



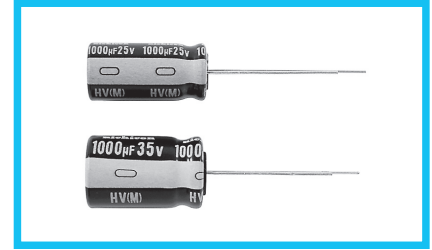
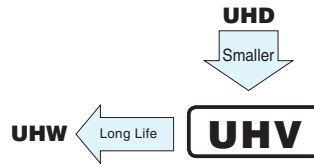
**THE DATASHEET OF
UHV1V470MDD**



UHV 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).

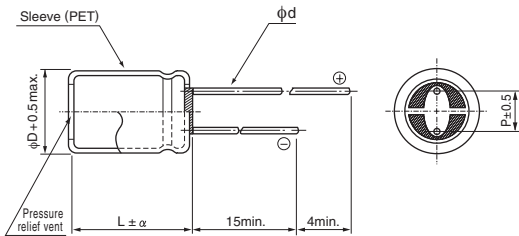


Specifications

| Item | Performance Characteristics | | | | | | |
|---|---|---------------------|--------------------|--|------|------|------------|
| Category Temperature Range | -40 to +105°C | | | | | | |
| Rated Voltage Range | 6.3 to 35V | | | | | | |
| Rated Capacitance Range | 150 to 8200µF | | | | | | |
| 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(µA). | | | | | | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 120Hz 20°C |
| | tan δ (max.) | 0.21 | 0.18 | 0.15 | 0.13 | 0.11 | |
| 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 | 120Hz |
| | Impedance ratio (max.) | Z(-25°C) / Z(+20°C) | 2 | 2 | 2 | 2 | |
| | | Z(-40°C) / Z(+20°C) | 3 | 3 | 3 | 3 | 3 |
| Endurance | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 6000 hours at 105°C, the peak voltage shall not exceed the rated voltage. | | Capacitance change | Within ±25% of the initial capacitance value (6.3V 10V : ±30%) | | | |
| | | | 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

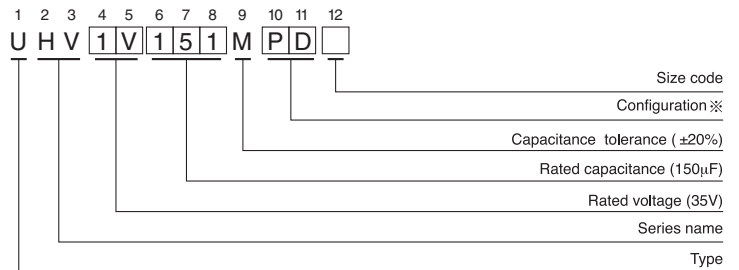


| | |
|---|--------------|
| α | (L < 20) 1.5 |
| | (L ≥ 20) 2.0 |

| | (mm) | | | |
|----|------|-----|------|-----|
| 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 : 35V 150µF)



※ 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 | | | |
|--------------|-----------|------|-------|----------------|
| | 120Hz | 1kHz | 10kHz | 100kHz or more |
| 150 | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 560 | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 1800 | 0.60 | 0.87 | 0.95 | 1.00 |
| 2200 to 3900 | 0.75 | 0.90 | 0.95 | 1.00 |
| 4700 to 8200 | 0.85 | 0.95 | 0.98 | 1.00 |

● Dimension table in next page.

