

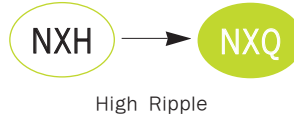


# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## NXQ Series

• 105°C 6,000 ~ 10,000Hrs assured.

- Non-solvent proof.
- Low Impedance, High Ripple.
- For LED TV BLU Inverter, IP-Board, Adaptor, LED Lighting.
- RoHS compliant.
- Halogen-free capacitors are also available.



### SPECIFICATIONS

Item	Characteristics																																											
Rated Voltage Range	6.3 ~ 120 V <sub>DC</sub>																																											
Operating Temperature Range	-40 ~ +105°C																																											
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)																																											
Leakage Current	I = 0.01CV(μA) or 3μA, whichever is greater. Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(V <sub>DC</sub> ) (at 20°C, 2minutes)																																											
Dissipation Factor (Tanδ)	<table border="1"> <tr> <td>Rated Voltage(V<sub>DC</sub>)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> <td>120</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>0.09</td> <td>0.08</td> <td>0.08</td> <td>0.08</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 <sub>DC</sub> )	6.3	10	16	25	35	50	63	80	100	120	Tanδ(Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08	0.08																					
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Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>3</td> </tr> </table> <p>(at 120Hz)</p>	Z(-25°C)/Z(+20°C)	2	Z(-40°C)/Z(+20°C)	3																																							
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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"> <tr> <td>Rated voltage(V<sub>DC</sub>)</td> <td>6.3~10</td> <td>16~120</td> </tr> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> <td>≤ ±25% of the initial value</td> </tr> <tr> <td>Tanδ</td> <td colspan="2">≤ 200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="2">≤ The initial specified value</td> </tr> </table> <table border="1"> <tr> <td rowspan="2">Case Size(φ D)</td> <td colspan="3">Life Time</td> </tr> <tr> <td>6.3V<sub>DC</sub></td> <td>10~50V<sub>DC</sub></td> <td>63~120V<sub>DC</sub></td> </tr> <tr> <td>φ5~φ6.3</td> <td>6,000hours</td> <td>7,000hours</td> <td>6,000hours</td> </tr> <tr> <td>φ8 X 11.5L</td> <td>8,000hours</td> <td>9,000hours</td> <td>8,000hours</td> </tr> <tr> <td>φ8 X 15L~20L</td> <td>9,000hours</td> <td>10,000hours</td> <td>9,000hours</td> </tr> <tr> <td>φ10 X 10~12.5L</td> <td colspan="3">9,000hours</td> </tr> <tr> <td>φ10 X 16L~25L</td> <td colspan="3">10,000hours</td> </tr> <tr> <td>φ12.5~</td> <td colspan="3">10,000hours</td> </tr> </table>	Rated voltage(V <sub>DC</sub> )	6.3~10	16~120	Capacitance change	≤ ±30% of the initial value	≤ ±25% of the initial value	Tanδ	≤ 200% of the initial specified value		Leakage current	≤ The initial specified value		Case Size(φ D)	Life Time			6.3V <sub>DC</sub>	10~50V <sub>DC</sub>	63~120V <sub>DC</sub>	φ5~φ6.3	6,000hours	7,000hours	6,000hours	φ8 X 11.5L	8,000hours	9,000hours	8,000hours	φ8 X 15L~20L	9,000hours	10,000hours	9,000hours	φ10 X 10~12.5L	9,000hours			φ10 X 16L~25L	10,000hours			φ12.5~	10,000hours		
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Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 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> <table border="1"> <tr> <td>Rated voltage(V<sub>DC</sub>)</td> <td>6.3~10</td> <td>16~120</td> </tr> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> <td>≤ ±25% of the initial value</td> </tr> <tr> <td>Tanδ</td> <td colspan="2">≤ 200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="2">≤ The initial specified value</td> </tr> </table>	Rated voltage(V <sub>DC</sub> )	6.3~10	16~120	Capacitance change	≤ ±30% of the initial value	≤ ±25% of the initial value	Tanδ	≤ 200% of the initial specified value		Leakage current	≤ The initial specified value																																
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Others	Satisfied characteristics KS C IEC 60384-4																																											

### DIMENSIONS OF NXQ Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

øD	5	6.3	8	10	12.5	16	18
ød	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
øD'	øD + 0.5 max.						
L'	L + 1.5 max.			L + 2.0 max.			

