

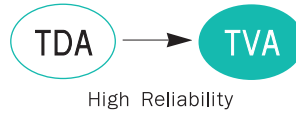


LARGE SIZED ALUMINUM ELECTROLYTIC CAPACITORS

TVA Series

• 105°C 2,000Hrs assured.

- Non-solvent proof.
- No sparks with DC overvoltage.
- For SMPS.(SET is specified Safety Standard)
- RoHS compliant.
- Halogen-free capacitors are also available.



SPECIFICATIONS

Item	Characteristics								
Rated Voltage Range	200 ~ 450 V _{DC}								
Operating Temperature Range	-25 ~ +105°C								
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)								
Leakage Current	I=0.02CV or 3mA, whichever is smaller. Where, I:Leakage Current(μA), C:Nominal capacitance(μF), V:Rated voltage(V _{DC}) (at 20°C, 5 minutes)								
※Dissipation Factor(Tanδ)	<table><tr><td>Rated voltage(V_{DC})</td><td>200~400</td><td>450</td></tr><tr><td>Tanδ(Max.)</td><td>0.15</td><td>0.20</td></tr></table> (at 20°C, 120Hz)			Rated voltage(V _{DC})	200~400	450	Tanδ(Max.)	0.15	0.20
Rated voltage(V _{DC})	200~400	450							
Tanδ(Max.)	0.15	0.20							
Temperature Characteristics (Max. Impedance ratio)	<table><tr><td>Rated voltage(V_{DC})</td><td>200~400</td><td>450</td></tr><tr><td>Z(-25°C)/Z(20°C)</td><td>4</td><td>8</td></tr></table> (at 120Hz)			Rated voltage(V _{DC})	200~400	450	Z(-25°C)/Z(20°C)	4	8
Rated voltage(V _{DC})	200~400	450							
Z(-25°C)/Z(20°C)	4	8							
DC Over Voltage Test	When an excessive DC voltage is applied to the capacitors under the test conditions on next page, the voltage shall operate and than the capacitors shall come to open-circuit without flaming materials.								
Load Life	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. Capacitance change ≤ ±20% of the initial value Tanδ ≤ ±200% of the initial specified value Leakage current ≤ The initial specified value								
Shelf Life	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. Capacitance change ≤ ±20% of the initial value Tanδ ≤ ±200% of the initial specified value Leakage current ≤ The initial specified value								
Others	Satisfied characteristics KS C IEC 60384-4								

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

RATED RIPPLE CURRENT

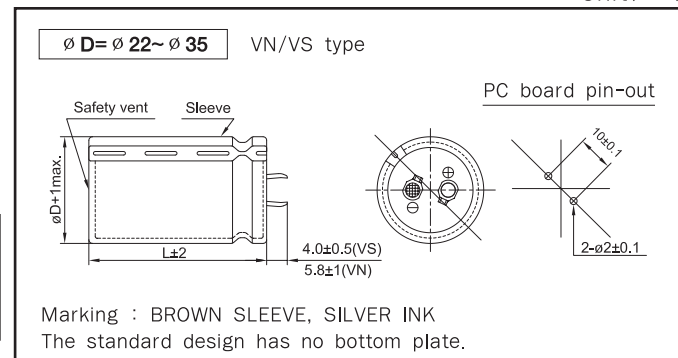
When capacitor are operated in any other condition at 120Hz, the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V _{DC} \ Freq.(Hz)	60	120	300	1k	10k~
200~250V _{DC}	0.81	1.00	1.17	1.32	1.45
350~450V _{DC}	0.77	1.00	1.16	1.30	1.41

DIMENSIONS OF TVA Series

Unit(mm)



RATINGS OF TVA Series

μF	V_{DC} $\varnothing D$		200				250			
			22	25.4	30	35	22	25.4	30	35
120							22×20 0.68			
150							22×25 0.77			
180			22×25 0.82				22×30 0.87	25.4×25 0.93		
220			22×25 0.92				22×30 1.00	25.4×25 1.02		
270			22×30 1.02				22×35 1.14	25.4×30 1.13	30×25 1.25	
330			22×35 1.20	25.4×25 1.20			22×40 1.28	25.4×30 1.29	30×25 1.38	
390			22×40 1.35	25.4×30 1.35			22×45 1.42	25.4×35 1.46	30×30 1.52	35×25 1.62
470			22×45 1.52	25.4×30 1.45	30×25 1.47			25.4×40 1.64	30×30 1.67	35×25 1.81
560			22×50 1.74	25.4×35 1.60	30×30 1.60			25.4×45 1.82	30×35 1.87	35×30 1.99
680				25.4×40 1.82	30×30 1.81	35×25 1.86		25.4×50 1.96	30×40 2.12	35×30 2.19
820				25.4×50 2.11	30×35 2.11	35×30 2.11			30×45 2.39	35×35 2.42
1,000					30×40 2.40	35×30 2.40			30×50 2.52	35×40 2.57
1,200					30×50 2.65	35×35 2.65				35×45 2.70
1,500						35×45 3.08				35×50 3.00
1,800						35×50 3.31				

μF	V_{DC} $\varnothing D$		400				450			
			22	25.4	30	35	22	25.4	30	35
56			22×25 0.45							
68			22×30 0.51				22×30 0.53			
82			22×30 0.58				22×35 0.64			
100			22×35 0.66	25.4×25 0.66			22×40 0.69	25.4×30 0.69		
120			22×40 0.76	25.4×30 0.76			22×45 0.80	25.4×35 0.80		
150			22×45 0.85	25.4×35 0.85	30×30 0.85		22×50 0.88	25.4×40 0.88	30×30 0.88	
180			22×50 0.94	25.4×40 0.95	30×30 0.95			25.4×45 1.00	30×35 1.00	
220				25.4×45 1.24	30×35 1.24	35×30 1.24		25.4×50 1.12	30×40 1.12	35×30 1.12
270				25.4×50 1.30	30×40 1.30	35×30 1.30			30×45 1.28	35×35 1.28
330					30×45 1.47	35×35 1.47			30×50 1.45	35×40 1.45
390					30×50 1.62	35×40 1.62				35×45 1.55
470						35×45 1.90				35×50 1.85
560						35×50 2.12				

← Case Size $\varnothing D \times L$ (mm)
 ← Rated Ripple Current (Arms/105°C, 120Hz)

DC OVERVOLTAGE TEST CONDITIONS

The safety vent will operate and the capacitor shall become an open circuit without burning materials when the following excess DC voltage is applied.

● Test DC voltage

Rated voltage	Nominal capacitance	Current Limit	Test voltage
200V _{DC}	< 330 μF	4A	300/375V _{DC}
	330 $\mu F \leq C < 470 \mu F$	5A	
	$\geq 470 \mu F$	7A	
250V _{DC}	< 100 μF	4A	350/450V _{DC}
	100 $\mu F \leq C < 220 \mu F$	5A	
	$\geq 220 \mu F$	7A	
400V _{DC}	< 100 μF	4A	500/600V _{DC}
	100 $\mu F \leq C < 220 \mu F$	5A	
	$\geq 220 \mu F$	7A	
450V _{DC}	< 100 μF	4A	550/675V _{DC}
	100 $\mu F \leq C < 220 \mu F$	5A	
	$\geq 220 \mu F$	7A	

● Test circuit

