

# Large Can Aluminum Electrolytic Capacitors

NRLUW Series

## FEATURES

- LONG LIFE AT +105°C (5,000 HOURS)
- HIGH RIPPLE CURRENT
- HIGH VOLTAGE (UP TO 450VDC)
- SUITABLE FOR SWITCHING POWER SUPPLIES

**RoHS Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



## SPECIFICATIONS

|   |                        |   |      |      |      |      |      |     |     |  |
|---|------------------------|---|------|------|------|------|------|-----|-----|--|
| Operating Temperature Range                           |                        | -25 ~ +105°C                                      |      |      |      |      |      |     |     |  |
| Rated Voltage Range                                   |                        | 200 ~ 450Vdc                                      |      |      |      |      |      |     |     |  |
| Rated Capacitance Range                               |                        | 100 ~ 2,200μF                                     |      |      |      |      |      |     |     |  |
| Capacitance Tolerance                                 |                        | ±20% (M)  |      |      |      |      |      |     |     |  |
| Max. Leakage Current (μA)<br>After 5 minutes (20°C)   |                        | $3 \times C \sqrt{(\mu F)V}$                      |      |      |      |      |      |     |     |  |
| Max. Tan δ<br>at 120Hz/20°C                           | W.V. (Vdc)             | 200   | 220  | 250  | 315  | 350  | 400  | 420 | 450 |  |
|   | Tan δ max.             | 0.2   | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2 | 0.2 |  |
| Surge Voltage   | W.V. (Vdc)             | 200   | 220  | 250  | 315  | 350  | 400  | 420 | 450 |  |
|   | S.V. (Vdc)             | 250   | 270  | 300  | 365  | 400  | 450  | 470 | 500 |  |
| Ripple Current<br>Correction Factors                  | Frequency (Hz)         | 60  | 120  | 500  | 1K   | 100K |      |     |     |  |
|   | Multiplier<br>at 105°C | 200 ~ 250Vdc                                      | 0.80 | 1.00 | 1.20 | 1.30 | 1.50 |     |     |  |
|   |                        | 400 ~ 500Vdc                                      | 0.80 | 1.00 | 1.20 | 1.25 | 1.40 |     |     |  |
| Impedance Ratio<br>(Low Temperature Stability)        | Rated Voltage (VDC)    | $Z (-25^\circ\text{C})/Z (+20^\circ\text{C})$     |      |      |      |      |      |     |     |  |
|   | 200 ~ 250              | 3 max.  |      |      |      |      |      |     |     |  |
|   | 315 ~ 450              | 8 max.  |      |      |      |      |      |     |     |  |
| Load Life Test<br>5,000 hours at +105°C               | Capacitance Change     | Within ±20% of initial measured value             |      |      |      |      |      |     |     |  |
|   | Tan δ                  | Less than 200% of specified maximum value         |      |      |      |      |      |     |     |  |
|   | Leakage Current        | Less than specified maximum value                 |      |      |      |      |      |     |     |  |
| Shelf Life Test<br>1,000 hours at +105°C<br>(no load) | Capacitance Change     | Within ±20% of initial measured value             |      |      |      |      |      |     |     |  |
|   | Tan δ                  | Less than 200% of specified maximum value         |      |      |      |      |      |     |     |  |
|   | Leakage Current        | Less than specified maximum value                 |      |      |      |      |      |     |     |  |
| Other   |                        | Conforms to JIS C-5141 (1991) & JIS C-5102 (1986) |      |      |      |      |      |     |     |  |

