

**RNU** High Capacitance



**FPCAP** Expanded



- Low ESR, High Capacitance, High ripple current.
- Load life of 2000/5000 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           | 2.5 to 63V   |   |
| Rated Capacitance Range       | 10 to 2700μF   |   |
| 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 2000 / 5000Hrs.              |
|                               | 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 to the capacitor body.

※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



[φ4×5 / φ6.3×10 / φ8×11.5(-H or -5KH)]



| φD×L    | φd   | P   | α   |
|---------|------|-----|-----|
| 4×5     | 0.45 | 1.5 | 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 |

Type numbering system (Example : 25V 390μF)  
Nichicon part number



FPCAP part number



● 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    |

# RNU

## ■ 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) (105°C/100kHz) | NICHICON         | FPCAP                 |
|--------------------------|-------------------|------------------------|---------------------|-------|-----------------------------|------------------------|--|------------------|-----------------------|
| 2.5 (0E)                 | 2.8               | 1500                   | 8×11.5              | 0.08  | 938                         | 7                      | 4700                                     | RNU0E152MDN1□□   | FP-2R5RE152M-NU□□     |
|                          |                   | 1500                   | 8×11.5              | 0.08  | 938                         | 7                      | 4700                                     | RNU0E152MCN1□□   | FP-2R5RE152M-NU□□-H   |
|                          |                   | 2700                   | 10×12.5             | 0.08  | 1350                        | 7                      | 6100                                     | RNU0E272MDN1□□   | FP-2R5RE272M-NU□□     |
| 4.0 (0G)                 | 4.6               | 820                    | 8×11.5              | 0.08  | 656                         | 7                      | 5700                                     | RNU0G821MDN1□□   | FP-4R0RE821M-NU□□     |
|                          |                   | 820                    | 8×11.5              | 0.08  | 656                         | 7                      | 5700                                     | RNU0G821MCN1□□   | FP-4R0RE821M-NU□□-H   |
|                          |                   | 1000                   | 8×11.5              | 0.08  | 800                         | 7                      | 5700                                     | RNU0G102MDN1□□   | FP-4R0RE102M-NU□□     |
|                          |                   | 1000                   | 8×11.5              | 0.08  | 800                         | 7                      | 5700                                     | RNU0G102MCN1□□   | FP-4R0RE102M-NU□□-H   |
|                          |                   | 1200                   | 8×11.5              | 0.08  | 960                         | 7                      | 5700                                     | RNU0G122MDN1□□   | FP-4R0RE122M-NU□□     |
|                          |                   | 1200                   | 8×11.5              | 0.08  | 960                         | 7                      | 5700                                     | RNU0G122MCN1□□   | FP-4R0RE122M-NU□□-H   |
|                          |                   | 1800                   | 10×12.5             | 0.08  | 1440                        | 7                      | 6100                                     | RNU0G182MDN1□□   | FP-4R0RE182M-NU□□     |
|                          |                   | 2200                   | 10×12.5             | 0.08  | 1760                        | 7                      | 6100                                     | RNU0G222MDN1□□   | FP-4R0RE222M-NU□□     |
| 6.3 (0J)                 | 7.2               | 220                    | 6.3×10              | 0.08  | 277                         | 20                     | 3200                                     | RNU0J221MDN1□□   | FP-6R3RE221M-NU□□     |
|                          |                   | 220                    | 6.3×10              | 0.08  | 277                         | 20                     | 3200                                     | RNU0J221MCN1□□   | FP-6R3RE221M-NU□□-H   |
