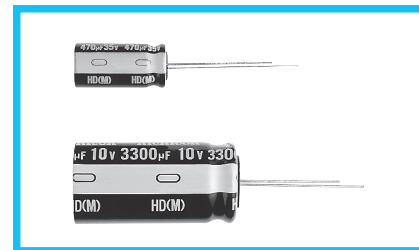
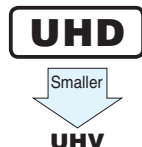


UHD

High Ripple Low Impedance



- Lower impedance at high frequency range.
- Smaller case size and high ripple current.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

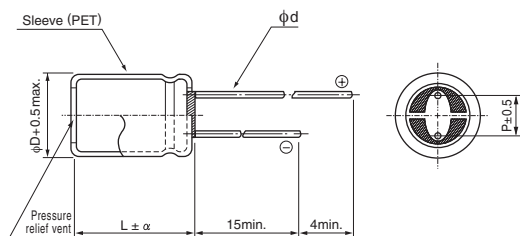


Specifications

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | |
|-------------------------------|--|--|----------|--|----------|------|------|--------|---------------|--------|----|-----|--------|---------|--|----------|----------|----------|
| Category Temperature Range | -40 to +105℃ | | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 50V | | | | | | | | | | | | | | | | | |
| Rated Capacitance Range | 100 to 6800μF | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20℃ | | | | | | | | | | | | | | | | | |
| Leakage Current ※ | After 2 minutes' application of rated voltage at 20℃, leakage current is not more than 0.01CV (μA). | | | | | | | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 120Hz | | | | | | | | | | |
| | tan δ (max.) | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 20℃ | | | | | | | | | | |
| | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. | | | | | | | | | | | | | | | | | |
| Stability at Low Temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 120Hz | | | | | | | | | | |
| | Impedance ratio (max.) | Z(-25℃) / Z(+20℃) | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | |
| | | Z(-40℃) / Z(+20℃) | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | |
| Endurance | The specifications listed below shall be met when the capacitors are restored to 20℃ after D.C. bias plus rated ripple current is applied at 105℃ for the condition listed at right.The peak voltage shall not exceed the rated voltage. | | | <table><tr><td>Rated Voltage</td><td>φD(mm)</td><td>φ8</td><td>φ10</td><td>≥φ12.5</td></tr><tr><td>6.3~50V</td><td></td><td>3000hrs.</td><td>4000hrs.</td><td>5000hrs.</td></tr></table> | | | | | Rated Voltage | φD(mm) | φ8 | φ10 | ≥φ12.5 | 6.3~50V | | 3000hrs. | 4000hrs. | 5000hrs. |
| | | | | Rated Voltage | φD(mm) | φ8 | φ10 | ≥φ12.5 | | | | | | | | | | |
| | 6.3~50V | | 3000hrs. | 4000hrs. | 5000hrs. | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | Capacitance change | Within ±25% 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 | | | | | | | | | | | | | | | | | |
| Marking | Printed with white color letter on black sleeve. | | | | | | | | | | | | | | | | | |

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Radial Lead Type

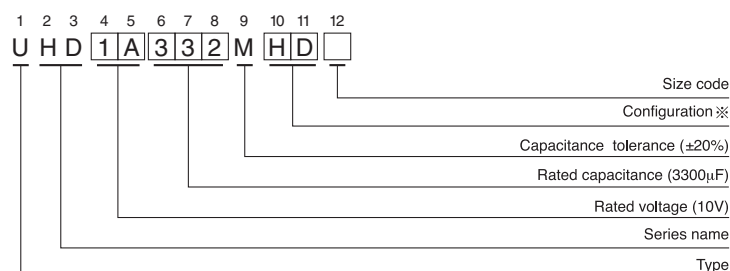


| | | |
|---|--|--------------|
| α | | (L < 20) 1.5 |
| | | (L ≥ 20) 2.0 |

| | | | | |
|----|-----|-----|------|-----|
| φD | 8 | 10 | 12.5 | 16 |
| P | 3.5 | 5.0 | 5.0 | 7.5 |
| φd | 0.6 | 0.6 | ※0.6 | 0.8 |

※ In case L > 25 for the φ12.5 dia. unit, lead dia. φd = 0.8mm.