## MECHANICAL CHARACTERISTICS:

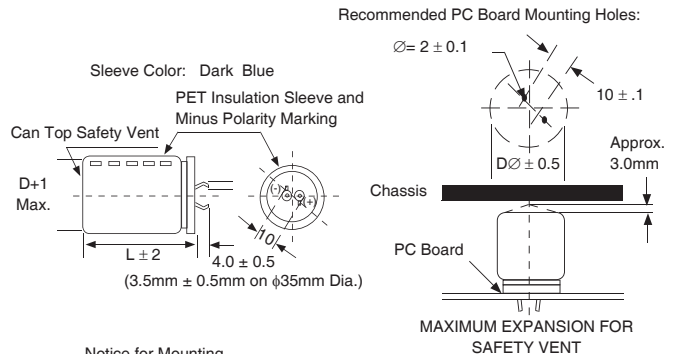
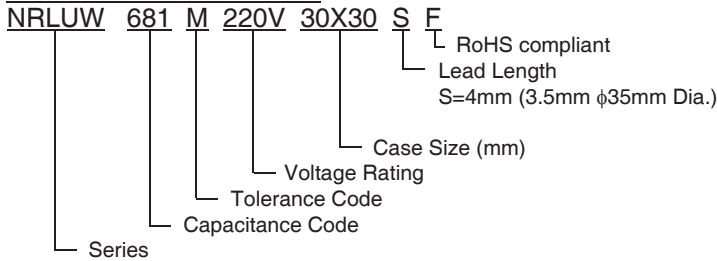
### 1. Safety Vent:

The capacitors are provided with a pressure vent on the top of can. The vent is designed to rupture in the event that high internal gas pressure is developed by circuit malfunction or mis-use like reverse voltage.

### 2. Terminal Strength:

Each terminal of the capacitor shall withstand an axial pull force of 4.5Kg for a period 10 seconds or a radial bent force of 2.5Kg for a period of 30 seconds.

## PART NUMBER SYSTEM



## PRECAUTIONS

Please review the notes on correct use, safety and precautions 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)