UHV

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μ F) | Case Size ϕ D \times L (mm) | tan δ | Leakage Current (μ A) (at 20°C after 2 minutes) | Impedance (Ω) max. | | Rated Ripple (mArms) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------------|---------------------------------------|--------------|---|--------------------------------|------------------|---|--------------|
| | | | | | 20°C/ 100kHz | -10°C/ 100kHz | | |
| 6.3 (0J) | 680 | 8 \times 11.5 | 0.21 | 42.84 | 0.059 | 0.181 | 900 | UHV0J681MPD |
| | 820 | 8 \times 11.5 | 0.21 | 51.66 | 0.059 | 0.181 | 990 | UHV0J821MPD |
| | 1000 | 10 \times 12.5 | 0.21 | 63 | 0.043 | 0.133 | 1250 | UHV0J102MPD |
| | 1200 | 10 \times 12.5 | 0.21 | 75.6 | 0.043 | 0.133 | 1360 | UHV0J122MPD |
| | 1200 | 8 \times 15 | 0.21 | 75.6 | 0.046 | 0.143 | 1330 | UHV0J122MPD6 |
| | 1500 | 8 \times 20 | 0.21 | 94.5 | 0.031 | 0.105 | 1550 | UHV0J152MPD |
| | 1800 | 10 \times 16 | 0.21 | 113.4 | 0.030 | 0.095 | 1815 | UHV0J182MPD |
| | 2200 | 10 \times 20 | 0.23 | 138.6 | 0.019 | 0.057 | 2160 | UHV0J222MPD |
| | 2700 | 10 \times 25 | 0.23 | 170.1 | 0.017 | 0.051 | 2475 | UHV0J272MPD |
| | 3300 | 12.5 \times 20 | 0.25 | 207.9 | 0.016 | 0.041 | 2500 | UHV0J332MHD |
| | 3900 | 12.5 \times 20 | 0.25 | 245.7 | 0.016 | 0.041 | 2725 | UHV0J392MHD |
| | 4700 | 12.5 \times 25 | 0.27 | 296.1 | 0.014 | 0.036 | 3190 | UHV0J472MHD |
| | 5600 | 12.5 \times 30.5 | 0.29 | 352.8 | 0.012 | 0.031 | 3795 | UHV0J562MHD |
| | 6800 | 12.5 \times 35.5 | 0.31 | 428.4 | 0.011 | 0.029 | 3925 | UHV0J682MHD |
| | 6800 | 16 \times 20 | 0.31 | 428.4 | 0.014 | 0.036 | 3575 | UHV0J682MHD6 |
| | 8200 | 16 \times 25 | 0.35 | 516.6 | 0.012 | 0.033 | 3990 | UHV0J822MHD |
| 10 (1A) | 470 | 8 \times 11.5 | 0.18 | 47 | 0.059 | 0.181 | 820 | UHV1A471MPD |
| | 680 | 8 \times 11.5 | 0.18 | 68 | 0.059 | 0.181 | 990 | UHV1A681MPD |
| | 820 | 10 \times 12.5 | 0.18 | 82 | 0.043 | 0.133 | 1250 | UHV1A821MPD |
| | 1000 | 10 \times 12.5 | 0.18 | 100 | 0.043 | 0.133 | 1360 | UHV1A102MPD |
| | 1000 | 8 \times 15 | 0.18 | 100 | 0.046 | 0.143 | 1330 | UHV1A102MPD6 |
| | 1200 | 10 \times 16 | 0.18 | 120 | 0.030 | 0.095 | 1650 | UHV1A122MPD |
| | 1500 | 10 \times 16 | 0.18 | 150 | 0.030 | 0.095 | 1815 | UHV1A152MPD |
| | 1500 | 8 \times 20 | 0.18 | 150 | 0.031 | 0.105 | 1550 | UHV1A152MPD6 |
| | 1800 | 10 \times 20 | 0.18 | 180 | 0.019 | 0.057 | 2160 | UHV1A182MPD |
| | 2200 | 10 \times 25 | 0.20 | 220 | 0.017 | 0.051 | 2475 | UHV1A222MPD |
| | 2700 | 12.5 \times 20 | 0.20 | 270 | 0.016 | 0.041 | 2475 | UHV1A272MHD |
| | 3300 | 12.5 \times 20 | 0.22 | 330 | 0.016 | 0.041 | 2725 | UHV1A332MHD |
| | 3900 | 12.5 \times 25 | 0.22 | 390 | 0.014 | 0.036 | 3190 | UHV1A392MHD |
| | 4700 | 12.5 \times 30.5 | 0.24 | 470 | 0.012 | 0.031 | 3795 | UHV1A472MHD |
| | 4700 | 16 \times 20 | 0.24 | 470 | 0.014 | 0.036 | 3575 | UHV1A472MHD6 |
| | 5600 | 12.5 \times 35.5 | 0.26 | 560 | 0.011 | 0.029 | 3975 | UHV1A562MHD |
| 6800 | 16 \times 25 | 0.28 | 680 | 0.012 | 0.033 | 3990 | UHV1A682MHD | |