Type numbering system (Example : 10V 3300μF)



※ Configuration

| φ D | Pb-free leadwire Pb-free PET sleeve |
|-----------|--|
| 8 - 10 | PD |
| 12.5 - 16 | HD |

- Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

Frequency coefficient of rated ripple current

| Cap. (μF) | Frequency | 50Hz | 120Hz | 1kHz | 10kHz | 100kHz or more |
|--------------|-----------|------|-------|------|-------|----------------|
| 100 to 330 | | 0.60 | 0.70 | 0.85 | 0.95 | 1.00 |
| 470 to 1000 | | 0.65 | 0.75 | 0.90 | 0.98 | 1.00 |
| 1200 to 6800 | | 0.75 | 0.80 | 0.95 | 1.00 | 1.00 |

• Dimension table in next page.

UHD

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | Impedance (Ω) max. | | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------|------------------------|-------|---|-----------------------|------------------|--|--------------|
| | | | | | 20°C/ 100kHz | −10°C/ 100kHz | | |
| 6.3 (0J) | 560 | 8×11.5 | 0.22 | 35.28 | 0.072 | 0.22 | 760 | UHD0J561MPD |
| | 820 | 8×15 | 0.22 | 51.66 | 0.056 | 0.17 | 995 | UHD0J821MPD |
| | 1000 | 10×12.5 | 0.22 | 63 | 0.053 | 0.16 | 1030 | UHD0J102MPD |
| | 1200 | 8×20 | 0.22 | 75.6 | 0.041 | 0.13 | 1250 | UHD0J122MPD |
| | 1200 | 10×16 | 0.22 | 75.6 | 0.038 | 0.12 | 1430 | UHD0J122MPD6 |
| | 1500 | 10×20 | 0.22 | 94.5 | 0.023 | 0.069 | 1820 | UHD0J152MPD |
| | 2200 | 10×25 | 0.24 | 138.6 | 0.022 | 0.066 | 2150 | UHD0J222MPD |
| | 3300 | 12.5×20 | 0.26 | 207.9 | 0.021 | 0.053 | 2360 | UHD0J332MHD |
| | 3900 | 12.5×25 | 0.26 | 245.7 | 0.018 | 0.045 | 2770 | UHD0J392MHD |
| | 4700 | 12.5×30.5 | 0.28 | 296.1 | 0.016 | 0.041 | 3290 | UHD0J472MHD |
| | 5600 | 12.5×35.5 | 0.30 | 352.8 | 0.015 | 0.039 | 3400 | UHD0J562MHD |
| | 5600 | 16×20 | 0.30 | 352.8 | 0.018 | 0.045 | 3140 | UHD0J562MHD6 |
| | 6800 | 16×25 | 0.32 | 428.4 | 0.016 | 0.043 | 3460 | UHD0J682MHD |
