F91 Series

Low ESR, Resin-Molded Chip J-Lead

FEATURES

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

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

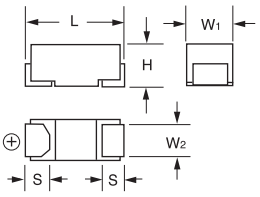
APPLICATIONS

- General medium power DC/DC convertors

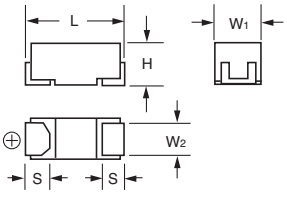
CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W_1	W_2	H	S
B	1210	3528-21	3.50 ± 0.20 (0.138 ± 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

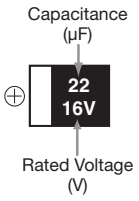


C, N CASE

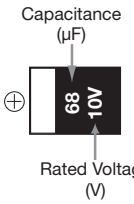


MARKING

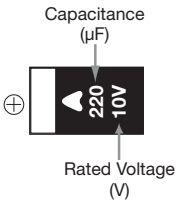
B CASE



C CASE



N CASE



HOW TO ORDER

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

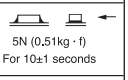
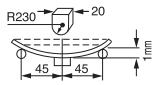
RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (mΩ)	100kHz RMS Current (mA)			MSL
							25ºC	85ºC	125ºC	
4 Volt										
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
6.3 Volt										
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
10 Volt										
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
16 Volt										
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
20 Volt										
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
25 Volt										
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
35 Volt										
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

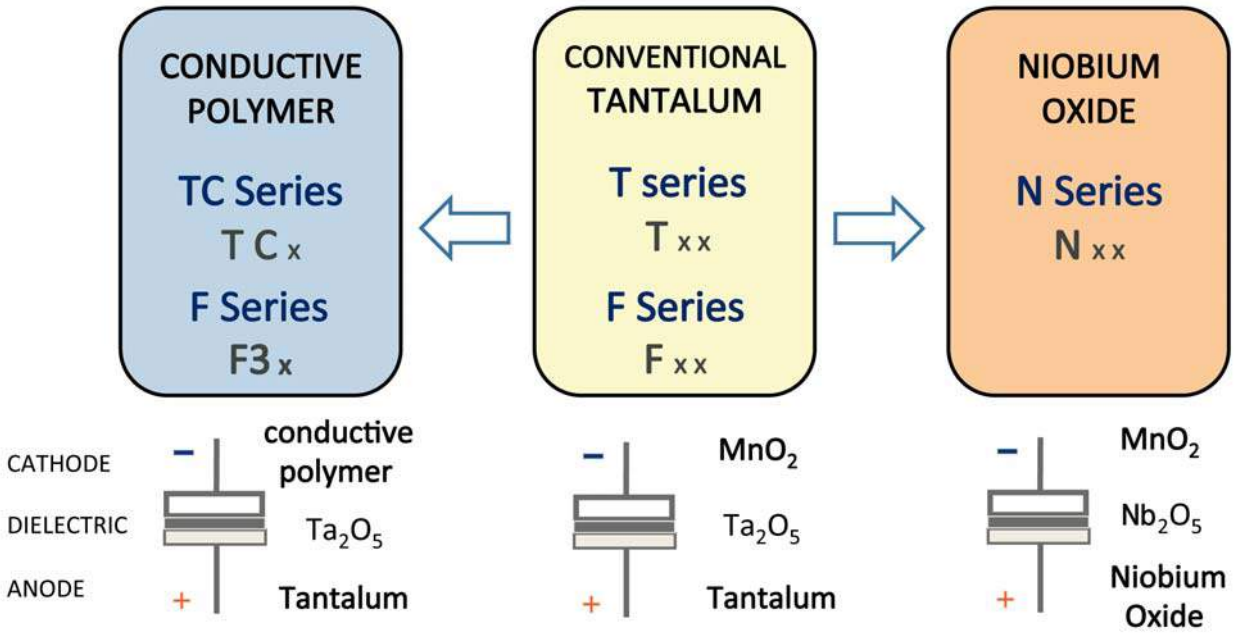
#: "M" for ±20% tolerance, "K" for ± 10% tolerance.

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

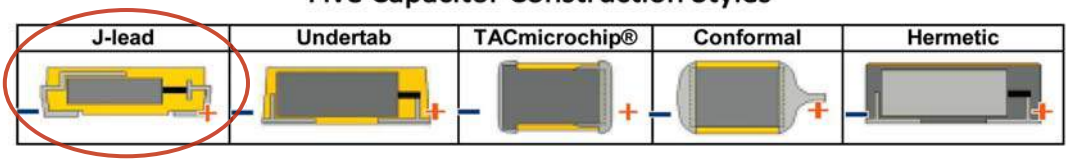
QUALIFICATION TABLE

TEST	F91 series (Temperature range -55ºC to +125ºC) Condition
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 voltage in series with a 33Ω resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85ºC, 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
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 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
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) 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. 

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: CONVENTIONAL SMD MnO_2