

F92 Series

Resin-Molded Chip, Low Profile J-Lead



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 |
| 1.0 | 105 | | | P | P | A/P | P | A | A |
| 1.5 | 155 | | | P | | A | | | E |
| 2.2 | 225 | | P | P | A/P | | A/B | B | J |
| 3.3 | 335 | P | P | A/P | A | | | | N |
| 4.7 | 475 | P | P | A/P | A/B | | B | | S |
| 6.8 | 685 | P | P | P | B | | | | w |
| 10 | 106 | P | A/P | A/P ^(M) | B | | | | a |
| 15 | 156 | P | P ^(M) | A | | | | | e |
| 22 | 226 | A | A/P ^(M) | B | | | | | J |
| 33 | 336 | | B | | | | | | n |
| 47 | 476 | B | B | | | | | | s |
| 68 | 686 | | | | | | | | w |
| 100 | 107 | A ^(M) /B | | | | | | | A |

Released ratings ^(M tolerance only)

**Rated temperature 60°C only. Please contact AVX when you need detail spec.

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

RATINGS & PART NUMBER REFERENCE

| AVX Part No. | Case Size | Capacitance (µF) | Rated Voltage (V) | DCL (µA) | DF @ 120Hz (%) | ESR @ 100kHz (Ω) | 100kHz RMS Current (mA) | | | | *1 ΔC/C (%) | MSL |
|-----------------|-----------|------------------|-------------------|----------|----------------|------------------|-------------------------|------|------|-------|-------------|-----|
| | | | | | | | 25°C | 60°C | 85°C | 125°C | | |
| 4 Volt | | | | | | | | | | | | |
| F920G335#PA | P | 3.3 | 4 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F920G475#PA | P | 4.7 | 4 | 0.5 | 8 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920G685#PA | P | 6.8 | 4 | 0.5 | 10 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920G106#PA | P | 10 | 4 | 0.5 | 10 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920G156#PA | P | 15 | 4 | 0.6 | 10 | 5.0 | 77 | - | 70 | 31 | * | 1 |
| F920G226#AA | A | 22 | 4 | 0.9 | 12 | 2.8 | 146 | - | 132 | 59 | * | 1 |
| F920G476#BA | B | 47 | 4 | 1.9 | 12 | 1.7 | 210 | - | 189 | 84 | * | 1 |
| F920G107MAA | A | 100 | 4 | 4.0 | 30 | 2.8 | 146 | - | 132 | 59 | ±15 | 1 |
| F920G107#BA | B | 100 | 4 | 4.0 | 18 | 1.3 | 240 | - | 216 | 96 | * | 1 |
| 6.3 Volt | | | | | | | | | | | | |
| F920J225#PA | P | 2.2 | 6.3 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F920J335#PA | P | 3.3 | 6.3 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F920J475#PA | P | 4.7 | 6.3 | 0.5 | 8 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920J685#PA | P | 6.8 | 6.3 | 0.5 | 10 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920J106#AA | A | 10 | 6.3 | 0.6 | 8 | 4.0 | 122 | - | 110 | 49 | * | 1 |
| F920J106#PA | P | 10 | 6.3 | 0.6 | 10 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920J156MPA | P | 15 | 6.3 | 0.9 | 10 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F920J226#AA | A | 22 | 6.3 | 1.4 | 12 | 2.8 | 146 | - | 132 | 59 | * | 1 |
| F920J226MPA | P | 22 | 6.3 | 1.4 | 20 | 5.0 | 77 | - | 70 | 31 | * | 1 |
| F920J336#BA | B | 33 | 6.3 | 2.1 | 12 | 1.7 | 210 | - | 189 | 84 | * | 1 |
| F920J476#BA | B | 47 | 6.3 | 3.0 | 12 | 1.7 | 210 | - | 189 | 84 | * | 3 |
| 10 Volt | | | | | | | | | | | | |
| F921A105#PA | P | 1 | 10 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F921A155#PA | P | 1.5 | 10 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F921A225#PA | P | 2.2 | 10 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F921A335#AA | A | 3.3 | 10 | 0.5 | 6 | 7.0 | 93 | - | 83 | 37 | * | 1 |
| F921A335#PA | P | 3.3 | 10 | 0.5 | 8 | 12.0 | 50 | - | 45 | 20 | * | 1 |
| F921A475#AA | A | 4.7 | 10 | 0.5 | 6 | 4.0 | 122 | - | 110 | 49 | * | 1 |
| F921A475#PA | P | 4.7 | 10 | 0.5 | 8 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F921A685#PA | P | 6.8 | 10 | 0.7 | 8 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F921A106#AA | A | 10 | 10 | 1.0 | 8 | 4.0 | 122 | - | 110 | 49 | * | 1 |
| F921A106MPA | P | 10 | 10 | 1.0 | 14 | 6.0 | 71 | - | 64 | 28 | * | 1 |
| F921A156#AA | A | 15 | 10 | 1.5 | 8 | 4.0 | 122 | - | 110 | 49 | * | 1 |
| F921A226#BA | B | 22 | 10 | 2.2 | 8 | 1.9 | 199 | - | 179 | 79 | * | 3 |



