F72/F75 Series
Low Profile and High CV Conformal Coated Chip

FEATURES
- Compliant to the RoHS2 directive 2011/65/EU
- SMD Conformal
- Small and low profile

APPLICATIONS
- Smartphone
- Mobile phone
- Wireless module
- Hearing aid

F72/F75
Double face electrode
Single face electrode

HOW TO ORDER

F72
- Type: 1A
- Rated Voltage: 107
- Capacitance 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
- Specification Suffix: AH1 = Low ESR
- Single Face Electrode
- AQ2 or Q2

F75
- Type: 1C
- Rated Voltage: 157
- Capacitance 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
- Single Face Electrode
- AQ2

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

#### F72

<table>
<thead>
<tr>
<th>Capacitance (μF)</th>
<th>Code</th>
<th>4V (0G)</th>
<th>6.3V (0J)</th>
<th>10V (1A)</th>
<th>16V (1C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>336</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>476</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>686</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>107</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>157</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>227</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>337</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470</td>
<td>477</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>680</td>
<td>687</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>108</td>
<td>M/M(AH1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>158</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### F75

<table>
<thead>
<tr>
<th>Capacitance (μF)</th>
<th>Code</th>
<th>4V (0G)</th>
<th>6.3V (0J)</th>
<th>10V (1A)</th>
<th>16V (1C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>686</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>107</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>157</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>227</td>
<td>C/D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>337</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>470</td>
<td>477</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>680</td>
<td>687</td>
<td>D/R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>108</td>
<td>D/R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>158</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2200</td>
<td>228</td>
<td>R</td>
<td>M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### RATINGS & PART NUMBER REFERENCE

#### F72

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Case Size</th>
<th>Capacitance (μF)</th>
<th>Rated Voltage (V)</th>
<th>DCL (μA)</th>
<th>DF @ 120Hz (%)</th>
<th>ESR @ 100kHz (Ω)</th>
<th>100kHz RMS Current (mA)</th>
<th>MSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>F7201A108#MCAQ2</td>
<td>F7214768#RC</td>
<td>47</td>
<td>4</td>
<td>4.7</td>
<td>6</td>
<td>0.80</td>
<td>433</td>
<td>390</td>
</tr>
<tr>
<td>F7201A687#MCAQ2</td>
<td>F7214768#RC</td>
<td>68</td>
<td>10</td>
<td>6.8</td>
<td>6</td>
<td>0.75</td>
<td>447</td>
<td>402</td>
</tr>
<tr>
<td>F7201A477#MCAQ2</td>
<td>F7214768#RC</td>
<td>330</td>
<td>4</td>
<td>13.2</td>
<td>12</td>
<td>0.70</td>
<td>463</td>
<td>417</td>
</tr>
</tbody>
</table>

#### F75

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Case Size</th>
<th>Capacitance (μF)</th>
<th>Rated Voltage (V)</th>
<th>DCL (μA)</th>
<th>DF @ 120Hz (%)</th>
<th>ESR @ 100kHz (Ω)</th>
<th>100kHz RMS Current (mA)</th>
<th>MSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>F750G337#CC</td>
<td>C</td>
<td>330</td>
<td>4</td>
<td>13.2</td>
<td>10</td>
<td>0.15</td>
<td>856</td>
<td>771</td>
</tr>
<tr>
<td>F750G477#CC</td>
<td>C</td>
<td>470</td>
<td>4</td>
<td>18.8</td>
<td>14</td>
<td>0.12</td>
<td>957</td>
<td>862</td>
</tr>
<tr>
<td>F750G477#DC</td>
<td>D</td>
<td>470</td>
<td>4</td>
<td>18.8</td>
<td>14</td>
<td>0.12</td>
<td>957</td>
<td>862</td>
</tr>
<tr>
<td>F750G687#DC</td>
<td>D</td>
<td>680</td>
<td>4</td>
<td>27.2</td>
<td>18</td>
<td>0.12</td>
<td>1118</td>
<td>1006</td>
</tr>
</tbody>
</table>

### The Important Information/Disclaimer
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.
## 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 @ 120Hz (%)</th>
<th>ESR @ 100kHz (Ω)</th>
<th>100kHz RMS Current (mA)</th>
<th>±1 ΔC/C (%)</th>
<th>MSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>F750J477WUC</td>
<td>U</td>
<td>470</td>
<td>6.3</td>
<td>29.6</td>
<td>15</td>
<td>0.10</td>
<td>1049</td>
<td>944</td>
<td>420</td>
</tr>
<tr>
<td>F750J477WXC</td>
<td>D</td>
<td>680</td>
<td>6.3</td>
<td>42.8</td>
<td>18</td>
<td>0.12</td>
<td>1118</td>
<td>1006</td>
<td>447</td>
</tr>
<tr>
<td>F750J687WRC</td>
<td>R</td>
<td>680</td>
<td>6.3</td>
<td>42.8</td>
<td>18</td>
<td>0.12</td>
<td>1443</td>
<td>1299</td>
<td>577</td>
</tr>
<tr>
<td>F750J108#RC</td>
<td>R</td>
<td>1000</td>
<td>6.3</td>
<td>63.0</td>
<td>24</td>
<td>0.12</td>
<td>1443</td>
<td>1299</td>
<td>577</td>
</tr>
<tr>
<td>F750J228#UCQ2</td>
<td>U</td>
<td>1000</td>
<td>6.3</td>
<td>126</td>
<td>40</td>
<td>0.15</td>
<td>856</td>
<td>771</td>
<td>343</td>
</tr>
<tr>
<td>F750J228#MCQ2</td>
<td>M</td>
<td>2200</td>
<td>6.3</td>
<td>139</td>
<td>60</td>
<td>0.08</td>
<td>1581</td>
<td>1423</td>
<td>632</td>
</tr>
</tbody>
</table>

