

NXL(LXV) Series

• 105°C 2,000~5,000Hrs assured.

Solvent-proof

- Low Impedance.
- For SMPS, IP-Board, Adaptor.
- RoHS compliant.
- Halogen-free capacitors are also available.



SPECIFICATIONS

Item	Characteristics																		
Rated Voltage Range	6.3 ~ 100 V _{DC}																		
Operating Temperature Range	-55 ~ +105℃																		
Capacitance Tolerance	±20%(M) (at 20℃, 120Hz)																		
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I: Max.Leakage current(μA) C: Nominal capacitance (μF) V: Rated voltage (V _{DC}) (at 20℃, 2 minutes)																		
Dissipation Factor (Tanδ)	<table border="1"><tr><td>Rated Voltage(V_{DC})</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Tanδ(Max.)</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.08</td><td>0.07</td></tr></table> When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase. (at 20℃, 120Hz)	Rated Voltage(V _{DC})	6.3	10	16	25	35	50	63	100	Tanδ(Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.07
Rated Voltage(V _{DC})	6.3	10	16	25	35	50	63	100											
Tanδ(Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.07											
Temperature Characteristics (Max. Impedance ratio)	<table border="1"><tr><td>Rated voltage(V_{DC})</td><td>6.3</td><td>10~100</td></tr><tr><td>Capacitance change(Max.) : ΔC(-55℃)/C(20℃)</td><td colspan="2">30%</td></tr><tr><td>Impedance ratio(Max.) : Z(-55℃)/Z(20℃)</td><td>4</td><td>3</td></tr></table> (at 120Hz)	Rated voltage(V _{DC})	6.3	10~100	Capacitance change(Max.) : ΔC(-55℃)/C(20℃)	30%		Impedance ratio(Max.) : Z(-55℃)/Z(20℃)	4	3									
Rated voltage(V _{DC})	6.3	10~100																	
Capacitance change(Max.) : ΔC(-55℃)/C(20℃)	30%																		
Impedance ratio(Max.) : Z(-55℃)/Z(20℃)	4	3																	
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) at 105℃ for the specified period of time. <table><tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td><td>∅ D</td><td>Life Time</td></tr><tr><td>Tanδ</td><td>≤ 200% of the initial specified value</td><td>∅ 6.3</td><td>2,000 hours</td></tr><tr><td>Leakage current</td><td>≤ The initial specified value</td><td>∅ 8, 10</td><td>3,000 hours</td></tr><tr><td></td><td></td><td>∅ 12.5~</td><td>5,000 hours</td></tr></table>	Capacitance change	≤ ±20% of the initial value	∅ D	Life Time	Tanδ	≤ 200% of the initial specified value	∅ 6.3	2,000 hours	Leakage current	≤ The initial specified value	∅ 8, 10	3,000 hours			∅ 12.5~	5,000 hours		
Capacitance change	≤ ±20% of the initial value	∅ D	Life Time																
Tanδ	≤ 200% of the initial specified value	∅ 6.3	2,000 hours																
Leakage current	≤ The initial specified value	∅ 8, 10	3,000 hours																
		∅ 12.5~	5,000 hours																
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ 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. <table><tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr><tr><td>Tanδ</td><td>≤ 200% of the initial specified value</td></tr><tr><td>Leakage current</td><td>≤ The initial specified value</td></tr></table>	Capacitance change	≤ ±20% of the initial value	Tanδ	≤ 200% of the initial specified value	Leakage current	≤ The initial specified value												
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																		

DIMENSIONS OF NXL(LXV) Series

Unit(mm)

CHREX

Technical drawing of a capacitor showing side and end views with dimensions.

