

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



| 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 |

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■ 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.

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■ 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 |
|--------------------------|-------------------|------------------------|---------------------|-------|-----------------------------|------------------------|--|------------------|-----------------------|
| 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.