| Part Number          | Voltage (VDC) | Cap (μF) | Case Size D x L (mm) | Dissipation Factor | Max. Leakage Current (μA) | Max. Ripple Current (Arms @ 105°C) |            |      |
|----------------------|---------------|----------|----------------------|--------------------|---------------------------|------------------------------------|------------|------|
|                      |               |          |                      |                    |                           | 120Hz                              | 10KHz ~ up |      |
| NRLUW331M200V22X25SF | 200           | 330      | 22X25                | 0.2                | 770                       | 1.31                               | 1.96       |      |
| NRLUW391M200V22X30SF |               | 390      | 22X30                | 0.2                | 837                       | 1.32                               | 1.98       |      |
| NRLUW471M200V22X30SF |               | 470      | 22X30                | 0.2                | 919                       | 1.54                               | 2.31       |      |
| NRLUW471M200V25X25SF |               | 470      | 25X25                | 0.2                | 919                       | 1.54                               | 2.31       |      |
| NRLUW561M200V22X35SF |               | 560      | 22X35                | 0.2                | 1003                      | 1.75                               | 2.62       |      |
| NRLUW561M200V25X30SF |               | 560      | 25X30                | 0.2                | 1003                      | 1.75                               | 2.62       |      |
| NRLUW681M200V22X40SF |               | 680      | 22X40                | 0.2                | 1106                      | 1.96                               | 2.94       |      |
| NRLUW681M200V25X35SF |               | 680      | 25X35                | 0.2                | 1106                      | 1.79                               | 2.68       |      |
| NRLUW681M200V30X25SF |               | 680      | 30X25                | 0.2                | 1106                      | 1.46                               | 2.19       |      |
| NRLUW821M200V22X50SF |               | 820      | 22X50                | 0.2                | 1214                      | 2.15                               | 3.22       |      |
| NRLUW821M200V25X40SF |               | 820      | 25X40                | 0.2                | 1214                      | 2.03                               | 3.04       |      |
| NRLUW821M200V30X30SF |               | 820      | 30X30                | 0.2                | 1214                      | 1.77                               | 2.65       |      |
| NRLUW821M200V35X25SF |               | 820      | 35X25                | 0.2                | 1214                      | 1.59                               | 2.38       |      |
| NRLUW102M200V25X45SF |               | 1000     | 25X45                | 0.2                | 1341                      | 2.26                               | 3.39       |      |
| NRLUW102M200V30X35SF |               | 1000     | 30X35                | 0.2                | 1341                      | 2.06                               | 3.09       |      |
| NRLUW102M200V35X30SF |               | 1000     | 35X30                | 0.2                | 1341                      | 1.93                               | 2.89       |      |
| NRLUW122M200V25X50SF |               | 1200     | 25X50                | 0.2                | 1469                      | 2.34                               | 3.51       |      |
| NRLUW122M200V30X40SF |               | 1200     | 30X40                | 0.2                | 1469                      | 2.34                               | 3.51       |      |
| NRLUW122M200V35X30SF |               | 1200     | 35X30                | 0.2                | 1469                      | 2.22                               | 3.33       |      |
| NRLUW152M200V30X45SF |               | 1500     | 30X45                | 0.2                | 1643                      | 2.60                               | 3.90       |      |
| NRLUW152M200V35X35SF |               | 1500     | 35X35                | 0.2                | 1643                      | 2.56                               | 3.84       |      |
| NRLUW182M200V30X50SF |               | 1800     | 30X50                | 0.2                | 1800                      | 2.85                               | 4.27       |      |
| NRLUW182M200V35X40SF |               | 1800     | 35X40                | 0.2                | 1800                      | 2.85                               | 4.27       |      |
| NRLUW222M200V35X50SF |               | 2200     | 35X50                | 0.2                | 1989                      | 3.14                               | 4.71       |      |
| NRLUW271M220V22X25SF |               | 220      | 270                  | 22X25              | 0.2                       | 731                                | 1.04       | 1.56 |
| NRLUW331M220V22X30SF |               |          | 330                  | 22X30              | 0.2                       | 808                                | 1.26       | 1.89 |
| NRLUW391M220V22X30SF | 390           |          | 22X30                | 0.2                | 878                       | 1.47                               | 2.20       |      |
| NRLUW391M220V25X25SF | 390           |          | 25X25                | 0.2                | 878                       | 1.21                               | 1.81       |      |
| NRLUW471M220V22X35SF | 470           |          | 22X35                | 0.2                | 964                       | 1.64                               | 2.46       |      |
| NRLUW471M220V25X30SF | 470           |          | 25X30                | 0.2                | 964                       | 1.47                               | 2.20       |      |
| NRLUW561M220V22X40SF | 560           |          | 22X40                | 0.2                | 1052                      | 1.86                               | 2.79       |      |
| NRLUW561M220V25X30SF | 560           |          | 25X30                | 0.2                | 1052                      | 1.71                               | 2.56       |      |
| NRLUW561M220V30X25SF | 560           |          | 30X25                | 0.2                | 1052                      | 1.41                               | 2.11       |      |
| NRLUW681M220V22X45SF | 680           |          | 22X45                | 0.2                | 1160                      | 2.05                               | 3.07       |      |
| NRLUW681M220V25X35SF | 680           |          | 25X35                | 0.2                | 1160                      | 1.94                               | 2.91       |      |
| NRLUW681M220V30X30SF | 680           |          | 30X30                | 0.2                | 1160                      | 1.71                               | 2.56       |      |
| NRLUW821M220V25X40SF | 820           |          | 25X40                | 0.2                | 1274                      | 2.16                               | 3.24       |      |
| NRLUW821M220V30X30SF | 820           |          | 30X30                | 0.2                | 1274                      | 1.99                               | 2.98       |      |
| NRLUW821M220V35X25SF | 820           |          | 35X25                | 0.2                | 1274                      | 1.89                               | 2.83       |      |
| NRLUW102M220V25X45SF | 1000          |          | 25X45                | 0.2                | 1407                      | 2.37                               | 3.55       |      |
| NRLUW102M220V30X35SF | 1000          |          | 30X35                | 0.2                | 1407                      | 2.26                               | 3.39       |      |
| NRLUW102M220V35X30SF | 1000          |          | 35X30                | 0.2                | 1407                      | 2.15                               | 3.22       |      |
| NRLUW122M220V30X40SF | 1200          |          | 30X40                | 0.2                | 1541                      | 2.51                               | 3.76       |      |
| NRLUW122M220V35X35SF | 1200          |          | 35X35                | 0.2                | 1541                      | 2.48                               | 3.72       |      |



