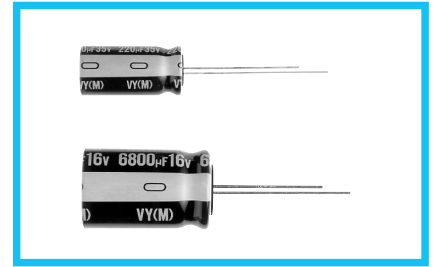
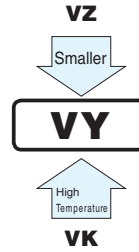


ALUMINUM ELECTROLYTIC CAPACITORS

VY Wide Temperature Range series



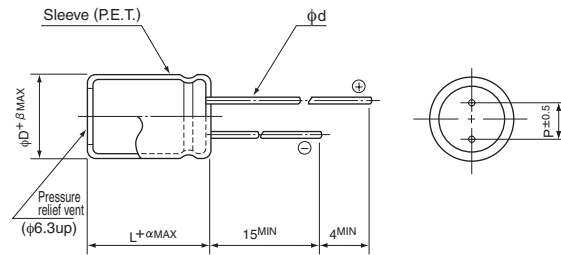
- One rank smaller case sizes than VZ series.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

| Item | Performance Characteristics | |
|-------------------------------|---|---|
| Category Temperature Range | -55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 400V), -25 to +105°C (450V) | |
| Rated Voltage Range | 6.3 to 450V | |
| Rated Capacitance Range | 0.1 to 68000μF | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | |
| Leakage Current | Rated voltage (V) | 6.3 to 100 |
| | | 160 to 450 |
| Tangent of loss angle (tan δ) | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. Measurement frequency : 120Hz at 20°C | |
| | Rated voltage (V) | 6.3 10 16 25 35 50 63 100 160 to 250 350 to 450 |
| Stability at Low Temperature | Measurement frequency : 120Hz | |
| | Rated voltage (V) | 6.3 10 16 25 35 to 50 63 to 100 160 to 200 250 to 350 400 450 |
| 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 | tan δ |
| 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 | |

Radial Lead Type

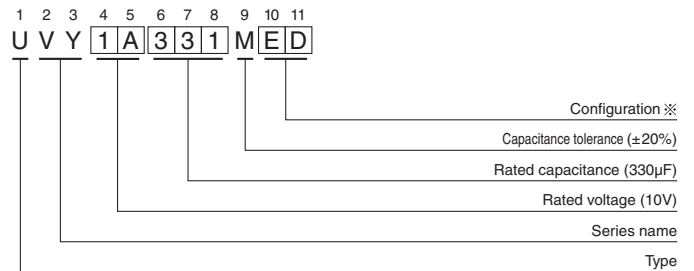


| | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 | 20 | 22 | 25 |
|----|-----|-----|-----|-----|------|-----|-----|------|------|------|
| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 | 20 | 22 | 25 |
| P | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 | 10.0 | 10.0 | 12.5 |
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1.0 | 1.0 | 1.0 |
| β | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 |

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

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

Type numbering system (Example : 10V 330μF)



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

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.



