

LOW PROFILE, RADIAL LEAD, POLARIZED

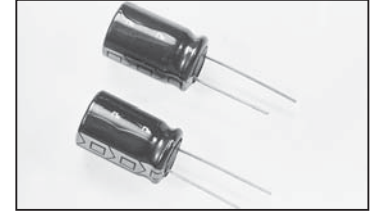
FEATURES

- LOW PROFILE APPLICATIONS
- HIGH STABILITY AND PERFORMANCE

**RoHS
Compliant**

includes all homogeneous materials

*See Part Number System for Details



CHARACTERISTICS

Rated Voltage Range		6.3 ~ 100Vdc								
Capacitance Range		22 ~ 4,700μF								
Operating Temperature Range		-40 ~ +85°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)	6.3	10	16	25	35	50	63	100
		S.V. (Vdc)	8	13	20	32	44	63	79	125
		C ≤ 1,000μF	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08
		C = 2,200μF	0.26	0.22	0.18	0.16	-	-	-	-
		C = 3,300μF	0.28	0.24	-	-	-	-	-	-
Low Temperature Stability Impedance Ratio @ 120Hz		C = 4,700μF	0.30	0.26	-	-	-	-	-	-
		Z-25°C/Z+20°C	4	3	3	2	2	2	2	2
		Z-40°C/Z+20°C	10	8	6	4	3	3	3	3
Load Life Test at Rated W.V. and +85°C 3,000 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							

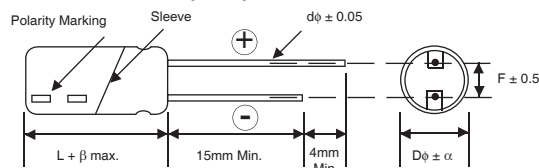
STANDARD PRODUCT AND CASE SIZE TABLE D φ x L (mm)

Cap (μF)	Code	Working Voltage (Vdc)							
		6.3	10	16	25	35	50	63	100
22	220	-	-	-	-	-	-	-	10x9.5
100	101	-	-	-	-	10x9.5	10x9.5	-	16x16
220	221	-	-	10x9.5	10x9.5	-	-	-	18x21
330	331	-	10x9.5	10x9.5	10x12.5	12.5x16	16x16	16x16	-
470	471	-	10x9.5	-	12.5x16	16x16	16x16	16x21	-
1,000	102	-	12.5x16	12.5x16	16x16	18x21	-	-	-
2,200	222	16x16	16x16	16x16	16x21	-	-	-	-
3,300	332	18x21	18x21	-	-	-	-	-	-
4,700	472	18x21	18x21	-	-	-	-	-	-

LEAD SPACING AND DIAMETER (mm)

Case Dia. (Dφ)	10	12.5	16	18
Lead Dia. (dφ)	0.6	0.6	0.8	0.8
Lead Spacing (F)	5.0	5.0	7.5	7.5
Dim. α	0.5	0.5	0.5	0.5
dim. β	1.5	1.5	2.0	2.0

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.

PART NUMBERING SYSTEM

NRE-L 471 M 35V 16X16 TB F
 Series Capacitance Code Tolerance Code Rated Voltage Size (Dφ x L) Tape and Box* RoHS Compliant

*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



Part Number	Cap. (μ F)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +85°C/120Hz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @ +85°C
NREL222M6.3V16x16F	2,200	6.3	0.26	1030	0.20	3,000
NREL332M6.3V18x21F	3,300		0.28	1330	0.14	3,000
NREL472M6.3V18x21F	4,700		0.30	1630	0.11	3,000
NREL331M10V10x9.5F	330	10	0.20	290	1.01	3,000
NREL471M10V10x9.5F	470		0.20	340	0.71	3,000
NREL102M10V12.5x16F	1,000		0.20	680	0.33	3,000
NREL222M10V16x16F	2,200		0.22	1120	0.17	3,000
NREL332M10V18x21F	3,300		0.24	1510	0.12	3,000
NREL472M10V18x21F	4,700		0.26	1650	0.09	3,000
NREL221M16V10x9.5F	220	16	0.16	260	1.01	3,000
NREL331M16V10x9.5F	330		0.16	320	0.80	3,000
NREL102M16V12.5x16F	1,000		0.16	695	0.27	3,000
NREL222M16V16x16F	2,200		0.18	1140	0.14	3,000
NREL221M25V10x9.5F	220	25	0.14	280	0.80	3,000
NREL331M25V10x12.5F	330		0.14	390	0.70	3,000
NREL471M25V12.5x16F	470		0.14	560	0.49	3,000
NREL102M25V16x16F	1,000		0.14	730	0.23	3,000
NREL222M25V16x21F	2,200		0.16	1250	0.12	3,000
NREL101M25V10x9.5F	100	35	0.12	200	1.99	3,000
NREL331M35V12.5x16F	330		0.12	510	0.60	3,000
NREL471M35V16x16F	470		0.12	710	0.42	3,000
NREL102M35V18x21F	1,000		0.12	1190	0.20	3,000
NREL101M50V10x9.5F	100	50	0.10	220	1.66	3,000
NREL331M50V16x16F	330		0.10	650	0.50	3,000
NREL471M50V16x16F	470		0.10	725	0.35	3,000
NREL331M63V16x16F	330	63	0.09	560	0.68	3,000
NREL471M63V16x21F	470		0.09	770	0.45	3,000
NREL220M100V10x9.5F	22	100	0.08	110	6.04	3,000
NREL101M100V16x16F	100		0.08	410	1.33	3,000
NREL221M100V18x21F	220		0.08	720	0.60	3,000