| Part Number          | Voltage (VDC) | Cap (μF) | Case Size D x L (mm) | Dissipation Factor | Max. Leakage Current (μA) | Max. Ripple Current (Arms @ 105°C) |            |      |      |
|----------------------|---------------|----------|----------------------|--------------------|---------------------------|------------------------------------|------------|------|------|
|                      |               |          |                      |                    |                           | 120Hz                              | 10KHz ~ up |      |      |
| NRLUW152M220V30X50SF | 220           | 1500     | 30X50                | 0.2                | 1723                      | 2.75                               | 4.12       |      |      |
| NRLUW152M220V35X40SF |               | 1500     | 35X40                | 0.2                | 1723                      | 2.50                               | 3.75       |      |      |
| NRLUW182M220V35X45SF |               | 1800     | 35X45                | 0.2                | 1887                      | 3.04                               | 4.56       |      |      |
| NRLUW271M250V22X25SF | 250           | 270      | 22X25                | 0.2                | 779                       | 1.18                               | 1.77       |      |      |
| NRLUW331M250V22X30SF |               | 330      | 22X30                | 0.2                | 861                       | 1.37                               | 2.05       |      |      |
| NRLUW331M250V25X25SF |               | 330      | 25X25                | 0.2                | 861                       | 1.14                               | 1.71       |      |      |
| NRLUW391M250V22X35SF |               | 390      | 22X35                | 0.2                | 936                       | 1.56                               | 2.34       |      |      |
| NRLUW391M250V25X30SF |               | 390      | 25X30                | 0.2                | 936                       | 1.38                               | 2.07       |      |      |
| NRLUW471M250V22X40SF |               | 470      | 22X40                | 0.2                | 1028                      | 1.74                               | 2.61       |      |      |
| NRLUW471M250V25X30SF |               | 470      | 25X30                | 0.2                | 1028                      | 1.61                               | 2.41       |      |      |
| NRLUW561M250V22X45SF |               | 560      | 22X45                | 0.2                | 1122                      | 1.92                               | 2.88       |      |      |
| NRLUW561M250V25X35SF |               | 560      | 25X35                | 0.2                | 1122                      | 1.83                               | 2.74       |      |      |
| NRLUW561M250V30X25SF |               | 560      | 30X25                | 0.2                | 1122                      | 1.63                               | 2.44       |      |      |
| NRLUW681M250V22X50SF |               | 250      | 680                  | 22X50              | 0.2                       | 1236                               | 2.04       | 3.06 |      |
| NRLUW681M250V25X40SF |               |          | 680                  | 25X40              | 0.2                       | 1236                               | 2.04       | 3.06 |      |
| NRLUW681M250V30X30SF |               |          | 680                  | 30X30              | 0.2                       | 1236                               | 1.90       | 2.85 |      |
| NRLUW681M250V35X25SF |               |          | 680                  | 35X25              | 0.2                       | 1236                               | 1.80       | 2.70 |      |
| NRLUW821M250V25X45SF |               |          | 820                  | 25X45              | 0.2                       | 1358                               | 2.24       | 3.36 |      |
| NRLUW821M250V30X35SF |               |          | 820                  | 30X35              | 0.2                       | 1358                               | 2.15       | 3.22 |      |
| NRLUW821M250V35X30SF |               |          | 820                  | 35X30              | 0.2                       | 1358                               | 1.81       | 2.71 |      |
| NRLUW102M250V30X40SF |               |          | 1000                 | 30X40              | 0.2                       | 1500                               | 2.39       | 3.58 |      |