### 10 Volt

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Case Size</th>
<th>Capacitance (μF)</th>
<th>Rated Voltage (V)</th>
<th>DCL (μA)</th>
<th>DF @ 120Hz (%)</th>
<th>ESR @ 100kHz (Ω)</th>
<th>100kHz RMS Current (mA)</th>
<th>±1 ΔC/C (%)</th>
<th>MSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>F751A157wCC</td>
<td>C</td>
<td>150</td>
<td>10</td>
<td>15.0</td>
<td>10</td>
<td>0.22</td>
<td>707</td>
<td>636</td>
<td>283</td>
</tr>
<tr>
<td>F751A227wCC</td>
<td>C</td>
<td>220</td>
<td>10</td>
<td>22.0</td>
<td>10</td>
<td>0.20</td>
<td>742</td>
<td>667</td>
<td>297</td>
</tr>
<tr>
<td>F751A227wOC</td>
<td>D</td>
<td>220</td>
<td>10</td>
<td>22.0</td>
<td>10</td>
<td>0.20</td>
<td>856</td>
<td>779</td>
<td>346</td>
</tr>
<tr>
<td>F751A337#wOC</td>
<td>D</td>
<td>330</td>
<td>10</td>
<td>33.0</td>
<td>10</td>
<td>0.15</td>
<td>1000</td>
<td>900</td>
<td>400</td>
</tr>
<tr>
<td>F751A477#wRC</td>
<td>R</td>
<td>470</td>
<td>10</td>
<td>47.0</td>
<td>14</td>
<td>0.12</td>
<td>1443</td>
<td>1299</td>
<td>577</td>
</tr>
<tr>
<td>F751A477#wCAQ2</td>
<td>U</td>
<td>470</td>
<td>10</td>
<td>94.0</td>
<td>30</td>
<td>0.15</td>
<td>856</td>
<td>771</td>
<td>343</td>
</tr>
</tbody>
</table>

### 16 Volt

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Case Size</th>
<th>Capacitance (μF)</th>
<th>Rated Voltage (V)</th>
<th>DCL (μA)</th>
<th>DF @ 120Hz (%)</th>
<th>ESR @ 100kHz (Ω)</th>
<th>100kHz RMS Current (mA)</th>
<th>±1 ΔC/C (%)</th>
<th>MSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>F751C586#wCC</td>
<td>C</td>
<td>68</td>
<td>16</td>
<td>10.9</td>
<td>10</td>
<td>0.22</td>
<td>707</td>
<td>636</td>
<td>283</td>
</tr>
<tr>
<td>F751C107#wCC</td>
<td>C</td>
<td>100</td>
<td>16</td>
<td>16.0</td>
<td>10</td>
<td>0.22</td>
<td>707</td>
<td>636</td>
<td>283</td>
</tr>
<tr>
<td>F751C157#wOC</td>
<td>D</td>
<td>150</td>
<td>16</td>
<td>24.0</td>
<td>10</td>
<td>0.22</td>
<td>826</td>
<td>743</td>
<td>330</td>
</tr>
<tr>
<td>F751C227#wRC</td>
<td>R</td>
<td>220</td>
<td>16</td>
<td>35.2</td>
<td>10</td>
<td>0.20</td>
<td>1118</td>
<td>1006</td>
<td>447</td>
</tr>
</tbody>
</table>

*1: ΔC/C Marked “**”

### TEST

#### Damp Heat (Steady State)

- At 40ºC, 90 to 95% R.H., 500 hours (No voltage applied)
- Capacitance Change: Refer to page 174 (*1)
- Dissipation Factor: Initial specified value or less
- Leakage Current: Initial specified value or less

#### Temperature Cycles

- At -55ºC / +125ºC, 30 minutes each, 5 cycles
- Capacitance Change: Refer to page 174 (*1)
- Dissipation Factor: Initial specified value or less
- Leakage Current: Initial specified value or less

#### Resistance to Soldering Heat

- 10 seconds reflow at 260°C, 10 seconds immersion at 260°C.
- Capacitance Change: Refer to page 174 (*1)
- 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
- Capacitance Change: Refer to page 174 (*1)
- Dissipation Factor: Initial specified value or less
- Leakage Current: Initial specified value or less

#### Endurance

- After 2000 hours’ application of rated voltage at 85ºC, capacitors shall meet the characteristic requirements in the table above.
- Capacitance Change: Refer to page 174 (*1)
- 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 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.

---

**Disclaimers:**

- The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.
- The Moisture Sensitivity Level (MSL) is defined according to J-STD-020.
F72/F75 Series
Low Profile and High CV Conformal Coated Chip

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP

CONDUCTIVE POLYMER
TC Series
T Cx
F Series
F38

CONVENTIONAL TANTALUM
T Series
T xx
F Series
F xx

NIOBIUM OXIDE
N Series
N xx

SERIES LINE UP:
CONFORMAL Ta MnO₂

F95-AM1
Audio conformal

Industrial & Automotive

F95
conformal

Standard

F72
conformal

Standard Low Profile

F75
conformal

High CV

FIVE CAPACITOR CONSTRUCTION STYLES

J-lead
Undertab
TACmicrochip®
Conformal
Hermetic

CATHODE
DIELECTRIC
TAntalum
MnO₂
 Nb₂O₅

ANODE
+ + +

Tantalum

Tantalum

Niobium Oxide

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

042920