# SOLID TANTALUM ELECTROLYTIC CAPACITORS

nichicon

## MUSE F95

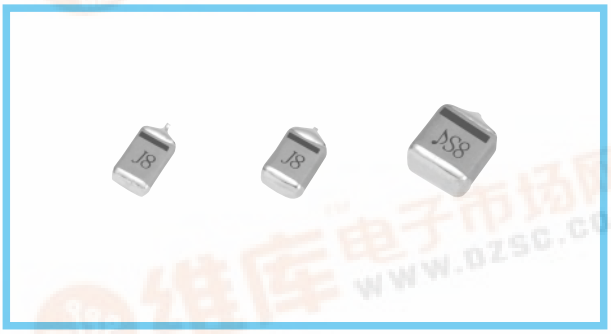
FRAMELESS™

For SMD | Smaller | For High Frequency | For Audio Use

Upgrade

Conformal coated Chip, For Mobile Audio

● Adapted to the RoHS directive (2002/95/EC).



■Applications

- ● Mobile Audio Player
- ● Digital still camera
- ● Digital video camcorder
- ● Mobile phone

■Feature

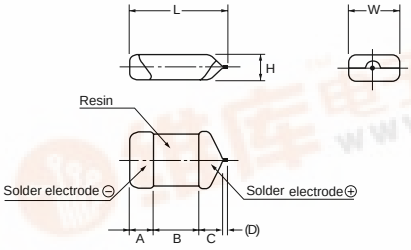
- ● Rich sound in the bass register and clear sound,Materials are strictly selected to achieve high level sound. F95 series has no lead-frame, and no vibration factor.
- ● Low ESR, Low ESL
- ● Line up miniature size and high capacitance, necessary to mobile design.

■Type numbering system (Example : 4V 220 µF)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | 9 | 5 | 0 | G | 2 | 2 | 7 | M | A | | A | M | 1 | Q | 2 |

- Single face electrode
- MUSE series code
- Taping code (Refer to page 267 for details)
- Case code
- Capacitance tolerance
- Rated Capacitance
- Rated voltage
- Series

■Drawing




Single-side electrodes
(Both electrodes at bottom side only)

■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −55 ~ +125˚C (Rated temperature : +85˚C) |
| Capacitance Tolerance | ± 20% (at 120Hz) |
| Dissipation Factor (at 120Hz) | Refer to next page |
| ESR(100kHz) | Refer to next page |
| Leakage Current | • After 1 minute's application of rated voltage, leakage current at 25˚C is not more than 0.01CV or 0.5 µA, whichever is greater. |
| Capacitance Change by Temperature | +15% Max. (at +125˚C)<br>+10% Max. (at + 85˚C)<br>−10% Max. (at −55˚C) |
| Damp Heat | At 40˚C, 90 ~ 95% R.H., For 500 hours (No voltage applied)<br>Capacitance Change ..... Refer to next page (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less |
| Temperature Cycles | At −55˚C / +125˚C, 30 minutes each, For 5 cycles,<br>Capacitance Change ..... Refer to next page (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less |
| Resistance to Soldering Heat | Reflow at 260˚C for 10 seconds<br>Capacitance Change ..... Refer to next page (*1)<br>Dissipation Factor ..... Initial specified value or less<br>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, for 1000 successive test cycles at 85˚C, capacitors meet the characteristics requirements listed below.<br>Capacitance Change ..... Refer to next page (*1)<br>Dissipation Factor ..... Initial specified value or less<br>Leakage Current ..... Initial specified value or less |
| Endurance* | After 2000 hours' application of rated voltage at 85˚C, or derated voltage at 125˚C, capacitors meet the characteristic requirements listed below.<br>Capacitance Change ..... Refer to next page (*1)<br>Dissipation Factor ..... Initial specified value or less<br>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 an aluminum substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.<br>5N (0.51kg · f)<br>For 10 ± 1 seconds |
| 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 the capacitor, the pressure strength is applied with a specified jig at the center of the substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.<br>R230 20 45 45 1mm |

* As for the surge and derated voltage at 125˚C, refer to page 266 for details.