|                          |                   | 470                    | 8×11.5              | 0.08  | 592                         | 7                      | 5700                                     | RNU0J471MDN1□□   | FP-6R3RE471M-NU□□     |
|                          |                   | 470                    | 8×11.5              | 0.08  | 592                         | 7                      | 5700                                     | RNU0J471MCN1□□   | FP-6R3RE471M-NU□□-H   |
|                          |                   | 680                    | 8×11.5              | 0.08  | 857                         | 7                      | 5700                                     | RNU0J681MDN1□□   | FP-6R3RE681M-NU□□     |
|                          |                   | 680                    | 8×11.5              | 0.08  | 857                         | 7                      | 5700                                     | RNU0J681MCN1□□   | FP-6R3RE681M-NU□□-H   |
|                          |                   | 820                    | 8×11.5              | 0.08  | 1033                        | 7                      | 5700                                     | RNU0J821MDN1□□   | FP-6R3RE821M-NU□□     |
|                          |                   | 820                    | 8×11.5              | 0.08  | 1033                        | 7                      | 5700                                     | RNU0J821MCN1□□   | FP-6R3RE821M-NU□□-H   |
|                          |                   | 1000                   | 8×11.5              | 0.08  | 1260                        | 7                      | 5700                                     | RNU0J102MDN1□□   | FP-6R3RE102M-NU□□     |
|                          |                   | 1000                   | 8×11.5              | 0.08  | 1260                        | 7                      | 5700                                     | RNU0J102MCN1□□   | FP-6R3RE102M-NU□□-H   |
|                          |                   | 1200                   | 8×11.5              | 0.08  | 1512                        | 9                      | 6100                                     | RNU0J122MDN1□□   | FP-6R3RE122M-NU□□     |
|                          |                   | 1200                   | 8×11.5              | 0.08  | 1512                        | 9                      | 6100                                     | RNU0J122MCN1□□   | FP-6R3RE122M-NU□□-H   |
| 10 (1A)                  | 11.5              | 10                     | 4×5                 | 0.12  | 300                         | 220                    | 700                                      | RNU1A100MDN1□□   | FP-010RE100M-NU□□     |
|                          |                   | 10                     | 4×5                 | 0.12  | 300                         | 220                    | 700                                      | RNU1A100MCN1□□   | FP-010RE100M-NU□□-H   |
|                          |                   | * 10                   | 4×5                 | 0.12  | 300                         | 220                    | 700                                      | RNU1A100MDNASQ□□ | FP-010RE100M-NU□□-5K  |
|                          |                   | * 10                   | 4×5                 | 0.12  | 300                         | 220                    | 700                                      | RNU1A100MCNASQ□□ | FP-010RE100M-NU□□-5KH |
|                          |                   | 820                    | 8×11.5              | 0.08  | 1640                        | 10                     | 5800                                     | RNU1A821MDN1□□   | FP-010RE821M-NU□□     |
|                          |                   | 820                    | 8×11.5              | 0.08  | 1640                        | 10                     | 5800                                     | RNU1A821MCN1□□   | FP-010RE821M-NU□□-H   |
|                          |                   | * 820                  | 8×11.5              | 0.08  | 1640                        | 10                     | 5800                                     | RNU1A821MDNASQ□□ | FP-010RE821M-NU□□-5K  |
|                          |                   | * 820                  | 8×11.5              | 0.08  | 1640                        | 10                     | 5800                                     | RNU1A821MCNASQ□□ | FP-010RE821M-NU□□-5KH |
| 16 (1C)                  | 18.4              | 100                    | 6.3×10              | 0.08  | 320                         | 25                     | 2820                                     | RNU1C101MDN1□□   | FP-016RE101M-NU□□     |
