

NXL(LXV) Series

• 105°C 2,000~5,000Hrs assured.

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

Solvent-proof



Low Imp. Long life



SPECIFICATIONS

Item	Characteristics																		
Rated Voltage Range	6.3 ~ 100 V _{DC}																		
Operating Temperature Range	-55 ~ +105°C																		
Capacitance Tolerance	±20%(M) (at 20°C, 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°C, 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> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase. (at 20°C, 120Hz)</p>	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)/C(20°C)</td> <td colspan="2">30%</td> </tr> <tr> <td>Impedance ratio(Max.) : Z(-55°C)/Z(20°C)</td> <td>4</td> <td>3</td> </tr> </table> <p>(at 120Hz)</p>	Rated voltage(V _{DC})	6.3	10~100	Capacitance change(Max.) : ΔC(-55°C)/C(20°C)	30%		Impedance ratio(Max.) : Z(-55°C)/Z(20°C)	4	3									
Rated voltage(V _{DC})	6.3	10~100																	
Capacitance change(Max.) : ΔC(-55°C)/C(20°C)	30%																		
Impedance ratio(Max.) : Z(-55°C)/Z(20°C)	4	3																	
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) at 105°C for the specified period of time.</p> <table border="1"> <thead> <tr> <th>∅D</th> <th>Life Time</th> </tr> </thead> <tbody> <tr> <td>∅5, 6.3</td> <td>2,000 hours</td> </tr> <tr> <td>∅8, 10</td> <td>3,000 hours</td> </tr> <tr> <td>∅12.5~</td> <td>5,000 hours</td> </tr> </tbody> </table> <p>Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ The initial specified value</p>	∅D	Life Time	∅5, 6.3	2,000 hours	∅8, 10	3,000 hours	∅12.5~	5,000 hours										
∅D	Life Time																		
∅5, 6.3	2,000 hours																		
∅8, 10	3,000 hours																		
∅12.5~	5,000 hours																		
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C 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																		

DIMENSIONS OF NXL(LXV) Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

∅D	5	6.3	8	10	12.5	16	18
∅d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
∅D'	∅D + 0.5 max.						
L'	L + 1.5 max.			L + 2.0 max.			

* ∅10 x 12L, L' = L + 1.5

RATINGS OF NXL(LXV) Series

V _{dc} μF	6.3				V _{dc} μF	10				V _{dc} μF	16			
	∅ D × L (mm)	IMP.		Ripple		∅ D × L (mm)	IMP.		Ripple		∅ D × L (mm)	IMP.		Ripple
		20°C	-10°C				20°C	-10°C				20°C	-10°C	
120	5 × 11	0.72	1.8	165	82	5 × 11	0.72	1.8	165	56	5 × 11	0.72	1.8	165
220	6.3 × 11	0.38	0.95	255	180	6.3 × 11	0.38	0.95	255	120	6.3 × 11	0.38	0.95	255
330	6.3 × 15	0.27	0.68	330	270	6.3 × 15	0.27	0.68	330	180	6.3 × 15	0.27	0.68	330
330	8 × 11.5	0.19	0.48	485	270	8 × 11.5	0.19	0.48	485	180	8 × 11.5	0.19	0.48	485
470	10 × 12	0.12	0.30	625	470	8 × 11.5	0.27	0.68	330	270	10 × 12	0.12	0.30	625
470	10 × 12.5	0.12	0.30	625						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

V _{dc} μF	25				V _{dc} μF	35				V _{dc} μF	50			
	∅ D × L (mm)	IMP.		Ripple		∅ D × L (mm)	IMP.		Ripple		∅ D × L (mm)	IMP.		Ripple
		20°C	-10°C				20°C	-10°C				20°C	-10°C	
										4.7	5 × 11	3.0	9.0	100
										10	5 × 11	1.40	4.2	124
39	5 × 11	0.72	1.8	165	27	5 × 11	0.72	1.8	165	18	5 × 11	1.10	3.3	130
47	5 × 11	0.72	1.8	194	47	6.3 × 11	0.50	1.25	233	22	6.3 × 11	0.91	2.6	180
82	6.3 × 11	0.38	0.95	255	56	6.3 × 11	0.38	0.95	255	39	6.3 × 11	0.56	1.6	220
100	6.3 × 11	0.35	0.88	280	68	6.3 × 11	0.38	0.95	255	47	6.3 × 11	0.56	1.6	300
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
120	8 × 11.5	0.19	0.48	485	82	8 × 11.5	0.19	0.48	485	56	8 × 11.5	0.33	0.96	368
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	2,160

RATINGS OF NXL(LXV) Series

V _{dc} μF	63				V _{dc} μF	100			
	∅ D × L (mm)	IMP.		Ripple		∅ D × L (mm)	IMP.		Ripple
		20°C	-10°C				20°C	-10°C	
0.47	5 × 11	65.3	165.1	38	0.47	5 × 11	31.2	83.7	38
0.68	5 × 11	47.2	119.3	45	0.68	5 × 11	22.1	59.3	45
1.0	5 × 11	31.5	79.6	53	1.0	5 × 11	14.7	39.5	53
1.5	5 × 11	22.4	56.6	65	1.5	5 × 11	9.8	26.3	65
2.2	5 × 11	15.2	38.4	78	2.2	5 × 11	5.4	14.5	78
3.3	5 × 11	11.1	28.1	98	3.3	5 × 11	4.6	12.3	98
4.7	5 × 11	10.8	27.3	115	4.7	5 × 11	3.9	10.5	115
6.8	5 × 11	4.3	10.9	120	6.8	6.3 × 11	3.2	8.7	128
10	5 × 11	2.9	7.3	134	10	6.3 × 11	1.7	4.6	154
15	6.3 × 11	2.7	6.9	188	15	8 × 11.5	1.2	3.4	222
22	6.3 × 11	1.36	3.5	228	22	8 × 11.5	0.82	2.3	270
33	8 × 11.5	0.66	1.8	330	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 MULTIPLIERS

Frequency Multipliers

Rated Voltage (V _{dc})	∅D (mm)	Freq.(Hz)				
		120	1k	10k	50k	100k
6.3~10	∅5~∅8	0.65	0.83	0.95	0.97	1.00
	∅10~∅12.5	0.70	0.85	0.96	0.98	1.00
	∅16~∅18	0.85	0.92	0.97	0.99	1.00
16~25	∅5~∅8	0.55	0.76	0.91	0.95	1.00
	∅10~∅12.5	0.65	0.83	0.93	0.96	1.00
	∅16~∅18	0.70	0.87	0.96	0.98	1.00
35~50	∅5~∅8	0.40	0.66	0.85	0.90	1.00
	∅10~∅12.5	0.50	0.73	0.89	0.94	1.00
	∅16~∅18	0.60	0.81	0.94	0.97	1.00
63~100	∅5~∅8	0.20	0.55	0.80	0.88	1.00
	∅10~∅12.5	0.35	0.65	0.85	0.92	1.00
	∅16~∅18	0.50	0.75	0.90	0.95	1.00