

# FPCAP Functional Polymer Aluminum Solid Electrolytic Capacitors

## NS series

Low ESR

Lead-free

RoHS Compliance



### ● Features

By using Functional Polymer cathode, Frequency & Temp. characteristics are greatly improved.

- Low ESR at a high frequency range.
- High ripple current capability.
- Long life and high reliability.

### ● Applications

- Switching Power Supply and DC/DC Converter.
- Back up Power Supplies of CPU(VRM etc.)
- Miniature high Power Supply.

### ● Environmental Correspondence

Corresponding to Lead-free, RoHS compliance and Halogen-free.

- The Lead-free of terminal plating (Sn)

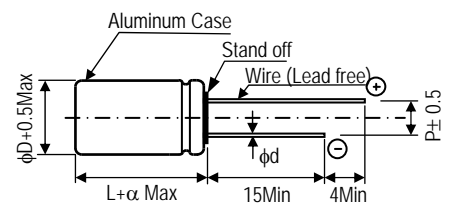
### ● Specifications

| Items                 | Characteristics             |   |
|-----------------------|-----------------------------|---|
|                       | NS                          |   |
| Operating Temp. Range | -55 to +105°C               |   |
| Rated Voltage Range   | 4.0 to 25V-DC               |   |
| Capacitance Range     | 10 to 1200μF                |   |
| Capacitance Tolerance | ±20% (M)                    |   |
| Endurance             | Condition                   | 105°C 2000Hrs at rated voltage            |
|                       | Capacitance                 | Within ±20% of the value before test      |
|                       | Leakage Current             | Not to exceed the value specified         |
|                       | tan δ                       | Not to exceed 150% of the value specified |
| Failure Rate          | 0.1% / 1000Hrs. Max (60%CL) |   |

### ● Size List

| R.V(S.V.)<br>Cap. [μF] | [φD×L] |              |              |              |              |            |              |
|------------------------|--------|--------------|--------------|--------------|--------------|------------|--------------|
|                        | M      | 4.0<br>(4.6) | 6.3<br>(7.2) | 10<br>(11.5) | 16<br>(18.4) | 20<br>(23) | 25<br>(28.7) |
| 10                     |        |              |              |              |              |            | 6.3×7        |
| 15                     |        |              |              |              |              | 6.3×7      | 6.3×10       |
| 22                     |        |              |              |              | 6.3×7        | 6.3×7      | 8×11.5       |
| 33                     |        |              |              | 6.3×7        | 6.3×7        | 6.3×10     | 10×12.5      |
| 47                     |        |              | 6.3×7        |              | 6.3×10       | 8×11.5     | 10×12.5      |
| 68                     |        |              |              | 6.3×10       | 8×11.5       | 8×11.5     |              |
| 100                    |        |              |              | 8×11.5       | 8×11.5       | 10×12.5    | 10×12.5      |
| 150                    |        |              | 8×11.5       |              | 10×12.5      |            |              |
| 180                    |        |              |              |              | 8×11.5       |            |              |
| 220                    |        |              | 8×11.5       | 10×12.5      |              |            |              |
| 330                    |        |              | 10×12.5      |              | 10×12.5      |            |              |
| 390                    |        |              | 8×11.5       |              |              |            |              |
| 470                    |        |              |              | 10×12.5      |              |            |              |
| 560                    |        | 8×11.5       |              |              |              |            |              |
| 680                    |        |              | 10×12.5      |              |              |            |              |
| 820                    |        | 10×12.5      | 10×12.5      |              |              |            |              |
| 1000                   |        |              | 10×12.5      |              |              |            |              |
| 1200                   |        | 10×12.5      |              |              |              |            |              |