|                          |                   | 100                    | 6.3×10              | 0.08  | 320                         | 25                     | 2820                                     | RNU1C101MCN1□□   | FP-016RE101M-NU□□-H   |
|                          |                   | * 100                  | 6.3×10              | 0.08  | 320                         | 25                     | 2820                                     | RNU1C101MDNASQ□□ | FP-016RE101M-NU□□-5K  |
|                          |                   | * 100                  | 6.3×10              | 0.08  | 320                         | 25                     | 2820                                     | RNU1C101MCNASQ□□ | FP-016RE101M-NU□□-5KH |
|                          |                   | 180                    | 8×11.5              | 0.08  | 576                         | 8                      | 5700                                     | RNU1C181MDN1□□   | FP-016RE181M-NU□□     |
|                          |                   | 180                    | 8×11.5              | 0.08  | 576                         | 8                      | 5700                                     | RNU1C181MCN1□□   | FP-016RE181M-NU□□-H   |
|                          |                   | 270                    | 8×11.5              | 0.08  | 864                         | 8                      | 5000                                     | RNU1C271MDN1□□   | FP-016RE271M-NU□□     |
|                          |                   | 270                    | 8×11.5              | 0.08  | 864                         | 8                      | 5000                                     | RNU1C271MCN1□□   | FP-016RE271M-NU□□-H   |
|                          |                   | * 270                  | 8×11.5              | 0.08  | 864                         | 8                      | 5000                                     | RNU1C271MDNASQ□□ | FP-016RE271M-NU□□-5K  |
|                          |                   | * 270                  | 8×11.5              | 0.08  | 864                         | 8                      | 5000                                     | RNU1C271MCNASQ□□ | FP-016RE271M-NU□□-5KH |
|                          |                   | 330                    | 8×11.5              | 0.08  | 1056                        | 8                      | 6100                                     | RNU1C331MDN1□□   | FP-016RE331M-NU□□     |
|                          |                   | 330                    | 8×11.5              | 0.08  | 1056                        | 8                      | 6100                                     | RNU1C331MCN1□□   | FP-016RE331M-NU□□-H   |
|                          |                   | 470                    | 10×12.5             | 0.08  | 1504                        | 10                     | 6100                                     | RNU1C471MDN1□□   | FP-016RE471M-NU□□     |
| * 470                    | 10×12.5           | 0.08                   | 1504                | 10    | 6100                        | RNU1C471MDNASQ□□       | FP-016RE471M-NU□□-5K                     |                  |                       |
| 20 (1D)                  | 23                | 390                    | 8×11.5              | 0.12  | 1560                        | 14                     | 4970                                     | RNU1D391MDN1□□   | FP-020RE391M-NU□□     |
|                          |                   | 390                    | 8×11.5              | 0.12  | 1560                        | 14                     | 4970                                     | RNU1D391MCN1□□   | FP-020RE391M-NU□□-H   |
|                          |                   | * 390                  | 8×11.5              | 0.12  | 1560                        | 14                     | 4970                                     | RNU1D391MDNASQ□□ | FP-020RE391M-NU□□-5K  |
|                          |                   | * 390                  | 8×11.5              | 0.12  | 1560                        | 14                     | 4970                                     | RNU1D391MCNASQ□□ | FP-020RE391M-NU□□-5KH |
|                          |                   | 680                    | 10×12.5             | 0.12  | 2720                        | 12                     | 5400                                     | RNU1D681MDN1□□   | FP-020RE681M-NU□□     |

