

# F91-AJ6 Series

## Low ESR, Resin-Molded Chip - Automotive Product Range



### FEATURES

- Compliant to the RoHS3 directive 2015/863/EU
- Compliant to AEC-Q200
- 100% Surge Current Tested

### APPLICATIONS

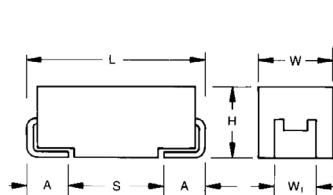
- Cabin Electronics
- Infotainment



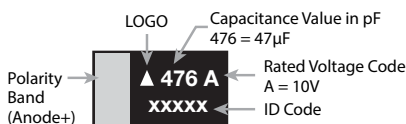
### CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L ± 0.20 (0.008)	W ± 0.20 (0.008) -0.10 (0.004)	H ± 0.20 (0.008) -0.10 (0.004)	W <sub>1</sub> ± 0.20 (0.008)	A ± 0.30 (0.012) -0.20 (0.008)	S Min.
A	1206	3216-18	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
B	1210	3528-21	3.50 (0.138)	2.80 (0.110)	1.90 (0.075)	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
N	2917	7343-31	7.30 (0.287)	4.30 (0.169)	2.90 (0.114)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

W<sub>1</sub> dimension applies to the termination width for a dimensional area only



### A, B, N CASE



4V	G	16V	C	35V	V
6.3V	J	20V	D		
10V	A	25V	E		

\*Capacitance code of "P" case products are as shown below.

### HOW TO ORDER

**F91**  
Type

**1C**  
Rated Voltage

**226**  
Capacitance Code  
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

**M**  
Tolerance  
K = ±10%  
M = ±20%

**B**  
Case Size  
See table above

  
Packaging  
See Tape & Reel Packaging Section

**AJ6**  
Tolerance  
K = ±10%  
M = ±20%

### TECHNICAL SPECIFICATIONS

Category Temperature Range	-55 to +125°C
Rated Temperature	+85°C
Capacitance Tolerance	±20%, ±10% at 120Hz
Dissipation Factor	Refer to next page
ESR 100kHz	Refer to next page
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

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### CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage		
μF	Code	6.3V (0J)	10V (1A)	16V (1C)
10	106		A	A
22	226	A	A	B
33	336		B	B
47	476	A,B	B	
100	107	B		N
220	227		N	

Released ratings

\*1: ΔC/C Marked “\*”

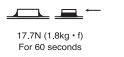
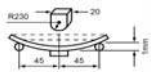
Item	All Case (%)
Damp Heat	±10
Temperature cycles	±10
Resistance soldering heat	±10
Surge	±10
Endurance	±10

### RATINGS & PART NUMBER REFERENCE

Part Number	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF @ 120Hz (%)	ESR @ 100kHz (mΩ)	100kHz RMS Current (mA)			*1 ΔC/C (%)	MSL
							25°C	85°C	125°C		
<b>6.3 Volt</b>											
F910J226#AAAJ6	A	22	6.3	1.4	8	1250	245	220	98	*	3
F910J476#AAAJ6	A	47	6.3	3.0	18	1250	245	220	98	*	3
F910J476#BAAJ6	B	47	6.3	3.0	6	500	412	371	165	*	3
F910J107#BAAJ6	B	100	6.3	6.3	14	450	435	391	174	*	3
<b>10 Volt</b>											
F911A106#AAAJ6	A	10	10	1.0	6	1500	224	201	89	*	3
F911A226#AAAJ6	A	22	10	2.2	12	1250	245	220	98	*	3
F911A336#BAAJ6	B	33	10	3.3	8	700	348	314	139	*	3
F911A476#BAAJ6	B	47	10	4.7	8	500	412	371	165	*	3
F911A227#NCAJ6	N	220	10	22.0	12	100	1225	1102	490	*	3
<b>16 Volt</b>											
F911C106#AAAJ6	A	10	16	1.6	6	1500	224	201	89	*	3
F911C226#BAAJ6	B	22	16	3.5	8	950	299	269	120	*	3
F911C336#BAAJ6	B	33	16	5.3	8	950	299	269	120	*	3
F911C107#NCAJ6	N	100	16	16.0	10	100	1225	1102	490	*	3

#: "M" for ±20% tolerance, "K" for ±10% tolerance. Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