※ ø10 x 12L, L' ≤ L+1.5

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## RATINGS OF NXQ Series

V <sub>DC</sub> ∅D×L(mm)	6.3				10				16			
	μF	IMP.		Ripple	μF	IMP.		Ripple	μF	IMP.		Ripple
		20°C	-10°C			20°C	-10°C			20°C	-10°C	
5×11	220	0.40	1.30	345	150	0.40	1.30	450	120	0.40	1.30	450
6.3×11	470	0.17	0.51	540	330	0.17	0.51	700	270	0.17	0.51	700
8×11.5	820	0.075	0.23	945	560	0.075	0.23	1,200	470	0.075	0.23	1,200
8×15	1,000	0.059	0.18	1,250	680	0.059	0.18	1,600	560	0.059	0.18	1,600
8×20	1,500	0.041	0.13	1,500	1,000	0.041	0.13	1,960	820	0.041	0.13	1,960
10×12	1,200	0.053	0.16	1,500	820	0.053	0.16	1,700	680	0.053	0.16	1,700
10×12.5	1,200	0.053	0.16	1,500	820	0.053	0.16	1,700	680	0.053	0.16	1,700
10×16	1,800	0.038	0.12	1,760	1,200	0.038	0.12	2,000	1,000	0.038	0.12	2,000
10×20	2,700	0.028	0.084	1,960	1,800	0.028	0.084	2,500	1,500	0.028	0.084	2,500
10×25	3,300	0.024	0.072	2,250	2,200	0.024	0.072	2,900	1,800	0.024	0.072	2,900
12.5×20	3,900	0.025	0.075	2,480	2,700	0.025	0.075	2,600	2,200	0.025	0.075	2,600
12.5×25	4,700	0.019	0.057	2,900	3,300	0.019	0.057	3,050	2,700	0.019	0.057	3,050
12.5×30	5,600	0.018	0.054	3,450	4,700	0.018	0.054	3,500	3,300	0.018	0.054	3,500
12.5×35	6,800	0.016	0.048	3,570	5,600	0.016	0.048	3,600	3,900	0.016	0.048	3,600
16×20	6,800	0.021	0.063	3,250	4,700	0.021	0.063	3,250	3,300	0.021	0.063	3,250
16×25	8,200	0.017	0.051	3,630	5,600	0.017	0.051	3,630	4,700	0.017	0.051	3,630

V <sub>DC</sub> ∅D×L(mm)	25				35				50			
	μF	IMP.		Ripple	μF	IMP.		Ripple	μF	IMP.		Ripple
		20°C	-10°C			20°C	-10°C			20°C	-10°C	
5×11	68	0.40	1.30	450	47	0.40	1.30	450	27	0.48	1.56	310
6.3×11	150	0.17	0.51	700	100	0.17	0.51	700	56	0.22	0.66	500
8×11.5	330	0.075	0.23	1,200	180	0.075	0.23	1,200	100	0.12	0.37	950
8×15	390	0.059	0.18	1,600	220	0.059	0.18	1,600	120	0.082	0.25	1,230
8×20	560	0.041	0.13	1,960	330	0.041	0.13	1,960	180	0.058	0.19	1,580
10×10	390	0.063	0.20	1,500	270	0.063	0.20	1,500				
10×12	470	0.053	0.16	1,700	270	0.053	0.16	1,700	150	0.073	0.22	1,280
10×12.5	470	0.053	0.16	1,700	270	0.053	0.16	1,700	150	0.073	0.22	1,280
10×16	680	0.038	0.12	2,000	390	0.038	0.12	2,000	220	0.053	0.16	1,650
10×20	1,000	0.028	0.084	2,500	560	0.028	0.084	2,500	330	0.038	0.12	2,060
10×25	1,200	0.024	0.072	2,900	680	0.024	0.072	2,900	390	0.032	0.10	2,240
12.5×20	1,500	0.025	0.075	2,600	820	0.025	0.075	2,600	470	0.032	0.10	2,200
12.5×25	1,800	0.019	0.057	3,050	1,200	0.019	0.057	3,050	680	0.025	0.080	2,500
12.5×30	2,200	0.018	0.054	3,500	1,500	0.018	0.054	3,500	820	0.023	0.074	3,100
12.5×35	2,700	0.016	0.048	3,600	1,800	0.016	0.048	3,600	1,000	0.021	0.067	3,250
16×20	2,200	0.021	0.063	3,250	1,500	0.021	0.063	3,250	820	0.026	0.084	2,730
16×25	3,300	0.017	0.051	3,630	1,800	0.017	0.051	3,630	1,000	0.022	0.070	3,010

