39		
1500	158					22×30	25×25			22×35	25×30		
						1.44	1.44			1.61	1.62		
1800	188	22×30				22×30	25×25			22×40	25×35	30×25	
		1.13				1.52	1.52			1.83	1.86	1.81	
2200	228					22×35	25×30			22×45	25×35	30×30	
						1.73	1.75			2.09	2.01	2.10	
2700	278	22×30	25×25			22×40	25×35	30×25			25×45	30×35	
		1.70	1.70			1.97	1.99	1.93			2.43	2.43	
3300	338	22×35	25×30			22×50	25×40	30×30			25×50	30×40	35×30
		1.96	2.00			2.32	2.27	2.24			2.76	2.78	2.71
3900	398	22×40	25×35	30×25			25×45	30×35				30×45	35×35
		2.25	2.28	2.22			2.54	2.55				3.12	3.07
4700	478	22×45	25×40	30×30			25×50	30×40	35×30			30×50	35×40
		2.56	2.61	2.58			2.88	2.90	2.83			3.52	3.50

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5600	568	22×50	25×40	30×35				30×45	35×35				35×45
		2.89	2.81	2.95				3.28	3.24				3.87
6800	688		25×50	30×40	35×30			30×50	35×40				35×50
			3.37	3.39	3.31			3.73	3.71				4.19
8200	828			30×45	35×35				35×45				
				3.71	3.66				4.16				
10000	109			30×50	35×35				35×50				
				4.09	4.07								
12000	129				35×45				4.69			Case Size	
					4.50							Allowable ripple	

Allowable Ripple (A rms)at 105℃120Hz

DIMENSIONS

ΦD×L(mm)

Voltage / Cap.(uF) Code	ΦD	100V(2A)				160V(2C)				200V(2D)			
		22	25	30	35	22	25	30	35	22	25	30	35
270	277					22×25				22×30			
						0.90				0.90			
330	337					22×30				22×35	25×30		
						1.00				1.05	1.05		
390	397					22×30				22×40	25×30		
						1.15				1.25	1.25		
470	477					22×35	25×30			22×45	25×35	30×30	
						1.30	1.30			1.35	1.35	1.35	
560	567	22×35				22×40	25×35			22×50	25×40	30×30	
		1.07				1.45	1.45			1.50	1.50	1.50	
680	687					22×45	25×40				25×45	30×35	35×30
						1.65	1.65				1.70	1.70	1.70
820	827	22×40	25×35			22×50	25×40	30×30	35×25			30×40	35×30
		1.35	1.35			1.80	1.80	1.65	1.80			1.90	1.90
1000	108	22×45	25×35				25×50	30×35	35×30			30×50	35×35
		1.54	1.56				2.30	1.80	2.00			2.15	2.15
1200	128	22×50	25×35	30×25				30×40	35×35				35×40
		1.74	1.76	1.71				2.00	2.30				2.30
1500	158	22×50	25×40	30×30				30×45	35×40				35×50
		1.99	2.03	2.00				2.30	2.65				2.75
1800	188		25×45	30×35				30×50	35×45				
			2.28	2.27				2.65	3.05				
2200	228		25×50	30×40	35×30				35×50				
			2.57	2.28	2.52				3.50				
2700	278			30×50	35×35								
				2.57	2.90								
3300	338				35×40								
					3.31								
3900	398				35×45								
					3.69								
4700	478				35×50							Case Size	
					4.14							Allowable ripple	

Allowable Ripple (A rms)at 105℃120Hz

ΦD×L(mm)

Voltage / Cap.(uF) Code	ΦD	250V(2E)				400V(2G)				450V(2W)			
		22	25	30	35	22	25	30	35	22	25	30	35
56	566									22×30			
										0.41			
68	686					22×25				22×30	25×25		
						0.40				0.48	0.48		
82	826					22×30	25×25			22×35			
						0.50	0.50			0.56			
100	107					22×35	25×30			22×40	25×30	30×25	
						0.55	0.55			0.64	0.61	0.63	
120	127					22×40	25×30	30×25		22×45	25×35		
						0.60	0.60	0.60		0.72	0.71		
150	157	22×25				22×45	25×35	30×30		22×50	25×40	30×35	35×25
		0.65				0.70	0.70	0.70		0.83	0.81	0.80	0.82
180	187	22×30				22×50	25×40	30×30	35×25		25×45	30×35	
		0.75				0.85	0.85	0.85	0.85		0.92	0.91	
220	227	22×30	25×25				25×45	30×35	35×30			30×40	35×30
		0.85	0.85				0.90	0.90	0.90			1.05	1.03

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270	277	22×35	25×30	30×25			25×50	30×40	35×30			30×50	35×35
		1.00	1.00	1.00			1.00	1.00	1.00			1.21	1.19
330	337	22×40	25×35	30×30				30×45	35×35				35×40
		1.10	1.10	1.10				1.25	1.25				1.38
390	397	22×45	25×40	30×30				30×50	35×40				35×45
		1.25	1.25	1.25				1.35	1.35				1.55
470	477		25×45	30×35	35×30				35×45				35×50
			1.30	1.30	1.30				1.45				1.74
560	567		25×50	30×40	35×30				35×50				
			1.55	1.55	1.55				1.65				
680	687			30×45	35×35								
				1.80	1.80								
820	827				35×40								
					1.95								
1000	108				35×45							Case Size	
					2.30							Allowable ripple	

Allowable Ripple (A rms)at 105℃120Hz