

**F91**LOW ESR  
Resin-molded Chip

For SMD

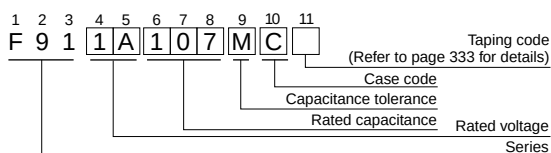


For High Frequency

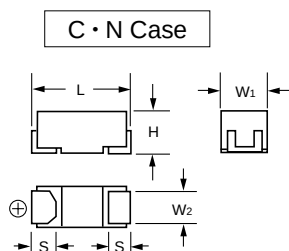
- Compliant to the RoHS directive (2002/95/EC).



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



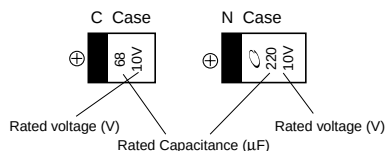
## Drawing



## Dimensions

| Case Code | L         | W <sub>1</sub> | W <sub>2</sub> | H         | S         |
|-----------|-----------|----------------|----------------|-----------|-----------|
| C         | 6.0 ± 0.2 | 3.2 ± 0.2      | 2.2 ± 0.1      | 2.5 ± 0.2 | 1.3 ± 0.2 |
| N         | 7.3 ± 0.2 | 4.3 ± 0.2      | 2.4 ± 0.1      | 2.8 ± 0.2 | 1.3 ± 0.2 |

## Marking



## Standard Ratings

| Cap. (µF) | V   | 4  | 6.3   | 10 |
|-----------|-----|----|-------|----|
| Code      |     | 0G | 0J    | 1A |
| 68        | 686 |    |       | C  |
| 100       | 107 |    | C     | C  |
| 150       | 157 | C  | C     | N  |
| 220       | 227 | C  | C • N | N  |
| 330       | 337 | N  | N     | N  |
| 470       | 477 | N  | N     | N  |
| 680       | 687 | N  |       |    |

## Specifications

| Item                              | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                          | Temperature Range                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Temperature Range                 | -55 to +125°C (Rated temperature : +85°C)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Capacitance Tolerance             | ±20%, ±10% (at 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Dissipation Factor (120Hz)        | Refer to the table below.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ESR (100kHz)                      | Refer to the table below.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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. 500 hours (No voltage applied)<br>Capacitance Change Within ±10% of the initial value<br>Dissipation Factor.....Initial specified value or less<br>Leakage Current.....Initial specified value or less                                                                                                                                                                                                                                     |
| Temperature Cycles                | -55°C / +125°C 30 minutes each 5 cycles<br>Capacitance Change Within ±5% of the initial value<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,<br>5 seconds immersion at 260°C<br>Capacitance Change Within ±5% of the initial value<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.....Within ±5% of the initial value<br>Dissipation Factor.....Initial specified value or less<br>Leakage Current.....Initial specified value or less                                                                     |
| Endurance*                        | After 2000 hours' application of rated voltage in series with a 3Ω resistor at 85°C, or derated voltage in series with a 3Ω resistor at 125°C, capacitors shall meet the characteristics requirements table below.<br>Capacitance Change.....Within ±10% of the initial value<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.                      5N (0.51kg · f)<br>For 10±1 seconds                                                                                                                                       |
| 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.                      R230<br>20<br>45 45<br>1mm                |

\* As for the surge and derated voltage at 125°C, refer to page 332 for details.

| Rated Volt | Rated Capacitance (µF) | Case code | Part Number | Leakage Current (µA) | Dissipation Factor (%@120Hz) | ESR (mΩ@100kHz) |
|------------|------------------------|-----------|-------------|----------------------|------------------------------|-----------------|
| 4V         | 150                    | C         | F910G157MCC | 6.0                  | 12                           | 250             |
|            | 220                    | C         | F910G227MCC | 8.8                  | 12                           | 250             |
|            | 330                    | N         | F910G337MNC | 13.2                 | 10                           | 100             |
|            | 470                    | N         | F910G477MNC | 18.8                 | 16                           | 100             |
|            | 680                    | N         | F910G687MNC | 27.2                 | 18                           | 100             |
| 6.3V       | 100                    | C         | F910J107MCC | 6.3                  | 8                            | 250             |
|            | 150                    | C         | F910J157MCC | 9.5                  | 12                           | 250             |
|            | 220                    | C         | F910J227MCC | 13.9                 | 14                           | 250             |
|            | 220                    | N         | F910J227MNC | 13.9                 | 10                           | 100             |
|            | 330                    | N         | F910J337MNC | 20.8                 | 14                           | 100             |
| 10V        | 470                    | N         | F910J477MNC | 29.6                 | 16                           | 100             |
|            | 68                     | C         | F911A686MCC | 6.8                  | 8                            | 300             |
|            | 100                    | C         | F911A107MCC | 10.0                 | 10                           | 250             |
|            | 150                    | N         | F911A157MNC | 15.0                 | 10                           | 100             |
|            | 220                    | N         | F911A227MNC | 22.0                 | 12                           | 100             |
|            | 330                    | N         | F911A337MNC | 33.0                 | 18                           | 100             |

\* In case of capacitance tolerance ± 10% type, [K] will be put at 9th digit of type numbering system.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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