V <sub>DC</sub> ∅D×L(mm)	63			
	μF	IMP.		Ripple
		20°C	-10°C	
5×11	18	0.71	3.10	240
6.3×11	47	0.28	1.30	420
8×11.5	82	0.18	0.82	720
8×15	100	0.13	0.59	990
8×20	150	0.096	0.44	1,200
10×12	120	0.11	0.44	990
10×12.5	120	0.11	0.44	990
10×16	180	0.076	0.31	1,200
10×20	270	0.056	0.22	1,570
10×25	330	0.046	0.15	1,990
12.5×20	390	0.041	0.12	1,990
12.5×25	470	0.031	0.095	2,460
12.5×30	560	0.028	0.088	2,760
12.5×35	680	0.024	0.074	3,040
16×20	560	0.032	0.101	2,150
16×25	820	0.025	0.075	2,550

NXQ Series



# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## RATINGS OF NXQ Series

Vdc ∅D×L(mm)	80				100				120			
	μF	IMP.		Ripple	μF	IMP.		Ripple	μF	IMP.		Ripple
		20°C	-10°C			20°C	-10°C			20°C	-10°C	
5 × 11	12	1.20	5.33	220	8.2	1.20	5.33	220				
6.3 × 11	27	0.46	2.03	370	18	0.46	2.03	370				
8 × 11.5	47	0.29	1.31	620	33	0.29	1.31	620	22	0.29	1.31	620
8 × 15	56	0.20	0.90	780	47	0.20	0.90	780	33	0.20	0.90	780
8 × 20	82	0.16	0.72	1,040	68	0.16	0.72	1,040	47	0.16	0.72	1,040
10 × 10					39	0.26	1.17	680				
10 × 12	68	0.17	0.68	780	47	0.17	0.68	780	33	0.17	0.68	780
10 × 12.5	68	0.17	0.68	780	56	0.17	0.68	780				
10 × 16	100	0.11	0.44	1,040	47	0.17	0.68	780	33	0.17	0.68	780
10 × 20	150	0.084	0.35	1,430	68	0.11	0.44	1,040	47	0.11	0.44	1,040
10 × 25	180	0.069	0.28	1,620	100	0.084	0.35	1,430	68	0.084	0.35	1,430
12.5 × 16	150	0.11	0.33	1,430	120	0.069	0.28	1,620	100	0.069	0.28	1,620
12.5 × 20	220	0.062	0.19	1,750	100	0.11	0.33	1,430	68	0.11	0.33	1,430
12.5 × 25	270	0.047	0.15	2,210	150	0.062	0.19	1,750	100	0.062	0.19	1,750
12.5 × 30	330	0.042	0.14	2,400	220	0.047	0.15	2,210	120	0.047	0.15	2,210
12.5 × 35	390	0.036	0.11	2,600	270	0.042	0.14	2,400	150	0.042	0.14	2,400
12.5 × 40	470	0.032	0.096	2,860	330	0.036	0.11	2,600	180	0.036	0.11	2,600
16 × 20	330	0.048	0.16	1,950	390	0.032	0.096	2,600	220	0.032	0.096	2,860
16 × 25	470	0.038	0.11	2,430	270	0.048	0.16	1,950	150	0.048	0.16	1,950
16 × 31.5	560	0.032	0.096	2,640	390	0.038	0.11	2,430	220	0.038	0.11	2,430
16 × 35.5	680	0.029	0.087	2,860	470	0.032	0.096	2,640	270	0.032	0.096	2,640
16 × 40	820	0.027	0.081	3,510	560	0.029	0.087	2,860	330	0.029	0.087	2,860
18 × 20	470	0.045	0.14	2,270	680	0.027	0.081	3,510	390	0.027	0.081	3,510
18 × 25	680	0.036	0.11	2,500	390	0.045	0.14	2,270	220	0.045	0.14	2,270
18 × 31.5	820	0.030	0.090	2,860	470	0.036	0.11	2,500	270	0.036	0.11	2,500
18 × 35.5	1,000	0.027	0.081	3,510	560	0.030	0.090	2,860	390	0.030	0.090	2,860
18 × 40	1,200	0.026	0.078	3,860	680	0.027	0.081	3,510	470	0.027	0.081	3,510
18 × 40					820	0.026	0.078	3,860	560	0.026	0.078	3,860

Rated Ripple Current (mArms/105°C, 100kHz)  
 Impedance (Ω max./100kHz)  
 Nominal Capacitance(μF)

## RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Cap.(μF) \ Freq.(Hz)	120	1k	10k	50k	100k
8.2 ~ 33	0.42	0.70	0.90	0.93	1.00
47 ~ 270	0.50	0.73	0.92	0.95	1.00
330 ~ 680	0.55	0.77	0.94	0.96	1.00
820 ~ 1,800	0.60	0.80	0.96	0.97	1.00
2,200 ~ 8,200	0.70	0.85	0.98	0.99	1.00

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