

NRL ALUMINUM ELECTROLYTIC CAPACITORS

SERIES LOW VOLTAGE TYPE



FEATURES

- * Low impedance characteristics.
- * Capacitance can be $\pm 20\%$ or $\pm 10\%$ Tolerance.
- * Can size Larger than 8mm diameter has safety vents.

SPECIFICATION

Item	Characteristic		
Operating Temperature Range	-40°C ~ +85°C		
Capacitance Tolerance	$\pm 20\%$ or -10 ~ +50% (at 20°C, 120Hz)		
Leakage Current	I = 0.02CV or 3 (uA) which is greater (After 5 minutes applying the rated DC working voltage at 20°C)		
Dissipation Factor (Tan δ) (At 20°C, 120Hz)	Rated voltage (V)	6.3 10 16 25 35 50 63 80 100	
	Tan δ	0.23 0.20 0.17 0.15 0.12 0.10 0.09 0.09 0.08	
For capacitors whose capacitance exceeds 1,000uF, the specification of tan δ is increased by 0.02 for every addition of 1,000uF.(Test at 20°C, 120Hz)			
Surge Voltage	Rated voltage (V)	6.3 10 16 25 35 50 63 80 100	
	Surge voltage (V)	8 13 20 32 44 63 79 100 125	
Life Test	1000 hours at 85°C (Returned to 20°C)	Capacitance change	$\pm 20\%$ $\pm 15\%$ of initial measured value for 6.3-16WV 25-100WV
		DF (tan δ)	Less than 150% of the initial specified value.
		DC leakage current	Initial specified value.
Shelf Life Test	1000 hours at 85°C no voltage applied (Returned to 20°C)	Capacitance change	$\pm 20\%$ $\pm 15\%$ of initial measured value for 6.3-16WV 25-100WV
		DF (tan δ)	Less than 200% of the initial specified value.
		DC leakage current	Less than 200% of the initial specified value.

DIMENSIONS

INTERNAL STRUCTURE

Unit : mm

LEAD SPACING AND DIAMETER

D	5	6	8	10	13	16	18	22	25
P	2.0	2.5	3.5	5.0		7.5	10	12.5	
d		0.5		0.6		0.8		1.0	

Rated Capacity, Rated Voltage & Case Size Corresponding Sheet

uF \ W. V.	10	16	25	35	50	63
0.1					5 x 11	
0.22					5 x 11	
0.33					5 x 11	
0.47					5 x 11	
1					5 x 11	5 x 11
2.2					5 x 11	5 x 11
3.3					5 x 11	5 x 11
4.7					5 x 11	5 x 11
6.8					5 x 11	5 x 11
10			5 x 11	5 x 11	5 x 11	5 x 11
22		5 x 11	5 x 11	5 x 11	5 x 11	6 x 12
33		5 x 11	5 x 11	6 x 12	6 x 12	
47	5 x 11	5 x 11	5 x 11	6 x 12	6 x 12	8 x 12
68	5 x 11	5 x 11	6 x 12			
100	5 x 11	5 x 12	6 x 12	8 x 12	8 x 12	10 x 17
220	6 x 12	6 x 12	8 x 12	8 x 16	10 x 14	10 x 20
330	6 x 12	8 x 12	8 x 12	10 x 15	10 x 16	13 x 21
470	6.3 x 12	8 x 12	8 x 14	10 x 18	13 x 21	13 x 27
680						13 x 27
1000	8 x 16	10 x 16	10 x 18	13 x 21	13 x 26	16 x 31
2200	10 x 20	10 x 20	13 x 22	16 x 25	16 x 36	18 x 36
3300		13 x 25	16 x 25	16 x 36	18 x 36	
4700	13 x 25	13 x 25	16 x 32	18 x 36	22 x 40	22 x 40
6800						30 x 45

The specifications and drawings are subjected to change without prior notice.

NRT SERIES

ALUMINUM ELECTROLYTIC CAPACITORS HIGH TEMPERATURE TYPE



FEATURES

- * Wide operating temperature range, from -40°C to +105°C.
- * Excellent temperature performance.
- * Suitable to use for power supply, automotive electronics and other industrial equipment.

SPECIFICATION

Item	Characteristic		
Operating Temperature Range	-40°C ~ +105°C		
Capacitance Tolerance	±20% (at 20°C, 120Hz)		
Leakage Current	I = 0.02CV or 4 (μA) which is greater (After 5 minutes applying the rated DC working voltage at 20°C)		
Dissipation Factor (Tan δ) (At 20°C, 120Hz)	Rated voltage (V)	6.3 10 16 25 35 50 63 80 100	
	Tan δ	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.09 0.08	
For capacitors whose capacitance exceeds 1,000μF, the specification of tan δ is increased by 0.02 for every addition of 1,000μF.			
Surge Voltage	Rated voltage (V)	6.3 10 16 25 35 50 63 80 100	
	Surge voltage (V)	8 13 20 32 44 63 79 100 125	
Life Test	1000 hours at 85°C (Returned to 20°C)	Capacitance change	±20% of initial measured value for 6.3-16WV ±15% of initial measured value for 25-100WV
		DF (tan δ)	Less than 150% of the initial specified value.
		DC leakage current	Less than initial specified value.
Shelf Life Test	1000 hours at 85°C no voltage applied (Returned to 20°C)	Capacitance change	±20% of initial measured value for 6.3-16WV ±15% of initial measured value for 25-100WV
		DF (tan δ)	Less than 200% of the initial specified value.
		DC leakage current	Less than 200% of the initial specified value.

DIMENSIONS

INTERNAL STRUCTURE

Unit : mm

LEAD SPACING AND DIAMETER

D	5	6	8	10	13	16	18	22	25
P	2.0	2.5	3.5	5.0		7.5	10	12.5	
d		0.5		0.6		0.8		1.0	

Rated Capacity, Rated Voltage & Case Size Corresponding Sheet

μF \ W. V.	10	16	25	35	50	63
0.1					5 x 11	
0.22					5 x 11	
0.33					5 x 11	
0.47					5 x 11	
1					5 x 11	
2.2					5 x 11	
3.3					5 x 11	
4.7					5 x 11	
6.8					5 x 11	
10			5 x 11	5 x 11	5 x 11	5 x 11
22			5 x 11	5 x 11	6 x 11	6 x 11
33	5 x 11	5 x 11	5 x 11	6 x 11	6 x 11	8 x 11
47	5 x 11	5 x 11	6 x 11	6 x 11	8 x 11	8 x 11
68	5 x 11	5 x 11	6 x 11	8 x 11	8 x 16	8 x 16
100	5 x 11	6 x 11	8 x 11	8 x 11	8 x 16	10 x 16
220	8 x 11	8 x 11	8 x 16	10 x 16	10 x 20	13 x 20
330	8 x 11	8 x 16	10 x 16	10 x 20	13 x 20	13 x 20
470	8 x 16	8 x 16	10 x 20	13 x 20	13 x 20	13 x 25
680	8 x 16	10 x 16	13 x 20	13 x 20	16 x 25	16 x 25
1000	10 x 16	10 x 20	13 x 20	13 x 25	16 x 30	16 x 35
2200	13 x 20	13 x 25	16 x 25	16 x 35	19 x 40	22 x 40
3300	13 x 25	16 x 25	16 x 35	18 x 40	22 x 40	
4700	16 x 25	16 x 35	18 x 40			
6800	16 x 35	18 x 35				

The specifications and drawings are subjected to change without prior notice.