

## TDC Series

• 105°C 2,000Hrs assured.

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



## SPECIFICATIONS

Item	Characteristics						
Rated Voltage Range	160 ~ 500 V <sub>DC</sub>						
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 <sub>DC</sub> ) (at 20°C, 5 minutes)						
※ Dissipation Factor(Tanδ)	<table border="1"> <tr> <td>Rated Voltage(V<sub>DC</sub>)</td> <td>160~400</td> <td>420~500</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.15</td> <td>0.20</td> </tr> </table> (at 20°C, 120Hz)	Rated Voltage(V <sub>DC</sub> )	160~400	420~500	Tanδ(Max.)	0.15	0.20
Rated Voltage(V <sub>DC</sub> )	160~400	420~500					
Tanδ(Max.)	0.15	0.20					
Temperature Characteristics (Max.Impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(V<sub>DC</sub>)</td> <td>160~400</td> <td>420~500</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>8</td> </tr> </table> (at 120Hz)	Rated Voltage(V <sub>DC</sub> )	160~400	420~500	Z(-25°C)/Z(20°C)	4	8
Rated Voltage(V <sub>DC</sub> )	160~400	420~500					
Z(-25°C)/Z(20°C)	4	8					
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 capacitance exceeds 1,000μF, 0.01 shall be added every 1,000μF increase.

## RATED RIPPLE CURRENT

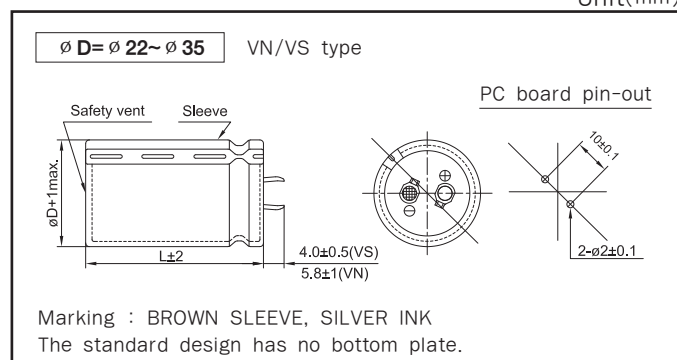
When capacitors are operated in any other condition at 120Hz, the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V <sub>DC</sub> \ Freq.(Hz)	60	120	300	1k	10k~
160~250V <sub>DC</sub>	0.81	1.00	1.17	1.32	1.45
315~500V <sub>DC</sub>	0.77	1.00	1.16	1.30	1.41

## DIMENSIONS OF TDC Series

Unit(mm)



## RATINGS OF TDC Series

$\mu F$ \ $\varnothing D$	V <sub>DC</sub> 160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
180									22 × 20 0.78			
220									22 × 25 1.00	25.4 × 20 0.95		
270					22 × 20 1.20					25.4 × 20 1.10		
330	22 × 20 1.20				22 × 25 1.28	25.4 × 20 1.27				25.4 × 25 1.20	30 × 20 1.26	35 × 20 1.30
390	22 × 25 1.32	25.4 × 20 1.39	30 × 20 1.31		22 × 25 1.31	25.4 × 20 1.43	30 × 20 1.43				30 × 25 1.44	35 × 20 1.49
470	22 × 30 1.46	25.4 × 25 1.51	30 × 20 1.54		22 × 30 1.45	25.4 × 25 1.53	30 × 20 1.53				30 × 25 1.57	35 × 20 1.57
560	22 × 30 1.66	25.4 × 25 1.68	30 × 25 1.68		22 × 40 1.67	25.4 × 30 1.67	30 × 25 1.67	35 × 20 1.67			30 × 30 1.80	35 × 25 1.72
680	22 × 35 1.87	25.4 × 30 1.88	30 × 25 1.96		22 × 45 1.75	25.4 × 35 1.75	30 × 25 1.74	35 × 20 1.72			30 × 30 1.94	35 × 30 2.10
820	22 × 40 2.09	25.4 × 30 2.14	30 × 25 2.15	35 × 25 2.04	22 × 50 2.04	25.4 × 40 2.04	30 × 30 2.04	35 × 25 2.04			30 × 35 2.29	35 × 30 2.36
1,000		25.4 × 35 2.38	30 × 30 2.40	35 × 25 2.55			30 × 35 2.30	35 × 30 2.30			30 × 45 2.59	35 × 35 2.63
1,200		25.4 × 40 2.66	30 × 35 2.69	35 × 30 2.86				35 × 30 2.65				

