



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

NXQ Series

• 105°C 9,000 ~ 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.

NXH

High Ripple

NXQ



SPECIFICATIONS

Item	Characteristics																																				
Rated Voltage Range	6.3 ~ 120 V _{DC}																																				
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 _{DC}) (at 20°C, 2minutes)																																				
Dissipation Factor (Tanδ)	<table><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>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> When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase (at 20°C, 120Hz)	Rated Voltage(V _{DC})	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><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> (at 120Hz)	Z(-25°C)/Z(+20°C)	2	Z(-40°C)/Z(+20°C)	3																																
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Load Life	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. <table><tr><td>Rated voltage(V_{DC})</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><tr><td>Case Size(φD)</td><td colspan="3">Life Time</td></tr><tr><td></td><td>6.3V_{DC}</td><td>10~50V_{DC}</td><td>63~120V_{DC}</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"></td></tr></table>	Rated voltage(V _{DC})	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(φD)	Life Time				6.3V _{DC}	10~50V _{DC}	63~120V _{DC}	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~			
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Shelf Life	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. <table><tr><td>Rated voltage(V_{DC})</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 _{DC})	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)

Technical drawing of a capacitor assembly. The side view shows a cylindrical component with a 'Safety vent' and a 'Sleeve'. The length is labeled L' . The diameter of the main body is $\varnothing D'$. The sleeve has a length of 15min. and a thickness of 4min. . The diameter of the sleeve is $\varnothing d \pm 0.05$. The end views show the diameter of the main body as $\varnothing 10$ and $\varnothing 12.5$, and the distance from the center to the edge of the sleeve as $F \pm 0.5$.

Marking : DARK BROWN SLEEVE, SILVER INK

$\varnothing D$	8	10	12.5	16	18
$\varnothing d$	0.6	0.6	0.6	0.8	0.8
F	3.5	5.0	5.0	7.5	7.5
$\varnothing D'$	$\varnothing D + 0.5 \text{ max.}$				
L'	$L + 1.5 \text{ max.}$		$L + 2.0 \text{ max.}$		

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

RATINGS OF NXQ Series

V _{DC} #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	
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 _{DC} #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	
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 _{DC} #D×L(mm)	63			
	μF	IMP.		Ripple
		20°C	-10°C	
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



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

RATINGS OF NXQ Series

V _{DC} ØD×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	
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
					56	0.17	0.68	780				
10 × 12.5	68	0.17	0.68	780	47	0.17	0.68	780	33	0.17	0.68	780
					56	0.17	0.68	780				
10 × 16	100	0.11	0.44	1,040	68	0.11	0.44	1,040	47	0.11	0.44	1,040
10 × 20	150	0.084	0.35	1,430	100	0.084	0.35	1,430	68	0.084	0.35	1,430
10 × 25	180	0.069	0.28	1,620	120	0.069	0.28	1,620	100	0.069	0.28	1,620
12.5 × 16	150	0.11	0.33	1,430	100	0.11	0.33	1,430	68	0.11	0.33	1,430
12.5 × 20	220	0.062	0.19	1,750	150	0.062	0.19	1,750	100	0.062	0.19	1,750
12.5 × 25	270	0.047	0.15	2,210	220	0.047	0.15	2,210	120	0.047	0.15	2,210
12.5 × 30	330	0.042	0.14	2,400	270	0.042	0.14	2,400	150	0.042	0.14	2,400
12.5 × 35	390	0.036	0.11	2,600	330	0.036	0.11	2,600	180	0.036	0.11	2,600
12.5 × 40	470	0.032	0.096	2,860	390	0.032	0.096	2,860	220	0.032	0.096	2,860
16 × 20	330	0.048	0.16	1,950	270	0.048	0.16	1,950	150	0.048	0.16	1,950
16 × 25	470	0.038	0.11	2,430	390	0.038	0.11	2,430	220	0.038	0.11	2,430
16 × 31.5	560	0.032	0.096	2,640	470	0.032	0.096	2,640	270	0.032	0.096	2,640
16 × 35.5	680	0.029	0.087	2,860	560	0.029	0.087	2,860	330	0.029	0.087	2,860
16 × 40	820	0.027	0.081	3,510	680	0.027	0.081	3,510	390	0.027	0.081	3,510
18 × 20	470	0.045	0.14	2,270	390	0.045	0.14	2,270	220	0.045	0.14	2,270
18 × 25	680	0.036	0.11	2,500	470	0.036	0.11	2,500	270	0.036	0.11	2,500
18 × 31.5	820	0.030	0.090	2,860	560	0.030	0.090	2,860	390	0.030	0.090	2,860
18 × 35.5	1,000	0.027	0.081	3,510	680	0.027	0.081	3,510	470	0.027	0.081	3,510
18 × 40	1,200	0.026	0.078	3,860	820	0.026	0.078	3,860	560	0.026	0.078	3,860

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

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Freq.(Hz) Cap.(μF)	120	1k	10k	50k	100k
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