

**RFS/RFA** High Capacitance (φ4, φ5)



**FPCAP** Expanded

- Low ESR, High Capacitance, High ripple current.
- Load life of 2000 hours at 105°C.
- SMD type : Lead free reflow soldering condition at 260°C peak correspondence.
- Compliant to the RoHS directive (2011/65/EU).

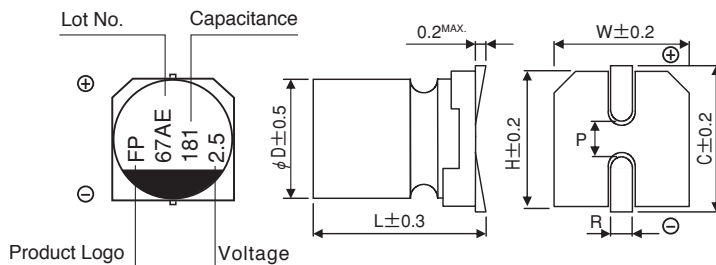


■ Specifications

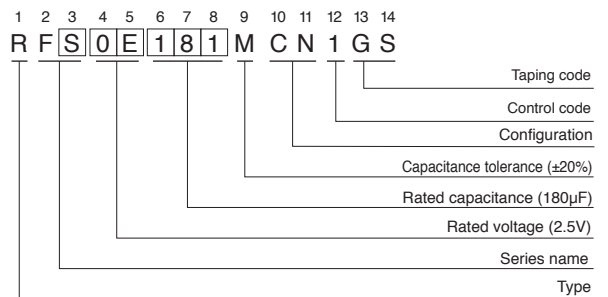
| Item                          | Performance Characteristics  |   |
|-------------------------------|--|---|
| Category Temperature Range    | -55 to +105°C  |   |
| Rated Voltage Range           | 2.5 to 25V   |   |
| Rated Capacitance Range       | 10 to 330μF  |   |
| Capacitance Tolerance         | ±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

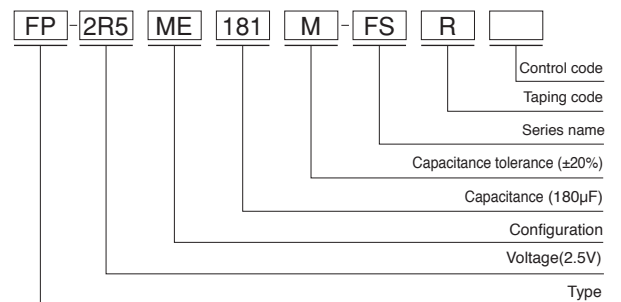


Type numbering system (Example : 2.5V 180μF)  
Nichicon part number



| (mm)  |     |     |     |            |     |
|-------|-----|-----|-----|------------|-----|
| φD×L  | W   | H   | C   | R          | P   |
| 4×5.2 | 4.3 | 4.3 | 5.1 | 0.5 to 0.9 | 1.0 |
| 5×5.7 | 5.3 | 5.3 | 5.9 | 0.5 to 0.9 | 1.4 |

