

Miniature Aluminum Electrolytic Capacitors

NRSZ Series

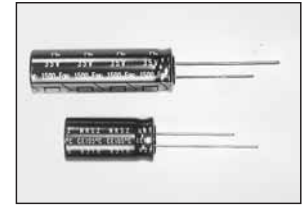
LOW IMPEDANCE AT HIGH FREQUENCY RADIAL LEADS, POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

FEATURES

- VERY LOW IMPEDANCE
- LONG LIFE AT 105°C (2000 ~ 10,000 hrs.)
- HIGH STABILITY AT LOW TEMPERATURE
- IDEALLY FOR USE IN SWITCHING POWER SUPPLIES AND CONVERTORS

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details



CHARACTERISTICS

| | | | | | | | | | | | |
|--|--------------------|--|------|------|------|------|------|------|------|--|--|
| Rated Voltage Range | | 6.3 ~ 100VDC | | | | | | | | | |
| Capacitance Range | | 0.47 ~ 12,000 μ F | | | | | | | | | |
| Operating Temperature Range | | -55 ~ +105°C | | | | | | | | | |
| Capacitance Tolerance | | \pm 20% (M) | | | | | | | | | |
| Max. Leakage Current @ 20°C | After 1 min. | 0.03CV or 4 μ A, whichever is greater | | | | | | | | | |
| | After 2 min. | 0.01CV or 3 μ A, 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 < 1,200 μ F | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.07 | | |
| | C = 1,500 μ F | 0.23 | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 | - | - | | |
| | C = 1,800 μ F | 0.23 | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 | - | - | | |
| | C = 2,200 μ F | 0.24 | 0.21 | 0.18 | 0.16 | 0.14 | - | - | - | | |
| | C = 2,700 μ F | 0.25 | 0.22 | 0.19 | 0.17 | 0.15 | - | - | - | | |
| | C = 3,300 μ F | 0.26 | 0.23 | 0.20 | 0.18 | 0.16 | - | - | - | | |
| | C = 3,900 μ F | 0.28 | 0.25 | 0.22 | 0.20 | - | - | - | - | | |
| | C = 4,700 μ F | 0.29 | 0.26 | 0.23 | 0.21 | - | - | - | - | | |
| | C = 5,600 μ F | 0.31 | 0.28 | 0.25 | - | - | - | - | - | | |
| | C = 6,800 μ F | 0.33 | 0.30 | 0.27 | - | - | - | - | - | | |
| | C = 8,200 μ F | 0.36 | 0.33 | - | - | - | - | - | - | | |
| C = 10,000 μ F | 0.40 | - | - | - | - | - | - | - | | | |
| C = 12,000 μ F | 0.44 | - | - | - | - | - | - | - | | | |
| Low Temperature Stability Impedance Ratio @ 120Hz | Z-25°C/Z+20°C | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | Z-40°C/Z+20°C | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Load Life Test at Rated W.V. & 105°C (See Standard Products and Specifications Tables) | Capacitance Change | Within \pm 20% of initial measured value | | | | | | | | | |
| | Tan δ | Less than 200% of specified maximum value | | | | | | | | | |
| | Leakage Current | Less than specified maximum value | | | | | | | | | |
| Shelf Life Test 105°C for 1,000 hours No Load | Capacitance Change | Within \pm 20% of initial measured value | | | | | | | | | |
| | Tan δ | Less than 200% of specified maximum value | | | | | | | | | |
| | Leakage Current | Less than specified maximum value | | | | | | | | | |

LOW IMPEDANCE
NRSZ \rightarrow **NRSY**
(today's standard) (reduced sizes)

*NRSZ102M6.3V8X20 is 4,500 Hours @ 105°C

Unless otherwise specified here, capacitor shall meet JIS C-5141 Characteristics W.