| NRLUW102M250V35X35SF |               |          | 1000                 | 35X35              | 0.2                       | 1500                               | 2.38       | 3.57 |      |
| NRLUW122M250V30X45SF |               |          | 1200                 | 30X45              | 0.2                       | 1643                               | 2.62       | 3.93 |      |
| NRLUW122M250V35X40SF |               |          | 1200                 | 35X40              | 0.2                       | 1643                               | 2.39       | 3.58 |      |
| NRLUW152M250V35X45SF |               |          | 1500                 | 35X45              | 0.2                       | 1837                               | 2.92       | 4.38 |      |
| NRLUW182M250V35X50SF |               |          | 1800                 | 35X50              | 0.2                       | 2012                               | 3.04       | 4.56 |      |
| NRLUW151M315V22X25SF |               |          | 315                  | 150                | 22X25                     | 0.2                                | 652        | 0.82 | 1.14 |
| NRLUW181M315V22X30SF |               |          |                      | 180                | 22X30                     | 0.2                                | 714        | 0.95 | 1.33 |
| NRLUW221M315V22X35SF |               | 220      |                      | 22X35              | 0.2                       | 789                                | 1.11       | 1.55 |      |
| NRLUW221M315V25X25SF |               | 220      |                      | 25X25              | 0.2                       | 789                                | 0.98       | 1.37 |      |
| NRLUW271M315V22X40SF | 270           | 22X40    |                      | 0.2                | 874                       | 1.28                               | 1.79       |      |      |
| NRLUW271M315V25X30SF | 270           | 25X30    |                      | 0.2                | 874                       | 1.17                               | 1.63       |      |      |
| NRLUW331M315V22X45SF | 330           | 22X45    |                      | 0.2                | 967                       | 1.45                               | 2.03       |      |      |
| NRLUW331M315V25X35SF | 330           | 25X35    |                      | 0.2                | 967                       | 1.35                               | 1.89       |      |      |
| NRLUW331M315V30X25SF | 330           | 30X25    |                      | 0.2                | 967                       | 1.19                               | 1.66       |      |      |
| NRLUW391M315V22X50SF | 390           | 22X50    |                      | 0.2                | 1051                      | 1.62                               | 2.26       |      |      |
| NRLUW391M315V25X40SF | 390           | 25X40    |                      | 0.2                | 1051                      | 1.53                               | 2.14       |      |      |
| NRLUW391M315V30X30SF | 390           | 30X30    |                      | 0.2                | 1051                      | 1.40                               | 1.96       |      |      |
| NRLUW391M315V35X25SF | 390           | 35X25    |                      | 0.2                | 1051                      | 1.30                               | 1.82       |      |      |
| NRLUW471M315V25X45SF | 470           | 25X45    |                      | 0.2                | 1154                      | 1.73                               | 2.42       |      |      |
| NRLUW471M315V30X35SF | 470           | 30X35    |                      | 0.2                | 1154                      | 1.61                               | 2.25       |      |      |
| NRLUW471M315V35X30SF | 470           | 35X30    |                      | 0.2                | 1154                      | 1.52                               | 2.12       |      |      |
| NRLUW561M315V25X50SF | 560           | 25X50    |                      | 0.2                | 1260                      | 1.99                               | 2.78       |      |      |
| NRLUW561M315V30X40SF | 560           | 30X40    |                      | 0.2                | 1260                      | 2.00                               | 2.80       |      |      |
| NRLUW561M315V35X30SF | 560           | 35X30    |                      | 0.2                | 1260                      | 1.69                               | 2.36       |      |      |