$\mu F$ \ $\varnothing D$	V <sub>DC</sub> 315				350				400			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
82									22 × 20 0.55			
100	22 × 25 0.75								22 × 25 0.66	25.4 × 20 0.67		
120	22 × 25 0.82				22 × 25 0.72					25.4 × 25 0.76		
150	22 × 30 0.91	25.4 × 25 0.94			22 × 30 0.84	25.4 × 25 0.89				25.4 × 25 0.86	30 × 20 0.89	
180		25.4 × 25 1.13			22 × 35 0.98	25.4 × 30 0.94				25.4 × 30 0.97	30 × 25 1.02	35 × 20 1.02
220		25.4 × 30 1.19	30 × 25 1.17		22 × 40 1.04	25.4 × 30 1.07	30 × 25 1.13			25.4 × 35 1.12	30 × 30 1.12	35 × 20 1.11
270		25.4 × 40 1.41	30 × 30 1.28	35 × 20 1.30		25.4 × 35 1.24	30 × 30 1.27			25.4 × 40 1.26	30 × 30 1.27	35 × 25 1.27
330			30 × 35 1.40	35 × 30 1.49		25.4 × 40 1.39	30 × 35 1.43	35 × 25 1.49		25.4 × 45 1.44	30 × 35 1.43	35 × 30 1.44
390			30 × 40 1.44	35 × 30 1.64		25.4 × 50 1.55	30 × 40 1.60	35 × 30 1.66		25.4 × 50 1.51	30 × 40 1.60	35 × 30 1.63
470			30 × 45 1.71	35 × 35 1.82		25.4 × 50 1.72	30 × 45 1.81	35 × 30 1.83			30 × 45 1.81	35 × 35 1.80
560				35 × 40 2.00				35 × 35 2.07	← Case Size $\varnothing D \times L$ (mm) ← Rated Ripple Current(Arms/105°C, 120Hz)			

## RATINGS OF TDC Series

$\mu F$	V <sub>DC</sub> $\phi$ D	420				450				500			
		22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
68						22 × 20 0.50				22 × 35 0.50			
82	22 × 20 0.58					22 × 25 0.59	25.4 × 25 0.62			22 × 40 0.53	25.4 × 30 0.55		
100	22 × 25 0.66	25.4 × 25 0.69					25.4 × 25 0.70			22 × 45 0.61	25.4 × 35 0.64		
120	22 × 30 0.75	25.4 × 25 0.77	30 × 20 0.75				25.4 × 30 0.75			22 × 50 0.66	25.4 × 40 0.71	30 × 30 0.73	
150	22 × 40 0.86	25.4 × 30 0.88	30 × 25 0.88				25.4 × 30 0.88	30 × 25 0.87			25.4 × 45 0.81	30 × 35 0.80	
180	22 × 45 0.96	25.4 × 35 0.97	30 × 30 1.02	35 × 20 1.05			25.4 × 35 1.01	30 × 25 1.00			25.4 × 50 0.86	30 × 40 0.93	35 × 30 0.95
220	22 × 50 1.11	25.4 × 40 1.14	30 × 30 1.14	35 × 25 1.12				30 × 35 1.10				30 × 45 0.94	35 × 35 0.98
270		25.4 × 45 1.29	30 × 40 1.30	35 × 30 1.35				30 × 40 1.24	35 × 30 1.25			30 × 50 1.07	35 × 40 1.13
330			30 × 45 1.48	35 × 35 1.49					35 × 35 1.42			30 × 60 1.28	35 × 45 1.29
390				35 × 40 1.64					35 × 40 1.63				35 × 50 1.47
470				35 × 45 1.79					35 × 45 1.78	← Case Size $\phi$ D × L (mm) ← Rated Ripple Current (Arms/105°C, 120Hz)			35 × 60 1.71