

## TLC(LXG) Series

• 105°C 5,000Hrs assured.

- Non-solvent proof.
- Long Life.
- For SMPS, Inverter.
- RoHS compliant.
- Halogen-free capacitors are also available.
- AEC-Q200 compliant : Please contact us for more details, test data, information.



## SPECIFICATIONS

Item	Characteristics																									
Rated Voltage Range	10 ~ 100 V <sub>dc</sub>	200 ~ 500 V <sub>dc</sub>																								
Operating Temperature Range	-40 ~ +105°C	-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>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63~400</td> <td>420~500</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.60</td> <td>0.45</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </table> <p>(at 20°C, 120Hz)</p>		Rated Voltage(V <sub>dc</sub> )	10	16	25	35	50	63~400	420~500	Tanδ(Max.)	0.60	0.45	0.30	0.25	0.20	0.15	0.20								
Rated Voltage(V <sub>dc</sub> )	10	16	25	35	50	63~400	420~500																			
Tanδ(Max.)	0.60	0.45	0.30	0.25	0.20	0.15	0.20																			
Temperature Characteristics (Max.Impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(V<sub>dc</sub>)</td> <td>10~16</td> <td>25</td> <td>35</td> <td>50~63</td> <td>80~100</td> <td>200~400</td> <td>420~500</td> </tr> <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> </table> <p>(at 120Hz)</p>		Rated Voltage(V <sub>dc</sub> )	10~16	25	35	50~63	80~100	200~400	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 <sub>dc</sub> )	10~16	25	35	50~63	80~100	200~400	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 with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 5,000 hours at 105°C.</p> <p>Capacitance change ≤ ±25% of the initial value Tanδ ≤ 250% 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 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 ≤ 150% 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

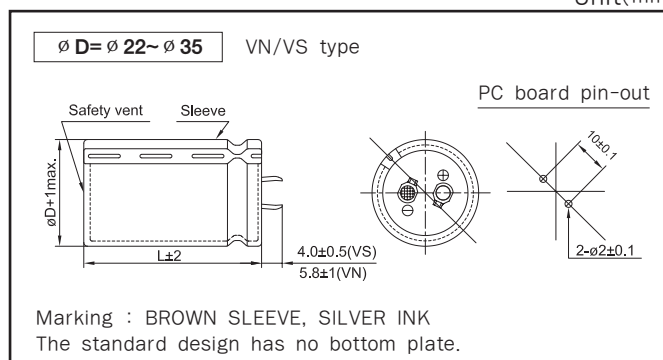
When capacitors are operated in any other conditions at 120Hz the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V <sub>dc</sub>	Freq.(Hz)	60	120	300	1k	10k~
10~50V <sub>dc</sub>		0.95	1.00	1.03	1.05	1.08
63~100V <sub>dc</sub>		0.92	1.00	1.07	1.13	1.19
200~250V <sub>dc</sub>		0.81	1.00	1.17	1.32	1.45
350~500V <sub>dc</sub>		0.77	1.00	1.16	1.30	1.41

## DIMENSIONS OF TLC(LXG) Series

Unit(mm)



## RATINGS OF TLC(LXG) Series

V <sub>DC</sub> μF / ∅ D	10				16				25			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
3,900									22 × 25 1.31			
4,700									22 × 30 1.51	25.4 × 25 1.51		
5,600					22 × 25 1.44				22 × 35 1.70	25.4 × 30 1.69		
6,800	22 × 25 1.30				22 × 30 1.66	25.4 × 25 1.66			22 × 40 1.92	25.4 × 30 1.87	30 × 25 1.90	
8,200	22 × 30 1.49				22 × 35 1.87	25.4 × 30 1.87			22 × 45 2.05	25.4 × 35 2.14	30 × 30 2.15	35 × 25 2.19
10,000	22 × 30 1.65	25.4 × 25 1.64			22 × 40 2.12	25.4 × 30 2.07	30 × 25 2.11		22 × 50 2.45	25.4 × 40 2.43	30 × 30 2.31	35 × 25 2.35
12,000	22 × 35 1.85	25.4 × 30 1.85	30 × 25 1.89		22 × 45 2.32	25.4 × 35 2.37	30 × 30 2.37	35 × 25 2.42		25.4 × 50 2.78	30 × 35 2.70	35 × 30 2.76
15,000	22 × 40 2.12	25.4 × 35 2.16	30 × 25 2.06		22 × 50 2.74	25.4 × 40 2.71	30 × 30 2.58	35 × 25 2.63			30 × 40 3.13	35 × 35 3.16
18,000	22 × 50 2.45	25.4 × 40 2.43	30 × 30 2.37	35 × 25 2.42		25.4 × 50 3.11	30 × 35 3.02	35 × 30 3.09			30 × 50 3.64	35 × 40 3.61
22,000		25.4 × 45 2.62	30 × 35 2.73	35 × 30 2.79			30 × 40 3.46	35 × 35 3.49				35 × 45 4.00
27,000		25.4 × 50 3.11	30 × 40 3.13	35 × 30 3.00			30 × 50 4.07	35 × 40 4.04				35 × 50 4.70
33,000			30 × 45 3.34	35 × 35 3.49				35 × 45 4.29				
39,000			30 × 50 3.99	35 × 40 3.96				35 × 50 5.16				
47,000				35 × 50 4.62								

