

# F91-AJ6 Series



## Low ESR, Resin-Molded Chip - Automotive Product Range



### FEATURES

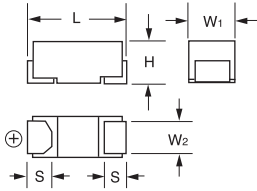
- Compliant to the RoHS2 directive 2011/65/EU
- Compliant to AEC-Q200

### APPLICATIONS

- Cabin electronics
- Infotainment



### B CASE

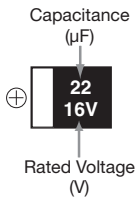


### CASE DIMENSIONS: millimeters (inches)

| Code | L                              | W <sub>1</sub>                 | W <sub>2</sub>                 | H                              | S                              |
|------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| B    | 3.50 ± 0.20<br>(0.126 ± 0.008) | 2.80 ± 0.20<br>(0.110 ± 0.008) | 2.20 ± 0.10<br>(0.087 ± 0.004) | 1.90 ± 0.20<br>(0.075 ± 0.008) | 0.80 ± 0.20<br>(0.031 ± 0.008) |

### MARKING

#### B CASE



|     |   |
|-----|---|
| 10V | A |
| 16V | C |

### HOW TO ORDER

**F91**

Type

**1C**

Rated Voltage

**226**

Capacitance Code

pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

**M**

Tolerance  
K = ±10%  
M = ±20%

**B**

Case Size  
See table above

**□**

Packaging  
See Tape & Reel Packaging Section

**AJ6**

AEC-Q200 Compliant

### 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.<br>After 1 minute's application of rated voltage, leakage current at 85°C is not more than 0.1CV or 5μA, whichever is greater.<br>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<br>+10% Max. at +85°C<br>-10% Max. at -55°C                                                                                                                                                                                                                                                                                                                                     |



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

| Capacitance |      | Rated Voltage |          |
|-------------|------|---------------|----------|
| μF          | Code | 10V (1A)      | 16V (1C) |
| 22          | 226  |               | B        |
| 33          | 336  |               | B        |
| 47          | 476  | B             |          |

Available Ratings

### RATINGS & PART NUMBER REFERENCE

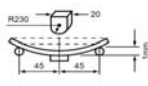
| AVX Part No.   | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL (μA) | DF (%) @ 120Hz | ESR (mΩ) @ 100kHz | 100kHz RMS Current (mA) 20°C | *1 ΔC/C (%) |
|----------------|-----------|------------------|-------------------|----------|----------------|-------------------|------------------------------|-------------|
| <b>10 Volt</b> |           |                  |                   |          |                |                   |                              |             |
| F911A476MBAAJ6 | B         | 47               | 10                | 4.7      | 8              | 500               | 412                          | *           |
| <b>16 Volt</b> |           |                  |                   |          |                |                   |                              |             |
| F911C226MBAAJ6 | B         | 22               | 16                | 3.5      | 8              | 950               | 299                          | *           |
| F911C336MBAAJ6 | B         | 33               | 16                | 5.3      | 8              | 950               | 299                          | *           |

\*1: ΔC/C Marked “\*”

| Item                      | All Case (%) |
|---------------------------|--------------|
| Damp Heat                 | ±10          |
| Temperature cycles        | ±10          |
| Resistance soldering heat | ±10          |
| Surge                     | ±10          |
| Endurance                 | ±10          |

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

### QUALIFICATION TABLE

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Damp Heat (Steady State)</b>     | At 40°C, 90 to 95% R.H., 500 hours (No voltage applied)<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                                |
| <b>Load Humidity</b>                | 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.<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... 125% or less than the initial specified value                                                                                                                                            |
| <b>Temperature Cycles</b>           | At -55°C / +125°C, 30 minutes each, 1000 cycles<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                                        |
| <b>Resistance to Soldering Heat</b> | 10 seconds reflow at 260°C, 10 seconds immersion at 260°C.<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                                                                                                                                                                                             |
| <b>Surge</b>                        | 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.<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                      |
| <b>Endurance</b>                    | 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.<br>Capacitance Change ..... Refer to above (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less                                                                                               |
| <b>Shear Test</b>                   | 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.<br>                                                                                                                                |
| <b>Terminal Strength</b>            | 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.<br> |
| <b>Failure Rate</b>                 | 1% per 1000 hours at 85°C, V <sub>R</sub> with 0.1Ω/V series impedance, 60% confidence level.                                                                                                                                                                                                                                                                                                                                                                                               |

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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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