### ● Dimensions



[Unit : 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 |

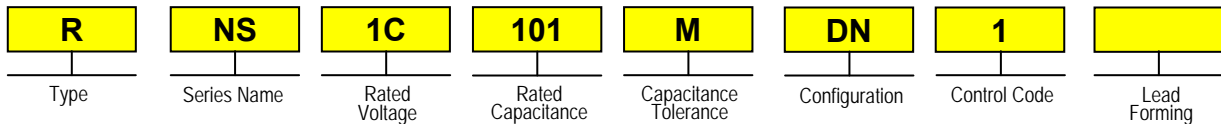
● Part number & Specifications

| Rated Voltage (V) | Rated Capacitance (μF, 120Hz) | Part Number       |                   | Leakage Current * (μA, 2 min) | tanδ (120Hz) | ESR (mΩ, 100kHz) | Rated Ripple Current (mA, r.m.s.) | Case Size φD×L(mm) |
|-------------------|-------------------------------|-------------------|-------------------|-------------------------------|--------------|------------------|-----------------------------------|--------------------|
|                   |                               | NICHICON          | FPCAP             |                               |              |                  |                                   |                    |
| 4.0               | 560                           | RNS0G561MDN1□□    | FP-4R0RE561M-NS□□ | 336                           | 0.08         | 10               | 5230                              | 8 × 11.5           |
|                   | 820                           | RNS0G821MDN1□□    | FP-4R0RE821M-NS□□ | 492                           | 0.08         | 10               | 5500                              | 10 × 12.5          |
|                   | 1200                          | RNS0G122MDN1□□    | FP-4R0RE122M-NS□□ | 720                           | 0.15         | 10               | 5500                              | 10 × 12.5          |
| 6.3               | 47                            | RNS0J470MDS1□□    | FP-6R3RE470M-NS□□ | 50                            | 0.07         | 42               | 2050                              | 6.3 × 7            |
|                   | 150                           | RNS0J151MDN1□□    | FP-6R3RE151M-NS□□ | 142                           | 0.07         | 21               | 3900                              | 8 × 11.5           |
|                   | 220                           | RNS0J221MDN1□□    | FP-6R3RE221M-NS□□ | 208                           | 0.07         | 21               | 3900                              | 8 × 11.5           |
|                   | 330                           | RNS0J331MDN1□□    | FP-6R3RE331M-NS□□ | 312                           | 0.07         | 10               | 5500                              | 10 × 12.5          |
|                   | 390                           | RNS0J391MDN1□□    | FP-6R3RE391M-NS□□ | 369                           | 0.08         | 10               | 5230                              | 8 × 11.5           |
|                   | 680                           | RNS0J681MDN1□□    | FP-6R3RE681M-NS□□ | 643                           | 0.08         | 10               | 5500                              | 10 × 12.5          |
|                   | 820                           | RNS0J821MDN1□□    | FP-6R3RE821M-NS□□ | 775                           | 0.12         | 10               | 5500                              | 10 × 12.5          |
|                   | 1000                          | RNS0J102MDN1□□    | FP-6R3RE102M-NS□□ | 945                           | 0.12         | 10               | 5500                              | 10 × 12.5          |
| 10                | 33                            | RNS1A330MDS1□□    | FP-010RE330M-NS□□ | 50                            | 0.07         | 49               | 1900                              | 6.3 × 7            |
|                   | 68                            | RNS1A680MDS1□□    | FP-010RE680M-NS□□ | 102                           | 0.07         | 35               | 2650                              | 6.3 × 10           |
|                   | 100                           | RNS1A101MDN1□□    | FP-010RE101M-NS□□ | 150                           | 0.07         | 21               | 3900                              | 8 × 11.5           |
|                   | 220                           | RNS1A221MDN1□□    | FP-010RE221M-NS□□ | 330                           | 0.07         | 10               | 5500                              | 10 × 12.5          |
|                   | 470                           | RNS1A471MDN1□□    | FP-010RE471M-NS□□ | 705                           | 0.08         | 10               | 5500                              | 10 × 12.5          |
| 16                | 22                            | RNS1C220MDS1□□    | FP-016RE220M-NS□□ | 53                            | 0.06         | 49               | 1900                              | 6.3 × 7            |
|                   | 33                            | RNS1C330MDS1□□    | FP-016RE330M-NS□□ | 79                            | 0.06         | 49               | 1900                              | 6.3 × 7            |
|                   | 47                            | RNS1C470MDS1□□    | FP-016RE470M-NS□□ | 113                           | 0.06         | 42               | 2400                              | 6.3 × 10           |
|                   | 68                            | RNS1C680MDN1□□    | FP-016RE680M-NS□□ | 163                           | 0.06         | 25               | 3600                              | 8 × 11.5           |
|                   | 100                           | RNS1C101MDN1□□    | FP-016RE101M-NS□□ | 240                           | 0.06         | 21               | 3900                              | 8 × 11.5           |
|                   | 150                           | RNS1C151MDN1□□    | FP-016RE151M-NS□□ | 360                           | 0.06         | 10               | 5500                              | 10 × 12.5          |
|                   | 180                           | RNS1C181MDN1□□    | FP-016RE181M-NS□□ | 432                           | 0.08         | 16               | 4700                              | 8 × 11.5           |
| 20                | 330                           | RNS1C331MDN1□□    | FP-016RE331M-NS□□ | 792                           | 0.08         | 10               | 5500                              | 10 × 12.5          |
|                   | 15                            | RNS1D150MDS1□□    | FP-020RE150M-NS□□ | 50                            | 0.06         | 63               | 1700                              | 6.3 × 7            |
|                   | 22                            | RNS1D220MDS1□□    | FP-020RE220M-NS□□ | 66                            | 0.06         | 49               | 1900                              | 6.3 × 7            |
|                   | 33                            | RNS1D330MDS1□□    | FP-020RE330M-NS□□ | 99                            | 0.06         | 49               | 2200                              | 6.3 × 10           |
|                   | 47                            | RNS1D470MDN1□□    | FP-020RE470M-NS□□ | 141                           | 0.06         | 28               | 3400                              | 8 × 11.5           |
|                   | 68                            | RNS1D680MDN1□□    | FP-020RE680M-NS□□ | 204                           | 0.06         | 25               | 3600                              | 8 × 11.5           |
| 25                | 100                           | RNS1D101MDN1□□    | FP-020RE101M-NS□□ | 300                           | 0.06         | 15               | 4500                              | 10 × 12.5          |
|                   | 10                            | RNS1E100MDS1□□    | FP-025RE100M-NS□□ | 50                            | 0.06         | 63               | 1700                              | 6.3 × 7            |
|                   | 15                            | RNS1E150MDS1□□    | FP-025RE150M-NS□□ | 75                            | 0.06         | 49               | 2200                              | 6.3 × 10           |
|                   | 22                            | RNS1E220MDN1□□    | FP-025RE220M-NS□□ | 110                           | 0.06         | 28               | 3400                              | 8 × 11.5           |
|                   | 33                            | RNS1E330MDN1□□    | FP-025RE330M-NS□□ | 165                           | 0.06         | 20               | 3800                              | 10 × 12.5          |
|                   | 47                            | RNS1E470MDN1□□    | FP-025RE470M-NS□□ | 235                           | 0.06         | 20               | 3800                              | 10 × 12.5          |
| 100               | RNS1E101MDN1□□                | FP-025RE101M-NS□□ | 500               | 0.08                          | 15           | 4500             | 10 × 12.5                         |                    |