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RATINGS & PART NUMBER REFERENCE

| AVX Part No. | Case Size | Capacitance (µF) | Rated Voltage (V) | DCL (µA) | DF @ 120Hz (%) | ESR @ 100kHz (Ω) | 100kHz RMS Current (mA) | | | | *1 ΔC/C (%) | MSL |
|----------------|-----------|------------------|-------------------|----------|----------------|------------------|-------------------------|------|------|-------|-------------|-----|
| | | | | | | | 25°C | 60°C | 85°C | 125°C | | |
| 16 Volt | | | | | | | | | | | | |
| F921C474#PA | P | 0.47 | 16 | 0.5 | 8 | 20.0 | 39 | – | 35 | 15 | * | 1 |
| F921C684#PA | P | 0.68 | 16 | 0.5 | 8 | 12.0 | 50 | – | 45 | 20 | * | 1 |
| F921C105#PA | P | 1 | 16 | 0.5 | 8 | 12.0 | 50 | – | 45 | 20 | * | 1 |
| F921C225#AA | A | 2.2 | 16 | 0.5 | 6 | 7.0 | 93 | – | 83 | 37 | * | 1 |
| F921C225#PA | P | 2.2 | 16 | 0.5 | 8 | 12.0 | 50 | – | 45 | 20 | * | 1 |
| F921C335#AA | A | 3.3 | 16 | 0.5 | 6 | 7.0 | 93 | – | 83 | 37 | * | 1 |
| F921C475#AA | A | 4.7 | 16 | 0.8 | 6 | 7.0 | 93 | – | 83 | 37 | * | 1 |
| F921C475#BA | B | 4.7 | 16 | 0.8 | 6 | 3.0 | 158 | – | 142 | 63 | * | 1 |
| F921C685#BA | B | 6.8 | 16 | 1.1 | 6 | 3.0 | 158 | – | 142 | 63 | * | 1 |
| F921C106#BA | B | 10 | 16 | 1.6 | 6 | 2.0 | 194 | – | 174 | 77 | * | 1 |
| 20 Volt | | | | | | | | | | | | |
| F921D474#AA | A | 0.47 | 20 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921D474#PA | P | 0.47 | 20 | 0.5 | 8 | 20.0 | 39 | – | 35 | 15 | * | 1 |
| F921D684#AA | A | 0.68 | 20 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921D105#AA | A | 1 | 20 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921D105#PA | P | 1 | 20 | 0.5 | 8 | 20.0 | 39 | – | 35 | 15 | * | 1 |
| F921D155#AA | A | 1.5 | 20 | 0.5 | 6 | 7.4 | 90 | – | 81 | 36 | * | 1 |
| 25 Volt | | | | | | | | | | | | |
| F921E105#PA | P | 1 | 25 | 0.5 | 8 | 20.0 | 39 | – | 35 | 15 | * | 1 |
| F921E225#AA | A | 2.2 | 25 | 0.6 | 8 | 10.0 | 77 | – | 70 | 31 | ±15 | 1 |
| F921E225#BA | B | 2.2 | 25 | 0.6 | 6 | 4.0 | 137 | – | 123 | 55 | * | 1 |
| F921E475#BA | B | 4.7 | 25 | 1.2 | 6 | 3.0 | 158 | – | 142 | 63 | * | 1 |
| 35 Volt | | | | | | | | | | | | |
| F921V224#AA | A | 0.22 | 35 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921V334#AA | A | 0.33 | 35 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921V474#AA | A | 0.47 | 35 | 0.5 | 4 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921V105#AA | A | 1 | 35 | 0.5 | 6 | 10.0 | 77 | – | 70 | 31 | * | 1 |
| F921V225#BA | B | 2.2 | 35 | 0.8 | 6 | 4.0 | 137 | – | 123 | 55 | ±10 | 1 |