| 10 (1A) | 470 | 8×11.5 | 0.19 | 47 | 0.072 | 0.22 | 760 | UHD1A471MPD |
| | 680 | 8×15 | 0.19 | 68 | 0.056 | 0.17 | 995 | UHD1A681MPD |
| | 680 | 10×12.5 | 0.19 | 68 | 0.053 | 0.16 | 1030 | UHD1A681MPD6 |
| | 1000 | 8×20 | 0.19 | 100 | 0.041 | 0.13 | 1250 | UHD1A102MPD |
| | 1000 | 10×16 | 0.19 | 100 | 0.038 | 0.12 | 1430 | UHD1A102MPD6 |
| | 1200 | 10×20 | 0.19 | 120 | 0.023 | 0.069 | 1820 | UHD1A122MPD |
| | 1500 | 10×25 | 0.19 | 150 | 0.022 | 0.066 | 2150 | UHD1A152MPD |
| | 2200 | 12.5×20 | 0.21 | 220 | 0.021 | 0.053 | 2360 | UHD1A222MHD |
| | 3300 | 12.5×25 | 0.23 | 330 | 0.018 | 0.045 | 2770 | UHD1A332MHD |
| | 3900 | 12.5×30.5 | 0.23 | 390 | 0.016 | 0.041 | 3290 | UHD1A392MHD |
| | 3900 | 16×20 | 0.23 | 390 | 0.018 | 0.045 | 3140 | UHD1A392MHD6 |
| | 4700 | 12.5×35.5 | 0.25 | 470 | 0.015 | 0.039 | 3400 | UHD1A472MHD |
| | 5600 | 16×25 | 0.27 | 560 | 0.016 | 0.043 | 3460 | UHD1A562MHD |
| 16 (1C) | 330 | 8×11.5 | 0.16 | 52.8 | 0.072 | 0.22 | 760 | UHD1C331MPD |
| | 470 | 8×15 | 0.16 | 75.2 | 0.056 | 0.17 | 995 | UHD1C471MPD |
| | 470 | 10×12.5 | 0.16 | 75.2 | 0.053 | 0.16 | 1030 | UHD1C471MPD6 |
| | 680 | 8×20 | 0.16 | 108.8 | 0.041 | 0.13 | 1250 | UHD1C681MPD |
| | 680 | 10×16 | 0.16 | 108.8 | 0.038 | 0.12 | 1430 | UHD1C681MPD6 |
| | 1000 | 10×20 | 0.16 | 160 | 0.023 | 0.069 | 1820 | UHD1C102MPD |
| | 1200 | 10×25 | 0.16 | 192 | 0.022 | 0.066 | 2150 | UHD1C122MPD |
| | 1500 | 12.5×20 | 0.16 | 240 | 0.021 | 0.053 | 2360 | UHD1C152MHD |
| | 2200 | 12.5×25 | 0.18 | 352 | 0.018 | 0.045 | 2770 | UHD1C222MHD |
| | 2700 | 12.5×30.5 | 0.18 | 432 | 0.016 | 0.041 | 3290 | UHD1C272MHD |
| | 2700 | 16×20 | 0.18 | 432 | 0.018 | 0.045 | 3140 | UHD1C272MHD6 |
| | 3300 | 12.5×35.5 | 0.20 | 528 | 0.015 | 0.039 | 3400 | UHD1C332MHD |
| | 3900 | 16×25 | 0.20 | 624 | 0.016 | 0.043 | 3460 | UHD1C392MHD |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

