

F92 Series



Resin-Molded Chip, Low Profile J-Lead

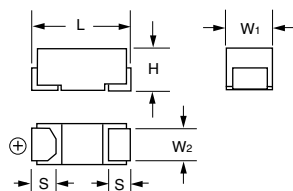


FEATURES

- Compliant to the RoHS2 directive 2011/65/EU
- SMD J-lead
- Low profile case sizes

APPLICATIONS

- Handheld electronics
- USB accessories

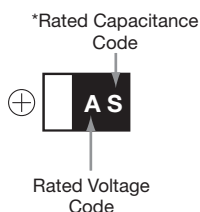


CASE DIMENSIONS: millimeters (inches)

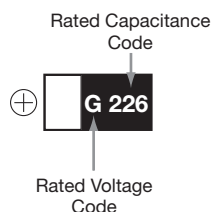
Code	L	W ₁	W ₂	H	S
A	3.20 ± 0.20 (0.126 ± 0.008)	1.60 ± 0.20 (0.063 ± 0.008)	1.20 ± 0.10 (0.047 ± 0.004)	1.10 ± 0.10 (0.043 ± 0.004)	0.80 ± 0.20 (0.031 ± 0.008)
B	3.40 ± 0.20 (0.134 ± 0.008)	2.80 ± 0.20 (0.110 ± 0.008)	2.30 ± 0.10 (0.091 ± 0.004)	1.10 ± 0.10 (0.043 ± 0.004)	0.80 ± 0.20 (0.031 ± 0.008)
P	2.00 ± 0.20 (0.079 ± 0.008)	1.25 ± 0.10 (0.049 ± 0.004)	0.90 ± 0.10 (0.035 ± 0.004)	1.10 ± 0.10 (0.043 ± 0.004)	0.50 ± 0.20 (0.020 ± 0.008)

MARKING

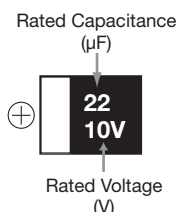
P CASE



A CASE



B 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

F92	0J	106	M	P	
Type	Rated Voltage	Capacitance Code	Tolerance M = ±20%	Case Size See table above	Packaging See Tape & Reel Packaging Section
		pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)			

TECHNICAL SPECIFICATIONS

Category Temperature Range:	-55 to +125°C								
Rated Temperature:	+85°C								
Capacitance Tolerance:	±20% 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	<table> <tr> <th>P Case</th><th>A, B Case</th></tr> <tr> <td>+20% Max. at +125°C</td><td>+15% Max. at +125°C</td></tr> <tr> <td>+15% Max. at +85°C</td><td>+10% Max. at +85°C</td></tr> <tr> <td>-15% Max. at -55°C</td><td>-10% Max. at -55°C</td></tr> </table>	P Case	A, B Case	+20% Max. at +125°C	+15% Max. at +125°C	+15% Max. at +85°C	+10% Max. at +85°C	-15% Max. at -55°C	-10% Max. at -55°C
P Case	A, B Case								
+20% Max. at +125°C	+15% Max. at +125°C								
+15% Max. at +85°C	+10% Max. at +85°C								
-15% Max. at -55°C	-10% Max. at -55°C								



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CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage							*Cap Code
μF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)	20V (1D)	25V (1E)	35V (1V)	
0.22	224							A	J
0.33	334							A	N
0.47	474				P	A/P		A	S
0.68	684				P	A			W
1	105			P	P	A/P	A/P	A	A
1.5	155			P	P	A			E
2.2	225		P	P	A/P	A/P*	A/B	B	J
3.3	335	P	P	A/P	A			B	N
4.7	475	P	P	A/P	A/B/P*	A/B	A/B		S
6.8	685	P	P	A/P	B				w
10	106	A/P	A/P	A/P	A/B	B			a
15	156	P	A/P	A					e
22	226	A/P	A/P	A/B	B				J
33	336	A/P	A/B	B					n
47	476	A/B/P*	A/B	B					s
68	686	A/B							
100	107	A/B	A*/B						
150	157	B							
220	227	B*							

Available Ratings

*Codes under development – subject to change

Please contact to your local AVX sales office when these series are being designed in your application.

