

# F91 Series



## Low ESR, Resin-Molded Chip J-Lead



### FEATURES

- Compliant to the RoHS2 directive 2011/65/EU
- SMD J-lead
- Low ESR



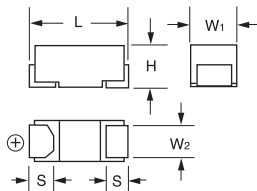
### APPLICATIONS

- General medium power DC/DC convertors

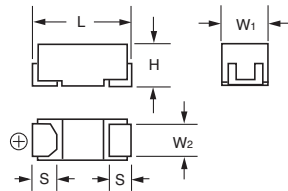
### CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W <sub>1</sub>	W <sub>2</sub>	H	S
B	1210	3528-21	3.50 ± 0.20 (0.126 ± 0.008)	2.80 ± 0.20 (0.110 ± 0.008)	2.20 ± 0.10 (0.087 ± 0.004)	1.90 ± 0.20 (0.075 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)
C	2312	6032-27	6.00 ± 0.20 (0.236 ± 0.008)	3.20 ± 0.20 (0.126 ± 0.008)	2.20 ± 0.10 (0.087 ± 0.004)	2.50 ± 0.20 (0.098 ± 0.008)	1.30 ± 0.20 (0.051 ± 0.008)
N	2917	7343-30	7.30 ± 0.20 (0.287 ± 0.008)	4.30 ± 0.20 (0.169 ± 0.008)	2.40 ± 0.10 (0.094 ± 0.004)	2.80 ± 0.20 (0.110 ± 0.008)	1.30 ± 0.20 (0.051 ± 0.008)

#### B CASE

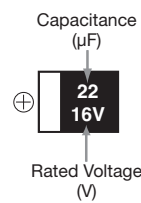


#### C, N CASE

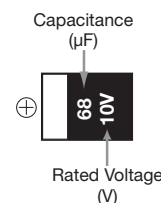


#### MARKING

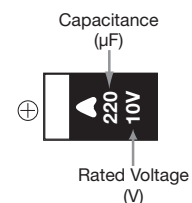
##### B CASE



##### C CASE



##### N CASE



### HOW TO ORDER

<b>F91</b>	<b>1A</b>	<b>107</b>	<b>M</b>	<b>C</b>	
Type	Rated Voltage	Capacitance Code	Tolerance	Case Size	Packaging
		pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	K = ±10% M = ±20%	See table above	See Tape & Reel Packaging Section

### 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	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)	20V (1D)	25V (1E)	35V (1V)
6.8	685							C
10	106						C	N
15	156					C		N
22	226				B		N	N
33	336				B/C	N	N	
47	476			B	N	N	N	
68	686			C				
100	107		C	C	N			
150	157	C	C	N				
220	227	C	C/N	N				
330	337	N	N	N				
470	477	N	N					
680	687	N						

Released ratings

### RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF @ 120Hz (%)	ESR @ 100kHz (mΩ)	100kHz RMS Current (mA)			MSL
							25°C	85°C	125°C	
<b>4 Volt</b>										
F910G157#CC	C	150	4	6.0	12	250	663	597	265	1
F910G227#CC	C	220	4	8.8	12	250	663	597	265	1
F910G337#NC	N	330	4	13.2	10	100	1225	1102	490	1
F910G477#NC	N	470	4	18.8	16	100	1225	1102	490	1
F910G687#NC	N	680	4	27.2	18	100	1225	1102	490	1
<b>6.3 Volt</b>										
F910J107#CC	C	100	6.3	6.3	8	250	663	597	265	1
F910J157#CC	C	150	6.3	9.5	12	250	663	597	265	1
F910J227#CC	C	220	6.3	13.9	14	250	663	597	265	1
F910J227#NC	N	220	6.3	13.9	10	100	1225	1102	490	1
F910J337#NC	N	330	6.3	20.8	14	100	1225	1102	490	1
F910J477#NC	N	470	6.3	29.6	16	100	1225	1102	490	1
<b>10 Volt</b>										
F911A476#BA	B	47	10	4.7	8	500	412	371	165	1
F911A686#CC	C	68	10	6.8	8	300	606	545	242	1
F911A107#CC	C	100	10	10.0	10	250	663	597	265	1
F911A157#NC	N	150	10	15.0	10	100	1225	1102	490	1
F911A227#NC	N	220	10	22.0	12	100	1225	1102	490	3
F911A337#NC	N	330	10	33.0	18	100	1225	1102	490	3
<b>16 Volt</b>										
F911C226#BA	B	22	16	3.5	8	950	299	269	120	1
F911C336#BA	B	33	16	5.3	8	950	299	269	120	1
F911C336#CC	C	33	16	5.3	6	400	524	472	210	1
F911C476#NC	N	47	16	7.6	6	150	1000	900	400	1
F911C107#NC	N	100	16	16	10	100	1225	1102	490	3
<b>20 Volt</b>										
F911D156#CC	C	15	20	3	6	450	494	445	198	1
F911D336#NC	N	33	20	6.6	6	200	866	779	346	1
F911D476#NC	N	47	20	9.4	8	200	866	779	346	1
<b>25 Volt</b>										
F911E106#CC	C	10	25	2.5	6	450	494	445	198	1
F911E226#NC	N	22	25	5.5	6	200	866	779	346	1
F911E336#NC	N	33	25	8.3	8	200	866	779	346	1
F911E476#NC	N	47	25	11.8	8	250	775	697	310	1
<b>35 Volt</b>										
F911V685#CC	C	6.8	35	2.4	6	600	428	385	171	1
F911V106#NC	N	10	35	3.5	6	300	707	636	283	1
F911V156#NC	N	15	35	5.3	6	300	707	636	283	1
F911V226#NC	N	22	35	7.7	8	300	707	636	283	1

