F91-AJ6 Series
Low ESR, Resin-Molded Chip - Automotive Product Range

FEATURES
- Compliant to the RoHS2 directive 2011/65/EU
- Compliant to AEC-Q200

APPLICATIONS
- Cabin electronics
- Infotainment

CASE DIMENSIONS: millimeters (inches)

<table>
<thead>
<tr>
<th>Code</th>
<th>EIA Code</th>
<th>EIA Metric</th>
<th>L (mm)</th>
<th>W1 (mm)</th>
<th>W2 (mm)</th>
<th>H (mm)</th>
<th>S (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1206</td>
<td>3216-18</td>
<td>3.20 ± 0.20</td>
<td>(0.126 ± 0.008)</td>
<td>1.60 ± 0.20</td>
<td>(0.063 ± 0.008)</td>
<td>1.20 ± 0.10</td>
</tr>
<tr>
<td>B</td>
<td>1210</td>
<td>3528-21</td>
<td>3.50 ± 0.20</td>
<td>(0.138 ± 0.008)</td>
<td>2.80 ± 0.20</td>
<td>(0.110 ± 0.008)</td>
<td>2.20 ± 0.10</td>
</tr>
<tr>
<td>N</td>
<td>2917</td>
<td>7343-30</td>
<td>7.30 ± 0.20</td>
<td>(0.287 ± 0.008)</td>
<td>4.30 ± 0.20</td>
<td>(0.169 ± 0.008)</td>
<td>2.40 ± 0.10</td>
</tr>
</tbody>
</table>

HOW TO ORDER

F91 1C 226 M B AJ6
Type Rated Voltage Capacitance Code Tolerance Case Size Packaging AEC-Q200

MARKING

A CASE
- Capacitance Code
- Rated Voltage Code

B CASE
- Capacitance Code
- Rated Voltage

N CASE
- Capacitance Code
- Rated Voltage

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
F91-AJ6 Series
Low ESR, Resin-Molded Chip - Automotive Product Range

**CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)**

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>Rated Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>μF</td>
<td>Code</td>
</tr>
<tr>
<td>10</td>
<td>106</td>
</tr>
<tr>
<td>22</td>
<td>226</td>
</tr>
<tr>
<td>33</td>
<td>336</td>
</tr>
<tr>
<td>47</td>
<td>476</td>
</tr>
<tr>
<td>100</td>
<td>107</td>
</tr>
<tr>
<td>220</td>
<td>227</td>
</tr>
</tbody>
</table>

*1: ΔC/C Marked “*”

**RATINGS & PART NUMBER REFERENCE**

<table>
<thead>
<tr>
<th>AVX Part No.</th>
<th>Case Size</th>
<th>Capacitance (µF)</th>
<th>Rated Voltage (V)</th>
<th>DCL (µA)</th>
<th>DF @ 120kHz (%)</th>
<th>ESR @ 100kHz (mΩ)</th>
<th>100kHz RMS Current (mA)</th>
<th>25ºC</th>
<th>85ºC</th>
<th>125ºC</th>
<th>±10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>F910J226#AAA</td>
<td>A</td>
<td>22</td>
<td>6.3</td>
<td>1.4</td>
<td>6</td>
<td>1250</td>
<td>245</td>
<td>220</td>
<td>98</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F911C107#NCA</td>
<td>A</td>
<td>10</td>
<td>6.3</td>
<td>1.0</td>
<td>6</td>
<td>1500</td>
<td>224</td>
<td>201</td>
<td>89</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F910J336#AAA</td>
<td>A</td>
<td>33</td>
<td>6.3</td>
<td>3.0</td>
<td>6</td>
<td>500</td>
<td>412</td>
<td>371</td>
<td>165</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F911C226#BAA</td>
<td>B</td>
<td>22</td>
<td>6.3</td>
<td>1.6</td>
<td>6</td>
<td>1500</td>
<td>224</td>
<td>201</td>
<td>89</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F911C107#NCA</td>
<td>N</td>
<td>220</td>
<td>6.3</td>
<td>22.0</td>
<td>12</td>
<td>1250</td>
<td>245</td>
<td>220</td>
<td>98</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F911C226#BAA</td>
<td>B</td>
<td>33</td>
<td>6.3</td>
<td>1.6</td>
<td>6</td>
<td>1500</td>
<td>224</td>
<td>201</td>
<td>89</td>
<td>±10%</td>
<td>3</td>
</tr>
<tr>
<td>F911C226#NAA</td>
<td>B</td>
<td>33</td>
<td>6.3</td>
<td>1.6</td>
<td>6</td>
<td>1500</td>
<td>224</td>
<td>201</td>
<td>89</td>
<td>±10%</td>
<td>3</td>
</tr>
</tbody>
</table>

