

# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

# UKT

For General Audio Equipment,  
Wide Temperature Range.



For Audio Use



Anti-Solvent  
Feature

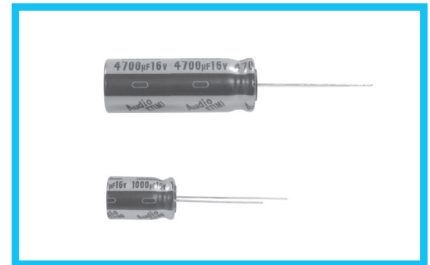
UKA

High Sound  
Quality

UKT

High Sound  
Quality

UVZ

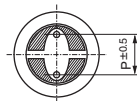
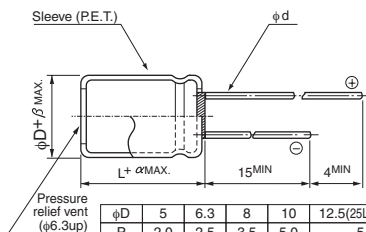


- 105°C standard for audio equipment.
- Compliant to the RoHS directive (2011/65/EU).

## Specifications

| Item                                                                       | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                  |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------|--------------------|------|---------------------------------------------------|-----|-----|----|----|----|----|--------------|-----------------|-----------------|------|------|------|------|---------------------------------------|---|-----------------|-----------------|----|---|---|---|---|---|-------------------------------|
| Category Temperature Range                                                 | -55 to +105°C                                                                                                                                                                                                                                                                                                                                                                |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| Rated Voltage Range                                                        | 6.3 to 50V                                                                                                                                                                                                                                                                                                                                                                   |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| Rated Capacitance Range                                                    | 2.2 to 33000μF                                                                                                                                                                                                                                                                                                                                                               |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| Capacitance Tolerance                                                      | ± 20% at 120Hz, 20°C                                                                                                                                                                                                                                                                                                                                                         |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| Leakage Current                                                            | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA) , whichever is greater.<br>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)                                              | <table><tr><td>Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ (MAX.)</td><td>0.30</td><td>0.26</td><td>0.22</td><td>0.18</td><td>0.16</td><td>0.14</td></tr></table>                                                                                                                                            |                 |      |      |                    |      | Rated voltage (V)                                 | 6.3 | 10  | 16 | 25 | 35 | 50 | tan δ (MAX.) | 0.30            | 0.26            | 0.22 | 0.18 | 0.16 | 0.14 | Measurement frequency : 120Hz at 20°C |   |                 |                 |    |   |   |   |   |   |                               |
|                                                                            | Rated voltage (V)                                                                                                                                                                                                                                                                                                                                                            | 6.3             | 10   | 16   | 25                 | 35   | 50                                                |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
|                                                                            | tan δ (MAX.)                                                                                                                                                                                                                                                                                                                                                                 | 0.30            | 0.26 | 0.22 | 0.18               | 0.16 | 0.14                                              |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF |                                                                                                                                                                                                                                                                                                                                                                              |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
|                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| Stability at Low Temperature                                               | <table><tr><td colspan="2">Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Impedance ratio</td><td>Z-25°C / Z+20°C</td><td>5</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td></tr><tr><td>ZT / Z20 (MAX.)</td><td>Z-40°C / Z+20°C</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td></tr></table> |                 |      |      |                    |      | Rated voltage (V)                                 |     | 6.3 | 10 | 16 | 25 | 35 | 50           | Impedance ratio | Z-25°C / Z+20°C | 5    | 4    | 3    | 2    | 2                                     | 2 | ZT / Z20 (MAX.) | Z-40°C / Z+20°C | 10 | 8 | 6 | 4 | 3 | 3 | Measurement frequency : 120Hz |
|                                                                            | Rated voltage (V)                                                                                                                                                                                                                                                                                                                                                            |                 | 6.3  | 10   | 16                 | 25   | 35                                                | 50  |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
|                                                                            | Impedance ratio                                                                                                                                                                                                                                                                                                                                                              | Z-25°C / Z+20°C | 5    | 4    | 3                  | 2    | 2                                                 | 2   |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |
| ZT / Z20 (MAX.)                                                            | Z-40°C / Z+20°C                                                                                                                                                                                                                                                                                                                                                              | 10              | 8    | 6    | 4                  | 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 storing 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 black color letter on pearl blue sleeve.                                                                                                                                                                                                                                                                                                                        |                 |      |      |                    |      |                                                   |     |     |    |    |    |    |              |                 |                 |      |      |      |      |                                       |   |                 |                 |    |   |   |   |   |   |                               |