RIPPLE CURRENT CORRECTION FACTORS

| Frequency (Hz) | Cap. (μ F) | 120 | 1K | 10K | 100K |
|----------------|-----------------|------|------|------|------|
| Multiplier | 0.47 ~ 4.7 | 0.40 | 0.68 | 0.78 | 1.00 |
| | 5.6 ~ 47 | 0.50 | 0.76 | 0.87 | 1.00 |
| | 56 ~ 270 | 0.70 | 0.85 | 0.90 | 1.00 |
| | 330 ~ 1000 | 0.80 | 0.93 | 0.98 | 1.00 |
| | 1200 ~ 12000 | 0.90 | 0.95 | 1.0 | 1.0 |

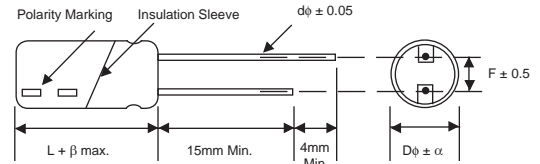
PRECAUTIONS

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
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com



LEAD SPACING AND DIAMETER (mm)

| | | | | | | | |
|-----------------------|-----|-----|-----|-----|------|-----|-----|
| Case Dia. (D ϕ) | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
| Lead Dia. (d ϕ) | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| Lead Spacing (F) | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| Dim. α | 0.5 | | | | | | |
| Dim. β | 1.0 | | | 2.0 | | | |



Drawing is representative of parts as supplied in bulk or straight lead format, please see taping specification for details on taped format packaging.

STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| Part Number | Cap. (μF) | W.V. (Vdc) | Max. Tan δ | Max. LC (μA) | Max. Impedance | | Max. Ripple Current at 100KHz/105°C (mA rms) | Load Life Hours @ +105°C |
|----------------------|-----------|------------|-------------------|--------------|----------------|--------------|--|--------------------------|
| | | | | | 100KHz/20°C | 100KHz/-10°C | | |
| NRSZ101M6.3V5x11F | 100 | 6.3 | 0.22 | 6.3 | 0.90 | 1.8 | 100 | 2,500 |
| NRSZ221M6.3V6.3x11F | 220 | | 0.22 | 13.9 | 0.30 | 0.60 | 280 | 3,000 |
| NRSZ331M6.3V6.3x11F | 330 | | 0.22 | 20.8 | 0.22 | 0.44 | 300 | 2,000 |
| NRSZ331M6.3V8x11.5F | | | 0.22 | 20.8 | 0.19 | 0.38 | 410 | 3,500 |
| NRSZ471M6.3V8x11.5F | 470 | | 0.22 | 296 | 0.11 | 0.22 | 560 | 3,500 |
| NRSZ681M6.3V8x15F | 680 | | 0.22 | 42.8 | 0.985 | 0.17 | 730 | 4,500 |
| NRSZ821M6.3V10x12.5F | 820 | | 0.22 | 51.7 | 0.085 | 0.17 | 800 | 5,000 |
| NRSZ102M6.3V8x20F | 1000 | | 0.22 | 63.0 | 0.069 | 0.14 | 800 | 4,500 |
| NRSZ122M6.3V10x16F | 1200 | | 0.22 | 75.6 | 0.062 | 0.13 | 1050 | 5,000 |
| NRSZ152M6.3V10x20F | 1500 | | 0.23 | 94.5 | 0.044 | 0.088 | 1250 | 5,000 |
| NRSZ152M6.3V12.5x16F | | | 0.23 | 94.5 | 0.063 | 0.14 | 1150 | 5,000 |
| NRSZ222M6.3V12.5x20F | 2200 | | 0.24 | 138 | 0.048 | 0.096 | 1400 | 7,000 |
| NRSZ272M6.3V12.5x20F | 2700 | | 0.25 | 170 | 0.038 | 0.076 | 1600 | 7,000 |
| NRSZ392M6.3V12.5x25F | 3900 | | 0.28 | 245 | 0.029 | 0.058 | 1800 | 7,000 |
| NRSZ472M6.3V12.5x25F | 4700 | | 0.29 | 296 | 0.029 | 0.058 | 1800 | 5,000 |
| NRSZ562M6.3V16x25F | 5600 | | 0.31 | 353 | 0.022 | 0.044 | 2100 | 10,000 |
| NRSZ123M6.3V18x35.5F | 12000 | | 0.44 | 756 | 0.018 | 0.036 | 2800 | 10,000 |
| NRSZ680M10V5x11F | 68 | | 10 | 0.19 | 6.8 | 0.90 | 1.8 | 160 |
| NRSZ820M10V5x11F | 82 | 0.19 | | 8.2 | 0.65 | 1.3 | 175 | 2,500 |
| NRSZ101M10V5x11F | 100 | 0.19 | | 10.0 | 0.42 | 0.84 | 190 | 2,500 |
| NRSZ151M10V6.3x11F | 150 | 0.19 | | 150.0 | 0.31 | 0.62 | 280 | 3,000 |
| NRSZ181M10V6.3x11F | 180 | 0.19 | | 18.0 | 0.31 | 0.62 | 280 | 3,000 |
| NRSZ221M10V6.3x11F | 220 | 0.19 | | 22.0 | 0.22 | 0.44 | 300 | 3,000 |
| NRSZ331M10V8x11.5F | 330 | 0.19 | | 33.0 | 0.11 | 0.28 | 560 | 3,500 |
| NRSZ471M10V8x15F | 470 | 0.19 | | 47.0 | 0.085 | 0.17 | 610 | 4,500 |
| NRSZ471M10V10x12.5F | | 0.19 | | 47.0 | 0.12 | 0.24 | 730 | 5,000 |
| NRSZ561M10V10x16F | 560 | 0.19 | | 56.0 | 0.095 | 0.19 | 735 | 5,000 |
| NRSZ681M10V8x20F | 680 | 0.19 | | 68.0 | 0.069 | 0.14 | 800 | 4,500 |
| NRSZ681M10V10x12.5F | | 0.19 | | 68.0 | 0.085 | 0.17 | 800 | 5,000 |
| NRSZ102M10V10x20F | 1000 | 0.19 | | 100 | 0.050 | 0.10 | 1200 | 5,000 |
| NRSZ102M10V12.5x16F | | 0.19 | | 100 | 0.063 | 0.14 | 1150 | 5,000 |
| NRSZ122M10V10x20F | 1200 | 0.19 | | 120 | 0.044 | 0.088 | 1250 | 5,000 |
| NRSZ152M10V10x22F | 1500 | 0.20 | | 150 | 0.039 | 0.078 | 1450 | 5,000 |
| NRSZ222M10V12.5x20F | 2200 | 0.22 | | 220 | 0.038 | 0.076 | 1400 | 7,000 |
| NRSZ222M10V12.5x25F | | 0.22 | | 220 | 0.037 | 0.074 | 1700 | 7,000 |
| NRSZ272M10V12.5x25F | 2700 | 0.22 | 270 | 0.029 | 0.058 | 1800 | 7,000 | |
| NRSZ332M10V12.5x25F | 3300 | 0.23 | 330 | 0.035 | 0.070 | 1700 | 5,000 | |
| NRSZ392M10V16x25F | 3900 | 0.25 | 390 | 0.028 | 0.056 | 2070 | 10,000 | |
| NRSZ472M10V16x31.5F | 4700 | 0.26 | 470 | 0.024 | 0.048 | 2350 | 10,000 | |
| NRSZ562M10V16x31.5F | 5600 | 0.18 | 560 | 0.024 | 0.048 | 2350 | 10,000 | |
| NRSZ682M10V16x35.5F | 6800 | 0.30 | 680 | 0.022 | 0.044 | 2550 | 10,000 | |
| NRSZ822M10V18x35.5F | 8200 | 0.33 | 820 | 0.020 | 0.040 | 2800 | 10,000 | |

STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| Part Number | Cap. (μF) | W.V. (Vdc) | Max. Tanδ | Max. LC (μA) | Max. Impedance | | Max. Ripple Current at 100KHz/105°C (mA rms) | Load Life Hours @ +105°C |
|---------------------|-----------|------------|-----------|--------------|----------------|--------------|--|--------------------------|
| | | | | | 100KHz/20°C | 100KHz/-10°C | | |
| NRSZ470M16V5x11F | 47 | 16 | 0.16 | 7.5 | 0.90 | 1.8 | 180 | 2,500 |
| NRSZ560M16V5x11F | 56 | | 0.16 | 9.0 | 0.90 | 1.8 | 180 | 2,500 |
| NRSZ101M16V6.3x11F | 100 | | 0.16 | 16.0 | 0.32 | 0.64 | 280 | 3,000 |
| NRSZ121M16V6.3x11F | 120 | | 0.16 | 19.2 | 0.31 | 0.62 | 290 | 3,000 |
| NRSZ151M16V6.3x11F | 150 | | 0.16 | 24.0 | 0.22 | 0.44 | 300 | 3,000 |
| NRSZ181M16V6.3x11F | 180 | | 0.16 | 28.8 | 0.24 | 0.48 | 280 | 2,000 |
| NRSZ221M16V8x11.5F | 220 | | 0.16 | 35.2 | 0.11 | 0.32 | 560 | 3,500 |
| NRSZ271M16V8x12.5F | 270 | | 0.16 | 43.2 | 0.11 | 0.28 | 570 | 3,500 |
| NRSZ331M16V8x15F | 330 | | 0.16 | 52.8 | 0.085 | 0.17 | 730 | 4,500 |
| NRSZ331M16V10x12.5F | | | 0.16 | 52.8 | 0.10 | 0.20 | 650 | 5,000 |
| NRSZ471M16V8x20F | 470 | | 0.16 | 75.2 | 0.069 | 0.14 | 800 | 4,500 |
| NRSZ471M16V10x16F | | | 0.16 | 75.2 | 0.90 | 0.18 | 950 | 5,000 |
| NRSZ681M16V10x20F | 680 | | 0.16 | 108 | 0.054 | 0.11 | 1250 | 5,000 |
| NRSZ681M16V12.5x16F | | | 0.16 | 108 | 0.063 | 0.14 | 1150 | 5,000 |
| NRSZ821M16V10x20F | 820 | | 0.16 | 131 | 0.044 | 0.90 | 1250 | 5,000 |
| NRSZ102M16V10x22F | 1000 | | 0.16 | 160 | 0.039 | 0.078 | 1450 | 5,000 |
| NRSZ122M16V12.5x20F | 1200 | | 0.16 | 192 | 0.038 | 0.076 | 1600 | 7,000 |
| NRSZ182M16V12.5x25F | 1800 | | 0.17 | 288 | 0.029 | 0.058 | 1800 | 7,000 |
| NRSZ222M16V12.5x25F | 2200 | | 0.18 | 352 | 0.037 | 0.074 | 1700 | 5,000 |
| NRSZ222M16V16x21F | | | 0.18 | 352 | 0.040 | 0.080 | 1700 | 5,000 |
| NRSZ272M16V16x25F | 2700 | | 0.19 | 432 | 0.022 | 0.044 | 2100 | 10,000 |