**QUALIFICATION TABLE**

<table>
<thead>
<tr>
<th>TEST</th>
<th>Condition</th>
<th>F91-AJ6 series (Temperature range -55°C to +125°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damp Heat (Steady State)</td>
<td>At 40°C, 90 to 95% R.H., 500 hours (No voltage applied)</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Load Humidity</td>
<td>After 1000 hour’s application of rated voltage in series with a 33Ω resistor at 85°C, 85% R.H., capacitors meet the characteristics requirements table below.</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Temperature Cycles</td>
<td>At -55°C / +125°C, 30 minutes each, 1000 cycles</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Resistance to Soldering Heat</td>
<td>10 seconds reflow at 260°C, 10 seconds immersion at 260°C.</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Surge</td>
<td>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.</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Endurance</td>
<td>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.</td>
<td>Capacitance Change ............. Refer to above (*1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dissipation Factor ............. Initial specified value or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leakage Current ............. Initial specified value or less</td>
</tr>
<tr>
<td>Shear Test</td>
<td>After applying the pressure load of 17.7N for 60 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.</td>
<td>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 the substrate so that substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.</td>
</tr>
<tr>
<td>Terminal Strength</td>
<td>1% per 1000 hours at 85°C, Vr, with 0.11Ω/V series impedance, 60% confidence level.</td>
<td></td>
</tr>
</tbody>
</table>

**Dissipation Factor**
- Initial specified value or less

**Capacitance Change**
- Refer to above (*1)

**Leakage Current**
- Initial specified value or less

**Failure Rate**
- 1% per 1000 hours at 85°C, Vr, with 0.11Ω/V series impedance, 60% confidence level.

**Shear Test**
- 1% per 1000 hours at 85°C, Vr, with 0.11Ω/V series impedance, 60% confidence level.

**Moisture Sensitivity Level (MSL)**
- Defined according to J-STD-020.

## Notes
- “M” for ±20% tolerance, “K” for ±10% tolerance.
F91-AJ6 Series
Low ESR, Resin-Molded Chip - Automotive Product Range

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP

CONDUCTIVE POLYMER
TC Series
T C x
F Series
F3 x

CONVENTIONAL TANTALUM
T series
T x x
F Series
F x x

NIOBIUM OXIDE
N Series
N x x

CATHODE
- conductive polymer
DIELECTRIC
Tantalum
ANODE
+ MnO₂

MnO₂
Ta₂O₅
Nb₂O₅
Niobium Oxide

Five Capacitor Construction Styles

J-lead
Undertab
TACmicrochip®
Conformal
Hermetic

SERIES LINE UP: CONVENTIONAL SMD MnO₂

Industrial
THJ
200°C
TMJ
175°C auto
THH
230°C Hermetic

&
THJ
professional
TMJ
low DCL
TRJ
professional

Automotive
THH
THM
auto "T / "U
TRM
low DCL
TPM
multianode
F91-AJ6
auto
F91

Standard
TAJ
TPS
multianode

Standard
Low Profile
TAJ
Low profile
TAC
microchip

High CV
TLN
TLJ
TLC
microchip
F98-AS1
undertab,fused
F98
undertab