

# F72

Low Profile  
Conformal  
coated Chip

# F75

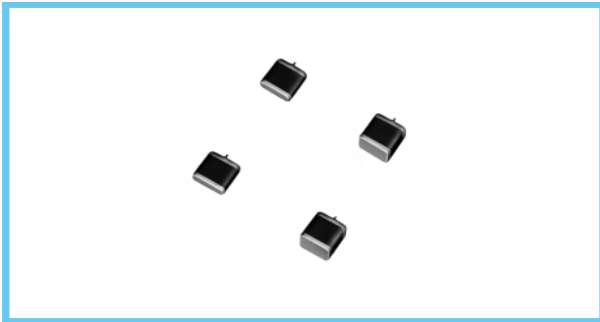
Maximum CV  
Conformal  
coated Chip

FRAMELESS™

Upgrade



- Compliant to the RoHS directive (2002/95/EC).

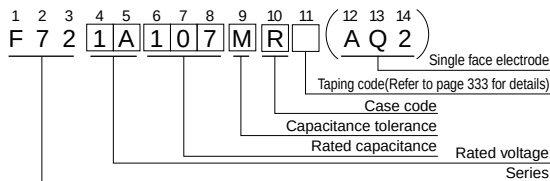


### Applications

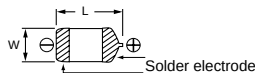
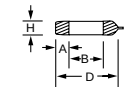
- Wireless modem
- Tablet PC
- e-book
- SSD
- Smart meter

### F72

#### Type numbering system (Example : 10V 100μF)



### Drawing



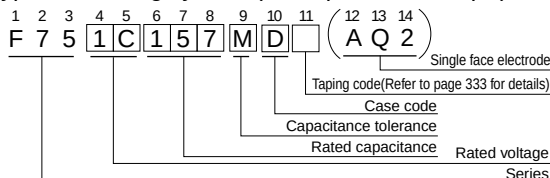
### Dimensions

| Case code | L         | W         | H         | A         | B         | (D)   |
|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| R         | 7.2 ± 0.3 | 6.0 ± 0.3 | 1.2 ± 0.3 | 1.3 ± 0.4 | 3.8 ± 0.6 | (6.2) |
| M         | 7.2 ± 0.3 | 6.0 ± 0.3 | 2.0 MAX.  | 1.3 ± 0.4 | 3.8 ± 0.6 | (6.2) |

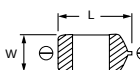
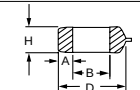
D dimension only for reference

### F75

#### Type numbering system (Example : 16V 150μF)



### Drawing



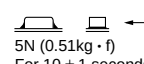
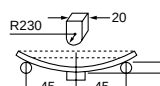
### Standard Ratings

#### F72

| Cap.(μF) | Code | V | 4  | 6.3 | 10 | 16 |
|----------|------|---|----|-----|----|----|
|          |      |   | 0G | 0J  | 1A | 1C |
| 33       | 336  |   |    |     |    | R  |
| 47       | 476  |   |    |     | R  | R  |
| 68       | 686  |   |    | R   | R  | R  |
| 100      | 107  | R | R  | R   |    |    |
| 150      | 157  | R | R  | R   |    |    |
| 220      | 227  | R | R  | R   |    |    |
| 330      | 337  | R | R  | (R) |    |    |
| 470      | 477  |   |    |     | M  |    |
| 680      | 687  |   |    |     | M  |    |
| 1000     | 108  |   |    | M   | M  |    |
| 1500     | 158  |   |    | M   |    |    |

( ) The series in parentheses are being developed. Please contact to your local Nichicon sales office when these series are being designed in your application.