Side View Dimensions:

- Safety vent($\geq \phi 6.3$)
- Sleeve
- $\phi D'$
- L'
- 15min.
- 4min.
- $\phi d \pm 0.05$

End View Dimensions:

- $\leq \phi 10$
- $F \pm 0.5$
- $\geq \phi 12.5$
- $F \pm 0.5$

Marking : DARK BROWN SLEEVE, SILVER INK

ϕD	6.3	8	10	12.5	16	18
ϕd	0.5	0.6	0.6	0.6	0.8	0.8
F	2.5	3.5	5.0	5.0	7.5	7.5
$\phi D'$	$\phi D + 0.5 \text{ max.}$					
L'	$L + 1.5 \text{ max.}$		$L + 2.0 \text{ max.}$			

※ $\phi 10 \times 12L$, $L' \leq L + 1.5$

RATINGS OF NXL(LXV) Series

$\frac{V_{dc}}{\mu F}$	6.3				$\frac{V_{dc}}{\mu F}$	10				$\frac{V_{dc}}{\mu F}$	16			
	$\varnothing D \times L(mm)$	IMP.		Ripple		$\varnothing D \times L(mm)$	IMP.		Ripple		$\varnothing D \times L(mm)$	IMP.		Ripple
		20°C	-10°C				20°C	-10°C				20°C	-10°C	
330	6.3 × 15	0.27	0.68	330					180	6.3 × 15	0.27	0.68	330	
470	10 × 12	0.12	0.30	625					270	10 × 12	0.12	0.30	625	
470	10 × 12.5	0.12	0.30	625	270	6.3 × 15	0.27	0.68	330	270	10 × 12.5	0.12	0.30	625
560	8 × 15	0.16	0.40	495	470	8 × 15	0.16	0.40	495	330	8 × 15	0.16	0.40	495
680	10 × 16	0.084	0.21	825	680	8 × 20	0.11	0.28	640	470	8 × 20	0.11	0.28	640
820	8 × 20	0.110	0.28	640	680	10 × 16	0.084	0.21	825	470	10 × 16	0.084	0.21	825
1,200	10 × 20	0.062	0.16	1,040	1,000	10 × 20	0.062	0.16	1,040	680	10 × 20	0.062	0.16	1,040
1,500	10 × 25	0.052	0.13	1,260	1,200	10 × 25	0.052	0.13	1,260	820	10 × 25	0.052	0.13	1,260
2,200	10 × 30	0.044	0.11	1,440	1,500	10 × 30	0.044	0.11	1,440	1,200	10 × 30	0.044	0.11	1,440
2,200	12.5 × 20	0.046	0.12	1,340	1,800	12.5 × 20	0.046	0.12	1,340	1,200	12.5 × 20	0.046	0.12	1,340
2,700	12.5 × 25	0.034	0.085	1,690	2,200	12.5 × 25	0.034	0.085	1,690	1,500	12.5 × 25	0.034	0.085	1,690
3,900	12.5 × 30	0.030	0.075	1,950	2,700	12.5 × 30	0.030	0.075	1,950	2,200	12.5 × 30	0.030	0.075	1,950
3,900	16 × 20	0.039	0.098	1,630	3,300	12.5 × 35	0.027	0.068	2,200	2,200	16 × 20	0.039	0.098	1,630
4,700	12.5 × 35	0.027	0.068	2,200	3,300	16 × 20	0.039	0.098	1,630	2,700	12.5 × 35	0.027	0.068	2,200
5,600	12.5 × 42.5	0.024	0.060	2,390	3,900	12.5 × 42.5	0.024	0.060	2,390	2,700	16 × 25	0.029	0.072	2,070
5,600	16 × 25	0.029	0.072	2,070	3,900	16 × 25	0.029	0.072	2,070	3,300	12.5 × 42.5	0.024	0.060	2,390
5,600	18 × 20	0.038	0.095	1,750	3,900	18 × 20	0.038	0.095	1,750	3,300	18 × 20	0.038	0.095	1,750
6,800	16 × 31.5	0.026	0.066	2,350	5,600	16 × 31.5	0.026	0.066	2,350	3,900	16 × 31.5	0.026	0.066	2,350
6,800	18 × 25	0.029	0.073	2,130	5,600	18 × 25	0.029	0.073	2,130	3,900	18 × 25	0.029	0.073	2,130
8,200	16 × 35.5	0.023	0.058	2,550	6,800	16 × 35.5	0.023	0.058	2,550	4,700	16 × 35.5	0.023	0.058	2,550
10,000	18 × 31.5	0.026	0.065	2,410	6,800	18 × 31.5	0.026	0.065	2,410	5,600	18 × 31.5	0.026	0.065	2,410
12,000	18 × 35.5	0.023	0.058	2,660	8,200	18 × 35.5	0.023	0.058	2,660	6,800	18 × 35.5	0.023	0.058	2,660
15,000	18 × 40	0.019	0.048	3,010	10,000	18 × 40	0.019	0.048	3,010	8,200	18 × 40	0.019	0.048	3,010

$\frac{V_{DC}}{\mu F}$	25				V_{OC}	μF	35				V_{OC}	μF	50			
	$\varnothing D \times L (mm)$	IMP.		Ripple			$\varnothing D \times L (mm)$	IMP.		Ripple			$\varnothing D \times L (mm)$	IMP.		Ripple
		20°C	-10°C					20°C	-10°C					20°C	-10°C	
120	6.3 × 15	0.27	0.68	330	82	6.3 × 15	0.27	0.68	330	56	6.3 × 15	0.41	1.2	310		
180	10 × 12	0.12	0.30	625	120	10 × 12	0.12	0.30	625	82	8 × 15	0.25	0.75	470		
180	10 × 12.5	0.12	0.30	625	120	10 × 12.5	0.12	0.30	625	82	10 × 12	0.16	0.40	480		
220	8 × 15	0.16	0.40	495	180	8 × 15	0.16	0.40	495	82	10 × 12.5	0.16	0.40	480		
330	8 × 20	0.11	0.28	640	220	8 × 20	0.11	0.28	640	120	8 × 20	0.18	0.52	610		
330	10 × 16	0.084	0.21	825	220	10 × 16	0.084	0.21	825	120	10 × 16	0.12	0.30	755		
470	10 × 20	0.062	0.16	1,150	330	10 × 20	0.062	0.16	1,040	180	10 × 20	0.088	0.22	945		
560	10 × 25	0.052	0.13	1,260	390	10 × 25	0.052	0.13	1,260	220	10 × 25	0.068	0.17	1,150		
820	10 × 30	0.044	0.11	1,440	560	10 × 30	0.044	0.11	1,440	330	10 × 30	0.059	0.15	1,260		
820	12.5 × 20	0.046	0.12	1,340	560	12.5 × 20	0.046	0.12	1,340	330	12.5 × 20	0.059	0.15	1,190		
1,000	12.5 × 25	0.034	0.085	1,690	680	12.5 × 25	0.034	0.085	1,690	470	12.5 × 25	0.045	0.11	1,490		
1,500	12.5 × 30	0.030	0.075	1,950	1,000	12.5 × 25	0.040	0.10	1,690	560	12.5 × 30	0.039	0.098	1,720		
1,500	16 × 20	0.039	0.098	1,630	1,000	12.5 × 30	0.030	0.075	1,950	680	12.5 × 35	0.038	0.096	1,890		
1,800	12.5 × 35	0.027	0.068	2,200	1,200	12.5 × 35	0.027	0.068	2,200	680	16 × 20	0.044	0.12	1,420		
1,800	16 × 25	0.029	0.073	2,070	1,200	16 × 25	0.029	0.073	2,070	820	12.5 × 42.5	0.029	0.073	2,030		
2,200	12.5 × 42.5	0.024	0.060	2,390	1,500	12.5 × 42.5	0.024	0.060	2,390	820	16 × 25	0.034	0.085	1,880		
2,200	18 × 20	0.038	0.095	1,750	1,500	18 × 20	0.038	0.095	1,750	820	18 × 20	0.041	0.103	1,520		
2,700	16 × 31.5	0.026	0.066	2,350	1,800	16 × 31.5	0.026	0.066	2,350	1,000	16 × 31.5	0.030	0.076	1,250		
2,700	18 × 25	0.029	0.073	2,130	1,800	18 × 25	0.029	0.073	2,130	1,000	18 × 25	0.032	0.080	1,930		
3,300	16 × 35.5	0.023	0.058	2,550	2,200	16 × 35.5	0.023	0.058	2,550	1,200	16 × 35.5	0.026	0.065	2,320		
3,300	18 × 31.5	0.026	0.065	2,410	2,200	18 × 31.5	0.026	0.065	2,410	1,500	18 × 31.5	0.028	0.070	2,200		
3,900	18 × 35.5	0.023	0.058	2,660	2,700	18 × 35.5	0.023	0.058	2,660	1,800	18 × 35.5	0.025	0.063	2,400		
4,700	18 × 40	0.019	0.048	3,010	3,300	18 × 40	0.019	0.048	3,010	2,200	18 × 40	0.022	0.055	2,610		