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.

UHV

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μ F) | Case Size ϕ D \times L (mm) | tan δ | Leakage Current (μ A) (at 20°C after 2 minutes) | Impedance (Ω) max. | | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------------|---------------------------------------|--------------|---|--------------------------------|------------------|--|--------------|
| | | | | | 20°C/ 100kHz | -10°C/ 100kHz | | |
| 16 (1C) | 330 | 8 \times 11.5 | 0.15 | 52.8 | 0.059 | 0.181 | 830 | UHV1C331MPD |
| | 470 | 8 \times 11.5 | 0.15 | 75.2 | 0.059 | 0.181 | 990 | UHV1C471MPD |
| | 680 | 10 \times 12.5 | 0.15 | 108.8 | 0.043 | 0.133 | 1360 | UHV1C681MPD |
| | 680 | 8 \times 15 | 0.15 | 108.8 | 0.046 | 0.143 | 1330 | UHV1C681MPD6 |
| | 820 | 10 \times 16 | 0.15 | 131.2 | 0.030 | 0.095 | 1650 | UHV1C821MPD |
| | 1000 | 10 \times 16 | 0.15 | 160 | 0.030 | 0.095 | 1815 | UHV1C102MPD |
| | 1000 | 8 \times 20 | 0.15 | 160 | 0.031 | 0.105 | 1550 | UHV1C102MPD6 |
| | 1200 | 10 \times 20 | 0.15 | 192 | 0.019 | 0.057 | 1930 | UHV1C122MPD |
| | 1500 | 10 \times 20 | 0.15 | 240 | 0.019 | 0.057 | 2160 | UHV1C152MPD |
| | 1800 | 10 \times 25 | 0.15 | 288 | 0.017 | 0.051 | 2475 | UHV1C182MPD |
| | 2200 | 12.5 \times 20 | 0.17 | 352 | 0.016 | 0.041 | 2725 | UHV1C222MHD |
| | 2700 | 12.5 \times 25 | 0.17 | 432 | 0.014 | 0.036 | 3190 | UHV1C272MHD |
| | 3300 | 12.5 \times 30.5 | 0.19 | 528 | 0.012 | 0.031 | 3795 | UHV1C332MHD |
| | 3300 | 16 \times 20 | 0.19 | 528 | 0.014 | 0.036 | 3575 | UHV1C332MHD6 |
| | 3900 | 12.5 \times 35.5 | 0.19 | 624 | 0.011 | 0.029 | 3925 | UHV1C392MHD |
| | 4700 | 16 \times 25 | 0.21 | 752 | 0.012 | 0.033 | 3990 | UHV1C472MHD |
| 25 (1E) | 220 | 8 \times 11.5 | 0.13 | 55 | 0.059 | 0.181 | 810 | UHV1E221MPD |
| | 270 | 8 \times 11.5 | 0.13 | 67.5 | 0.059 | 0.181 | 900 | UHV1E271MPD |
| | 330 | 8 \times 11.5 | 0.13 | 82.5 | 0.059 | 0.181 | 990 | UHV1E331MPD |
| | 390 | 8 \times 15 | 0.13 | 97.5 | 0.046 | 0.143 | 1330 | UHV1E391MPD |
| | 470 | 10 \times 12.5 | 0.13 | 117.5 | 0.043 | 0.133 | 1360 | UHV1E471MPD |
| | 560 | 8 \times 20 | 0.13 | 140 | 0.031 | 0.105 | 1550 | UHV1E561MPD |
| | 680 | 10 \times 16 | 0.13 | 170 | 0.030 | 0.095 | 1815 | UHV1E681MPD |
| | 820 | 10 \times 20 | 0.13 | 205 | 0.019 | 0.057 | 2160 | UHV1E821MPD |
| | 1000 | 10 \times 25 | 0.13 | 250 | 0.017 | 0.051 | 2475 | UHV1E102MPD |
| | 1200 | 12.5 \times 20 | 0.13 | 300 | 0.016 | 0.041 | 2475 | UHV1E122MHD |
| | 1500 | 12.5 \times 20 | 0.13 | 375 | 0.016 | 0.041 | 2725 | UHV1E152MHD |
| | 1800 | 12.5 \times 25 | 0.13 | 450 | 0.014 | 0.036 | 3190 | UHV1E182MHD |
| | 2200 | 12.5 \times 30.5 | 0.15 | 550 | 0.012 | 0.031 | 3795 | UHV1E222MHD |
| | 2200 | 16 \times 20 | 0.15 | 550 | 0.014 | 0.036 | 3575 | UHV1E222MHD6 |
| | 2700 | 12.5 \times 35.5 | 0.15 | 675 | 0.011 | 0.029 | 3925 | UHV1E272MHD |
| | 3300 | 16 \times 25 | 0.17 | 825 | 0.012 | 0.033 | 3990 | UHV1E332MHD |

