

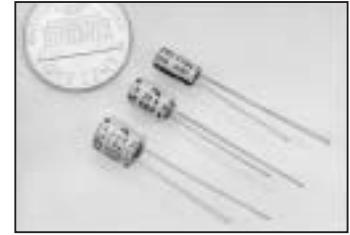
# Miniature Aluminum Electrolytic Capacitors

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 ~ 50Vdc						
Capacitance Range	0.1 ~ 100 $\mu$ F						
Operating Temperature Range	-40 ~ +85°C						
Capacitance Tolerance	$\pm$ 20%(M), $\pm$ 10% (K)						
Max. Leakage Current After 2 minutes At +20°C	0.002CV or 0.4 $\mu$ A, whichever is greater						
Surge Voltage & Max. Tan $\delta$ @ 120Hz/+20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	Tan $\delta$	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 $\pm$ 20% of initial measured value					
	Tan $\delta$	Less than 200% of specified maximum value					
	Leakage Current	Less than specified maximum value					

**RoHS Compliant**  
includes all homogeneous materials

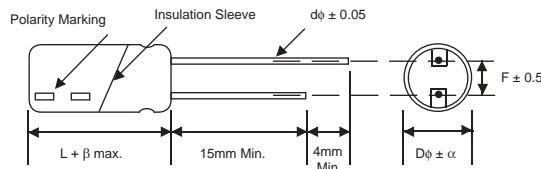
\*See Part Number System for Details

## STANDARD PRODUCT AND CASE SIZE TABLE D $\phi$ x L (mm)

Cap. ( $\mu$ F)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
0.1	R10	-	-	-	-	-	4x7
0.22	R22	-	-	-	-	-	4x7
0.33	R33	-	-	-	-	-	4x7
0.47	R47	-	-	-	-	-	4x7
1.0	1R0	-	-	-	-	-	4x7
2.2	2R2	-	-	-	-	-	4x7
3.3	3R3	-	-	-	-	-	4x7
4.7	4R7	-	-	-	-	4x7	5x7
10	100	-	-	4x7	5x7	5x7	6.3x7
22	220	4x7	5x7	5x7	6.3x7	6.3x7	-
33	330	5x7	5x7	6.3x7	6.3x7	-	-
47	470	5x7	6.3x7	6.3x7	-	-	-
100	101	6.3x7	6.3x7	6.3x7	-	-	-

## LEAD SPACING AND DIAMETER (mm)

Case Dia. (D $\phi$ )	4	5	6.3
Lead Dia. (d $\phi$ )	0.45	0.5	0.5
Lead Spacing (F)	1.5	2.0	2.5
Dim. $\alpha$	0.5	0.5	0.5
Dim. $\beta$	1.0	1.0	1.0



## 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](http://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](mailto:tpmg@niccomp.com)



### STANDARD PRODUCT, SPECIFICATIONS AND CASE SIZES D $\phi$ x L (mm)

Part Number	Cap. ( $\mu$ F)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +85°C/120Hz	Max. ESR ( $\Omega$ ) +20°C/120Hz	Load Life Hours @ +85°C
NLE220M6.3V4x7F	22	6.3	0.20	34	18.1	1,000
NLE330M6.3V5x7F	33		0.20	42	12.1	1,000
NLE470M6.3V5x7F	47		0.20	50	8.47	1,000
NLE101M6.3V6.3x7F	100		0.20	77	3.98	1,000
NLE220M10V5x7F	22	10	0.18	38	15.1	1,000
NLE330M10V5x7F	33		0.18	47	10.1	1,000
NLE470M10V6.3x7F	47		0.18	59	7.06	1,000
NLE101M10V6.3x7F	100		0.18	82	3.32	1,000
NLE100M16V4x7F	10	16	0.16	29	25.6	1,000
NLE220M16V5x7F	22		0.16	44	12.1	1,000
NLE330M16V6.3x7F	33		0.16	57	8.05	1,000
NLE470M16V6.3x7F	47		0.16	68	5.65	1,000
NLE101M16V6.3x7F	100	25	0.16	95	2.26	1,000
NLE100M25V5x7F	10		0.14	33	23.2	1,000
NLE220M25V6.3x7F	22		0.14	51	10.6	1,000
NLE330M25V6.3x7F	33		0.14	63	7.04	1,000
NLE4R7M35V4x7F	4.7	35	0.12	24	42.3	1,000
NLE100M35V5x7F	10		0.12	36	19.9	1,000
NLE220M35V6.3x7F	22		0.12	57	9.05	1,000
NLER10M50V4x7F	0.1		50	0.10	1.0	1660
NLER22M50V4x7F	0.22	0.10		2.3	755	1,000
NLER33M50V4x7F	0.33	0.10		3.5	503	1,000
NLER47M50V4x7F	0.47	0.10		5.0	353	1,000
NLE1R0M50V4x7F	1.0	0.10		10	166	1,000
NLE2R2M50V4x7F	2.2	0.10		19	75.5	1,000
NLE3R3M50V4x7F	3.3	0.10		24	50.3	1,000
NLE4R7M50V5x7F	4.7	0.10		29	35.3	1,000
NLE100M50V6.3x7F	10	0.10		44	16.6	1,000

### PART NUMBER SYSTEM