## Radial Lead Type



|    | φD  | 5   | 6.3 | 8   | 10  | 12.5(25L or smaller) | 12.5(31.5L or greater) | 16  | 18  | 20   | 22   | 25   |
|----|-----|-----|-----|-----|-----|----------------------|------------------------|-----|-----|------|------|------|
| P  | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 5.0                  | 5.0                    | 7.5 | 7.5 | 10.0 | 10.0 | 12.5 |
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6                  | 0.8                    | 0.8 | 0.8 | 1.0  | 1.0  | 1.0  |
| β  | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5                  | 0.5                    | 0.5 | 0.5 | 0.5  | 1.0  | 1.0  |
| α  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5                  | 1.5                    | 1.5 | 1.5 | 1.5  | 2.0  | 2.0  |

## Type numbering system (Example : 16V 1000µF)

|   |   |   |                |   |                              |   |                            |   |                     |    |
|---|---|---|----------------|---|------------------------------|---|----------------------------|---|---------------------|----|
| 1 | 2 | 3 | 4              | 5 | 6                            | 7 | 8                          | 9 | 10                  | 11 |
| U | K | T | 1              | C | 1                            | 0 | 2                          | M | P                   | D  |
|   |   |   | Configuration※ |   | Capacitance tolerance (±20%) |   | Rated capacitance (1000µF) |   | Rated voltage (16V) |    |
|   |   |   |                |   |                              |   |                            |   | Series name         |    |
|   |   |   |                |   |                              |   |                            |   | Type                |    |

※ Configuration

| φ D        | Pb-free leadwire<br>Pb-free PET sleeve |
|------------|----------------------------------------|
| 5          | DD                                     |
| 6.3        | ED                                     |
| 8 . 10     | PD                                     |
| 12.5 to 18 | HD                                     |
| 20 to 25   | RD                                     |

## Dimensions

• Please refer to page 20 about the end seal configuration.