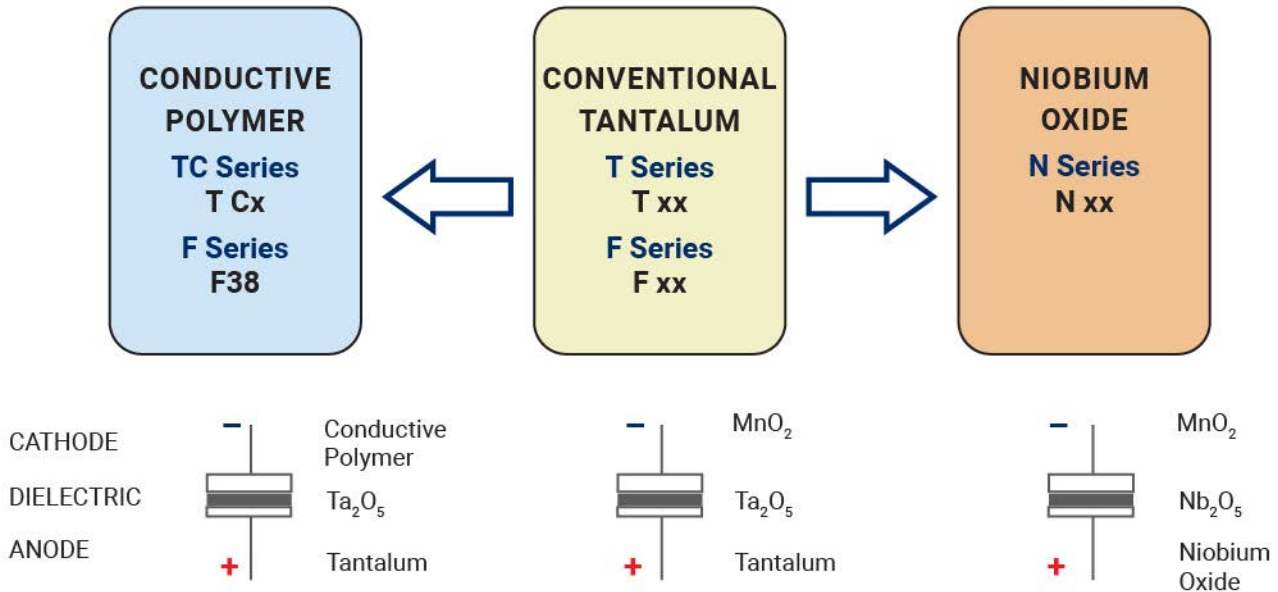
### QUALIFICATION TABLE

TEST	F91-AJ6 series (Temperature range -55°C to +125°C)	
	Condition	
<b>Damp Heat (Steady State)</b>	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Load Humidity</b>	After 1000 hour's application of rated voltage in series with a 33Ω resistor at 85°C, 85% R.H., capacitors meet the characteristics requirements table below. Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... 125% or less than the initial specified value	
<b>Temperature Cycles</b>	At -55°C / +125°C, 30 minutes each, 1000 cycles Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Resistance to Soldering Heat</b>	10 seconds reflow at 260°C, 10 seconds immersion at 260°C. Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Surge</b>	After application of surge voltage 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 in the table above. Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Endurance</b>	After 2000 hours' application of rated voltage in series with a 3Ω resistor at 85°C, or derated voltage in series with a 30 resistor at 125°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Refer to the table above (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Shear Test</b>	After applying the pressure load of 17.7N for 60 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.	
<b>Terminal Strength</b>	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 the substrate so that substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.	
<b>Failure Rate</b>	1% per 1000 hours at 85°C, V <sub>R</sub> with 0.1Ω/V series impedance, 60% confidence level.	

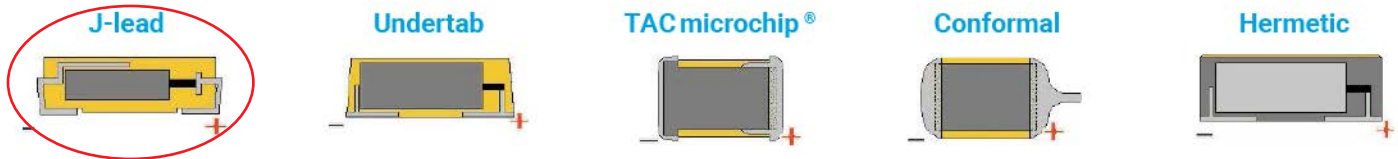
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## SOLID ELECTROLYTE CAPACITOR ROADMAP



## FIVE CAPACITOR CONSTRUCTION STYLES



## SERIES LINE UP : CONVENTIONAL SMD MnO<sub>2</sub>

