

# RHS / RHA

High Capacitance  
(φ8)

- 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).



For SMD



High Ripple Current



Low Impedance



For High Frequency



Anti-Solvent Feature

**RHS**

Lower ESR

**RHA**

## FPCAP Expanded



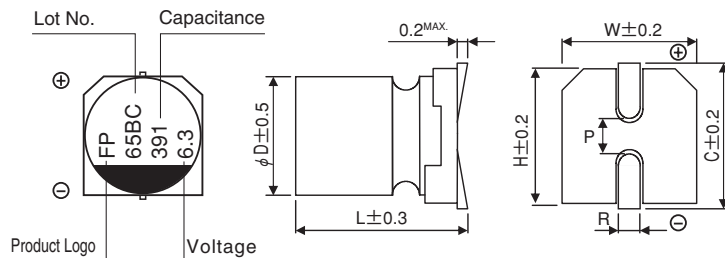
### Specifications

| Item                          | Performance Characteristics                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------------------|
| Category Temperature Range    | -55 to +105°C                                                                                    |
| Rated Voltage Range           | 2.5 to 35V                                                                                       |
| Rated Capacitance Range       | 56 to 1500μF                                                                                     |
| 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                                                    |
| Endurance                     | ESR (※1)                                                                                         |
|                               | 150% or less than the initial specified value                                                    |
| Endurance                     | 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.

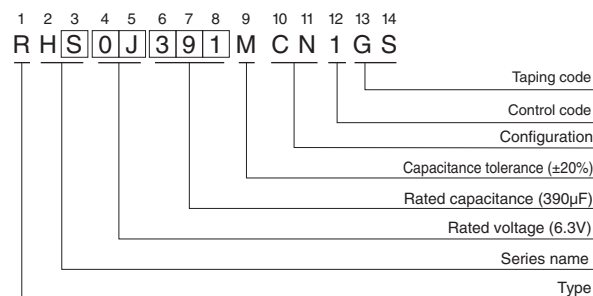
※2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

### Dimensions

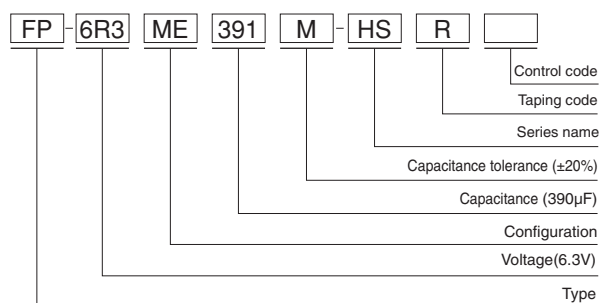


| φD×L   | W   | H   | C   | R          | P   |
|--------|-----|-----|-----|------------|-----|
| 8×6.7  | 8.3 | 8.3 | 9.0 | 0.8 to 1.1 | 3.2 |
| 8×7.7  | 8.3 | 8.3 | 9.0 | 0.8 to 1.1 | 3.2 |
| 8×8.7  | 8.3 | 8.3 | 9.0 | 0.8 to 1.1 | 3.2 |
| 8×11.7 | 8.3 | 8.3 | 9.0 | 0.8 to 1.1 | 3.2 |

Type numbering system (Example : 6.3V 390μF)  
Nichicon part number



FPCAP part number



### Frequency coefficient of rated ripple current

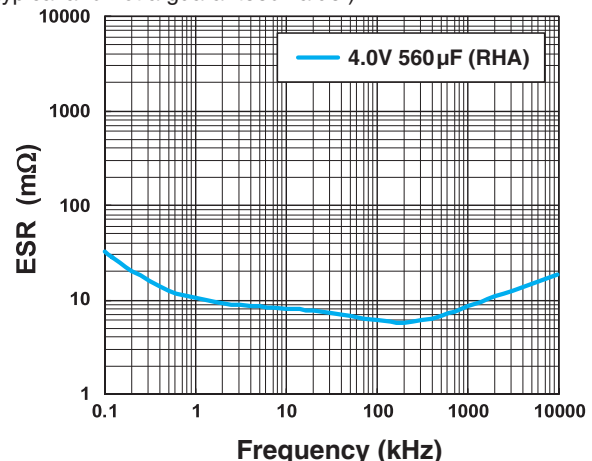
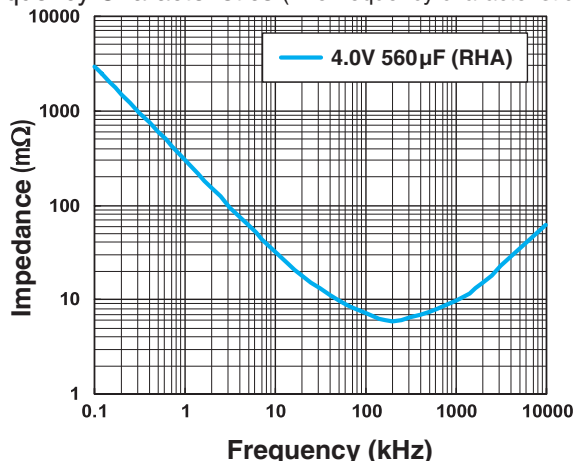
| Frequency   | 120 Hz | 1 kHz | 10 kHz | 100 kHz | 300 kHz |
|-------------|--------|-------|--------|---------|---------|
| Coefficient | 0.10   | 0.45  | 0.50   | 1.00    | 1.00    |