| Part Number          | Voltage (VDC) | Cap (μF) | Case Size D x L (mm) | Dissipation Factor | Max. Leakage Current (μA) | Max. Ripple Current (Arms @ 105°C) |            |      |
|----------------------|---------------|----------|----------------------|--------------------|---------------------------|------------------------------------|------------|------|
|                      |               |          |                      |                    |                           | 120Hz                              | 10KHz ~ up |      |
| NRLUW681M315V30X45SF | 315           | 680      | 30X45                | 0.2                | 1388                      | 2.06                               | 2.88       |      |
| NRLUW681M315V35X35SF |               | 680      | 35X35                | 0.2                | 1388                      | 1.88                               | 2.63       |      |
| NRLUW821M315V30X50SF |               | 820      | 30X50                | 0.2                | 1524                      | 2.30                               | 3.22       |      |
| NRLUW821M315V35X40SF |               | 820      | 35X40                | 0.2                | 1524                      | 2.14                               | 2.99       |      |
| NRLUW102M315V35X50SF |               | 1000     | 35X50                | 0.2                | 1683                      | 2.53                               | 3.54       |      |
| NRLUW121M350V22X25SF | 350           | 120      | 22X25                | 0.2                | 614                       | 0.74                               | 1.03       |      |
| NRLUW151M350V22X30SF |               | 150      | 22X30                | 0.2                | 687                       | 0.89                               | 1.24       |      |
| NRLUW181M350V22X35SF |               | 180      | 22X35                | 0.2                | 752                       | 1.03                               | 1.44       |      |
| NRLUW181M350V25X25SF |               | 180      | 25X25                | 0.2                | 752                       | 0.91                               | 1.27       |      |
| NRLUW221M350V22X40SF |               | 220      | 22X40                | 0.2                | 832                       | 1.17                               | 1.63       |      |
| NRLUW221M350V25X30SF |               | 220      | 25X30                | 0.2                | 832                       | 1.07                               | 1.49       |      |
| NRLUW271M350V22X45SF |               | 270      | 22X45                | 0.2                | 922                       | 1.33                               | 1.86       |      |
| NRLUW271M350V25X35SF |               | 270      | 25X35                | 0.2                | 922                       | 1.25                               | 1.75       |      |
| NRLUW271M350V30X25SF |               | 270      | 30X25                | 0.2                | 922                       | 1.11                               | 1.55       |      |
| NRLUW331M350V25X40SF |               | 330      | 25X40                | 0.2                | 1019                      | 1.43                               | 2.00       |      |
| NRLUW331M350V30X30SF |               | 330      | 30X30                | 0.2                | 1019                      | 1.31                               | 1.83       |      |
| NRLUW331M350V35X25SF |               | 330      | 35X25                | 0.2                | 1019                      | 1.23                               | 1.72       |      |
| NRLUW391M350V25X45SF |               | 390      | 25X45                | 0.2                | 1108                      | 1.61                               | 2.25       |      |
| NRLUW391M350V30X35SF |               | 390      | 30X35                | 0.2                | 1108                      | 1.51                               | 2.11       |      |
| NRLUW391M350V35X30SF |               | 390      | 35X30                | 0.2                | 1108                      | 1.44                               | 2.01       |      |
| NRLUW471M350V25X50SF |               | 470      | 25X50                | 0.2                | 1216                      | 1.85                               | 2.59       |      |
| NRLUW471M350V30X40SF |               | 470      | 30X40                | 0.2                | 1216                      | 1.88                               | 2.63       |      |
| NRLUW471M350V35X35SF |               | 470      | 35X35                | 0.2                | 1216                      | 1.67                               | 2.33       |      |
| NRLUW561M350V30X45SF |               | 560      | 30X45                | 0.2                | 1328                      | 1.92                               | 2.68       |      |
| NRLUW561M350V35X40SF |               | 560      | 35X40                | 0.2                | 1328                      | 1.88                               | 2.63       |      |
| NRLUW681M350V30X50SF |               | 680      | 30X50                | 0.2                | 1463                      | 2.15                               | 3.01       |      |
| NRLUW681M350V35X40SF |               | 680      | 35X40                | 0.2                | 1463                      | 2.01                               | 2.81       |      |
| NRLUW821M350V35X45SF |               | 820      | 35X45                | 0.2                | 1607                      | 2.26                               | 3.16       |      |
| NRLUW121M400V22X25SF |               | 400      | 120                  | 22X25              | 0.2                       | 657                                | 0.79       | 1.10 |
| NRLUW151M400V22X30SF |               |          | 150                  | 22X30              | 0.2                       | 734                                | 0.92       | 1.28 |
| NRLUW151M400V25X25SF |               |          | 150                  | 25X25              | 0.2                       | 734                                | 0.95       | 1.33 |
| NRLUW181M400V22X35SF |               |          | 180                  | 22X35              | 0.2                       | 804                                | 1.05       | 1.47 |
| NRLUW181M400V25X30SF |               |          | 180                  | 25X30              | 0.2                       | 804                                | 1.10       | 1.54 |
| NRLUW221M400V22X40SF |               |          | 220                  | 22X40              | 0.2                       | 889                                | 1.28       | 1.79 |
| NRLUW221M400V25X30SF |               |          | 220                  | 25X30              | 0.2                       | 889                                | 1.12       | 1.56 |
| NRLUW221M400V30X25SF | 220           |          | 30X25                | 0.2                | 889                       | 1.17                               | 1.63       |      |
| NRLUW271M400V22X45SF | 270           |          | 22X45                | 0.2                | 985                       | 1.40                               | 1.96       |      |
| NRLUW271M400V25X35SF | 270           |          | 25X35                | 0.2                | 985                       | 1.40                               | 1.96       |      |
| NRLUW271M400V30X30SF | 270           |          | 30X30                | 0.2                | 985                       | 1.36                               | 1.90       |      |
| NRLUW331M400V25X40SF | 330           |          | 25X40                | 0.2                | 1089                      | 1.55                               | 2.17       |      |
| NRLUW331M400V30X30SF | 330           |          | 30X30                | 0.2                | 1089                      | 1.55                               | 2.17       |      |
| NRLUW331M400V35X25SF | 330           |          | 35X25                | 0.2                | 1089                      | 1.35                               | 1.89       |      |
| NRLUW391M400V25X50SF | 390           |          | 25X50                | 0.2                | 1184                      | 1.72                               | 2.40       |      |
| NRLUW391M400V30X35SF | 390           |          | 30X35                | 0.2                | 1184                      | 1.72                               | 2.40       |      |
| NRLUW391M400V35X30SF | 390           |          | 35X30                | 0.2                | 1184                      | 1.53                               | 2.14       |      |