V <sub>DC</sub> μF / ∅ D	35				50				63			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
1,000									22 × 25 1.00			
1,200									22 × 30 1.15	25.4 × 25 1.15		
1,500					22 × 25 1.02				22 × 35 1.32	25.4 × 25 1.28		
1,800					22 × 30 1.17	25.4 × 25 1.17			22 × 40 1.49	25.4 × 30 1.45	30 × 25 1.48	
2,200	22 × 25 1.10				22 × 35 1.33	25.4 × 30 1.32			22 × 45 1.63	25.4 × 35 1.67	30 × 30 1.68	35 × 25 1.71
2,700	22 × 25 1.21				22 × 40 1.51	25.4 × 30 1.47	30 × 25 1.50		22 × 50 1.92	25.4 × 40 1.90	30 × 35 1.93	35 × 25 1.83
3,300	22 × 30 1.42	25.4 × 25 1.41			22 × 45 1.68	25.4 × 35 1.70	30 × 30 1.70	35 × 25 1.74		25.4 × 50 2.20	30 × 35 2.07	35 × 30 2.18
3,900	22 × 35 1.58	25.4 × 30 1.58			22 × 50 1.91	25.4 × 40 1.89	30 × 30 1.84	35 × 25 1.89			30 × 40 2.41	35 × 35 2.43
4,700	22 × 40 1.78	25.4 × 30 1.70	30 × 25 1.77			25.4 × 45 2.05	30 × 35 2.11	35 × 30 2.16			30 × 50 2.80	35 × 40 2.78
5,600	22 × 45 1.96	25.4 × 35 1.98	30 × 30 1.98	35 × 25 2.03		25.4 × 50 2.38	30 × 40 2.39	35 × 35 2.41				35 × 45 3.04
6,800	22 × 50 2.26	25.4 × 40 2.24	30 × 30 2.14	35 × 25 2.20			30 × 50 2.79	35 × 40 2.78				35 × 50 3.55
8,200		25.4 × 50 2.57	30 × 35 2.50	35 × 30 2.55				35 × 45 3.06				
10,000			30 × 40 2.86	35 × 35 2.88				35 × 50 3.57				
12,000			30 × 50 3.32	35 × 40 3.30								
18,000				35 × 50 4.29	← Case Size ∅ D × L (mm) ← Rated Ripple Current (Arms/105°C, 120Hz)							



RATINGS OF TLC(LXG) Series

μF	Vdc ∅ D	80				100				200			
		22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
180										22 × 25 0.79			
270										22 × 30 1.01	25.4 × 25 1.01		
330										22 × 35 1.15	25.4 × 30 1.15	30 × 25 1.18	
390					22 × 25 0.78					22 × 40 1.28	25.4 × 30 1.25	30 × 25 1.28	
470					22 × 25 0.85					22 × 50 1.46	25.4 × 35 1.44	30 × 30 1.44	35 × 25 1.53
560					22 × 30 0.99	25.4 × 25 0.98					25.4 × 40 1.60	30 × 35 1.63	35 × 25 1.66
680	22 × 25 0.97				22 × 35 1.12	25.4 × 25 1.08					25.4 × 50 1.85	30 × 40 1.86	35 × 30 1.84
820	22 × 30 1.12				22 × 40 1.26	25.4 × 30 1.23	30 × 25 1.25					30 × 45 2.04	35 × 35 2.06
1,000	22 × 35 1.27	25.4 × 25 1.23			22 × 45 1.39	25.4 × 35 1.41	30 × 30 1.42	35 × 25 1.45				30 × 50 2.39	35 × 40 2.38
1,200	22 × 40 1.42	25.4 × 30 1.39	30 × 25 1.41		22 × 50 1.60	25.4 × 40 1.59	30 × 35 1.61	35 × 25 1.58					35 × 50 2.76
1,500	22 × 45 1.60	25.4 × 35 1.62	30 × 25 1.57			25.4 × 50 1.86	30 × 40 1.87	35 × 30 1.85					
1,800	22 × 50 1.84	25.4 × 40 1.82	30 × 30 1.78	35 × 25 1.82			30 × 45 2.07	35 × 35 2.07					
2,200		25.4 × 50 2.11	30 × 35 2.05	35 × 30 2.09			30 × 50 2.40	35 × 40 2.39					
2,700			30 × 40 2.35	35 × 35 2.37				35 × 50 2.81					
3,300			30 × 50 2.75	35 × 40 2.73									
4,700				35 × 50 3.46									

