nichicon

# UFG

High Grade Standard Type, For Audio Equipment

For Audio Use  Anti-Solvent Feature

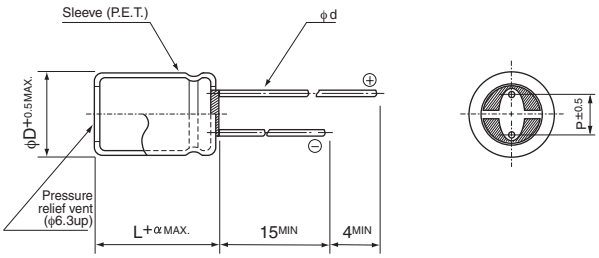

- "Fine Gold" MUSE acoustic series suited for high grade audio equipment, using state of the art etching techniques.
- Rich sound in the bass register and clearer high end, most suited for AV equipment like DVD.
- Compliant to the RoHS directive (2011/65/EU).

UKZ ← High Grade **UFG** High Grade → UFW

## ■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −40 to +85°C |
| Rated Voltage Range | 6.3 to 100V |
| Rated Capacitance Range | 1 to 10000μF |
| 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 0.01CV or 3 (μA) , whichever is greater. |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C<br>Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100<br>tan δ (MAX.): 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.09 / 0.08<br>For capacitance of more than 1000μF add 0.02 for every increase of 1000μF. |
| Stability at Low Temperature | Measurement frequency : 120Hz<br>Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100<br>Impedance ratio ZT / Z20 (MAX.) Z−25°C / Z+20°C: 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2 / 2<br>Impedance ratio ZT / Z20 (MAX.) Z−40°C / Z+20°C: 8 / 6 / 4 / 4 / 3 / 3 / 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 85°C.<br>Capacitance change: Within ±20% of the initial measurement for units of not more than 16V or φ6.3; Within ±15% of the initial measurement for units of not less than 25V or above φ6.3<br>tan δ: 150% or less than the initial specified value<br>Leakage current: Less than or equal to the initial specified value |
| Shelf Life | After storing the capacitors under no load at 85°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 gold sleeve. |

## ■Radial Lead Type




(mm)

| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
|---|---|---|---|---|---|---|---|
| P | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| φd | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 |

| α | (L < 20) 1.5 |
|---|---|
| | (L ≧ 20) 2.0 |

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

## Type numbering system (Example : 10V 47μF)

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

Configuration
Capacitance tolerance (±20%)
Rated capacitance (47μF)
Rated voltage (10V)
Series name
Type

| φD | Code |
|---|---|
| 5 | DM |
| 6.3 | EM |
| 8 · 10 | PM |
| 12.5 to 18 | HM |

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

●Dimension table in next page.

# UFG

## ■ Dimensions

| Cap.(μF) \ V | Code | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | |
| **1** | 010 | | | | | | | | | | | 5×11 | 9.0 |
| **2.2** | 2R2 | | | | | | | | | | | 5×11 | 18 |
| **3.3** | 3R3 | | | | | | | | | | | 5×11 | 22 |
| **4.7** | 4R7 | | | | | | | | | | | 5×11 | 27 |
| **10** | 100 | | | | | | | | | | | 5×11 | 39 |
| **22** | 220 | | | | | | | 5×11 | 50 | 6.3×11 | 60 | 6.3×11 | 65 |
| **33** | 330 | | | | | 5×11 | 57 | 6.3×11 | 70 | 6.3×11 | 75 | 8×11.5 | 93 |
| **47** | 470 | | | 5×11 | 60 | 6.3×11 | 74 | 6.3×11 | 85 | 8×11.5 | 101 | 8×11.5 | 111 |
| **100** | 101 | | | 6.3×11 | 99 | 8×11.5 | 128 | 8×11.5 | 140 | 10×12.5 | 176 | 10×16 | 215 |
| **220** | 221 | | | 8×11.5 | 170 | 10×12.5 | 226 | 10×16 | 260 | 10×20 | 320 | 12.5×20 | 390 |
| **330** | 331 | | | 10×12.5 | 247 | 10×16 | 309 | 10×20 | 351 | 12.5×20 | 446 | 12.5×20 | 488 |
| **470** | 471 | 10×12.5 | 270 | 10×16 | 330 | 10×20 | 406 | 12.5×20 | 476 | 12.5×25 | 590 | 16×25 | 650 |
| **1000** | 102 | 10×20 | 485 | 12.5×20 | 601 | 12.5×25 | 723 | 16×25 | 854 | 16×25 | 1060 | 16×31.5 | 1143 |
| **2200** | 222 | 12.5×25 | 867 | 16×25 | 1047 | 16×25 | 1290 | 16×35.5 | 1570 | 18×35.5 | 1840 | | |
| **3300** | 332 | 16×25 | 1135 | 16×31.5 | 1520 | 16×35.5 | 1720 | 18×40 | 1794 | | | | |
| **4700** | 472 | 16×31.5 | 1431 | 16×35.5 | 1840 | 18×35.5 | 2140 | | | | | | |
| **6800** | 682 | 18×35.5 | 1810 | 18×40 | 2049 | | | | | | | | |
| **10000** | 103 | 18×40 | 2100 | | | | | | | | | | |

| Cap.(μF) \ V | Code | 63 | | 80 | | 100 | |
|---|---|---|---|---|---|---|---|
| | | 1J | | 1K | | 2A | |
| **1** | 010 | | | | | 5×11 | 15 |
| **2.2** | 2R2 | | | | | 5×11 | 22 |
| **3.3** | 3R3 | | | | | 5×11 | 27 |
| **4.7** | 4R7 | | | | | 5×11 | 36 |
| **10** | 100 | 6.3×11 | 50 | 6.3×11 | 55 | 8×11.5 | 65 |
| **22** | 220 | 8×11.5 | 85 | 8×11.5 | 100 | 10×12.5 | 110 |
| **33** | 330 | 8×11.5 | 105 | 10×12.5 | 130 | 10×16 | 150 |
| **47** | 470 | 10×12.5 | 140 | 10×16 | 170 | 10×20 | 190 |
| **100** | 101 | 10×20 | 255 | 12.5×20 | 270 | 12.5×20 | 300 |
| **220** | 221 | 12.5×20 | 420 | 12.5×25 | 490 | 16×25 | 549 |
| **330** | 331 | 12.5×25 | 541 | 16×31.5 | 650 | 16×31.5 | 734 |
| **470** | 471 | 16×25 | 840 | 16×35.5 | 920 | 18×35.5 | 980 |
| **1000** | 102 | 18×35.5 | 1400 | | | Case size φD×L (mm) | Rated ripple |

Rated ripple current (mArms) at 85°C 120Hz

## ● Frequency coefficient of rated ripple current

| Cap.(μF) \ Frequency | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
|---|---|---|---|---|---|
| 1 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 10000 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |