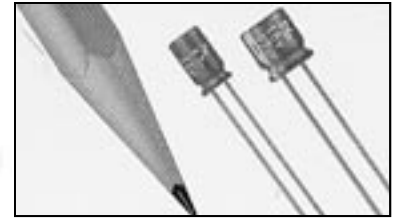


LOW IMPEDANCE, SUBMINIATURE, RADIAL LEADS,  
POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

### 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

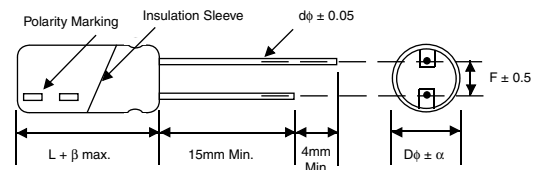
|                                                        |                                        |                                       |      |      |      |      |  |
|--------------------------------------------------------|----------------------------------------|---------------------------------------|------|------|------|------|--|
| Rated Voltage Range                                    | 6.3 ~ 35Vdc                            |                                       |      |      |      |      |  |
| Rated Capacitance Range                                | 0.47 ~ 330μF                           |                                       |      |      |      |      |  |
| Operating Temperature Range                            | -55~+105°C                             |                                       |      |      |      |      |  |
| Max. Leakage Current<br>After 1 minute At 20°C         | 0.01CV or 3μA,<br>whichever is greater |                                       |      |      |      |      |  |
| Surge Voltage & Max. Tan δ                             | W.V. (Vdc)                             | 6.3                                   | 10   | 16   | 25   | 35   |  |
|                                                        | S.V. (Vdc)                             | 8                                     | 13   | 20   | 32   | 44   |  |
|                                                        | Tan δ @ 120Hz/20°C                     | 0.24                                  | 0.20 | 0.16 | 0.14 | 0.12 |  |
| Low Temperature Stability<br>(Impedance Ratio @ 120Hz) | W.V. (Vdc)                             | 6.3                                   | 10   | 16   | 25   | 35   |  |
|                                                        | 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<br>105°C 1,000 Hours                    | Capacitance Change                     | Within ±25% of initial measured value |      |      |      |      |  |
|                                                        | Tan δ                                  | Less than 200% of specified value     |      |      |      |      |  |
|                                                        | Leakage Current                        | Less than specified value             |      |      |      |      |  |

### STANDARD PRODUCT AND CASE SIZE TABLE Dφ x L (mm)

| Cap (μF) | Code | Working Voltage |       |       |       |       |
|----------|------|-----------------|-------|-------|-------|-------|
|          |      | 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. (Dφ)   | 4    | 5    | 6.3  |
|------------------|------|------|------|
| Leads Dia. (dφ)  | 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  |



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

| W.V<br>(Vdc) | Cap<br>( $\mu$ F) | Code | Case Size<br>D $\phi$ x L (mm) | Max. Z ( $\Omega$ )<br>100KHz & 20°C | Max. Ripple Current<br>(mA) 100KHz & 105°C |
|--------------|-------------------|------|--------------------------------|--------------------------------------|--------------------------------------------|
| 6.3          | 47                | 470  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 220               | 221  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 330               | 331  | 6.3 x 7                        | 0.29                                 | 280                                        |
| 10           | 22                | 220  | 4 x 7                          | 1.15                                 | 90                                         |
|              | 33                | 330  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 47                | 470  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 100               | 101  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 150               | 151  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 220               | 221  | 6.3 x 7                        | 0.29                                 | 280                                        |
| 16           | 15                | 150  | 4 x 7                          | 1.15                                 | 90                                         |
|              | 22                | 220  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 47                | 470  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 100               | 101  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 150               | 151  | 6.3 x 7                        | 0.29                                 | 280                                        |
|              | 220               | 221  | 6.3 x 7                        | 0.29                                 | 280                                        |
| 25           | 10                | 100  | 4 x 7                          | 1.15                                 | 90                                         |
|              | 15                | 150  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 22                | 220  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 33                | 330  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 47                | 470  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 68                | 680  | 6.3 x 7                        | 0.24                                 | 280                                        |
|              | 100               | 101  | 6.3 x 7                        | 0.24                                 | 280                                        |
| 35           | 4.7               | 4R7  | 4 x 7                          | 1.15                                 | 90                                         |
|              | 10                | 100  | 5 x 7                          | 0.49                                 | 160                                        |
|              | 15                | 150  | 6.3 x 7                        | 0.29                                 | 280                                        |
|              | 22                | 220  | 6.3 x 7                        | 0.29                                 | 280                                        |
|              | 33                | 330  | 6.3 x 7                        | 0.29                                 | 280                                        |
|              | 47                | 470  | 6.3 x 7                        | 0.29                                 | 280                                        |

#### PART NUMBER SYSTEM

NRE-SX 220 M 35V 6.3x7 E  
 └─ Series    └─ Capacitance Code    └─ Tolerance Code    └─ Rated Voltage    └─ Size (D $\phi$  x L)    └─ RoHS Compliant