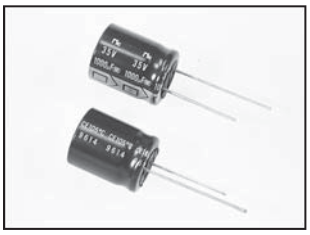
Miniature Aluminum Electrolytic Capacitors

NRE-LW Series

LOW PROFILE, WIDE TEMPERATURE, RADIAL LEAD, POLARIZED



FEATURES

- LOW PROFILE APPLICATIONS
- WIDE TEMPERATURE 105°C
- HIGH STABILITY AND PERFORMANCE

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details

CHARACTERISTICS

Rated Voltage Range		10 ~ 100Vdc						
Capacitance Range		47 ~ 4,700µF						
Operating Temperature Range		-40 ~ +105°C						
Capacitance Tolerance		±20% (M)						
Max. Leakage Current @ 20°C	After 1 min.	0.03CV or 4µA whichever is greater						
	After 2 min.	0.01CV or 3µA whichever is greater						
Max. Tan δ @ 120Hz/20°C	W.V. (Vdc)	10	16	25	35	50	63	100
	S.V. (Vdc)	13	20	32	44	63	79	125
	C ≤ 1,000µF	0.20	0.16	0.14	0.12	0.10	0.09	0.08
	C ≤ 2,200µF	0.22	0.18	0.16	-	-	-	-
	C ≤ 3,300µF	0.24	-	-	-	-	-	-
	C ≤ 4,700µF	0.26	-	-	-	-	-	-
Low Temperature Stability Impedance Ratio @ 120Hz	W.V. (Vdc)	10	16	25	35	50	63	100
	Z-25°C/Z+20°C	3	3	2	2	2	2	2
	Z-40°C/Z+20°C	8	6	4	3	3	3	3
Load Life Test at Rated W.V. 105°C 1,000 Hours	Capactance Change	Within 20% of initial measured value						
	Tan δ	Less than 200% of specified maximum value						
	Leakage Current	Less than specified maximum value						

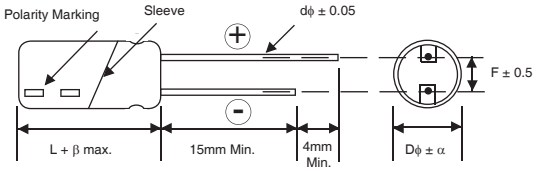
STANDARD PRODUCT AND CASE SIZE TABLE DϕxL (mm)

Cap (µF)	Code	Working Voltage (Vdc)						
		10	16	25	35	50	63	100
47	470	-	-	-	-	-	-	10x12.5
100	101	-	-	-	-	-	10x12.5	16x16
220	221	-	-	-	10x12.5	10x12.5	16x16	16x21
330	331	-	-	10x12.5	12.5x16	16x16	16x21	-
470	471	-	10x12.5	12.5x16	16x16	16x21	-	-
1,000	102	12.5x15	16x16	16x21	16x21	-	-	-
2,200	222	16x16	16x21	16x21	-	-	-	-
3,300	332	16x21	-	-	-	-	-	-
4,700	472	18x21	-	-	-	-	-	-

LEAD SPACING AND DIAMETER (mm)

Case Dia. (Dϕ)	5	6.3	8	10	12.5	16	18	22
Lead Dia. (Dϕ)	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
Lead Spacing (F)	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10
Dim. α	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0

DIMENSIONS (mm)



Drawing is representative of parts as supplied in bulk or straight lead format, please see taping specification for details on taped format packaging.

STANDARD VALUES, SPECIFICATIONS AND CASE SIZES (mm)

Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +105°C/120Hz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @+105°C
NRE-LW102M10V12.5x15F	1,000	10	0.20	470	0.33	1,000
NRE-LW222M10V16x16F	2,200		0.22	780	0.17	1,000
NRE-LW332M10V16x21F	3,300		0.24	1000	0.12	1,000
NRE-LW472M10V18x21F	4,700		0.26	1200	0.09	1,000
NRE-LW471M16V10x12.5F	470	16	0.16	340	0.56	1,000
NRE-LW102M16V16x16F	1,000		0.16	630	0.27	1,000
NRE-LW222M16V16x21F	2,200		0.18	940	0.14	1,000
NRE-LW331M25V10x12.5F	330	25	0.14	310	0.70	1,000
NRE-LW471M25V12.5x16F	470		0.14	390	0.49	1,000
NRE-LW102M25V16x21F	1,000		0.14	720	0.23	1,000
NRE-LW222M25V16x21F	2,200		0.16	1080	0.12	1,000
NRE-LW221M35V10x12.5F	220	35	0.12	270	0.90	1,000
NRE-LW331M35V12.5x16F	330		0.12	350	0.60	1,000
NRE-LW471M35V16x16F	470		0.12	490	0.42	1,000
NRE-LW102M35V16x21F	1,000		0.12	840	0.20	1,000
NRE-LW221M50V10x12.5F	220	50	0.10	310	0.75	1,000
NRE-LW331M50V16x16F	330		0.10	440	0.50	1,000
NRE-LW471M50V16x21F	470		0.10	570	0.35	1,000
NRE-LW101M63V10x12.5F	100	63	0.09	210	1.49	1,000
NRE-LW221M63V16x16F	220		0.09	380	0.25	1,000
NRE-LW331M63V16x21F	330		0.09	525	0.68	1,000
NRE-LW470M100V10x12.5F	47	100	0.08	240	2.82	1,000
NRE-LW101M100V16x16F	100		0.08	275	1.33	1,000
NRE-LW221M100V16x21F	220		0.08	490	0.60	1,000

RIPPLE CURRENT CORRECTION FACTORS

Frequency Factor

W.V. (Vdc)	Cap (μF)	Working Voltage (Vdc)			
		50	120	1K	10K
6.3~16	ALL	0.8	1.0	1.1	1.2
25~35	≤1000	0.8	1.0	1.5	1.7
	1000<	0.8	1.0	1.2	1.3
50~100	<1000	0.8	1.0	1.6	1.9
	1000<	0.8	1.0	1.2	1.3

PART NUMBER SYSTEM

NRELW 102 M 35V 16X20 TB F

- F — RoHS Compliant
- TB = Tape & Box*
- 16X20 — Case Size (DϕxL)
- 35V — Working Voltage (Vdc)
- M — Tolerance Code (M=20%)
- 102 — Capacitance Code: First 2 characters significant, third character is multiplier
- NRELW — Series

*see taping specifications for details

PRECAUTIONS

Please review the notes on correct use, safety and precautions found on **pages T10** & **T11** of NIC's **Electrolytic Capacitor catalog**.
Also found at **www.niccomp.com/precautions**
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: **tpmg@niccomp.com**