■ Dimensions (mm)

| case code | L | W | H | A | B | C | ( D ) |
|---|---|---|---|---|---|---|---|
| S | 3.2 ± 0.3 | 1.6 ± 0.3 | 1.0 ± 0.2 | 0.8 ± 0.3 | 1.2 ± 0.3 | 0.8 ± 0.3 | (0.2) |
| A | 3.2 ± 0.3 | 1.7 ± 0.3 | 1.4 ± 0.2 | 0.8 ± 0.3 | 1.2 ± 0.3 | 0.8 ± 0.3 | (0.2) |
| T | 3.5 ± 0.2 | 2.7 ± 0.2 | 1.0 ± 0.2 | 0.8 ± 0.2 | 1.2 ± 0.2 | 1.1 ± 0.2 | (0.2) |
| B | 3.5 ± 0.2 | 2.8 ± 0.2 | 1.8 ± 0.2 | 0.8 ± 0.3 | 1.2 ± 0.3 | 1.1 ± 0.3 | (0.2) |

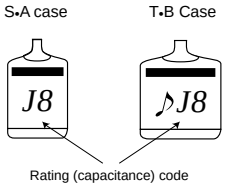
D dimension only for reference

# nichicon MUSE F95

## ■ Standard ratings

| Cap. (μF) \ V | Code | 4 | 6.3 | 10 |
|---|---|---|---|---|
| | | 0G | 0J | 1A |
| **68** | 686 | S | S・A | B |
| **100** | 107 | S | S・A・T | B |
| **150** | 157 | S | (A) | |
| **220** | 227 | S・A・T | (T)・B | |
| **330** | 337 | T・B | (B) | |
| **470** | 477 | (B) | | |
| **680** | 687 | (B) | | |

## ■ Marking




| μF | 68 | 100 | 150 | 220 | 330 | 470 | 680 |
|---|---|---|---|---|---|---|---|
| code | W7 | A8 | E8 | J8 | N8 | S8 | W8 |

( ) The series in parentheses are being developed.

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

## ■ Standard ratings

| Rated Volt | Rated Capacitance (μF) | Case code | Part Number | Leakage Current (μA) | Disspation Factor (%@120Hz) | ESR (Ω@100kHz) | *1 ΔC/C (%) |
|---|---|---|---|---|---|---|---|
| 4V | 68 | S | F950G686MSAAM1Q2 | 2.7 | 10 | 0.8 | * |
| | 100 | S | F950G107MSAAM1Q2 | 4.0 | 14 | 0.8 | * |
| | 150 | S | F950G157MSAAM1Q2 | 6.0 | 22 | 0.8 | ± 15 |
| | 220 | S | F950G227MSAAM1Q2 | 8.8 | 25 | 0.8 | ± 15 |
| | 220 | A | F950G227MAAAM1Q2 | 8.8 | 25 | 0.8 | ± 15 |
| | 220 | T | F950G227MTAAM1Q2 | 8.8 | 25 | 0.6 | * |
| | 330 | T | F950G337MTAAM1Q2 | 13.2 | 40 | 0.8 | ± 20 |
| | 330 | B | F950G337MBAAM1Q2 | 13.2 | 30 | 0.5 | ± 15 |
| 6.3V | 68 | S | F950J686MSAAM1Q2 | 4.3 | 14 | 0.9 | * |
| | 68 | A | F950J686MAAAM1Q2 | 4.3 | 12 | 0.5 | * |
| | 100 | S | F950J107MSAAM1Q2 | 6.3 | 20 | 0.9 | ± 15 |
| | 100 | A | F950J107MAAAM1Q2 | 6.3 | 14 | 0.5 | * |
| | 100 | T | F950J107MTAAM1Q2 | 6.3 | 14 | 0.6 | * |
| | 220 | B | F950J227MBAAM1Q2 | 13.9 | 30 | 0.4 | * |
| 10V | 68 | B | F951A686MBAAM1Q2 | 6.8 | 12 | 0.4 | * |
| | 100 | B | F951A107MBAAM1Q2 | 10.0 | 14 | 0.4 | * |

*1 : ΔC/C

| I t e m | S・A・T・B Case (%) |
|---|---|
| Damp Heat | ±10 |
| Tempereature cycles | ± 5 |
| Resistance soldering heat | ± 5 |
| Surge | ± 5 |
| Endurance | ±10 |