\* In case of some doubt about measured values, measure after applying rated voltage for 120 minutes at 105°C.

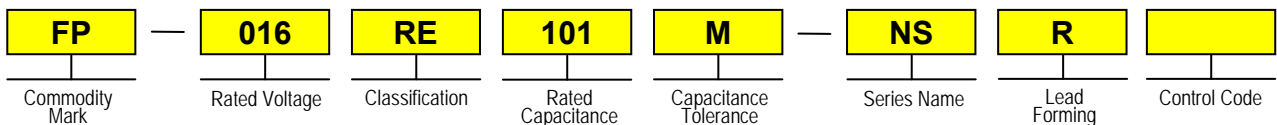
● Part Number (EX) 16V, 100μF

Nichicon P/N



CG: Cut lead (Bulk)  
 JX: φ6.3x10, 2.5mm pitch taping  
 JT: φ6.3x7, 2.5mm pitch taping  
 KX: φ8, 3.5mm pitch taping  
 PX: φ6.3&φ8, 5.0mm pitch taping  
 PH: φ10, 5.0mm pitch taping

FPCAP P/N



R: Long lead (Bulk)  
 CG: Cut lead (Bulk)  
 J : φ6.3x10, 2.5mm pitch taping  
 JT: φ6.3x7, 2.5mm pitch taping  
 K : φ8, 3.5mm pitch taping  
 P : φ6.3&φ8, 5.0mm pitch taping  
 PH: φ10, 5.0mm pitch taping

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

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<http://moschip.ru/get-element>

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9