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 |

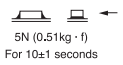
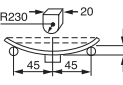
#: “M” for ±20% tolerance, “K” for ± 10% tolerance. When you need K tolerance for the part numbers which have M tolerance only, please contact to your local AVX sales office.

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

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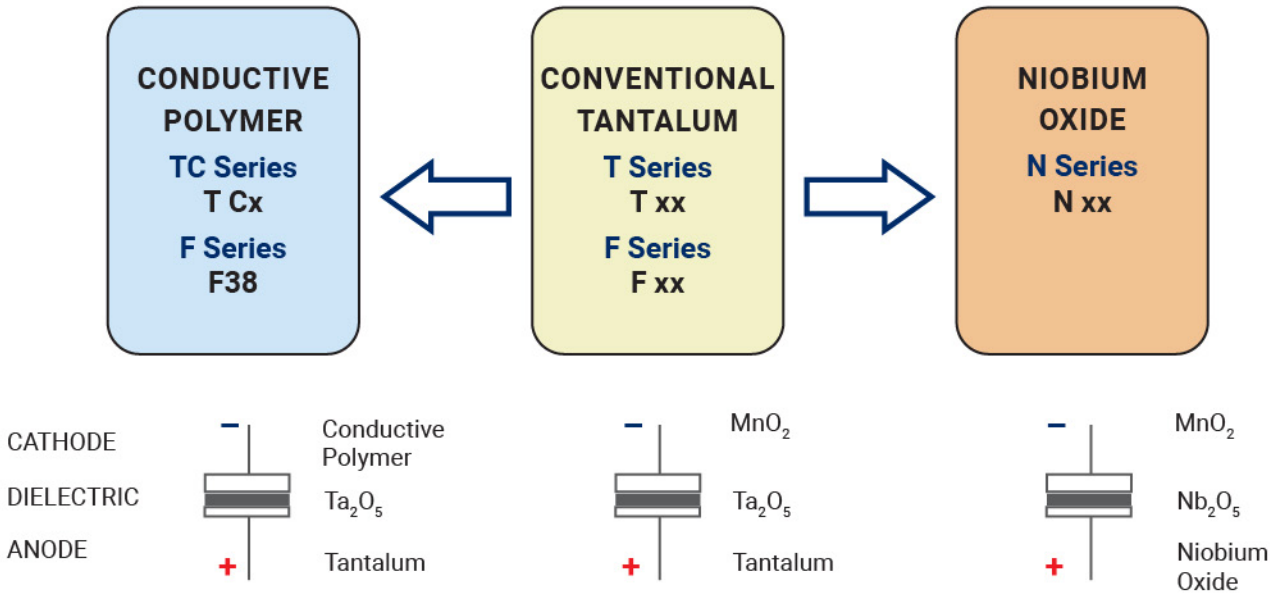
QUALIFICATION TABLE

| TEST | F92 series (Temperature range -55°C to +125°C) | |
|---------------------------------|---|---|
| | Condition | |
| Damp Heat (Steady State) | P Case | A, B Case |
| | At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) | |
| | Capacitance Change Refer to page 28 (*1) Dissipation Factor 150% or less than the initial specified value Leakage Current Initial specified value or less | Refer to page 28 (*1) Initial specified value or less Initial specified value or less |
| Temperature Cycles | -55°C / +125°C, 30 minutes each, 5 cycles | |
| | Capacitance Change Refer to page 28 (*1) Dissipation Factor 150% or less than the initial specified value Leakage Current Initial specified value or less | Refer to page 28 (*1) Initial specified value or less Initial specified value or less |
| | 10 seconds reflow at 260°C, 5 seconds immersion at 260°C. | |
| Resistance to Soldering Heat | Capacitance Change Refer to page 28 (*1) Dissipation Factor 150% or less than the initial specified value Leakage Current Initial specified value or less | Refer to page 28 (*1) Initial specified value or less Initial specified value or less |
| | 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 28 (*1) Dissipation Factor 150% or less than the initial specified value Leakage Current Initial specified value or less | Refer to page 28 (*1) Initial specified value or less 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 28 (*1) Dissipation Factor 150% or less than the initial specified value Leakage Current Initial specified value or less | Refer to page 28 (*1) Initial specified value or less Initial specified value or less |
| | 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. | |
| Shear Test |  <p>5N (0.51kg · f) For 10±1 seconds</p> | |
| Terminal Strength | <p>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.</p>  | |