F92 Series



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RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF (%) @ 120Hz	ESR (Ω) @ 100kHz	*1 ΔC/C (%)
4 Volt							
F920G335MPA	P	3.3	4	0.5	8	12.0	*
F920G475MPA	P	4.7	4	0.5	8	6.0	*
F920G685MPA	P	6.8	4	0.5	10	6.0	*
F920G106MAA	A	10	4	0.5	8	4.0	*
F920G106MPA	P	10	4	0.5	10	6.0	*
F920G156MPA	P	15	4	0.6	10	5.0	*
F920G226MAA	A	22	4	0.9	12	2.8	*
F920G226MPA	P	22	4	0.9	20	5.0	*
F920G336MAA	A	33	4	1.3	12	2.8	*
F920G336MPA	P	33	4	1.3	20	4.0	*
F920G476MAA	A	47	4	1.9	18	2.8	*
F920G476MBA	B	47	4	1.9	12	1.7	*
F920G686MAA	A	68	4	2.7	25	2.8	±15
F920G686MBA	B	68	4	2.7	18	1.5	*
F920G107MAA	A	100	4	4.0	30	2.8	±15
F920G107MBA	B	100	4	4.0	18	1.3	*
F920G157MBA	B	150	4	6.0	25	1.3	±15
6.3 Volt							
F920J225MPA	P	2.2	6.3	0.5	8	12.0	*
F920J335MPA	P	3.3	6.3	0.5	8	12.0	*
F920J475MPA	P	4.7	6.3	0.5	8	6.0	*
F920J685MPA	P	6.8	6.3	0.5	10	6.0	*
F920J106MAA	A	10	6.3	0.6	8	4.0	*
F920J106MPA	P	10	6.3	0.6	10	6.0	*
F920J156MAA	A	15	6.3	0.9	8	4.0	*
F920J156MPA	P	15	6.3	0.9	10	6.0	*
F920J226MAA	A	22	6.3	1.4	12	2.8	*
F920J226MPA	P	22	6.3	1.4	20	5.0	*
F920J336MAA	A	33	6.3	2.1	12	2.8	*
F920J336MBA	B	33	6.3	2.1	12	1.7	*
F920J476MAA	A	47	6.3	3.0	18	2.8	±15
F920J476MBA	B	47	6.3	3.0	12	1.7	*
F920J107MBA	B	100	6.3	6.3	20	1.3	±15
10 Volt							
F921A105MPA	P	1	10	0.5	8	12.0	*
F921A155MPA	P	1.5	10	0.5	8	12.0	*
F921A225MPA	P	2.2	10	0.5	8	12.0	*
F921A335MAA	A	3.3	10	0.5	6	7.0	*
F921A335MPA	P	3.3	10	0.5	8	12.0	*
F921A475MAA	A	4.7	10	0.5	6	4.0	*
F921A475MPA	P	4.7	10	0.5	8	6.0	*
F921A685MAA	A	6.8	10	0.7	6	4.0	*
F921A685MPA	P	6.8	10	0.7	8	6.0	*
F921A106MAA	A	10	10	1.0	8	4.0	*

1: ΔC/C Marked “”

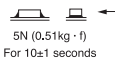
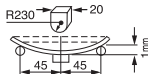
Item	P Case (%)	A, B Case (%)
Damp Heat	±20	±10
Temperature cycles	±10	±5
Resistance soldering heat	±10	±5
Surge	±10	±5
Endurance	±10	±10

We can consider the type of compliance to AEC-Q200.
Please contact to your local AVX sales office
when these series are being designed in your application.

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF (%) @ 120Hz	ESR (Ω) @ 100kHz	*1 ΔC/C (%)
F921A106MPA	P	10	10	1.0	14	6.0	*
F921A156MAA	A	15	10	1.5	8	4.0	*
F921A226MAA	A	22	10	2.2	14	4.0	±15
F921A226MBA	B	22	10	2.2	8	1.9	*
F921A336MBA	B	33	10	3.3	12	1.9	*
F921A476MBA	B	47	10	4.7	18	1.9	±15
16 Volt							
F921C474MPA	P	0.47	16	0.5	8	20.0	*
F921C684MPA	P	0.68	16	0.5	8	12.0	*
F921C105MPA	P	1	16	0.5	8	12.0	*
F921C155MPA	P	1.5	16	0.5	8	12.0	*
F921C225MAA	A	2.2	16	0.5	6	7.0	*
F921C225MPA	P	2.2	16	0.5	8	12.0	*
F921C335MAA	A	3.3	16	0.5	6	7.0	*
F921C475MAA	A	4.7	16	0.8	6	7.0	*
F921C475MBA	B	4.7	16	0.8	6	3.0	*
F921C685MBA	B	6.8	16	1.1	6	3.0	*
F921C106MAA	A	10	16	1.6	8	7.0	±15
F921C106MBA	B	10	16	1.6	6	2.0	*
F921C226MBA	B	22	16	3.5	12	2.0	±15
20 Volt							
F921D474MAA	A	0.47	20	0.5	4	10.0	*
F921D474MPA	P	0.47	20	0.5	8	20.0	*
F921D684MAA	A	0.68	20	0.5	4	10.0	*
F921D105MAA	A	1	20	0.5	4	10.0	*
F921D105MPA	P	1	20	0.5	8	20.0	*
F921D155MAA	A	1.5	20	0.5	6	7.4	*
F921D225MAA	A	2.2	20	0.5	6	7.0	*
F921D475MAA	A	4.7	20	0.9	10	7.0	±10
F921D475MBA	B	4.7	20	0.9	6	3.0	*
F921D106MBA	B	10	20	2.0	8	3.0	±10
25 Volt							
F921E105MAA	A	1	25	0.5	6	10.0	*
F921E105MPA	P	1	25	0.5	8	20.0	*
F921E225MAA	A	2.2	25	0.6	8	10.0	±15
F921E225MBA	B	2.2	25	0.6	6	4.0	*
F921E475MAA	A	4.7	25	1.2	10	7.0	±10
F921E475MBA	B	4.7	25	1.2	6	3.0	*
35 Volt							
F921V224MAA	A	0.22	35	0.5	4	10.0	*
F921V334MAA	A	0.33	35	0.5	4	10.0	*
F921V474MAA	A	0.47	35	0.5	4	10.0	*
F921V105MAA	A	1	35	0.5	6	10.0	*
F921V225MBA	B	2.2	35	0.8	6	4.0	±10
F921V335MBA	B	3.3	35	1.2	10	4.0	±10