μF	Vdc ∅ D	250				350				400			
		22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
56										22 × 25 0.47			
68					22 × 25 0.49					22 × 30 0.57	25.4 × 25 0.53		
82					22 × 30 0.61					22 × 35 0.65	25.4 × 25 0.58		
100					22 × 35 0.65	25.4 × 25 0.64				22 × 35 0.71	25.4 × 30 0.71	30 × 25 0.71	
120					22 × 40 0.70	25.4 × 30 0.69	30 × 25 0.70			22 × 40 0.81	25.4 × 35 0.81	30 × 25 0.80	35 × 25 0.82
150	22 × 25 0.71				22 × 45 0.79	25.4 × 35 0.75	30 × 25 0.78	35 × 25 0.86		22 × 50 0.92	25.4 × 40 0.90	30 × 30 0.92	35 × 25 0.93
180	22 × 30 0.83	25.4 × 25 0.83			22 × 50 0.91	25.4 × 40 0.90	30 × 30 0.89	35 × 25 0.94			25.4 × 45 1.03	30 × 35 1.03	35 × 30 1.05
220	22 × 35 0.94	25.4 × 25 0.91				25.4 × 50 1.16	30 × 35 1.03	35 × 30 1.04			25.4 × 50 1.16	30 × 40 1.18	35 × 35 1.26
270	22 × 40 1.06	25.4 × 30 1.04	30 × 25 1.06				30 × 40 1.18	35 × 35 1.30				30 × 50 1.35	35 × 40 1.33
330	22 × 45 1.15	25.4 × 35 1.20	30 × 30 1.20	35 × 25 1.28			30 × 50 1.49	35 × 40 1.49					35 × 45 1.50
390	22 × 50 1.35	25.4 × 40 1.34	30 × 30 1.30	35 × 25 1.38				35 × 45 1.54					35 × 50 1.70
470		25.4 × 50 1.53	30 × 35 1.49	35 × 30 1.53				35 × 50 1.73					
560			30 × 40 1.69	35 × 35 1.70									
680			30 × 50 1.98	35 × 40 1.96									
1,000				35 × 50 2.53	← Case Size ∅D×L (mm) ← Rated Ripple Current (Arms/105°C, 120Hz)								

## RATINGS OF TLC(LXG) Series

V <sub>DC</sub> μF ∅ D	420				450				500				
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35	
47					22 × 25 0.47					22 × 35 0.37			
56					22 × 30 0.53					22 × 35 0.44	25.4 × 30 0.41	30 × 30 0.45	
68	22 × 30 0.58				22 × 35 0.59	25.4 × 30 0.59				22 × 40 0.52	25.4 × 35 0.54	30 × 30 0.51	
82	22 × 30 0.65	25.4 × 30 0.66			22 × 35 0.66	25.4 × 30 0.66				22 × 45 0.62	25.4 × 35 0.62	30 × 35 0.58	
100	22 × 35 0.73	25.4 × 30 0.73			22 × 40 0.75	25.4 × 35 0.73	30 × 30 0.74				25.4 × 40 0.63	30 × 35 0.64	
120	22 × 40 0.83	25.4 × 35 0.83	30 × 30 0.83		22 × 45 0.84	25.4 × 35 0.83	30 × 30 0.83	35 × 30 0.84			25.4 × 45 0.71	30 × 40 0.71	35 × 30 0.72
150	22 × 45 0.95	25.4 × 40 0.95	30 × 30 0.95		22 × 50 0.95	25.4 × 40 0.95	30 × 35 0.95	35 × 30 0.96				30 × 45 0.76	35 × 30 0.80
180	22 × 50 1.07	25.4 × 40 1.07	30 × 35 1.07	35 × 30 1.08		25.4 × 45 1.07	30 × 35 1.07	35 × 30 1.08				30 × 50 0.89	35 × 40 0.90
220		25.4 × 50 1.21	30 × 40 1.21	35 × 30 1.22		25.4 × 50 1.21	30 × 40 1.21	35 × 35 1.22				30 × 60 1.05	35 × 45 1.01
270			30 × 45 1.38	35 × 35 1.41			30 × 45 1.38	35 × 40 1.41					35 × 50 1.44
330			30 × 50 1.60	35 × 40 1.60			30 × 50 1.60	35 × 45 1.61					35 × 60 1.55
390				35 × 45 1.80				35 × 50 1.80					
470				35 × 50 1.92									

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

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