



LARGE SIZED ALUMINUM ELECTROLYTIC CAPACITORS

TDA Series

• 105°C 2,000Hrs assured.

- Non-solvent proof.
- For SMPS, Inverter.
- RoHS compliant.
- Halogen-free capacitors are also available.



SPECIFICATIONS

Item	Characteristics																									
Rated Voltage Range	16 ~ 100 V _{DC}	160 ~ 500 V _{DC}																								
Operating Temperature Range	-40 ~ +105°C	-25 ~ +105°C																								
Capacitance Tolerance	±20% (M) (at 20°C, at 120Hz)																									
Leakage Current	I = 0.02CV(µA) or 3mA, whichever is smaller. Where, I: Max. leakage current(µA) C: Nominal capacitance(µF) V: Rated voltage(V _{DC}) (at 20°C, 5 minutes)																									
※ Dissipation Factor(Tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>16</th> <th>25~35</th> <th>50~63</th> <th>100</th> <th>160~400</th> <th>420~500</th> </tr> </thead> <tbody> <tr> <td>Tanδ(Max.)</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> (at 20°C, 120Hz)		Rated Voltage(V _{DC})	16	25~35	50~63	100	160~400	420~500	Tanδ(Max.)	0.40	0.35	0.25	0.20	0.15	0.20										
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Tanδ(Max.)	0.40	0.35	0.25	0.20	0.15	0.20																				
Temperature Characteristics (Max.Impedance ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>16</th> <th>25</th> <th>35</th> <th>50~63</th> <th>100</th> <th>160~400</th> <th>420~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>-</td> <td>-</td> </tr> </tbody> </table> (at 120Hz)		Rated Voltage(V _{DC})	16	25	35	50~63	100	160~400	420~500	Z(-25°C)/Z(20°C)	4	3	3	2	2	4	8	Z(-40°C)/Z(20°C)	15	10	8	6	5	-	-
Rated Voltage(V _{DC})	16	25	35	50~63	100	160~400	420~500																			
Z(-25°C)/Z(20°C)	4	3	3	2	2	4	8																			
Z(-40°C)/Z(20°C)	15	10	8	6	5	-	-																			
Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 105°C.</p> <p>Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage Current ≤ The initial specified value</p>																									
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the exposing them at 105°C for 1,000 hours without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage Current ≤ The initial specified value</p>																									
Others	Satisfied characteristics KS C IEC 60384-4																									

※ For capacitors with CV products > 100,000 Higher Tanδ value may apply.
 When the capacitors exceed 1,000µF, 0.01 shall be added every 1,000µF increase.

RATED RIPPLE CURRENT

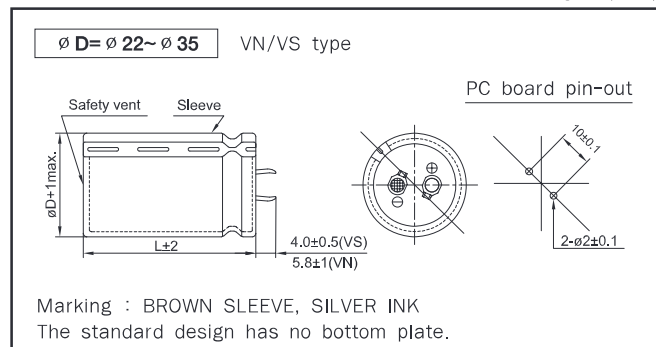
When capacitors are operated in any other condition at 120Hz, the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V _{DC} \ Freq.(Hz)	60	120	300	1k	10k~
16~50V _{DC}	0.95	1.00	1.03	1.05	1.08
63~100V _{DC}	0.92	1.00	1.07	1.13	1.19
160~250V _{DC}	0.81	1.00	1.17	1.32	1.45
315~500V _{DC}	0.77	1.00	1.16	1.30	1.41

DIMENSIONS OF TDA Series

Unit(mm)