FPCAP part number



● Frequency coefficient of rated ripple current

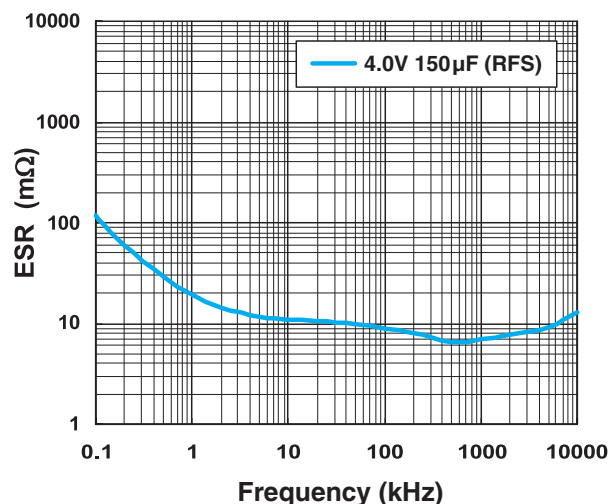
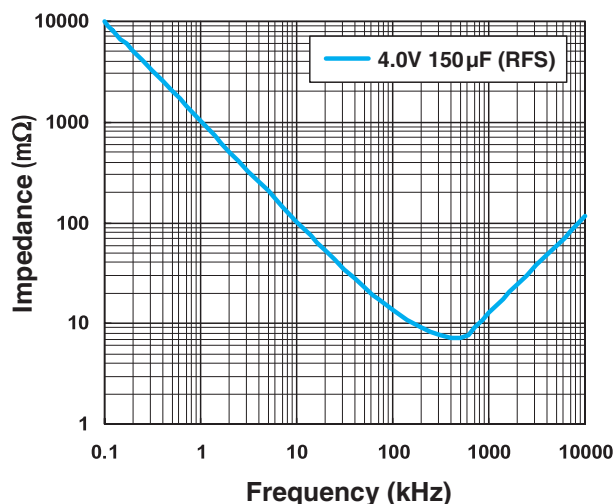
| Frequency   | 120 Hz | 1 kHz | 10 kHz | 100 kHz | 300 kHz |
|-------------|--------|-------|--------|---------|---------|
| Coefficient | 0.10   | 0.45  | 0.50   | 1.00    | 1.00    |

# RFS / RFA

## ■ 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            |
|--------------------------|-------------------|------------------------|---------------------|-------|-----------------------------|------------------------|--|----------------|------------------|
| 2.5 (0E)                 | 2.8               | 180                    | 5×5.7               | 0.12  | 300                         | 21                     | 2670   | RFS0E181MCN1GS | FP-2R5ME181M-FSR |
|                          |                   | 330                    | 5×5.7               | 0.12  | 500                         | 10                     | 3300   | RFA0E331MCN1GS | FP-2R5ME331M-FAR |
| 4.0 (0G)                 | 4.6               | 100                    | 5×5.7               | 0.12  | 300                         | 22                     | 2610   | RFS0G101MCN1GS | FP-4R0ME101M-FSR |
|                          |                   | 150                    | 5×5.7               | 0.12  | 300                         | 22                     | 2610   | RFS0G151MCN1GS | FP-4R0ME151M-FSR |
| 6.3 (0J)                 | 7.2               | 47                     | 5×5.7               | 0.12  | 300                         | 30                     | 2000   | RFS0J470MCN1GS | FP-6R3ME470M-FSR |
|                          |                   | 100                    | 5×5.7               | 0.12  | 300                         | 24                     | 2500   | RFS0J101MCN1GS | FP-6R3ME101M-FSR |
|                          |                   | 120                    | 5×5.7               | 0.12  | 300                         | 24                     | 2500   | RFS0J121MCN1GS | FP-6R3ME121M-FSR |
|                          |                   | 180                    | 5×5.7               | 0.12  | 567                         | 17                     | 3390   | RFA0J181MCN1GS | FP-6R3ME181M-FAR |
| 10 (1A)                  | 11.5              | 10                     | 4×5.2               | 0.12  | 100                         | 220                    | 700  | RFS1A100MCN1GB | FP-010ME100M-FSR |
|                          |                   | 68                     | 5×5.7               | 0.12  | 300                         | 30                     | 2000   | RFS1A680MCN1GS | FP-010ME680M-FSR |
| 16 (1C)                  | 18.4              | 22                     | 5×5.7               | 0.12  | 100                         | 45                     | 1210   | RFS1C220MCN1GS | FP-016ME220M-FSR |
|                          |                   | 33                     | 5×5.7               | 0.12  | 105                         | 35                     | 2070   | RFS1C330MCN1GS | FP-016ME330M-FSR |
|                          |                   | 39                     | 5×5.7               | 0.12  | 125                         | 35                     | 2070   | RFS1C390MCN1GS | FP-016ME390M-FSR |
| 25 (1E)                  | 28.7              | 22                     | 5×5.7               | 0.12  | 300                         | 40                     | 2200   | RFS1E220MCN1GS | FP-025ME220M-FSR |
|                          |                   | 27                     | 5×5.7               | 0.12  | 135                         | 40                     | 2450   | RFS1E270MCN1GS | FP-025ME270M-FSR |

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



- Taping specifications are given in page 28.
- Recommended land size, soldering by reflow are given in page 25.
- Please refer to page 3 for the minimum order quantity.