F91 Series

Low ESR, Resin-Molded Chip J-Lead

FEATURES

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

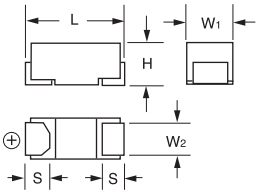
LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

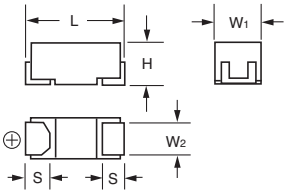
APPLICATIONS

- General medium power DC/DC convertors

B CASE



C, N CASE

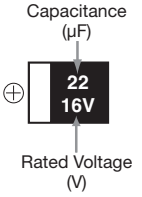


CASE DIMENSIONS: millimeters (inches)

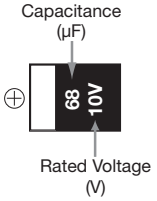
Code	L	W_1	W_2	H	S
B	3.50 ± 0.20 (0.126 ± 0.008)	2.80 ± 0.20 (0.110 ± 0.008)	2.20 ± 0.10 (0.087 ± 0.004)	1.90 ± 0.20 (0.075 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)
C	6.00 ± 0.20 (0.236 ± 0.008)	3.20 ± 0.20 (0.126 ± 0.008)	2.20 ± 0.10 (0.087 ± 0.004)	2.50 ± 0.20 (0.098 ± 0.008)	1.30 ± 0.20 (0.051 ± 0.008)
N	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)

MARKING

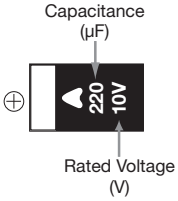
B CASE



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						

Available 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) 20°C
4 Volt							
F910G157MCC	C	150	4	6.0	12	250	663
F910G227MCC	C	220	4	8.8	12	250	663
F910G337MNC	N	330	4	13.2	10	100	1225
F910G477MNC	N	470	4	18.8	16	100	1225
F910G687MNC	N	680	4	27.2	18	100	1225
6.3 Volt							
F910J107MCC	C	100	6.3	6.3	8	250	663
F910J157MCC	C	150	6.3	9.5	12	250	663
F910J227MCC	C	220	6.3	13.9	14	250	663
F910J227MNC	N	220	6.3	13.9	10	100	1225
F910J337MNC	N	330	6.3	20.8	14	100	1225
F910J477MNC	N	470	6.3	29.6	16	100	1225
10 Volt							
F911A476MBA	B	47	10	4.7	8	500	412
F911A686MCC	C	68	10	6.8	8	300	606
F911A107MCC	C	100	10	10.0	10	250	663
F911A157MNC	N	150	10	15.0	10	100	1225
F911A227MNC	N	220	10	22.0	12	100	1225
F911A337MNC	N	330	10	33.0	18	100	1225
16 Volt							
F911C226MBA	B	22	16	3.5	8	950	299
F911C336MBA	B	33	16	5.3	8	950	299
F911C336MCC	C	33	16	5.3	6	400	524
F911C476MNC	N	47	16	7.6	6	150	1000
F911C107MNC	N	100	16	16	10	100	1225
20 Volt							
F911D156MCC	C	15	20	3	6	450	494
F911D336MNC	N	33	20	6.6	6	200	866
F911D476MNC	N	47	20	9.4	8	200	866
25 Volt							
F911E106MCC	C	10	25	2.5	6	450	494
F911E226MNC	N	22	25	5.5	6	200	866
F911E336MNC	N	33	25	8.3	8	200	866
F911E476MNC	N	47	25	11.8	8	250	775
35 Volt							
F911V685MCC	C	6.8	35	2.4	6	600	428
F911V106MNC	N	10	35	3.5	6	300	707
F911V156MNC	N	15	35	5.3	6	300	707
F911V226MNC	N	22	35	7.7	8	300	707

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

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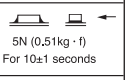
QUALIFICATION TABLE

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. 
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.