RATINGS OF TDA Series

V _{DC} μF / ∅ D	16				25				35				
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35	
3,300										22 × 25 1.40			
3,900										22 × 30 1.57			
4,700					22 × 25 1.50					22 × 30 1.72	25.4 × 25 1.80		
5,600					22 × 25 1.63					22 × 35 1.95	25.4 × 30 1.96	30 × 25 1.99	
6,800	22 × 25 1.57				22 × 30 1.86	25.4 × 25 1.87				22 × 40 2.20	25.4 × 35 2.23	30 × 25 2.19	
8,200	22 × 30 1.73				22 × 35 2.11	25.4 × 30 2.12	30 × 25 2.15			22 × 50 2.55	25.4 × 40 2.53	30 × 30 2.53	
10,000	22 × 30 1.97	25.4 × 25 1.97			22 × 40 2.39	25.4 × 35 2.42	30 × 25 2.39				25.4 × 45 2.87	30 × 35 2.90	35 × 30 2.75
12,000	22 × 35 2.22	25.4 × 30 2.24			22 × 45 2.69	25.4 × 40 2.74	30 × 30 2.70	35 × 25 2.74			25.4 × 50 3.24	30 × 40 3.23	35 × 30 3.23
15,000	22 × 40 2.55	25.4 × 35 2.58				25.4 × 45 3.15	30 × 35 3.13	35 × 30 3.27				30 × 45 3.72	35 × 35 3.67
18,000	22 × 45 2.87	25.4 × 40 2.92	30 × 30 2.88			25.4 × 50 3.54	30 × 40 3.54	35 × 30 3.50					35 × 40 4.37
22,000		25.4 × 45 3.32	30 × 35 3.29				30 × 45 4.04	35 × 35 3.97					35 × 50 4.92
27,000		25.4 × 50 3.78	30 × 40 3.77	35 × 30 3.45				35 × 45 4.73					
33,000			30 × 45 4.30	35 × 35 4.26				35 × 50 5.39					
39,000			30 × 50 4.81	35 × 40 4.79									
47,000				35 × 50 5.43									

V _{DC} μF / ∅ D	50				63				100				
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35	
560										22 × 25 1.06			
820										22 × 30 1.32	25.4 × 25 1.33		
1,000										22 × 35 1.50	25.4 × 30 1.51		
1,200					22 × 25 1.19					22 × 40 1.69	25.4 × 35 1.71	30 × 25 1.68	
1,500					22 × 25 1.33					22 × 45 1.94	25.4 × 40 1.98	30 × 30 1.95	
1,800	22 × 25 1.33				22 × 30 1.51	25.4 × 25 1.52					25.4 × 45 2.23	30 × 35 2.26	35 × 25 2.17
2,200	22 × 30 1.50				22 × 35 1.73	25.4 × 30 1.74					25.4 × 50 2.53	30 × 40 2.57	35 × 30 2.50
2,700	22 × 30 1.69	25.4 × 25 1.70			22 × 40 1.97	25.4 × 35 1.99	30 × 25 1.91					30 × 45 2.88	35 × 35 2.86
3,300	22 × 35 1.93	25.4 × 30 1.85			22 × 50 2.29	25.4 × 40 2.27	30 × 30 2.24					30 × 50 3.28	35 × 40 3.27
3,900	22 × 40 2.16	25.4 × 35 2.18	30 × 25 2.15			25.4 × 45 2.54	30 × 35 2.56	35 × 25 2.56					35 × 45 3.67
4,700	22 × 45 2.43	25.4 × 35 2.39	30 × 30 2.35	35 × 25 2.48		25.4 × 50 2.86	30 × 40 2.86	35 × 30 2.79					35 × 50 3.80
5,600	22 × 50 2.75	25.4 × 40 2.70	30 × 35 2.76	35 × 25 2.70				30 × 45 3.22	35 × 35 3.19				
6,800		25.4 × 50 3.30	30 × 40 3.30	35 × 30 3.25				30 × 50 3.66	35 × 40 3.64				
8,200			30 × 45 3.60	35 × 35 3.56					35 × 45 3.90				
10,000			30 × 50 4.04	35 × 40 4.03					35 × 50 4.40				
12,000				35 × 45 4.56									

← Case Size ∅ D × L (mm)
 ← Rated Ripple Current (Arms/105°C, 120Hz)