| NRSZ392M16V16x31.5F | 3900 | | 0.22 | 624 | 0.018 | 0.036 | 2350 | 10,000 |
| NRSZ472M16V16x35.5F | 4700 | | 0.23 | 752 | 0.018 | 0.036 | 2550 | 10,000 |
| NRSZ562M16V18x35.5F | 5600 | | 0.25 | 896 | 0.018 | 0.036 | 2800 | 10,000 |
| NRSZ330M25V5x11F | 33 | 25 | 0.14 | 8.3 | 0.90 | 1.8 | 160 | 2,500 |
| NRSZ470M25V5x11F | 47 | | 0.14 | 11.7 | 0.42 | 0.84 | 190 | 2,500 |
| NRSZ680M25V6.3x11F | 68 | | 0.14 | 17.0 | 0.32 | 0.64 | 280 | 3,000 |
| NRSZ101M25V6.3x11F | 100 | | 0.14 | 25.0 | 0.22 | 0.48 | 300 | 3,000 |
| NRSZ151M25V8x11.5F | 150 | | 0.14 | 37.5 | 0.11 | 0.22 | 560 | 3,500 |
| NRSZ181M25V8x12.5F | 180 | | 0.14 | 45.0 | 0.11 | 0.22 | 570 | 3,500 |
| NRSZ221M25V8x15F | 220 | | 0.14 | 55.0 | 0.085 | 0.18 | 730 | 4,500 |
| NRSZ221M25V10x12.5F | | | 0.14 | 55.0 | 0.12 | 0.24 | 630 | 5,000 |
| NRSZ271M25V10x12.5F | 270 | | 0.14 | 67.5 | 0.085 | 0.18 | 800 | 5,000 |
| NRSZ331M25V8x20F | 330 | | 0.14 | 82.5 | 0.069 | 0.16 | 800 | 4,500 |
| NRSZ331M25V10x16F | | | 0.14 | 82.5 | 0.090 | 0.18 | 830 | 5,000 |
| NRSZ471M25V10x16F | 470 | | 0.14 | 117 | 0.065 | 0.13 | 1010 | 4,000 |
| NRSZ471M25V12.5x16F | | | 0.14 | 117 | 0.063 | 0.14 | 1150 | 5,000 |
| NRSZ561M25V10x20F | 560 | | 0.14 | 140 | 0.044 | 0.088 | 1250 | 5,000 |
| NRSZ681M25V10x22F | 680 | | 0.14 | 170 | 0.039 | 0.078 | 1450 | 5,000 |
| NRSZ102M25V12.5x20F | 1000 | | 0.14 | 250 | 0.038 | 0.076 | 1600 | 7,000 |
| NRSZ102M25V16x16F | | | 0.14 | 250 | 0.038 | 0.076 | 1600 | 5,000 |
| NRSZ122M25V12.5x25F | 1200 | | 0.14 | 300 | 0.029 | 0.058 | 1800 | 7,000 |
| NRSZ182M25V16x25F | 1800 | | 0.15 | 450 | 0.022 | 0.044 | 2100 | 10,000 |
| NRSZ222M25V16x25F | 2200 | | 0.16 | 550 | 0.029 | 0.058 | 2000 | 7,000 |
| NRSZ272M25V16x31.5F | 2700 | | 0.17 | 675 | 0.018 | 0.038 | 2350 | 10,000 |
| NRSZ332M25V18x35.5F | 3300 | | 0.18 | 825 | 0.018 | 0.038 | 2550 | 10,000 |
| NRSZ392M25V18x31.5F | 3900 | | 0.20 | 975 | 0.018 | 0.046 | 2800 | 7,000 |
| NRSZ472M25V18x35.5F | 4700 | | 0.21 | 1175 | 0.021 | 0.042 | 2700 | 7,000 |

STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

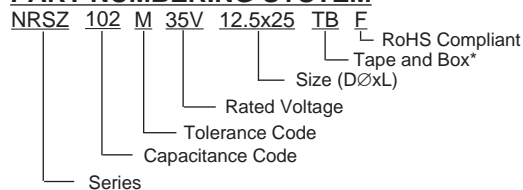
| Part Number | Cap. (μF) | W.V. (Vdc) | Max. Tanδ | Max. LC (μA) | Max. Impedance | | Max. Ripple Current at 100KHz/105°C (mA rms) | Load Life Hours @ +105°C | |
|---------------------|-----------|------------|-----------|--------------|----------------|--------------|--|--------------------------|-------|
| | | | | | 100KHz/20°C | 100KHz/-10°C | | | |
| NRSZ220M35V5x11F | 22 | 35 | 0.12 | 7.7 | 0.42 | 0.84 | 190 | 2,500 | |
| NRSZ330M35V6.3x11F | 33 | | 0.12 | 11.6 | 0.42 | 0.84 | 190 | 3,000 | |
| NRSZ470M35V6.3x11F | 47 | | 0.12 | 16.5 | 0.32 | 0.64 | 280 | 3,000 | |
| NRSZ680M35V6.3x11F | 68 | | 0.12 | 19.6 | 0.22 | 0.44 | 300 | 3,000 | |
| NRSZ820M35V6.3x11F | 82 | | 0.12 | 28.7 | 0.24 | 0.48 | 280 | 2,000 | |
| NRSZ101M35V8x11.5F | 100 | | 0.12 | 35.0 | 0.11 | 0.22 | 560 | 3,500 | |
| NRSZ121M35V8x12.5F | 120 | | 0.12 | 42.0 | 0.11 | 0.22 | 570 | 3,500 | |
| NRSZ121M35V10x12.5F | | | 0.14 | 42.0 | 0.14 | 0.28 | 560 | 5,000 | |
| NRSZ151M35V8x15F | 150 | | 0.12 | 52.5 | 0.085 | 0.17 | 730 | 4,500 | |
| NRSZ151M35V10x12.5F | | | 0.12 | 52.5 | 0.12 | 0.24 | 635 | 5,000 | |
| NRSZ221M35V8x20F | 220 | | 0.12 | 77.0 | 0.069 | 0.14 | 800 | 4,500 | |
| NRSZ221M35V10x16F | | | 0.12 | 77.0 | 0.085 | 0.17 | 950 | 5,000 | |
| NRSZ331M35V10x20F | 330 | | 0.12 | 115 | 0.044 | 0.088 | 1250 | 5,000 | |
| NRSZ331M35V12.5x16F | | | 0.12 | 115 | 0.063 | 0.14 | 1150 | 5,000 | |
| NRSZ391M35V10x20F | 390 | | 0.12 | 136 | 0.054 | 0.11 | 1190 | 4,000 | |
| NRSZ471M35V10x20F | 470 | | 0.12 | 164 | 0.054 | 0.11 | 1250 | 4,000 | |
| NRSZ561M35V12.5x20F | 560 | | 0.12 | 196 | 0.042 | 0.084 | 1400 | 7,000 | |
| NRSZ681M35V12.5x20F | 680 | | 0.12 | 238 | 0.038 | 0.076 | 1600 | 7,000 | |
| NRSZ102M35V12.5x25F | 1000 | | 0.12 | 350 | 0.029 | 0.058 | 1800 | 7,000 | |
| NRSZ102M35V16x21F | | | 0.12 | 350 | 0.037 | 0.074 | 1700 | 5,000 | |
| NRSZ122M35V16x25F | 1200 | | 0.12 | 420 | 0.029 | 0.058 | 2000 | 10,000 | |
| NRSZ152M35V16x25F | 1500 | | 0.13 | 525 | 0.022 | 0.044 | 2100 | 10,000 | |
| NRSZ222M35V16x31.5F | 2200 | | 0.14 | 770 | 0.018 | 0.036 | 2350 | 10,000 | |
| NRSZ222M35V16x35.5F | | | 0.14 | 770 | 0.018 | 0.036 | 2550 | 10,000 | |
| NRSZ272M35V18x35.5F | 2700 | | 0.15 | 945 | 0.018 | 0.036 | 2800 | 10,000 | |