|          |      | V |             | 6.3  |             | 10   |             | 16     |             | 25     |           | 35     |             | 50     |    |
|----------|------|---|-------------|------|-------------|------|-------------|--------|-------------|--------|-----------|--------|-------------|--------|----|
| Cap.(µF) | code |   |             | 0J   |             | 1A   |             | 1C     |             | 1E     |           | 1V     |             | 1H     |    |
| 2.2      | 2R2  |   |             |      |             |      |             |        |             |        |           |        |             | 5 × 11 | 20 |
| 3.3      | 3R3  |   |             |      |             |      |             |        |             |        |           |        |             | 5 × 11 | 25 |
| 4.7      | 4R7  |   |             |      |             |      |             |        |             | 5 × 11 | 25        | 5 × 11 | 28          | 5 × 11 | 30 |
| 10       | 100  |   |             |      |             |      |             | 5 × 11 | 35          | 5 × 11 | 36        | 5 × 11 | 41          | 5 × 11 | 46 |
| 22       | 220  |   | 5 × 11      | 45   | 5 × 11      | 45   | 5 × 11      | 54     | 5 × 11      | 58     | 5 × 11    | 61     | 5 × 11      | 68     |    |
| 33       | 330  |   | 5 × 11      | 55   | 5 × 11      | 58   | 5 × 11      | 65     | 5 × 11      | 68     | 5 × 11    | 75     | 5 × 11      | 90     |    |
| 47       | 470  |   | 5 × 11      | 65   | 5 × 11      | 68   | 5 × 11      | 79     | 5 × 11      | 83     | 5 × 11    | 93     | 6.3 × 11    | 115    |    |
| 100      | 101  |   | 5 × 11      | 95   | 5 × 11      | 105  | 5 × 11      | 115    | 6.3 × 11    | 140    | 6.3 × 11  | 150    | 8 × 11.5    | 190    |    |
| 220      | 221  |   | 6.3 × 11    | 160  | 6.3 × 11    | 175  | 6.3 × 11    | 190    | 8 × 11.5    | 240    | 8 × 11.5  | 260    | 10 × 12.5   | 300    |    |
| 330      | 331  |   | 6.3 × 11    | 195  | 8 × 11.5    | 240  | 8 × 11.5    | 265    | 8 × 11.5    | 290    | 10 × 12.5 | 350    | 10 × 16     | 410    |    |
| 470      | 471  |   | 8 × 11.5    | 270  | 8 × 11.5    | 280  | 8 × 11.5    | 315    | 10 × 12.5   | 380    | 10 × 16   | 460    | 12.5 × 20   | 530    |    |
| 1000     | 102  |   | 10 × 12.5   | 420  | 10 × 16     | 500  | 10 × 16     | 560    | 10 × 20     | 680    | 12.5 × 25 | 860    | 12.5 × 31.5 | 1040   |    |
| 2200     | 222  |   | 10 × 20     | 710  | 12.5 × 20   | 810  | 12.5 × 20   | 920    | 12.5 × 31.5 | 1200   | 12.5 × 40 | 1260   | 16 × 35.5   | 1470   |    |
| 3300     | 332  |   | 12.5 × 20   | 910  | 12.5 × 25   | 1050 | 12.5 × 31.5 | 1270   | 12.5 × 35.5 | 1400   | 16 × 35.5 | 1610   | 18 × 35.5   | 1770   |    |
| 4700     | 472  |   | 12.5 × 25   | 1120 | 12.5 × 35.5 | 1300 | 12.5 × 35.5 | 1480   | 16 × 31.5   | 1710   | 18 × 35.5 | 1910   | 20 × 40     | 2100   |    |
| 6800     | 682  |   | 12.5 × 35.5 | 1360 | 12.5 × 40   | 1570 | 16 × 31.5   | 1780   | 18 × 35.5   | 2040   | 20 × 40   | 2150   | 22 × 50     | 2500   |    |
| 10000    | 103  |   | 12.5 × 40   | 1650 | 16 × 35.5   | 1890 | 18 × 35.5   | 2060   | 20 × 40     | 2150   | 22 × 50   | 2650   |             |        |    |
| 15000    | 153  |   | 16 × 35.5   | 2010 | 18 × 40     | 2400 | 20 × 40     | 2430   | 22 × 50     | 2750   |           |        |             |        |    |
| 22000    | 223  |   | 18 × 40     | 2350 | 22 × 40     | 2650 | 22 × 50     | 3000   |             |        |           |        |             |        |    |
| 33000    | 333  |   | 22 × 50     | 2800 | 25 × 50     | 2880 |             |        |             |        |           |        |             |        |    |

Rated ripple current (mA Arms) at 105°C 120Hz

## Frequency coefficient of rated ripple current

| Cap.(µF)      | Frequency | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
|---------------|-----------|------|-------|-------|------|---------------|
| 2.2 to 47     |           | 0.75 | 1.00  | 1.35  | 1.57 | 2.00          |
| 100 to 470    |           | 0.80 | 1.00  | 1.23  | 1.34 | 1.50          |
| 1000 to 33000 |           | 0.85 | 1.00  | 1.10  | 1.13 | 1.15          |

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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[UKT0J331MED](#) [UKT0J332MHD](#) [UKT0J470MDD](#) [UKT0J471MPD](#) [UKT0J472MHD](#) [UKT0J682MHD](#) [UKT1A101MDD](#)  
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