

F91LOW ESR
Resin-molded Chip

For SMD

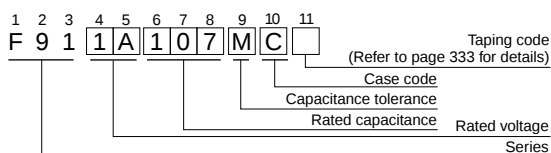


For High Frequency

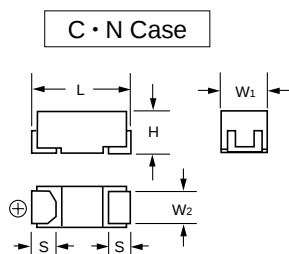
- Compliant to the RoHS directive (2002/95/EC).



Type numbering system (Example : 10V 100µF)



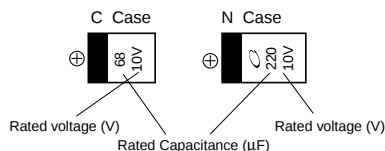
Drawing



Dimensions

Case Code	L	W ₁	W ₂	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	- 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. - After 1 minute's application of rated voltage, leakage current at 85°C is not more than 0.1CV or 5µA, whichever is greater. - 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.
Capacitance Change by Temperature	+15% Max. (at +125°C) +10% Max. (at +85°C) -10% Max. (at -55°C)
Damp Heat (Steady State)	At 40°C 90 to 95% R.H. 500 hours (No voltage applied) Capacitance Change Within ±10% of the initial value Dissipation Factor.....Initial specified value or less Leakage Current.....Initial specified value or less
Temperature Cycles	-55°C / +125°C 30 minutes each 5 cycles Capacitance Change Within ±5% of the initial value Dissipation Factor.....Initial specified value or less Leakage Current.....Initial specified value or less
Resistance to Soldering Heat	10 seconds reflow at 260°C, 5 seconds immersion at 260°C Capacitance Change Within ±5% of the initial value Dissipation Factor.....Initial specified value or less 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. Capacitance Change.....Within ±5% of the initial value Dissipation Factor.....Initial specified value or less 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. Capacitance Change.....Within ±10% of the initial value Dissipation Factor.....Initial specified value or less 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 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.