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

RATINGS OF NXL(LXV) Series

V_{DC} μF	63				V_{DC} μF	100			
	$\phi D \times L(mm)$	IMP.		Ripple		$\phi D \times L(mm)$	IMP.		Ripple
		20°C	-10°C				20°C	-10°C	
					33	10 × 12	0.41	1.1	384
47	10 × 12	0.58	1.7	327	33	10 × 12.5	0.41	1.1	384
47	10 × 12.5	0.58	1.7	327	47	10 × 16	0.37	1.0	400
68	10 × 16	0.36	0.88	431	68	10 × 20	0.27	0.73	470
100	10 × 20	0.29	0.73	570	100	12.5 × 20	0.27	0.74	670
150	10 × 25	0.20	0.51	765	150	12.5 × 25	0.21	0.57	894
220	12.5 × 20	0.16	0.41	994	220	16 × 25	0.17	0.46	1,201
330	12.5 × 25	0.10	0.26	1,327	330	16 × 31.5	0.11	0.30	1,471
470	16 × 31.5	0.091	0.24	1,518	470	16 × 35.5	0.091	0.25	1,681
680	16 × 35.5	0.065	0.19	2,060	680	18 × 40	0.072	0.19	2,122
1,000	16 × 35.5	0.049	0.14	2,250	1,000	18 × 40	0.051	0.14	2,897

Rated Ripple Current(mArms/105°C, 100kHz)

Impedance(Ω max./100kHz)

Case Size $\phi D \times L(mm)$

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Rated Voltage (V_{dc})	$\varnothing D$ (mm)	Freq.(Hz)				
		120	1k	10k	50k	100k
6.3~10	$\varnothing 6.3 \sim \varnothing 8$	0.65	0.83	0.95	0.97	1.00
	$\varnothing 10 \sim \varnothing 12.5$	0.70	0.85	0.96	0.98	1.00
	$\varnothing 16 \sim \varnothing 18$	0.85	0.92	0.97	0.99	1.00
16~25	$\varnothing 6.3 \sim \varnothing 8$	0.55	0.76	0.91	0.95	1.00
	$\varnothing 10 \sim \varnothing 12.5$	0.65	0.83	0.93	0.96	1.00
	$\varnothing 16 \sim \varnothing 18$	0.70	0.87	0.96	0.98	1.00
35~50	$\varnothing 6.3 \sim \varnothing 8$	0.40	0.66	0.85	0.90	1.00
	$\varnothing 10 \sim \varnothing 12.5$	0.50	0.73	0.89	0.94	1.00
	$\varnothing 16 \sim \varnothing 18$	0.60	0.81	0.94	0.97	1.00
63~100	$\varnothing 6.3 \sim \varnothing 8$	0.20	0.55	0.80	0.88	1.00
	$\varnothing 10 \sim \varnothing 12.5$	0.35	0.65	0.85	0.92	1.00
	$\varnothing 16 \sim \varnothing 18$	0.50	0.75	0.90	0.95	1.00