| NRSZ332M35V18x35.5F | 3300 | | 0.16 | 1155 | 0.022 | 0.044 | 2700 | 5,000 | |
| NRSZ1R0M50V5x11F | 1.0 | | 50 | 0.10 | 3.0 | 3.3 | 6.6 | 30 | 2,500 |
| NRSZ2R2M50V5x11F | 2.2 | | | 0.10 | 3.0 | 3.0 | 6.0 | 45 | 2,500 |
| NRSZ4R7M50V5x11F | 4.7 | | | 0.10 | 3.0 | 2.0 | 4.0 | 90 | 2,500 |
| NRSZ100M50V5x11F | 10 | | | 0.10 | 5.0 | 1.7 | 3.4 | 110 | 2,500 |
| NRSZ150M50V5x11F | 15 | | | 0.10 | 7.5 | 1.2 | 2.4 | 130 | 2,500 |
| NRSZ180M50V5x11F | 18 | | | 0.10 | 9.0 | 1.0 | 2.0 | 150 | 2,500 |
| NRSZ220M50V5x11F | 22 | | | 0.10 | 11.0 | 0.70 | 1.4 | 160 | 2,500 |
| NRSZ330M50V6.3x11F | 33 | 0.10 | | 16.5 | 0.55 | 1.1 | 200 | 3,000 | |
| NRSZ390M50V6.3x11F | 39 | 0.10 | | 19.5 | 0.55 | 1.1 | 200 | 3,000 | |
| NRSZ470M50V6.3x11F | 47 | 0.10 | | 23.5 | 0.43 | 0.86 | 220 | 3,000 | |
| NRSZ680M50V8x11.5F | 68 | 0.10 | | 34.0 | 0.26 | 0.52 | 360 | 3,500 | |
| NRSZ820M50V8x12.5F | 82 | 0.10 | | 41.0 | 0.24 | 0.48 | 400 | 3,500 | |
| NRSZ101M50V8x15F | 100 | 0.10 | | 50.0 | 0.18 | 0.36 | 500 | 4,500 | |
| NRSZ101M50V10x12.5F | | 0.10 | | 50.0 | 0.25 | 0.50 | 520 | 5,000 | |
| NRSZ121M50V8x20F | 120 | 0.10 | | 60.0 | 0.16 | 0.32 | 650 | 4,500 | |
| NRSZ121M50V10x12.5F | | 0.10 | | 60.0 | 0.16 | 0.32 | 550 | 5,000 | |
| NRSZ151M50V8x20F | 150 | 0.10 | | 75.0 | 0.16 | 0.32 | 650 | 4,500 | |
| NRSZ181M50V10x16F | 180 | 0.10 | | 90.0 | 0.12 | 0.24 | 760 | 5,000 | |
| NRSZ221M50V10x20F | 220 | 0.10 | | 110 | 0.10 | 0.20 | 850 | 5,000 | |
| NRSZ221M50V12.5x16F | 220 | 0.10 | | 110 | 0.12 | 0.24 | 800 | 5,000 | |
| NRSZ331M50V10x22F | 330 | 0.10 | | 165 | 0.072 | 0.16 | 1000 | 5,000 | |
| NRSZ391M50V12.5x20F | 390 | 0.10 | | 195 | 0.059 | 0.12 | 1200 | 7,000 | |
| NRSZ391M50V16x16F | | 0.10 | | 195 | 0.08 | 0.16 | 1610 | 5,000 | |
| NRSZ471M50V12.5x20F | 470 | 0.10 | | 235 | 0.059 | 0.12 | 1200 | 7,000 | |
| NRSZ471M50V16x16F | | 0.10 | | 235 | 0.07 | 0.14 | 1200 | 5,000 | |
| NRSZ561M50V12.5x25F | 560 | 0.10 | | 280 | 0.045 | 0.092 | 1400 | 7,000 | |
| NRSZ102M50V16x25F | 1000 | 0.10 | | 500 | 0.039 | 0.078 | 1750 | 10,000 | |
| NRSZ122M50V16x31.5F | 1200 | 0.10 | | 600 | 0.025 | 0.058 | 2100 | 10,000 | |
| NRSZ152M50V16x35.5F | 1500 | 0.11 | | 750 | 0.025 | 0.058 | 2300 | 10,000 | |
| NRSZ182M50V18x35.5F | 1800 | 0.11 | | 900 | 0.024 | 0.048 | 2400 | 10,000 | |



STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| Part Number | Cap. (μF) | W.V. (Vdc) | Max. Tanδ | Max. LC (μA) | Max. Impedance | | Max. Ripple Current at 100KHz/105°C (mA rms) | Load Life Hours @ +105°C |
|----------------------|-----------|------------|-----------|--------------|----------------|--------------|--|--------------------------|
| | | | | | 100KHz/20°C | 100KHz/-10°C | | |
| NRSZ180M63V5x11F | 18 | 63 | 0.08 | 7.6 | 1.6 | 3.2 | 140 | 2,500 |
| NRSZ330M63V6.3x11F | 33 | | 0.08 | 17.0 | 0.90 | 1.8 | 200 | 3,000 |
| NRSZ390M63V6.3x11F | 39 | | 0.08 | 24.6 | 0.90 | 1.8 | 200 | 2,000 |
| NRSZ470M63V8x11.5F | 47 | | 0.08 | 29.6 | 0.52 | 1.04 | 275 | 3,500 |
| NRSZ560M63V8x11.5F | 56 | | 0.08 | 35.3 | 0.52 | 1.04 | 275 | 3,500 |
| NRSZ680M63V8x11.5F | 68 | | 0.08 | 42.8 | 0.52 | 1.04 | 275 | 3,500 |
| NRSZ820M63V8x15F | 82 | | 0.08 | 51.7 | 0.34 | 0.68 | 360 | 4,500 |
| NRSZ101M63V10x12.5F | 100 | | 0.08 | 63.0 | 0.26 | 0.52 | 420 | 5,000 |
| NRSZ121M63V8x20F | 120 | | 0.08 | 75.6 | 0.21 | 0.42 | 510 | 4,500 |
| NRSZ121M63V10x12.5F | | | 0.08 | 75.6 | 0.26 | 0.52 | 420 | 5,000 |
| NRSZ151M63V8x20F | 150 | | 0.08 | 94.5 | 0.18 | 0.36 | 690 | 5,000 |
| NRSZ151M63V10x16F | | | 0.08 | 91.5 | 0.20 | 0.40 | 525 | 5,000 |
| NRSZ221M63V10x20F | | | 0.08 | 138 | 0.15 | 0.30 | 765 | 5,000 |
| NRSZ271M63V10x22F | | | 0.08 | 170 | 0.12 | 0.24 | 840 | 5,000 |
| NRSZ331M63V12.5x20F | 330 | | 0.08 | 208 | 0.10 | 0.20 | 960 | 7,000 |
| NRSZ391M63V12.5x25F | 390 | | 0.08 | 245 | 0.064 | 0.13 | 1200 | 7,000 |
| NRSZ471M63V12.5x25F | 470 | | 0.08 | 296 | 0.064 | 0.13 | 1200 | 7,000 |
| NRSZ681M63V16x25F | 680 | | 0.08 | 428 | 0.052 | 0.11 | 1500 | 10,000 |
| NRSZ102M63V16x31.5F | 1000 | | 0.08 | 630 | 0.042 | 0.09 | 1750 | 10,000 |
| NRSZ1R0M100V5x11F | 1.0 | | 100 | 0.07 | 3.0 | 4.1 | 8.2 | 97 |
| NRSZ5R6M100V5x11F | 5.6 | 0.07 | | 5.6 | 2.7 | 5.4 | 120 | 2,500 |
| NRSZ100M100V6.3x11F | 10 | 0.07 | | 10 | 1.4 | 2.8 | 120 | 3,000 |
| NRSZ120M100V6.3x11F | 12 | 0.07 | | 12 | 1.4 | 2.8 | 170 | 3,000 |
| NRSZ150M100V8x11.5F | 15 | 0.07 | | 15 | 0.81 | 1.62 | 230 | 3,500 |
| NRSZ220M100V8x11.5F | 22 | 0.07 | | 22 | 0.81 | 1.62 | 230 | 3,500 |
| NRSZ270M100V8x15F | 27 | 0.07 | | 27 | 0.64 | 1.3 | 295 | 4,500 |
| NRSZ390M100V8x20F | 39 | 0.07 | | 39 | 0.36 | 0.72 | 400 | 4,500 |
| NRSZ470M100V10x16F | 47 | 0.07 | | 47 | 0.35 | 0.70 | 420 | 5,000 |
| NRSZ680M100V10x20F | 68 | 0.07 | | 68 | 0.24 | 0.48 | 630 | 5,000 |
| NRSZ101M100V12.5x20F | 100 | 0.07 | | 100 | 0.15 | 0.30 | 800 | 7,000 |
| NRSZ151M100V12.5x25F | 150 | 0.07 | | 150 | 0.11 | 0.22 | 920 | 7,000 |
| NRSZ221M100V16x25F | 220 | 0.07 | | 220 | 0.071 | 0.15 | 1100 | 10,000 |
| NRSZ331M100V16x31.5F | 330 | 0.07 | | 330 | 0.049 | 0.10 | 1490 | 10,000 |
| NRSZ391M100V16x35.5F | 390 | 0.07 | | 390 | 0.043 | 0.09 | 1630 | 10,000 |
| NRSZ471M100V18x35.5F | 470 | 0.07 | | 470 | 0.038 | 0.08 | 1700 | 10,000 |

PART NUMBERING SYSTEM



*see tape specification for details