## RHS / RHA

## ■ Dimensions

| Rated Voltage (V)<br>(code) | Surge Voltage (V) | Rated Capacitance (μF) | Case Size<br>φD×L (mm) | tan δ | Leakage Current (μA, 2min.) | ESR (mΩ)<br>(20°C/100kHz) | Rated Ripple Current (mA <sub>rms</sub> )<br>(105°C/100kHz) | NICHICON       | FPCAP            |
|-----------------------------|-------------------|------------------------|------------------------|-------|-----------------------------|---------------------------|-------------------------------------------------------------|----------------|------------------|
| 2.5<br>(0E)                 | 2.8               | 680                    | 8×6.7                  | 0.12  | 700                         | 8                         | 5000                                                        | RHA0E681MCN1GS | FP-2R5ME681M-HAR |
|                             |                   | 820                    | 8×11.7                 | 0.12  | 700                         | 9                         | 5400                                                        | RHS0E821MCN1GS | FP-2R5ME821M-HSR |
|                             |                   | 820                    | 8×6.7                  | 0.12  | 700                         | 8                         | 5000                                                        | RHA0E821MCN1GS | FP-2R5ME821M-HAR |
|                             |                   | 1000                   | 8×7.7                  | 0.12  | 750                         | 8                         | 5000                                                        | RHA0E102MCN1GS | FP-2R5ME102M-HAR |
|                             |                   | 1500                   | 8×11.7                 | 0.12  | 1125                        | 9                         | 5400                                                        | RHS0E152MCN1GS | FP-2R5ME152M-HSR |
| 4.0<br>(0G)                 | 4.6               | 560                    | 8×6.7                  | 0.12  | 700                         | 16                        | 3200                                                        | RHS0G561MCN1GS | FP-4R0ME561M-HSR |
|                             |                   | 560                    | 8×6.7                  | 0.12  | 700                         | 8                         | 5000                                                        | RHA0G561MCN1GS | FP-4R0ME561M-HAR |
|                             |                   | 680                    | 8×7.7                  | 0.12  | 816                         | 8                         | 5000                                                        | RHA0G681MCN1GS | FP-4R0ME681M-HAR |
|                             |                   | 1200                   | 8×11.7                 | 0.12  | 1440                        | 9                         | 5400                                                        | RHS0G122MCN1GS | FP-4R0ME122M-HSR |
|                             |                   | 1500                   | 8×11.7                 | 0.12  | 1800                        | 12                        | 4700                                                        | RHS0G152MCN1GS | FP-4R0ME152M-HSR |
| 6.3<br>(0J)                 | 7.2               | 330                    | 8×6.7                  | 0.12  | 700                         | 9                         | 4500                                                        | RHA0J331MCN1GS | FP-6R3ME331M-HAR |
|                             |                   | 390                    | 8×6.7                  | 0.12  | 737                         | 18                        | 3200                                                        | RHS0J391MCN1GS | FP-6R3ME391M-HSR |
|                             |                   | 390                    | 8×6.7                  | 0.12  | 737                         | 9                         | 4500                                                        | RHA0J391MCN1GS | FP-6R3ME391M-HAR |
|                             |                   | 470                    | 8×6.7                  | 0.12  | 888                         | 9                         | 4500                                                        | RHA0J471MCN1GS | FP-6R3ME471M-HAR |
|                             |                   | 560                    | 8×7.7                  | 0.12  | 1058                        | 9                         | 4500                                                        | RHA0J561MCN1GS | FP-6R3ME561M-HAR |
|                             |                   | 820                    | 8×11.7                 | 0.12  | 1550                        | 10                        | 5150                                                        | RHS0J821MCN1GS | FP-6R3ME821M-HSR |
|                             |                   | 1000                   | 8×11.7                 | 0.12  | 1890                        | 10                        | 5150                                                        | RHS0J102MCN1GS | FP-6R3ME102M-HSR |
| 10<br>(1A)                  | 11.5              | 150                    | 8×6.7                  | 0.12  | 700                         | 25                        | 3000                                                        | RHS1A151MCN1GS | FP-010ME151M-HSR |
|                             |                   | 330                    | 8×7.7                  | 0.12  | 660                         | 19                        | 3390                                                        | RHS1A331MCN1GS | FP-010ME331M-HSR |
| 16<br>(1C)                  | 18.4              | 150                    | 8×6.7                  | 0.12  | 700                         | 22                        | 3220                                                        | RHA1C151MCN1GS | FP-016ME151M-HAR |
|                             |                   | 270                    | 8×6.7                  | 0.12  | 864                         | 22                        | 3300                                                        | RHA1C271MCN1GS | FP-016ME271M-HAR |
|                             |                   | 560                    | 8×11.7                 | 0.12  | 1792                        | 14                        | 4950                                                        | RHS1C561MCN1GS | FP-016ME561M-HSR |
| 20<br>(1D)                  | 23.0              | 390                    | 8×11.7                 | 0.12  | 1560                        | 14                        | 4950                                                        | RHS1D391MCN1GS | FP-020ME391M-HSR |
| 25<br>(1E)                  | 28.7              | 100                    | 8×8.7                  | 0.12  | 700                         | 18                        | 4000                                                        | RHS1E101MCN1GS | FP-025ME101M-HSR |
| 35<br>(1V)                  | 40.2              | 56                     | 8×8.7                  | 0.12  | 392                         | 25                        | 3000                                                        | RHS1V560MCN1GS | FP-035ME560M-HSR |
|                             |                   | 100                    | 8×8.7                  | 0.12  | 700                         | 25                        | 3000                                                        | RHS1V101MCN1GS | FP-035ME101M-HSR |

## ■ 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.