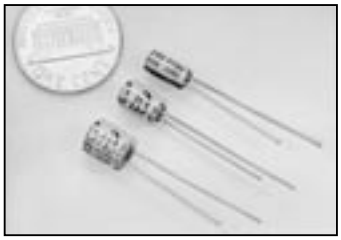
Miniature Aluminum Electrolytic Capacitors

NLE Series

SUBMINIATURE, LOW-LEAKAGE CURRENT, RADIAL LEAD, POLARIZED



FEATURES

- LOW PROFILE, 7mm HEIGHT
- LOW LEAKAGE CURRENT & LOW NOISE
- LOW COST REPLACEMENT FOR MANY TANTALUM APPLICATIONS

CHARACTERISTICS

Rated Voltage Range	6.3 ~ 50 VDC						
Capacitance Range	0.1 ~ 100µF						
Operating Temperature Range	-40° ~ +85°C						
Capacitance Tolerance	(M) ± 20% or (K) ± 10%						
Max. Leakage Current @ (20°C) after 2 min.	0.002CV or 0.4µA, whichever is greater						
Max. Tan δ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	Tan δ	0.20	0.18	0.16	0.14	0.12	0.10
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	4	3	2	2	2	2
	Z-40°C/Z+20°C	8	6	4	4	3	3
Load Life Test at Rated W.V. & 85°C 1,000 Hours	Capacitance Change	Within ±20% of initial measured value					
	Tan δ	Less than 200% of specified maximum value					
	Leakage Current	Less than specified maximum value					

MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA rms AT 120Hz AND 85°C)

Cap. (µF)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
0.1	-	-	-	-	-	1.0
0.22	-	-	-	-	-	2.3
0.33	-	-	-	-	-	3.5
0.47	-	-	-	-	-	5.0
1.0	-	-	-	-	-	10
2.2	-	-	-	-	-	19
3.3	-	-	-	-	-	24
4.7	-	-	-	-	24	29
10	-	-	29	33	36	44
22	34	38	44	51	57	-
33	42	47	57	63	-	-
47	50	59	68	-	-	-
100	77	82	95	-	-	-

MAXIMUM E.S.R. (Ω AT 20°C AND 120Hz)

Cap. (µF)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
0.1	-	-	-	-	-	1660
0.22	-	-	-	-	-	755
0.33	-	-	-	-	-	503
0.47	-	-	-	-	-	353
1.0	-	-	-	-	-	166
2.2	-	-	-	-	-	75.5
3.3	-	-	-	-	-	50.3
4.7	-	-	-	-	42.3	35.3
10	-	-	25.6	23.2	19.9	16.6
22	18.1	15.1	12.1	10.6	9.05	-
33	12.1	10.1	8.05	7.04	-	-
47	8.47	7.06	5.65	-	-	-
100	3.98	3.32	2.26	-	-	-

PRECAUTIONS

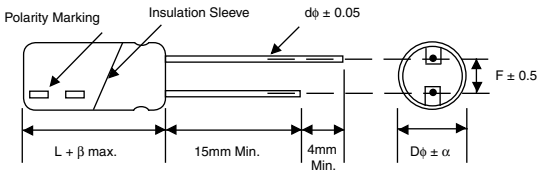
Please review the notes on correct use, safety and precautions found on **pages T10** & **T11** of NIC's **Electrolytic Capacitor catalog**.
Also found at **www.niccomp.com/precautions**
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support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

STANDARD PRODUCT AND CASE SIZE TABLE D ϕ x L (mm)

Cap.(μF)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
0.1	R10	-	-	-	-	-	4 x 7
0.22	R22	-	-	-	-	-	4 x 7
0.33	R33	-	-	-	-	-	4 x 7
0.47	R47	-	-	-	-	-	4 x 7
1.0	1R0	-	-	-	-	-	4 x 7
2.2	2R2	-	-	-	-	-	4 x 7
3.3	3R3	-	-	-	-	-	4 x 7
4.7	4R7	-	-	-	-	4 x 7	5 x 7
10	100	-	-	4 x 7	5 x 7	5 x 7	6.3 x 7
22	220	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7	-
33	330	5 x 7	5 x 7	6.3 x 7	6.3 x 7	-	-
47	470	5 x 7	6.3 x 7	6.3 x 7	-	-	-
100	101	6.3 x 7	6.3 x 7	6.3 x 7	-	-	-

LEAD SPACING AND DIAMETER (mm)

Case Dia. (DØ)	4	5	6.3
Leads Dia. (dØ)	0.45	0.45	0.45
Lead Spacing (F)	1.5	2.0	2.5
Dim. α	0.5	0.5	0.5
Dim. β	1.0	1.0	1.0



PART NUMBER SYSTEM

NLE 1R0 M 50V 4x7 F
- F — RoHS Compliant
- 4x7 — Size (DØ x L)
- 50V — Rated Voltage
- M — Tolerance Code
- 1R0 — Capacitance Code
- NLE — Series