\* : Load life 5000hours.

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

# RNU

## ■ 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 rms) (105°C/100kHz) | NICHICON         | FPCAP                 |
|--------------------------|-------------------|------------------------|---------------------|-------|-----------------------------|------------------------|--|------------------|-----------------------|
| 25 (1E)                  | 28.7              | 33                     | 8×11.5              | 0.12  | 413                         | 24                     | 3600   | RNU1E330MDN1□□   | FP-025RE330M-NU□□     |
|                          |                   | 33                     | 8×11.5              | 0.12  | 413                         | 24                     | 3600   | RNU1E330MCN1□□   | FP-025RE330M-NU□□-H   |
|                          |                   | 47                     | 8×11.5              | 0.12  | 588                         | 24                     | 3600   | RNU1E470MDN1□□   | FP-025RE470M-NU□□     |
|                          |                   | 47                     | 8×11.5              | 0.12  | 588                         | 24                     | 3600   | RNU1E470MCN1□□   | FP-025RE470M-NU□□-H   |
|                          |                   | 68                     | 8×11.5              | 0.12  | 850                         | 24                     | 3600   | RNU1E680MDN1□□   | FP-025RE680M-NU□□     |
|                          |                   | 68                     | 8×11.5              | 0.12  | 850                         | 24                     | 3600   | RNU1E680MCN1□□   | FP-025RE680M-NU□□-H   |
|                          |                   | 180                    | 8×11.5              | 0.12  | 900                         | 16                     | 4650   | RNU1E181MDN1□□   | FP-025RE181M-NU□□     |
|                          |                   | 180                    | 8×11.5              | 0.12  | 900                         | 16                     | 4650   | RNU1E181MCN1□□   | FP-025RE181M-NU□□-H   |
|                          |                   | 220                    | 8×11.5              | 0.12  | 1100                        | 16                     | 4650   | RNU1E221MDN1□□   | FP-025RE221M-NU□□     |
|                          |                   | 220                    | 8×11.5              | 0.12  | 1100                        | 16                     | 4650   | RNU1E221MCN1□□   | FP-025RE221M-NU□□-H   |
|                          |                   | *220                   | 8×11.5              | 0.12  | 1100                        | 16                     | 4650   | RNU1E221MDNASQ□□ | FP-025RE221M-NU□□-5K  |
|                          |                   | *220                   | 8×11.5              | 0.12  | 1100                        | 16                     | 4650   | RNU1E221MCNASQ□□ | FP-025RE221M-NU□□-5KH |
|                          |                   | 330                    | 10×12.5             | 0.12  | 1650                        | 14                     | 5000   | RNU1E331MDN1□□   | FP-025RE331M-NU□□     |
|                          |                   | *330                   | 10×12.5             | 0.12  | 1650                        | 14                     | 5000   | RNU1E331MDNASQ□□ | FP-025RE331M-NU□□-5K  |
| 390                      | 10×12.5           | 0.12                   | 1950                | 14    | 5000                        | RNU1E391MDN1□□         | FP-025RE391M-NU□□                            |                  |                       |
| *390                     | 10×12.5           | 0.12                   | 1950                | 14    | 5000                        | RNU1E391MDNASQ□□       | FP-025RE391M-NU□□-5K                         |                  |                       |
| 35 (1V)                  | 40.2              | 47                     | 8×11.5              | 0.12  | 329                         | 24                     | 3600   | RNU1V470MDN1□□   | FP-035RE470M-NU□□     |
|                          |                   | 47                     | 8×11.5              | 0.12  | 329                         | 24                     | 3600   | RNU1V470MCN1□□   | FP-035RE470M-NU□□-H   |
|                          |                   | *82                    | 8×11.5              | 0.12  | 574                         | 20                     | 4000   | RNU1V820MDNASQ□□ | FP-035RE820M-NU□□-5K  |
|                          |                   | *82                    | 8×11.5              | 0.12  | 574                         | 20                     | 4000   | RNU1V820MCNASQ□□ | FP-035RE820M-NU□□-5KH |
|                          |                   | *120                   | 10×12.5             | 0.12  | 840                         | 18                     | 4400   | RNU1V121MDNASQ□□ | FP-035RE121M-NU□□-5K  |
| 50 (1H)                  | 57.5              | 150                    | 10×12.5             | 0.12  | 1050                        | 20                     | 3800   | RNU1V151MDN1□□   | FP-035RE151M-NU□□     |
|                          |                   | 39                     | 8×11.5              | 0.12  | 390                         | 20                     | 2400   | RNU1H390MDN1□□   | FP-050RE390M-NU□□     |
|                          |                   | 39                     | 8×11.5              | 0.12  | 390                         | 20                     | 2400   | RNU1H390MCN1□□   | FP-050RE390M-NU□□-H   |
|                          |                   | 47                     | 10×12.5             | 0.12  | 470                         | 24                     | 2700   | RNU1H470MDN1□□   | FP-050RE470M-NU□□     |
| 63 (1J)                  | 72.5              | 68                     | 10×12.5             | 0.12  | 680                         | 24                     | 2700   | RNU1H680MDN1□□   | FP-050RE680M-NU□□     |
|                          |                   | 33                     | 8×11.5              | 0.12  | 416                         | 26                     | 2300   | RNU1J330MDN1□□   | FP-063RE330M-NU□□     |
|                          |                   | 33                     | 8×11.5              | 0.12  | 416                         | 26                     | 2300   | RNU1J330MCN1□□   | FP-063RE330M-NU□□-H   |
|                          |                   | 39                     | 10×12.5             | 0.12  | 492                         | 25                     | 2600   | RNU1J390MDN1□□   | FP-063RE390M-NU□□     |
|                          |                   | 47                     | 10×12.5             | 0.12  | 592                         | 25                     | 2600   | RNU1J470MDN1□□   | FP-063RE470M-NU□□     |
|                          |                   | 56                     | 10×12.5             | 0.12  | 706                         | 25                     | 2600   | RNU1J560MDN1□□   | FP-063RE560M-NU□□     |

\* : Load life 5000hours.

## ■ Frequency Characteristics (The frequency characteristics are typical and not a guaranteed value.)



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

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».



## JONHON

«**JONHON**» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«**FORSTAR**» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А