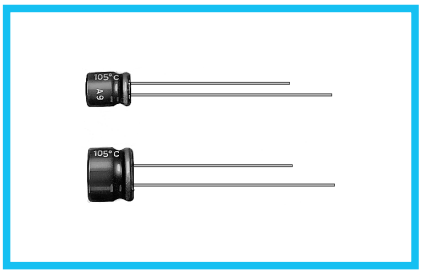
# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

**MF** 5mmL, Low Impedance series

Low Impedance Anti-Solvent Feature

- Low impedance over wide temperature range of −55 to +105°C, with 5mm height.
- Suited for DC-DC converters where smaller case size and lower impedance are required.
- Compliant to the RoHS directive (2011/65/EU).



MF ← Low Impedance MT

## ■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −55 to +105°C |
| Rated Voltage Range | 6.3 to 35V |
| Rated Capacitance Range | 1 to 100μF |
| Rated Capacitance Tolerance | ±20% at 120Hz, 20°C |
| Leakage Current | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (μA), whichever is greater. |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C |

| Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 |
|---|---|---|---|---|---|
| tan δ (MAX.) | 0.22 | 0.20 | 0.18 | 0.14 | 0.12 |

Stability at Low Temperature — Measurement frequency : 120Hz

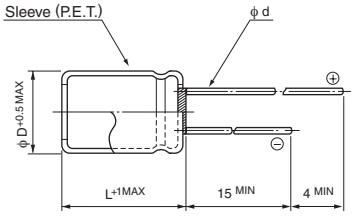
| Rated voltage (V) | | 6.3 | 10 | 16 | 25 | 35 |
|---|---|---|---|---|---|---|
| Impedance ratio ZT / Z20 (MAX.) | Z−25°C / Z+20°C | 2 | 2 | 2 | 2 | 2 |
| | Z−55°C /Z+20°C | 4 | 4 | 3 | 3 | 3 |

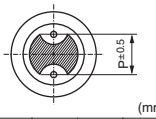
Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C.

| | |
|---|---|
| Capacitance change | Within ±20% of the initial capacitance value |
| tan δ | 200% or less than the initial specified value |
| Leakage current | Less than or equal to the initial specified value |

| | |
|---|---|
| Shelf Life | After storig the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. |
| Marking | Printed with white color letter on dark brown sleeve. |

## ■Radial Lead Type




(mm)

| φD | 4 | 5 | 6.3 |
|---|---|---|---|
| P | 1.5 | 2.0 | 2.5 |
| φd | 0.45 | 0.45 | 0.45 |

## Type numbering system (Example : 25V 10μF)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| U | M | F | 1 | E | 1 | 0 | 0 | M | D | D |

- 11: Configuration ※
- 9–10: Capacitance tolerance (±20%)
- 6–8: Rated capacitance (10μF)
- 4–5: Rated voltage (25V)
- 1–3: Series name
- 1: Type

※Configuration

| φD | Pb-free leadwire Pb-free PET sleeve |
|---|---|
| 4 to 6.3 | DD |

## ■Dimensions

| Cap.(μF) \ V | Code | 6.3 | | | 10 | | | 16 | | | 25 | | | 35 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0J | | | 1A | | | 1C | | | 1E | | | 1V | | |
| **1** | 010 | | | | | | | | | | | | | 4×5 | 5.0 | 50 |
| **1.5** | 1R5 | | | | | | | | | | | | | 4×5 | 5.0 | 50 |
| **2.2** | 2R2 | | | | | | | | | | | | | 4×5 | 5.0 | 50 |
| **3.3** | 3R3 | | | | | | | | | | | | | 4×5 | 5.0 | 50 |
| **4.7** | 4R7 | | | | | | | | | | 4×5 | 5.0 | 50 | 4×5 | 5.0 | 50 |
| **6.8** | 6R8 | | | | | | | | | | 4×5 | 5.0 | 50 | 5×5 | 2.6 | 80 |
| **10** | 100 | | | | | | | 4×5 | 5.0 | 50 | 5×5 | 2.6 | 80 | 5×5 | 2.6 | 80 |
| **15** | 150 | | | | | | | 5×5 | 2.6 | 80 | 6.3×5 | 1.3 | 115 | 6.3×5 | 1.3 | 115 |
| **22** | 220 | 4×5 | 5.0 | 50 | 5×5 | 2.6 | 80 | 5×5 | 2.6 | 80 | 6.3×5 | 1.3 | 115 | 6.3×5 | 1.3 | 115 |
| **33** | 330 | 5×5 | 2.6 | 80 | 5×5 | 2.6 | 80 | 6.3×5 | 1.3 | 115 | 6.3×5 | 1.3 | 115 | | | |
| **47** | 470 | 5×5 | 2.6 | 80 | 6.3×5 | 1.3 | 115 | 6.3×5 | 1.3 | 115 | | | | | | |
| **68** | 680 | 6.3×5 | 1.3 | 115 | | | | | | | | | | Case size φD×L (mm) | Impedance | Rated ripple |
| **100** | 101 | 6.3×5 | 1.3 | 115 | | | | | | | | | | | | |

Max. Impedance (Ω) at 20°C 100kHz
Rated ripple current (mArms) at 105°C 100kHz

## ●Frequency coefficient of rated ripple current

| Frequency | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
|---|---|---|---|---|---|
| Coefficient | 0.35 | 0.50 | 0.64 | 0.83 | 1.00 |

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.

# Mouser Electronics

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Nichicon:

UMF0J680MDD UMF1A220MDD UMF1A330MDD UMF1E100MDD UMF1E150MDD UMF1E220MDD UMF1V220MDD UMF1V2R2MDD UMF0J330MDD UMF0J470MDD UMF1C330MDD UMF1C470MDD UMF1C470MDD1TP UMF1V100MDD UMF1V150MDD UMF1V1R5MDD UMF0J101MDD UMF0J220MDD UMF1C150MDD UMF1C220MDD UMF1E6R8MDD UMF1E6R8MDD1TP UMF1V010MDD UMF1V6R8MDD UMF1A470MDD UMF1C100MDD UMF1E330MDD UMF1E4R7MDD UMF1V3R3MDD UMF1V4R7MDD UMF1V6R8MDD1TP UMF0J330MDD1TP UMF1A330MDD1TP UMF1C100MDD1TP UMF0J680MDD1TP UMF1V4R7MDD1TP UMF1E4R7MDD1TP UMF1A470MDD1TP UMF1E220MDD1TP UMF1V150MDD1TP UMF1C150MDD1TP UMF1V220MDD1TP UMF1V010MDD1TP UMF1C330MDD1TP UMF1E150MDD1TP UMF0J470MDD1TP UMF1V3R3MDD1TP UMF1V100MDD1TP UMF1E330MDD1TP UMF1A220MDD1TP UMF1E100MDD1TP UMF0J101MDD1TP UMF1C220MDD1TP