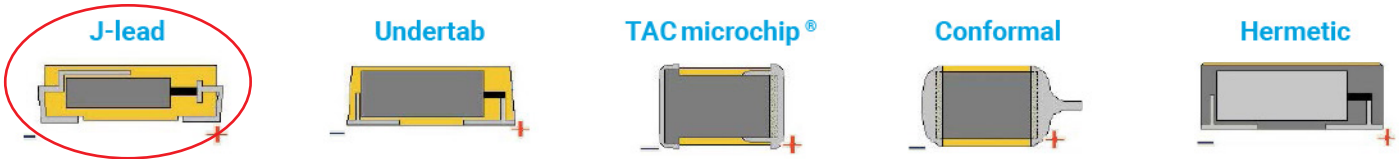
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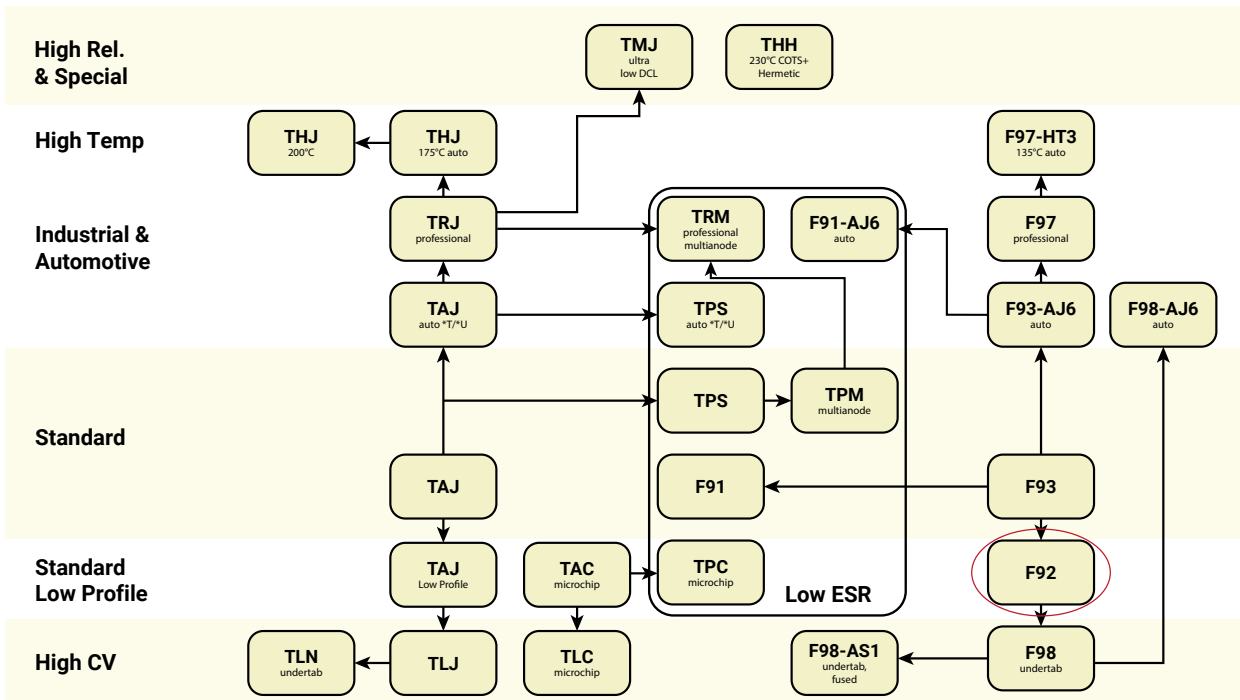
AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



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