LARGE SIZED ALUMINUM ELECTROLYTIC CAPACITORS

RATINGS OF TDA Series

V _{DC} μF / ∅ D	160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
100												
120										25.4 × 20		
150					22 × 20					25.4 × 20		
180					0.53					0.48		
220		25.4 × 20			22 × 20	25.4 × 20			22 × 25	25.4 × 20		
270		0.66			0.62	0.64			0.78	0.75		
330	22 × 25	25.4 × 20			22 × 25	25.4 × 20			22 × 30	25.4 × 25	30 × 20	
390	1.20	1.10			0.70	0.70			0.96	0.95	0.93	
470	22 × 30	25.4 × 20			22 × 25	25.4 × 20			22 × 30	25.4 × 25	30 × 20	
560	1.30	1.29	30 × 20		0.87	0.83			1.11	1.10	1.10	
680	1.36	1.39	1.19		22 × 30	25.4 × 25	30 × 20		22 × 35	25.4 × 30	30 × 25	35 × 20
820	22 × 30	25.4 × 25	30 × 20	35 × 20	1.20	1.21	1.20		22 × 40	25.4 × 35	30 × 25	35 × 20
1,000	1.30	1.29	1.19		1.28	1.27	1.25		1.45	1.49	1.44	1.49
1,200	22 × 30	25.4 × 25	30 × 20	35 × 20	22 × 35	25.4 × 30	30 × 25	35 × 20	22 × 45	25.4 × 35	30 × 30	35 × 25
1,500	1.36	1.39	1.31	1.35	1.41	1.41	1.50	1.30	1.53	1.50	1.57	1.57
1,800	22 × 35	25.4 × 30	30 × 25	35 × 20	22 × 45	25.4 × 35	30 × 30	35 × 25	22 × 50	25.4 × 40	30 × 30	35 × 25
2,200	1.46	1.51	1.54	1.41	1.56	1.53	1.57	1.52	1.77	1.74	1.73	1.72
2,700	22 × 40	25.4 × 30	30 × 25	35 × 20	22 × 45	25.4 × 35	30 × 30	35 × 25		25.4 × 50	30 × 35	35 × 30
3,300	1.66	1.65	1.68	1.69	1.73	1.69	1.74	1.72		1.84	1.94	1.97
4,000	22 × 45	25.4 × 30	30 × 30	35 × 25		25.4 × 45	30 × 35	35 × 30		25.4 × 60	30 × 40	35 × 35
5,000	1.99	1.95	2.00	1.91		1.99	2.00	2.04		2.20	2.10	1.98
6,000	22 × 50	25.4 × 40	30 × 30	35 × 25		25.4 × 50	30 × 40	35 × 35			30 × 50	35 × 40
7,500	2.18	2.14	2.15	2.17		2.21	2.23	2.30			2.31	2.30
9,000		25.4 × 45	30 × 35	35 × 30		25.4 × 60	30 × 45	35 × 35			30 × 60	35 × 45
11,000		2.39	2.37	2.41		2.57	2.53	2.57			2.50	2.43
13,500		25.4 × 60	30 × 40	35 × 35			30 × 50	35 × 40				35 × 50
16,500		2.87	2.74	2.79			3.01	2.99				2.80
20,000			30 × 45	35 × 35			30 × 60	35 × 45				
24,000			3.14	3.11			3.47	3.38				
29,000			30 × 60	35 × 45				35 × 60				
35,000			3.76	3.66				3.60				