#: "M" for ±20% tolerance, "K" for ± 10% tolerance.

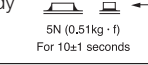
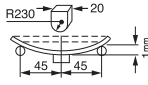
Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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### QUALIFICATION TABLE

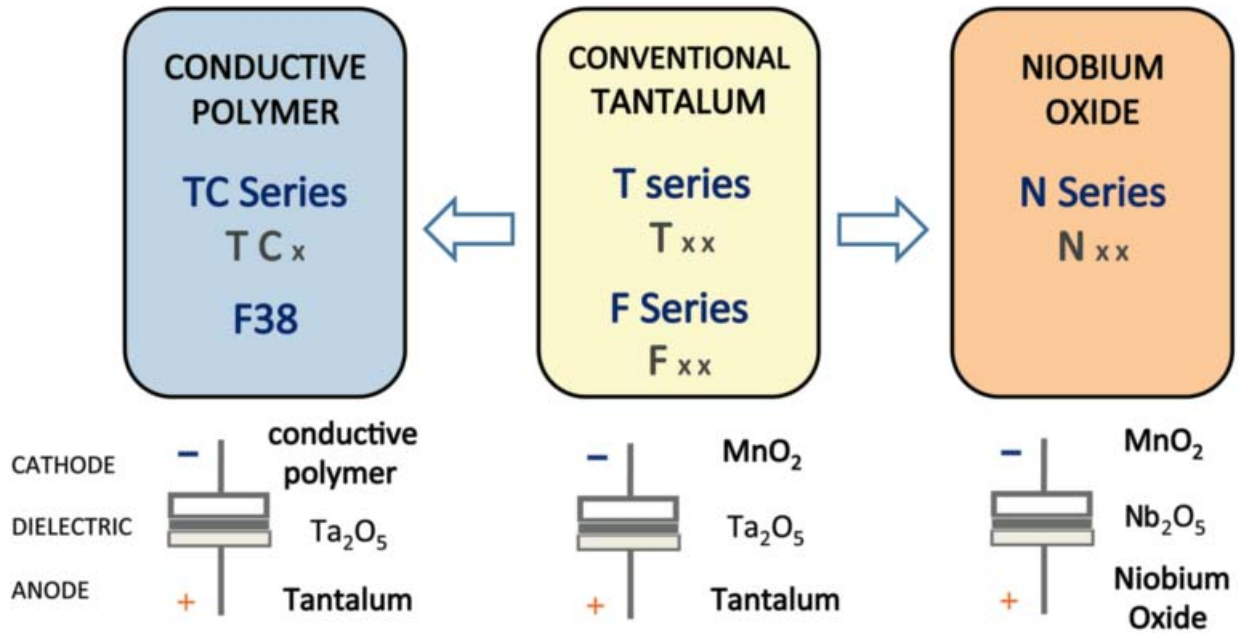
TEST	F91 series (Temperature range -55°C to +125°C)	
	Condition	
<b>Damp Heat (Steady State)</b>	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change ..... Within ±10% of the initial value Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Temperature Cycles</b>	-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	
<b>Resistance to Soldering Heat</b>	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	
<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 ..... Within ±5% of the initial value 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 3Ω resistor at 125°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Within ±10% of the initial value Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less	
<b>Shear Test</b>	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. 	
<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 substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. 	

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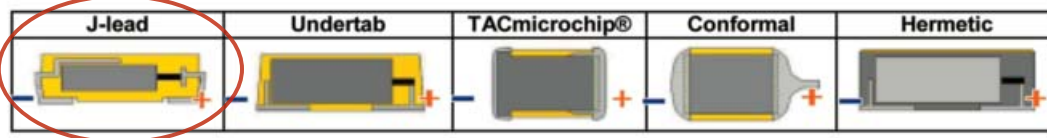


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## AVX SOLID ELECTROLYTE CAPACITOR ROADMAP



### Five Capacitor Construction Styles



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