### Specifications

| Item                              | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                          | -55 to +125°C (Rated temperature : +85°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Temperature Range                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Capacitance Tolerance             | ±20%, ±10% (at 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dissipation Factor (120Hz)        | Refer to next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ESR (100kHz)                      | Refer to next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Leakage Current                   | <ul style="list-style-type: none"> <li>• After 1 minute's application of rated voltage, leakage current at 20°C is not more than 0.01CV or 0.5μA, whichever is greater.</li> <li>• After 1 minute's application of rated voltage, leakage current at 85°C is not more than 0.1CV or 5μA, whichever is greater.</li> <li>• After 1 minute's application of derated voltage, leakage current at 125°C is not more than 0.125CV or 6.3μA, whichever is greater.</li> </ul>                  |
| Capacitance Change by Temperature | +15% Max. (at +125°C)<br>+10% Max. (at +85°C)<br>-10% Max. (at -55°C)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Damp Heat (Steady State)          | At 40°C, 90 to 95% R.H., For 500 hours (No voltage applied)<br>Capacitance Change ..... Refer to * 1<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                                |
| Temperature Cycles                | At -55°C / +125°C, 30 minutes each, For 5 cycles,<br>Capacitance Change ..... Refer to * 1<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                                          |
| Resistance to Soldering Heat      | 10 seconds reflow at 260°C, 10 seconds immersion at 260°C<br>Capacitance Change ..... Refer to * 1<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                                  |
| Surge*                            | After application of surge in series with a 33Ω resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85°C, capacitors shall meet the characteristic requirements table below.<br>Capacitance Change ..... Refer to * 1<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                         |
| Endurance*                        | After 2000 hours' application of rated voltage at 85°C, capacitors shall meet the characteristic requirements table below.<br>Capacitance Change ..... Refer to * 1<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                 |
| Shear Test                        | After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on a substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.                                                                                                                                  |
| Terminal Strength                 | Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of capacitor, the pressure strength is applied with a specified jig at the center of substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.  |

\* As for the surge voltage, refer to page 332 for details.

### Dimensions

| Case code | L         | W         | H         | A         | B         | (D)   |
|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| U         | 7.1 ± 0.3 | 3.2 ± 0.3 | 2.0 MAX.  | 1.3 ± 0.3 | 3.6 ± 0.6 | (6.0) |
| C         | 7.1 ± 0.3 | 3.2 ± 0.3 | 2.5 ± 0.3 | 1.3 ± 0.3 | 3.6 ± 0.6 | (6.0) |
| D         | 7.3 ± 0.3 | 4.3 ± 0.3 | 2.8 ± 0.3 | 1.3 ± 0.4 | 3.9 ± 0.6 | (6.4) |
| R         | 7.2 ± 0.3 | 6.0 ± 0.3 | 3.5 ± 0.3 | 1.3 ± 0.4 | 3.8 ± 0.6 | (6.2) |

D dimension only for reference

#### F75

| Cap.(μF) | Code | V     | 4           | 6.3   | 10    | 16 |
|----------|------|-------|-------------|-------|-------|----|
|          |      |       | 0G          | 0J    | 1A    | 1C |
| 68       | 686  |       |             |       |       | C  |
| 100      | 107  |       |             |       |       | C  |
| 150      | 157  |       |             |       | C     | D  |
| 220      | 227  |       |             | C     | C · D | R  |
| 330      | 337  | C     | C · D       | D     |       |    |
| 470      | 477  | C · D | U · D       | U · R |       |    |
| 680      | 687  | D     | (U) · D · R |       |       |    |
| 1000     | 108  | D · R | (U) · R     |       |       |    |
| 1500     | 158  | R     |             |       |       |    |
| 2200     | 228  | R     |             |       |       |    |

## F72

## ■ Standard Ratings

| Rated Volt | Rated Capacitance (μF) | Case code | Part Number | Leakage Current (μA) | Dissipation Factor (%@120Hz) | ESR (Ω@100kHz) | *1 ΔC/C (%) |
|------------|------------------------|-----------|-------------|----------------------|------------------------------|----------------|-------------|
| 4V         | 100                    | R         | F720G107MRC | 4.0                  | 8                            | 0.70           | *           |
|            | 150                    | R         | F720G157MRC | 6.0                  | 10                           | 0.70           | *           |
|            | 220                    | R         | F720G227MRC | 8.8                  | 12                           | 0.70           | *           |
|            | 330                    | R         | F720G337MRC | 13.2                 | 12                           | 0.70           | *           |
| 6.3V       | 68                     | R         | F720J686MRC | 4.3                  | 6                            | 0.75           | *           |
|            | 100                    | R         | F720J107MRC | 6.3                  | 8                            | 0.70           | *           |
|            | 150                    | R         | F720J157MRC | 9.5                  | 10                           | 0.70           | *           |
|            | 220                    | R         | F720J227MRC | 13.9                 | 12                           | 0.70           | *           |
|            | 330                    | R         | F720J337MRC | 20.8                 | 12                           | 0.70           | *           |
|            | 1000                   | M         | F720J108MMC | 63.0                 | 30                           | 0.14           | ±15         |
|            | 1500                   | M         | F720J158MMC | 95.0                 | 45                           | 0.14           | ±20         |
| 10V        | 47                     | R         | F721A476MRC | 4.7                  | 6                            | 0.80           | *           |
|            | 68                     | R         | F721A686MRC | 6.8                  | 6                            | 0.75           | *           |
|            | 100                    | R         | F721A107MRC | 10.0                 | 8                            | 0.70           | *           |
|            | 150                    | R         | F721A157MRC | 15.0                 | 10                           | 0.70           | *           |
|            | 220                    | R         | F721A227MRC | 22.0                 | 12                           | 0.70           | *           |
|            | 470                    | M         | F721A477MMC | 47.0                 | 30                           | 0.14           | ±15         |
|            | 680                    | M         | F721A687MMC | 68.0                 | 35                           | 0.14           | ±20         |
|            | 1000                   | M         | F721A108MMC | 200                  | 45                           | 0.14           | ±20         |
| 16V        | 33                     | R         | F721C336MRC | 5.3                  | 6                            | 0.90           | *           |
|            | 47                     | R         | F721C476MRC | 7.5                  | 6                            | 0.80           | *           |
|            | 68                     | R         | F721C686MRC | 10.9                 | 6                            | 0.75           | *           |

