

# RNS Standard



# FPCAP

- Low ESR, High ripple current.
- Load life of 2000 hours at 105°C.
- Radial lead type : Lead free flow soldering condition correspondence.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).



## Specifications

| Item                          | Performance Characteristics  |   |
|-------------------------------|--|---|
| Category Temperature Range    | -55 to +105°C  |   |
| Rated Voltage Range           | 4.0 to 25V   |   |
| Rated Capacitance Range       | 10 to 1200μF   |   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C  |   |
| Tangent of loss angle (tan δ) | Less than or equal to the specified value at 120Hz, 20°C   |   |
| ESR (*1)                      | Less than or equal to the specified value at 100kHz, 20°C  |   |
| Leakage Current (*2)          | Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20°C |   |
| Endurance                     | Test condition   | 105°C, rated voltage 2000Hrs.                     |
|                               | Capacitance change   | Within ±20% of initial value before test          |
|                               | tan δ  | 150% or less than the initial specified value     |
|                               | ESR(*1)  | 150% or less than the initial specified value     |
|                               | Leakage current (*2)   | Less than or equal to the initial specified value |

※1 ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.  
 ※2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

## Dimensions



| (mm)    |      |     |     |
|---------|------|-----|-----|
| φD×L    | φd   | P   | α   |
| 6.3×7   | 0.45 | 2.5 | 1.0 |
| 6.3×10  | 0.5  | 2.5 | 1.0 |
| 8×11.5  | 0.6  | 3.5 | 1.5 |
| 10×12.5 | 0.6  | 5.0 | 1.5 |

### ● Frequency coefficient of rated ripple current

| Frequency   | 120 Hz | 1 kHz | 10 kHz | 100 kHz | 300 kHz |
|-------------|--------|-------|--------|---------|---------|
| Coefficient | 0.10   | 0.45  | 0.50   | 1.00    | 1.00    |