UHD

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | Impedance (Ω) max. | | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------|------------------------|-------|---|-----------------------|------------------|--|--------------|
| | | | | | 20°C/ 100kHz | −10°C/ 100kHz | | |
| 25 (1E) | 220 | 8×11.5 | 0.14 | 55 | 0.072 | 0.22 | 760 | UHD1E221MPD |
| | 330 | 8×15 | 0.14 | 82.5 | 0.056 | 0.17 | 995 | UHD1E331MPD |
| | 330 | 10×12.5 | 0.14 | 82.5 | 0.053 | 0.16 | 1030 | UHD1E331MPD6 |
| | 470 | 8×20 | 0.14 | 117.5 | 0.041 | 0.13 | 1250 | UHD1E471MPD |
| | 470 | 10×16 | 0.14 | 117.5 | 0.038 | 0.12 | 1430 | UHD1E471MPD6 |
| | 680 | 10×20 | 0.14 | 170 | 0.023 | 0.069 | 1820 | UHD1E681MPD |
| | 820 | 10×25 | 0.14 | 205 | 0.022 | 0.066 | 2150 | UHD1E821MPD |
| | 1000 | 12.5×20 | 0.14 | 250 | 0.021 | 0.053 | 2360 | UHD1E102MHD |
| | 1500 | 12.5×25 | 0.14 | 375 | 0.018 | 0.045 | 2770 | UHD1E152MHD |
| | 1800 | 12.5×30.5 | 0.14 | 450 | 0.016 | 0.041 | 3290 | UHD1E182MHD |
| | 1800 | 16×20 | 0.14 | 450 | 0.018 | 0.045 | 3140 | UHD1E182MHD6 |
| | 2200 | 12.5×35.5 | 0.16 | 550 | 0.015 | 0.039 | 3400 | UHD1E222MHD |
| | 2700 | 16×25 | 0.16 | 675 | 0.016 | 0.043 | 3460 | UHD1E272MHD |
| | | | | | | | | |
| 35 (1V) | 150 | 8×11.5 | 0.12 | 52.5 | 0.072 | 0.22 | 760 | UHD1V151MPD |
| | 220 | 8×15 | 0.12 | 77 | 0.056 | 0.17 | 995 | UHD1V221MPD |
| | 220 | 10×12.5 | 0.12 | 77 | 0.053 | 0.16 | 1030 | UHD1V221MPD6 |
| | 270 | 8×20 | 0.12 | 94.5 | 0.041 | 0.13 | 1250 | UHD1V271MPD |
| | 330 | 10×16 | 0.12 | 115.5 | 0.038 | 0.12 | 1430 | UHD1V331MPD |
| | 470 | 10×20 | 0.12 | 164.5 | 0.023 | 0.069 | 1820 | UHD1V471MPD |
| | 560 | 10×25 | 0.12 | 196 | 0.022 | 0.066 | 2150 | UHD1V561MPD |
| | 680 | 12.5×20 | 0.12 | 238 | 0.021 | 0.053 | 2360 | UHD1V681MHD |
| | 1000 | 12.5×25 | 0.12 | 350 | 0.018 | 0.045 | 2770 | UHD1V102MHD |
| | 1200 | 12.5×30.5 | 0.12 | 420 | 0.016 | 0.041 | 3290 | UHD1V122MHD |
| | 1200 | 16×20 | 0.12 | 420 | 0.018 | 0.045 | 3140 | UHD1V122MHD6 |
| | 1500 | 12.5×35.5 | 0.12 | 525 | 0.015 | 0.039 | 3400 | UHD1V152MHD |
| | 1800 | 16×25 | 0.12 | 630 | 0.016 | 0.043 | 3460 | UHD1V182MHD |
| | | | | | | | | |
| 50 (1H) | 100 | 8×11.5 | 0.10 | 50 | 0.074 | 0.22 | 724 | UHD1H101MPD |
| | 120 | 8×15 | 0.10 | 60 | 0.061 | 0.18 | 950 | UHD1H121MPD |
| | 150 | 10×12.5 | 0.10 | 75 | 0.061 | 0.18 | 979 | UHD1H151MPD |
| | 180 | 8×20 | 0.10 | 90 | 0.046 | 0.14 | 1190 | UHD1H181MPD |
| | 220 | 10×16 | 0.10 | 110 | 0.042 | 0.12 | 1370 | UHD1H221MPD |
| | 270 | 10×20 | 0.10 | 135 | 0.030 | 0.090 | 1580 | UHD1H271MPD |
| | 330 | 10×25 | 0.10 | 165 | 0.028 | 0.085 | 1870 | UHD1H331MPD |
| | 470 | 12.5×20 | 0.10 | 235 | 0.027 | 0.068 | 2050 | UHD1H471MHD |
| | 560 | 12.5×25 | 0.10 | 280 | 0.023 | 0.059 | 2410 | UHD1H561MHD |
| | 680 | 12.5×30.5 | 0.10 | 340 | 0.021 | 0.052 | 2860 | UHD1H681MHD |
| | 820 | 12.5×35.5 | 0.10 | 410 | 0.019 | 0.051 | 2960 | UHD1H821MHD |
| | 820 | 16×20 | 0.10 | 410 | 0.023 | 0.059 | 2730 | UHD1H821MHD6 |
| | 1000 | 16×25 | 0.10 | 500 | 0.021 | 0.056 | 3010 | UHD1H102MHD |
| | | | | | | | | |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

- For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.