\*1 : ΔC/C Marked "\*"

|                           | F72 ALL Case (%) |
|---------------------------|------------------|
| Damp Heat                 | ±10              |
| Temperature cycles        | ±5               |
| Resistance soldering heat | ±5               |
| Surge                     | ±5               |
| Endurance                 | ±10              |

## F75

## ■ Standard Ratings

| Rated Volt | Rated Capacitance (μF) | Case code | Part Number | Leakage Current (μA) | Dissipation Factor (%@120Hz) | ESR (Ω@100kHz) | *1 ΔC/C (%) |
|------------|------------------------|-----------|-------------|----------------------|------------------------------|----------------|-------------|
| 4V         | 330                    | C         | F750G337MCC | 13.2                 | 10                           | 0.15           | *           |
|            | 470                    | C         | F750G477MCC | 18.8                 | 14                           | 0.12           | *           |
|            | 470                    | D         | F750G477MDC | 18.8                 | 14                           | 0.12           | *           |
|            | 680                    | D         | F750G687MDC | 27.2                 | 18                           | 0.12           | *           |
|            | 1000                   | D         | F750G108MDC | 40.0                 | 24                           | 0.12           | *           |
|            | 1000                   | R         | F750G108MRC | 40.0                 | 24                           | 0.12           | *           |
|            | 1500                   | R         | F750G158MRC | 60.0                 | 30                           | 0.12           | *           |
|            | 2200                   | R         | F750G228MRC | 88.0                 | 45                           | 0.07           | *           |
| 6.3V       | 220                    | C         | F750J227MCC | 13.9                 | 10                           | 0.20           | *           |
|            | 330                    | C         | F750J337MCC | 20.8                 | 10                           | 0.15           | *           |
|            | 330                    | D         | F750J337MDC | 20.8                 | 10                           | 0.15           | *           |
|            | 470                    | U         | F750J477MUC | 29.6                 | 15                           | 0.10           | *           |
|            | 470                    | D         | F750J477MDC | 29.6                 | 14                           | 0.12           | *           |
|            | 680                    | D         | F750J687MDC | 42.8                 | 18                           | 0.12           | *           |
|            | 680                    | R         | F750J687MRC | 42.8                 | 18                           | 0.12           | *           |
|            | 1000                   | R         | F750J108MRC | 63.0                 | 24                           | 0.12           | *           |
| 10V        | 150                    | C         | F751A157MCC | 15.0                 | 10                           | 0.22           | *           |
|            | 220                    | C         | F751A227MCC | 22.0                 | 10                           | 0.20           | *           |
|            | 220                    | D         | F751A227MDC | 22.0                 | 10                           | 0.20           | *           |
|            | 330                    | D         | F751A337MDC | 33.0                 | 10                           | 0.15           | *           |
|            | 470                    | U         | F751A477MUC | 94.0                 | 30                           | 0.15           | ±20         |
|            | 470                    | R         | F751A477MRC | 47.0                 | 14                           | 0.12           | *           |
| 16V        | 68                     | C         | F751C686MCC | 10.9                 | 10                           | 0.22           | *           |
|            | 100                    | C         | F751C107MCC | 16.0                 | 10                           | 0.22           | *           |
|            | 150                    | D         | F751C157MDC | 24.0                 | 10                           | 0.22           | *           |
|            | 220                    | R         | F751C227MRC | 35.2                 | 10                           | 0.20           | *           |

\*1 : ΔC/C Marked "\*"

|                           | F75 ALL Case (%) |
|---------------------------|------------------|
| Damp Heat                 | ±10              |
| Temperature cycles        | ±5               |
| Resistance soldering heat | ±5               |
| Surge                     | ±5               |
| Endurance                 | ±10              |

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)