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

QUALIFICATION TABLE

	P Case	A, B Case
	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied)	
Damp Heat (Steady State)	Capacitance Change	Refer to page 45 (*1)
	Dissipation Factor	150% or less than the initial specified value
	Leakage Current	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	Refer to page 45 (*1)
	Dissipation Factor	150% or less than the initial specified value
	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	Refer to page 45 (*1)
	Dissipation Factor	150% or less than the initial specified value
	Leakage Current	Initial specified value or less
Surge	After application of surge voltage in series with a 33Ω (For "P" case: 1kΩ) 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 page 45 (*1)
	Dissipation Factor	150% or less than the initial specified value
	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	Refer to page 45 (*1)
	Dissipation Factor	150% or less than the initial specified value
	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.	

Mouser Electronics

Authorized Distributor

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AVX:

<u>F920E476MBA</u>	<u>F920J106MPA</u>	<u>F921D225MBA</u>	<u>F921C474MPA</u>	<u>F920J156MPA</u>	<u>F920J106MAA</u>	<u>F921A335MPA</u>
<u>F921E225MBA</u>	<u>F920G476MBA</u>	<u>F921C684MPA</u>	<u>F921E475MAA</u>	<u>F921E684MBA</u>	<u>F921A156MAA</u>	<u>F920G106MPA</u>
<u>F920J225MPA</u>	<u>F920J685MPA</u>	<u>F921V105MAA</u>	<u>F921A685MPA</u>	<u>F920G107MBA</u>	<u>F920J107MBA</u>	<u>F921D334MPA</u>
<u>F921A476MBA</u>	<u>F920J475MPA</u>	<u>F920J476MAA</u>	<u>F921A685MAA</u>	<u>F921A106MPA</u>	<u>F921A335MAA</u>	<u>F920G225MPA</u>
<u>F921D155MAA</u>	<u>F920G335MPA</u>	<u>F921A225MAA</u>	<u>F921V225MBA</u>	<u>F920J336MAA</u>	<u>F921C106MAA</u>	<u>F921A105MPA</u>
<u>F921C685MBA</u>	<u>F920G157MBA</u>	<u>F921D474MAA</u>	<u>F921V335MBA</u>	<u>F921V334MAA</u>	<u>F920G475MAA</u>	<u>F920J476MBA</u>
<u>F921C155MAA</u>	<u>F920J226MAA</u>	<u>F921D475MBA</u>	<u>F921C105MPA</u>	<u>F920J335MPA</u>	<u>F920G476MAA</u>	<u>F920G475MPA</u>
<u>F921A155MPA</u>	<u>F921E105MPA</u>	<u>F921C475MAA</u>	<u>F921D106MBA</u>	<u>F920J336MBA</u>	<u>F920J105MPA</u>	<u>F921E474MAA</u>
<u>F921D474MPA</u>	<u>F921A475MPA</u>	<u>F921A106MAA</u>	<u>F920G226MAA</u>	<u>F921A155MAA</u>	<u>F920J226MPA</u>	<u>F921A225MPA</u>
<u>F921C106MBA</u>	<u>F921E105MAA</u>	<u>F920G685MPA</u>	<u>F921D224MPA</u>	<u>F920E226MAA</u>	<u>F920G336MAA</u>	<u>F921A336MBA</u>
<u>F921A685MBA</u>	<u>F921V474MAA</u>	<u>F921C225MPA</u>	<u>F920E336MPA</u>	<u>F921D684MAA</u>	<u>F921C225MAA</u>	<u>F920E336MBA</u>
<u>F921V224MAA</u>	<u>F920J226MBA</u>	<u>F920E107MBA</u>	<u>F921C155MPA</u>	<u>F921E225MAA</u>	<u>F920G686MBA</u>	<u>F921A226MAA</u>
<u>F920G156MPA</u>	<u>F921D105MAA</u>	<u>F921A106MBA</u>	<u>F920E686MBA</u>	<u>F921E105MBA</u>	<u>F921C335MAA</u>	<u>F920G336MPA</u>
<u>F920G107MAA</u>	<u>F921D335MBA</u>	<u>F921C226MBA</u>	<u>F920J155MPA</u>	<u>F920G686MAA</u>	<u>F921V154MAA</u>	<u>F921D225MAA</u>
<u>F920G226MPA</u>	<u>F921A226MBA</u>					