| Part Number          | Voltage (VDC) | Cap (µF) | Case Size D x L (mm) | Dissipation Factor | Max. Leakage Current (µA) | Max. Ripple Current (Arms @ 105°C) |            |      |
|----------------------|---------------|----------|----------------------|--------------------|---------------------------|------------------------------------|------------|------|
|                      |               |          |                      |                    |                           | 120Hz                              | 10KHz ~ up |      |
| NRLUW471M400V30X40SF | 400           | 470      | 30X40                | 0.2                | 1300                      | 1.89                               | 2.64       |      |
| NRLUW471M400V35X35SF |               | 470      | 35X35                | 0.2                | 1300                      | 1.78                               | 2.49       |      |
| NRLUW561M400V30X45SF |               | 560      | 30X45                | 0.2                | 1419                      | 1.98                               | 2.77       |      |
| NRLUW561M400V35X40SF |               | 560      | 35X40                | 0.2                | 1419                      | 1.98                               | 2.77       |      |
| NRLUW681M400V35X45SF |               | 680      | 35X45                | 0.2                | 1564                      | 2.19                               | 3.06       |      |
| NRLUW821M400V35X50SF |               | 820      | 35X50                | 0.2                | 1718                      | 2.42                               | 3.38       |      |
| NRLUW101M420V22X25SF |               | 420      | 100                  | 22X25              | 0.2                       | 614                                | 0.74       | 1.03 |
| NRLUW121M420V22X30SF | 120           |          | 22X30                | 0.2                | 673                       | 0.86                               | 1.20       |      |
| NRLUW151M420V22X35SF | 150           |          | 22X35                | 0.2                | 752                       | 0.98                               | 1.37       |      |
| NRLUW151M420V25X25SF | 150           |          | 25X25                | 0.2                | 752                       | 0.90                               | 1.26       |      |
| NRLUW181M420V22X40SF | 180           |          | 22X40                | 0.2                | 824                       | 1.09                               | 1.52       |      |
| NRLUW181M420V25X30SF | 180           |          | 25X30                | 0.2                | 824                       | 1.05                               | 1.47       |      |
| NRLUW221M420V22X45SF | 220           |          | 22X45                | 0.2                | 911                       | 1.21                               | 1.69       |      |
| NRLUW221M420V25X35SF | 220           |          | 25X35                | 0.2                | 911                       | 1.19                               | 1.66       |      |
| NRLUW221M420V30X25SF | 220           |          | 30X25                | 0.2                | 911                       | 1.12                               | 1.56       |      |
| NRLUW271M420V22X50SF | 270           |          | 22X50                | 0.2                | 1010                      | 1.34                               | 1.87       |      |
| NRLUW271M420V25X40SF | 270           |          | 25X40                | 0.2                | 1010                      | 1.34                               | 1.87       |      |
| NRLUW271M420V30X30SF | 270           |          | 30X30                | 0.2                | 1010                      | 1.30                               | 1.82       |      |
| NRLUW271M420V35X25SF | 270           |          | 35X25                | 0.2                | 1010                      | 1.27                               | 1.77       |      |
| NRLUW331M420V25X45SF | 330           |          | 25X45                | 0.2                | 1116                      | 1.47                               | 2.05       |      |
| NRLUW331M420V30X35SF | 330           |          | 30X35                | 0.2                | 1116                      | 1.47                               | 2.05       |      |
| NRLUW331M420V35X30SF | 330           |          | 35X30                | 0.2                | 1116                      | 1.45                               | 2.03       |      |
| NRLUW391M420V30X40SF | 390           |          | 30X40                | 0.2                | 1214                      | 1.64                               | 2.29       |      |
| NRLUW391M420V35X35SF | 390           |          | 35X35                | 0.2                | 1214                      | 1.68                               | 2.35       |      |
| NRLUW471M420V30X45SF | 470           |          | 30X45                | 0.2                | 1332                      | 1.81                               | 2.53       |      |
| NRLUW471M420V35X35SF | 470           |          | 35X35                | 0.2                | 1332                      | 1.71                               | 2.39       |      |
| NRLUW561M420V30X50SF | 560           |          | 30X50                | 0.2                | 1454                      | 2.07                               | 2.89       |      |
| NRLUW561M420V35X40SF | 560           |          | 35X40                | 0.2                | 1454                      | 2.07                               | 2.89       |      |
| NRLUW681M420V35X50SF | 680           |          | 35X50                | 0.2                | 1603                      | 2.43                               | 3.40       |      |
| NRLUW101M450V22X25SF | 450           |          | 100                  | 22X25              | 0.2                       | 636                                | 0.73       | 1.02 |
| NRLUW121M450V22X30SF |               |          | 120                  | 22X30              | 0.2                       | 697                                | 0.84       | 1.17 |
| NRLUW121M450V25X25SF |               |          | 120                  | 25X25              | 0.2                       | 697                                | 0.87       | 1.21 |
| NRLUW151M450V22X35SF |               |          | 150                  | 22X35              | 0.2                       | 779                                | 0.97       | 1.35 |
| NRLUW151M450V25X30SF |               |          | 150                  | 25X30              | 0.2                       | 779                                | 0.89       | 1.24 |
| NRLUW181M450V22X40SF |               |          | 180                  | 22X40              | 0.2                       | 853                                | 1.08       | 1.51 |
| NRLUW181M450V25X30SF |               |          | 180                  | 25X30              | 0.2                       | 853                                | 1.03       | 1.44 |
| NRLUW181M450V30X25SF |               |          | 180                  | 30X25              | 0.2                       | 853                                | 1.08       | 1.51 |
| NRLUW221M450V22X45SF |               |          | 220                  | 22X45              | 0.2                       | 943                                | 1.17       | 1.63 |
| NRLUW221M450V25X35SF |               | 220      | 25X35                | 0.2                | 943                       | 1.17                               | 1.63       |      |
| NRLUW221M450V30X30SF |               | 220      | 30X30                | 0.2                | 943                       | 1.10                               | 1.54       |      |
| NRLUW221M450V35X25SF |               | 220      | 35X25                | 0.2                | 943                       | 1.04                               | 1.45       |      |
| NRLUW271M450V25X45SF |               | 270      | 25X45                | 0.2                | 1045                      | 1.43                               | 2.00       |      |
| NRLUW271M450V30X30SF |               | 270      | 30X30                | 0.2                | 1045                      | 1.28                               | 1.79       |      |
| NRLUW271M450V35X30SF |               | 270      | 35X30                | 0.2                | 1045                      | 1.25                               | 1.75       |      |
| NRLUW331M450V25X50SF |               | 330      | 25X50                | 0.2                | 1156                      | 1.45                               | 2.03       |      |



