

# Miniature Aluminum Electrolytic Capacitors

NRE-SX Series

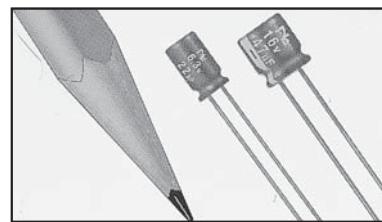
LOW IMPEDANCE, SUBMINIATURE, RADIAL LEADS,  
POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

## FEATURES

- VERY LOW IMPEDANCE AT HIGH FREQUENCY
- LOW PROFILE 7mm HEIGHT
- WIDE TEMPERATURE, -55°C ~ +105°C

**RoHS  
Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



## CHARACTERISTICS

Rated Voltage Range	6.3 ~ 35Vdc																		
Capacitance Range	0.47 ~ 330μF																		
Operating Temperature Range	-55 ~ +105°C																		
Capacitance Tolerance	±20%(M)																		
Max. Leakage Current After 1 minutes At +20°C	0.01CV or 3μA, whichever is greater																		
Max. Tan δ @ 120Hz/+20°C	<table border="1"><thead><tr><th>W.V. (Vdc)</th><th>6.3</th><th>10</th><th>16</th><th>25</th><th>35</th></tr></thead><tbody><tr><td>S.V. (Vdc)</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td></tr><tr><td>Tan δ</td><td>0.24</td><td>0.20</td><td>0.18</td><td>0.14</td><td>0.12</td></tr></tbody></table>	W.V. (Vdc)	6.3	10	16	25	35	S.V. (Vdc)	8	13	20	32	44	Tan δ	0.24	0.20	0.18	0.14	0.12
W.V. (Vdc)	6.3	10	16	25	35														
S.V. (Vdc)	8	13	20	32	44														
Tan δ	0.24	0.20	0.18	0.14	0.12														
Low Temperature Stability Impedance Ratio @ 120Hz	<table border="1"><thead><tr><th>Z-40°C/Z+20°C</th><th>3</th><th>2</th><th>2</th><th>2</th><th>2</th></tr></thead><tbody><tr><th>Z-55°C/Z+20°C</th><td>5</td><td>4</td><td>4</td><td>3</td><td>3</td></tr></tbody></table>	Z-40°C/Z+20°C	3	2	2	2	2	Z-55°C/Z+20°C	5	4	4	3	3						
Z-40°C/Z+20°C	3	2	2	2	2														
Z-55°C/Z+20°C	5	4	4	3	3														
Load Life Test at Rated W.V. +105°C 1,000 Hours	<table border="1"><thead><tr><th>Capacitance Change</th><th>Within ±25% of initial measured value</th></tr></thead><tbody><tr><th>Tan δ</th><td>Less than 200% of specified maximum value</td></tr><tr><th>Leakage Current</th><td>Less than specified maximum value</td></tr></tbody></table>	Capacitance Change	Within ±25% of initial measured value	Tan δ	Less than 200% of specified maximum value	Leakage Current	Less than specified maximum value												
Capacitance Change	Within ±25% of initial measured value																		
Tan δ	Less than 200% of specified maximum value																		
Leakage Current	Less than specified maximum value																		

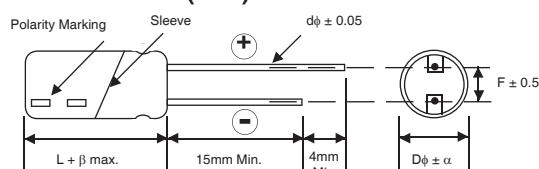
## STANDARD PRODUCT AND CASE SIZE TABLE D<sub>Φ</sub> x L (mm)

Cap. (μF)	Code	Working Voltage (Vdc)				
		6.3	10	16	25	35
4.7	4R7	-	-	-	-	4x7
10	100	-	-	-	4x7	5x7
15	150	-	-	4x7	5x7	6.3x7
22	220	-	4x7	5x7	5x7	6.3x7
33	330	-	5x7	-	6.3x7	6.3x7
47	470	5x7	5x7	6.3x7	6.3x7	6.3x7
68	680	-	-	-	6.3x7	-
100	101	-	6.3x7	6.3x7	6.3x7	-
150	151	-	6.3x7	6.3x7	-	-
220	221	6.3x7	6.3x7	6.3x7	-	-
330	331	6.3x7	-	-	-	-

## LEAD SPACING AND DIAMETER (mm)

Case Dia. (D <sub>Φ</sub> )	4	5	6.3
Lead Dia. (d <sub>Φ</sub> )	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

## 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.

## 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)



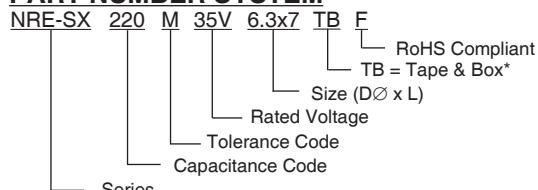
NIC COMPONENTS CORP. [www.niccomp.com](http://www.niccomp.com) | [www.lowESR.com](http://www.lowESR.com) | [www.RFpassives.com](http://www.RFpassives.com) | [www.SMTmagnetics.com](http://www.SMTmagnetics.com)