## Type numbering system (Example : 20V 100μF) Nichicon part number



## FPCAP part number



# RNS

## ■ Dimensions

| Rated Voltage (V) (code) | Surge Voltage (V) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA, 2min.) | ESR (mΩ) (20°C/100kHz) | Rated Ripple Current (mA <sub>rms</sub> ) (105°C/100kHz) | NICHICON       | FPCAP             |
|--------------------------|-------------------|------------------------|---------------------|-------|-----------------------------|------------------------|--|----------------|-------------------|
| 4.0 (0G)                 | 4.6               | 560                    | 8×11.5              | 0.08  | 336                         | 10                     | 5230   | RNS0G561MDN1□□ | FP-4R0RE561M-NS□□ |
|                          |                   | 820                    | 10×12.5             | 0.08  | 492                         | 10                     | 5500   | RNS0G821MDN1□□ | FP-4R0RE821M-NS□□ |
|                          |                   | 1200                   | 10×12.5             | 0.15  | 720                         | 10                     | 5500   | RNS0G122MDN1□□ | FP-4R0RE122M-NS□□ |
| 6.3 (0J)                 | 7.2               | 47                     | 6.3×7               | 0.07  | 50                          | 42                     | 2050   | RNS0J470MDS1□□ | FP-6R3RE470M-NS□□ |
|                          |                   | 150                    | 8×11.5              | 0.07  | 142                         | 21                     | 3900   | RNS0J151MDN1□□ | FP-6R3RE151M-NS□□ |
|                          |                   | 220                    | 8×11.5              | 0.07  | 208                         | 21                     | 3900   | RNS0J221MDN1□□ | FP-6R3RE221M-NS□□ |
|                          |                   | 330                    | 10×12.5             | 0.07  | 312                         | 10                     | 5500   | RNS0J331MDN1□□ | FP-6R3RE331M-NS□□ |
|                          |                   | 390                    | 8×11.5              | 0.08  | 369                         | 10                     | 5230   | RNS0J391MDN1□□ | FP-6R3RE391M-NS□□ |
|                          |                   | 680                    | 10×12.5             | 0.08  | 643                         | 10                     | 5500   | RNS0J681MDN1□□ | FP-6R3RE681M-NS□□ |
|                          |                   | 820                    | 10×12.5             | 0.12  | 775                         | 10                     | 5500   | RNS0J821MDN1□□ | FP-6R3RE821M-NS□□ |
| 1000                     | 10×12.5           | 0.12                   | 945                 | 10    | 5500                        | RNS0J102MDN1□□         | FP-6R3RE102M-NS□□  |                |                   |
| 10 (1A)                  | 11.5              | 33                     | 6.3×7               | 0.07  | 50                          | 49                     | 1900   | RNS1A330MDS1□□ | FP-010RE330M-NS□□ |
|                          |                   | 68                     | 6.3×10              | 0.07  | 102                         | 35                     | 2650   | RNS1A680MDS1□□ | FP-010RE680M-NS□□ |
|                          |                   | 100                    | 8×11.5              | 0.07  | 150                         | 21                     | 3900   | RNS1A101MDN1□□ | FP-010RE101M-NS□□ |
|                          |                   | 220                    | 10×12.5             | 0.07  | 330                         | 10                     | 5500   | RNS1A221MDN1□□ | FP-010RE221M-NS□□ |
|                          |                   | 470                    | 10×12.5             | 0.08  | 705                         | 10                     | 5500   | RNS1A471MDN1□□ | FP-010RE471M-NS□□ |
| 16 (1C)                  | 18.4              | 22                     | 6.3×7               | 0.06  | 53                          | 49                     | 1900   | RNS1C220MDS1□□ | FP-016RE220M-NS□□ |
|                          |                   | 33                     | 6.3×7               | 0.06  | 79                          | 49                     | 1900   | RNS1C330MDS1□□ | FP-016RE330M-NS□□ |
|                          |                   | 47                     | 6.3×10              | 0.06  | 113                         | 42                     | 2400   | RNS1C470MDS1□□ | FP-016RE470M-NS□□ |
|                          |                   | 68                     | 8×11.5              | 0.06  | 163                         | 25                     | 3600   | RNS1C680MDN1□□ | FP-016RE680M-NS□□ |
|                          |                   | 100                    | 8×11.5              | 0.06  | 240                         | 21                     | 3900   | RNS1C101MDN1□□ | FP-016RE101M-NS□□ |
|                          |                   | 150                    | 10×12.5             | 0.06  | 360                         | 10                     | 5500   | RNS1C151MDN1□□ | FP-016RE151M-NS□□ |
|                          |                   | 180                    | 8×11.5              | 0.08  | 432                         | 16                     | 4700   | RNS1C181MDN1□□ | FP-016RE181M-NS□□ |
| 330                      | 10×12.5           | 0.08                   | 792                 | 10    | 5500                        | RNS1C331MDN1□□         | FP-016RE331M-NS□□  |                |                   |
| 20 (1D)                  | 23.0              | 15                     | 6.3×7               | 0.06  | 50                          | 63                     | 1700   | RNS1D150MDS1□□ | FP-020RE150M-NS□□ |
|                          |                   | 22                     | 6.3×7               | 0.06  | 66                          | 49                     | 1900   | RNS1D220MDS1□□ | FP-020RE220M-NS□□ |
|                          |                   | 33                     | 6.3×10              | 0.06  | 99                          | 49                     | 2200   | RNS1D330MDS1□□ | FP-020RE330M-NS□□ |
|                          |                   | 47                     | 8×11.5              | 0.06  | 141                         | 28                     | 3400   | RNS1D470MDN1□□ | FP-020RE470M-NS□□ |
|                          |                   | 68                     | 8×11.5              | 0.06  | 204                         | 25                     | 3600   | RNS1D680MDN1□□ | FP-020RE680M-NS□□ |
|                          |                   | 100                    | 10×12.5             | 0.06  | 300                         | 15                     | 4500   | RNS1D101MDN1□□ | FP-020RE101M-NS□□ |
| 25 (1E)                  | 28.7              | 10                     | 6.3×7               | 0.06  | 50                          | 63                     | 1700   | RNS1E100MDS1□□ | FP-025RE100M-NS□□ |
|                          |                   | 15                     | 6.3×10              | 0.06  | 75                          | 49                     | 2200   | RNS1E150MDS1□□ | FP-025RE150M-NS□□ |
|                          |                   | 22                     | 8×11.5              | 0.06  | 110                         | 28                     | 3400   | RNS1E220MDN1□□ | FP-025RE220M-NS□□ |
|                          |                   | 33                     | 10×12.5             | 0.06  | 165                         | 20                     | 3800   | RNS1E330MDN1□□ | FP-025RE330M-NS□□ |
|                          |                   | 47                     | 10×12.5             | 0.06  | 235                         | 20                     | 3800   | RNS1E470MDN1□□ | FP-025RE470M-NS□□ |
|                          |                   | 100                    | 10×12.5             | 0.08  | 500                         | 15                     | 4500   | RNS1E101MDN1□□ | FP-025RE101M-NS□□ |

- Taping specifications are given in page 26, 27.
- Please refer to page 3 for the minimum order quantity.