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UHV

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μ F) | Case Size ϕ D \times L (mm) | tan δ | Leakage Current (μ A) (at 20°C after 2 minutes) | Impedance (Ω) max. | | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------------|---------------------------------------|--------------|---|--------------------------------|------------------|--|--------------|
| | | | | | 20°C/ 100kHz | -10°C/ 100kHz | | |
| 35 (1V) | 150 | 8 \times 11.5 | 0.11 | 52.5 | 0.059 | 0.181 | 820 | UHV1V151MPD |
| | 220 | 8 \times 11.5 | 0.11 | 77 | 0.059 | 0.181 | 990 | UHV1V221MPD |
| | 270 | 8 \times 15 | 0.11 | 94.5 | 0.046 | 0.143 | 1330 | UHV1V271MPD |
| | 330 | 10 \times 12.5 | 0.11 | 115.5 | 0.043 | 0.133 | 1360 | UHV1V331MPD |
| | 390 | 8 \times 20 | 0.11 | 136.5 | 0.031 | 0.105 | 1550 | UHV1V391MPD |
| | 470 | 10 \times 16 | 0.11 | 164.5 | 0.030 | 0.095 | 1815 | UHV1V471MPD |
| | 560 | 10 \times 20 | 0.11 | 196 | 0.019 | 0.057 | 2160 | UHV1V561MPD |
| | 680 | 10 \times 25 | 0.11 | 238 | 0.017 | 0.051 | 2475 | UHV1V681MPD |
| | 820 | 12.5 \times 20 | 0.11 | 287 | 0.016 | 0.041 | 2725 | UHV1V821MHD |
| | 1000 | 12.5 \times 20 | 0.11 | 350 | 0.016 | 0.041 | 2920 | UHV1V102MHD |
| | 1200 | 12.5 \times 25 | 0.11 | 420 | 0.014 | 0.041 | 3190 | UHV1V122MHD |
| | 1500 | 12.5 \times 30.5 | 0.11 | 525 | 0.012 | 0.031 | 3795 | UHV1V152MHD |
| | 1500 | 16 \times 20 | 0.11 | 525 | 0.014 | 0.036 | 3575 | UHV1V152MHD6 |
| | 1800 | 12.5 \times 35.5 | 0.11 | 630 | 0.011 | 0.029 | 3925 | UHV1V182MHD |
| | 2200 | 16 \times 25 | 0.13 | 770 | 0.012 | 0.033 | 3990 | UHV1V222MHD |

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.







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