| Part Number          | Voltage (VDC) | Cap (μF) | Case Size D x L (mm) | Dissipation Factor | Max. Leakage Current (μA) | Max. Ripple Current (Arms @ 105°C) |            |
|----------------------|---------------|----------|----------------------|--------------------|---------------------------|------------------------------------|------------|
|                      |               |          |                      |                    |                           | 120Hz                              | 10KHz ~ up |
| NRLUW331M450V30X40SF | 450           | 330      | 30X40                | 0.2                | 1156                      | 1.45                               | 2.03       |
| NRLUW331M450V35X30SF |               | 330      | 35X30                | 0.2                | 1156                      | 1.43                               | 2.00       |
| NRLUW391M450V30X45SF |               | 390      | 30X45                | 0.2                | 1256                      | 1.75                               | 2.45       |
| NRLUW391M450V35X35SF |               | 390      | 35X35                | 0.2                | 1256                      | 1.66                               | 2.32       |
| NRLUW471M450V30X50SF |               | 470      | 30X50                | 0.2                | 1379                      | 1.85                               | 2.59       |
| NRLUW471M450V35X40SF |               | 470      | 35X40                | 0.2                | 1379                      | 1.85                               | 2.59       |
| NRLUW561M450V35X45SF |               | 560      | 35X45                | 0.2                | 1505                      | 2.04                               | 2.85       |