V _{DC} μF / ∅ D	315				350				400			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
47									22 × 20			
68									0.22			
82	22 × 25				22 × 25				0.51	25.4 × 20		
100	0.64				0.56				0.55	0.53		
120	22 × 30				22 × 25				0.67	0.67	0.60	
150	0.68				22 × 30	25.4 × 25			22 × 35	25.4 × 30	30 × 25	35 × 20
180	0.75	25.4 × 25			0.73	0.73			0.76	0.76	0.76	0.70
220	22 × 35	25.4 × 30			22 × 35	25.4 × 30	30 × 25		22 × 40	25.4 × 30	30 × 25	35 × 20
270	0.82	0.83			0.83	0.83	0.83		0.82	0.80	0.82	0.80
330	22 × 40	25.4 × 30	30 × 25		22 × 40	25.4 × 30	30 × 25		22 × 45	25.4 × 35	30 × 30	35 × 25
390	0.91	0.88	0.85		0.89	0.89	0.91		0.88	0.88	0.89	0.90
470	22 × 45	25.4 × 35	30 × 30		22 × 45	25.4 × 35	30 × 30	35 × 25	22 × 50	25.4 × 40	30 × 30	35 × 25
560	0.94	0.96	1.00		0.98	0.98	0.98	0.96	1.01	0.99	0.98	1.02
680		25.4 × 45	30 × 35	35 × 25	22 × 50	25.4 × 40	30 × 30	35 × 25		25.4 × 45	30 × 35	35 × 30
820		1.13	1.12	1.06	1.12	1.10	1.08	1.12		1.12	1.12	1.16
1,000		25.4 × 50	30 × 40	35 × 30		25.4 × 45	30 × 40	35 × 30		25.4 × 50	30 × 40	35 × 35
1,200		1.28	1.28	1.30		1.24	1.24	1.29		1.27	1.28	1.35
1,500			30 × 45	35 × 35		25.4 × 60	30 × 40	35 × 35		25.4 × 60	30 × 45	35 × 35
1,800			1.44	1.42		1.47	1.40	1.47		1.51	1.49	1.47
2,200			30 × 50	35 × 40		25.4 × 60	30 × 45	35 × 35			30 × 50	35 × 40
2,700			1.63	1.64		1.70	1.67	1.65			1.63	1.62
3,300				35 × 45			30 × 50	35 × 40			30 × 60	35 × 50
4,000				1.87			1.87	1.86			1.88	1.88
5,000				35 × 50			30 × 60	35 × 50				35 × 60
6,000				2.07			2.18	2.18				2.19
7,500												
9,000												
11,000												
13,500												
16,500												
20,000												
24,000												
29,000												
35,000												

Case Size ∅ D × L (mm)
 Rated Ripple Current (Arms/105°C, 120Hz)



RATINGS OF TDA Series

V _{dc} μF ∅ D	420				450				500				
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35	
56					22 × 25 0.40					22 × 35 0.46	25.4 × 30 0.46	30 × 30 0.48	
68	22 × 25 0.50				22 × 30 0.50	25.4 × 25 0.50				22 × 40 0.53	25.4 × 35 0.53	30 × 30 0.55	
82	22 × 25 0.51	25.4 × 25 0.63			22 × 30 0.55	24.5 × 25 0.54				22 × 45 0.56	25.4 × 35 0.58	30 × 35 0.58	
100	22 × 30 0.58	25.4 × 30 0.69			22 × 35 0.62	25.4 × 30 0.62	30 × 25 0.64				25.4 × 40 0.65	30 × 35 0.66	
120	22 × 35 0.72	25.4 × 30 0.73	30 × 25 0.75		22 × 40 0.70	25.4 × 35 0.71	30 × 30 0.72	35 × 25 0.73			25.4 × 45 0.75	30 × 40 0.76	35 × 30 0.78
150	22 × 45 0.79	25.4 × 35 0.74	30 × 25 0.75	35 × 25 0.81	22 × 45 0.77	25.4 × 40 0.75	30 × 30 0.74	35 × 25 0.75				30 × 45 0.80	35 × 35 0.81
180	22 × 50 0.89	25.4 × 40 0.89	30 × 30 0.88	35 × 25 0.87		25.4 × 45 0.84	30 × 35 0.87	35 × 30 0.88				30 × 50 0.90	35 × 40 0.93
220		25.4 × 45 1.01	30 × 35 1.00	35 × 30 1.05		25.4 × 50 0.98	30 × 40 0.98	35 × 30 1.00				30 × 60 1.10	35 × 45 1.11
270			30 × 45 1.19	35 × 35 1.19		25.4 × 60 1.17	30 × 45 1.15	35 × 35 1.17					35 × 50 1.28
330			30 × 50 1.36	35 × 40 1.39			30 × 50 1.38	35 × 40 1.38					35 × 60 1.50
390				35 × 45 1.57			30 × 60 1.60	35 × 45 1.56					
470				35 × 50 1.73				35 × 50 1.72					
560								35 × 60 1.98	← Case Size ∅ D × L (mm) ← Rated Ripple Current (Arms/105°C, 120Hz)				