SPECIFICATIONS ARE SUBJECT TO CHANGE

### STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS D<sub>Ø</sub> x L (mm)

Part Number	Cap. ( $\mu$ F)	W.V. (Vdc)	Max. Tan $\delta$	Max. Impedance 100KHz/20°C	Max. Ripple Current at 100KHz/105°C (mA rms)	Load Life Hours @ +105°C
NRE-SX470M6.3V5 x 7F	47	6.3	0.24	0.49	0.49	1000
NRE-SX221M6.3V6.3 x 7F	220		0.24	0.24	0.24	1000
NRE-SX331M6.3V6.3 x 7F	330		0.24	0.29	0.29	1000
NRE-SX220M10V4 x 7F	22	10	0.20	1.15	90	1000
NRE-SX330M10V5 x 7F	33		0.20	0.49	160	1000
NRE-SX470M10V5 x 7F	47		0.20	0.49	160	1000
NRE-SX101M10V6.3 x 7F	100		0.20	0.24	280	1000
NRE-SX151M10V6.3 x 7F	150		0.20	0.24	280	1000
NRE-SX221M10V6.3 x 7F	220		0.20	0.29	280	1000
NRE-SX150M16V4 x 7F	15	16	0.18	1.15	90	1000
NRE-SX220M16V5 x 7F	22		0.18	0.49	160	1000
NRE-SX470M16V6.3 x 7F	47		0.18	0.24	280	1000
NRE-SX101M16V6.3 x 7F	100		0.18	0.24	280	1000
NRE-SX151M16V6.3 x 7F	150		0.18	0.29	280	1000
NRE-SX221M16V6.3 x 7F	220		0.18	0.29	280	1000
NRE-SX100M25V4 x 7F	10	25	0.14	1.15	90	1000
NRE-SX150M25V5 x 7F	15		0.14	0.49	160	1000
NRE-SX220M25V5 x 7F	22		0.14	0.49	160	1000
NRE-SX330M25V6.3 x 7F	33		0.14	0.24	280	1000
NRE-SX470M25V6.3 x 7F	47		0.14	0.24	280	1000
NRE-SX680M25V6.3 x 7F	68		0.14	0.24	280	1000
NRE-SX101M25V6.3 x 7F	100	35	0.14	0.24	280	1000
NRE-SX4R7M35V4 x 7F	4.7		0.12	1.15	90	1000
NRE-SX100M35V5 x 7F	10		0.12	0.49	160	1000
NRE-SX150M35V6.3 x 7F	15		0.12	0.29	280	1000
NRE-SX220M35V6.3 x 7F	22		0.12	0.29	280	1000
NRE-SX330M35V6.3 x 7F	33		0.12	0.29	280	1000
NRE-SX470M35V6.3 x 7F	47		0.12	0.29	280	1000

### PART NUMBER SYSTEM



\*see tape specification for details



# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

***Click to view similar products for [nic manufacturer:](#)***

Other Similar products are found below :

[NMC0603NPO270J100TRPF](#) [NRE-S100M25V4X7F](#) [NMC-P1206X7R104K100TRPF](#) [NCC0805F261HTRF](#) [NRWA470M35V6.3X11TBF](#)  
[NACE221M16V6.3X8TR13F](#) [NRSS332M50V18X35.5F](#) [NDTM106K25F1TRF](#) [NACZ221M50V10X10.5TR13F](#) [NCM15X7R103K50F](#)  
[NRSS682M25V18X35.5F](#) [NEXC224Z5.5V10.5X8.5TRF](#) [NRLRW221M450V30X35SF](#) [NDTM225K50F2TRF](#) [NEXT105Z5.5V21.5X13F](#)  
[NRSZ471M50V12.5X20F](#) [NTCL106K35TRDF](#) [NRWA331M25V10X12.5F](#) [NRSY472M25V16X31.5F](#) [NEXS105Z5.5V28.5X14F](#)  
[NRLR181M400V25X30SF](#) [NRSZ102M25V12.5X20F](#) [NUVA33T385TRF](#) [NUVA33V405TRF](#) [NRLMW331M250V30X25F](#)  
[NRLF103M25V35X20F](#) [NDTM106K35F](#) [NRLMW102M200V35X35F](#) [NPIS43LS220MTRF](#) [NACZ101M25V6.3X8TR13F](#) [NTC-T475K50TRDF](#)  
[NCD222M1KVZ5UKF](#) [NRLR472M63V25X40SF](#) [NTP157M10TRD\(40\)F](#) [NPIM74C3R3MTRF](#) [NPI104C100MTRF](#)  
[NRLM102M100V25X25F](#) [NRLM223M50V 35X50F](#) [NAZT221M50V10X10.5LBF](#) [NACK102M10V 10X10.5TR13F](#)  
[NACZ221M35V8X10.5TR13F](#) [NRWA101M10V5X11F](#) [NTC-T336K16TRCF](#) [NRWP102M16V10X12.5F](#) [NRLM822M50V30X35F](#)  
[NACE470M63V8X10.5TR13F](#) [NCD4R7C1KVNPOF](#) [NRSZ152M35V 16X25F](#) [NRSH222M63V18X40F](#) [NRLM123M16V25X25F](#)