■ Dimensions

| Cap.(μF) | V Code | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | |
|----------|-----------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|--------|-----------|----------|-----------|---------------------------|-----------------|
| | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | | 1J | | |
| 0.1 | 0R1 | | | | | | | | | | | 5 × 11 | 1.3 | | | |
| 0.22 | R22 | | | | | | | | | | | 5 × 11 | 2.9 | | | |
| 0.33 | R33 | | | | | | | | | | | 5 × 11 | 4.3 | | | |
| 0.47 | R47 | | | | | | | | | | | 5 × 11 | 7 | | | |
| 1 | 010 | | | | | | | | | | | 5 × 11 | 13 | | | |
| 2.2 | 2R2 | | | | | | | | | | | 5 × 11 | 20 | | | |
| 3.3 | 3R3 | | | | | | | | | | | 5 × 11 | 25 | | | |
| 4.7 | 4R7 | | | | | | | | | | | 5 × 11 | 30 | | | |
| 10 | 100 | | | | | | | | | | | 5 × 11 | 46 | | | |
| 22 | 220 | | | | | | | | | | | 5 × 11 | 68 | 5 × 11 | 71 | |
| 33 | 330 | | | | | | | | | | | 5 × 11 | 90 | 6.3 × 11 | 100 | |
| 47 | 470 | | | | | | | | | | 5 × 11 | 93 | 6.3 × 11 | 115 | 6.3 × 11 | 120 |
| 68 | 680 | | | | | | | | | 6.3 × 11 | 110 | 6.3 × 11 | 150 | 8 × 11.5 | 155 | |
| 100 | 101 | | | | | | | 5 × 11 | 125 | 6.3 × 11 | 150 | 8 × 11.5 | 190 | 8 × 11.5 | 200 | |
| 220 | 221 | | | 5 × 11 | 155 | 6.3 × 11 | 190 | 6.3 × 11 | 200 | 8 × 11.5 | 250 | 10 × 12.5 | 300 | 10 × 16 | 335 | |
| 330 | 331 | | | 6.3 × 11 | 210 | 6.3 × 11 | 225 | 8 × 11.5 | 275 | 10 × 12.5 | 350 | 10 × 16 | 410 | 10 × 20 | 510 | |
| 470 | 471 | | | 6.3 × 11 | 250 | 8 × 11.5 | 315 | 10 × 12.5 | 380 | 10 × 16 | 460 | 10 × 20 | 540 | 12.5 × 20 | 640 | |
| 1000 | 102 | 8 × 11.5 | 390 | 10 × 12.5 | 460 | 10 × 12.5 | 500 | 10 × 16 | 610 | 12.5 × 20 | 810 | 12.5 × 25 | 950 | 16 × 25 | 930 | |
| 2200 | 222 | 10 × 16 | 635 | 10 × 16 | 705 | 10 × 20 | 710 | 12.5 × 25 | 1090 | 16 × 25 | 1260 | 16 × 31.5 | 1410 | 18 × 35.5 | 1650 | |
| 3300 | 332 | 10 × 20 | 840 | 12.5 × 20 | 1000 | 12.5 × 25 | 1170 | 16 × 25 | 1400 | 16 × 31.5 | 1500 | 18 × 35.5 | 1770 | 20 × 40 | 1950 | |
| 4700 | 472 | 12.5 × 20 | 1090 | 12.5 × 25 | 1260 | 16 × 25 | 1500 | 16 × 25 | 1570 | 16 × 35.5 | 1780 | 20 × 40 | 2100 | 22 × 50 | 2450 | |
| 6800 | 682 | 12.5 × 25 | 1350 | 16 × 25 | 1570 | 16 × 25 | 1600 | 16 × 35.5 | 1850 | 18 × 40 | 2000 | 22 × 50 | 2500 | 25 × 50 | 2800 | |
| 10000 | 103 | 16 × 25 | 1650 | 16 × 31.5 | 1820 | 16 × 35.5 | 1930 | 18 × 40 | 2000 | 22 × 50 | 2650 | 25 × 50 | 2850 | | | |
| 15000 | 153 | 16 × 31.5 | 1820 | 16 × 35.5 | 2050 | 18 × 40 | 2210 | 22 × 50 | 2750 | 25 × 50 | 3100 | | | | | |
| 22000 | 223 | 18 × 35.5 | 2280 | 18 × 40 | 2420 | 22 × 40 | 2710 | 25 × 50 | 3250 | | | | | | | |
| 33000 | 333 | 20 × 40 | 2500 | 22 × 50 | 3210 | 25 × 50 | 3450 | | | | | | | | | |
| 47000 | 473 | 22 × 50 | 2780 | 25 × 50 | 3570 | | | | | | | | | | | |
| 68000 | 683 | 25 × 50 | 3070 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | Case size φ D × L (mm) | Rated ripple |

| Cap.(μF) | V Code | 100 | | 160 | | 200 | | 250 | | 350 | | 400 | | 450 | | |
|----------|-----------|-----------|------|-----------|------|-----------|-----|-----------|------|-----------|-----|-----------|-----|-----------|---------------------------|-----------------|
| | | 2A | | 2C | | 2D | | 2E | | 2V | | 2G | | 2W | | |
| 0.1 | 0R1 | 5 × 11 | 1.5 | | | 6.3 × 11 | 1.5 | | | | | | | | | |
| 0.22 | R22 | 5 × 11 | 3.4 | | | 6.3 × 11 | 3.3 | | | | | | | | | |
| 0.33 | R33 | 5 × 11 | 5.0 | | | 6.3 × 11 | 5 | | | | | | | | | |
| 0.47 | R47 | 5 × 11 | 7.1 | | | 6.3 × 11 | 11 | | | | | 6.3 × 11 | 8.5 | | | |
| 1 | 010 | 5 × 11 | 15 | | | 6.3 × 11 | 16 | | | | | 6.3 × 11 | 14 | | | |
| 2.2 | 2R2 | 5 × 11 | 21 | | | 6.3 × 11 | 25 | | | 6.3 × 11 | 21 | 8 × 11.5 | 27 | 8 × 11.5 | 20 | |
| 3.3 | 3R3 | 5 × 11 | 29 | | | 6.3 × 11 | 30 | 6.3 × 11 | 28 | 8 × 11.5 | 30 | 8 × 11.5 | 34 | 10 × 12.5 | 28 | |
| 4.7 | 4R7 | 5 × 11 | 32 | | | 6.3 × 11 | 35 | 6.3 × 11 | 35 | 8 × 11.5 | 39 | 10 × 12.5 | 42 | 10 × 12.5 | 32 | |
| 10 | 100 | 5 × 11 | 50 | 8 × 11.5 | 41 | 8 × 11.5 | 57 | 10 × 12.5 | 71 | 10 × 12.5 | 64 | 10 × 16 | 64 | 10 × 20 | 56 | |
| 22 | 220 | 6.3 × 11 | 93 | 10 × 12.5 | 92 | 10 × 16 | 105 | 10 × 20 | 105 | 12.5 × 20 | 105 | 12.5 × 25 | 140 | 12.5 × 25 | 100 | |
| 33 | 330 | 8 × 11.5 | 130 | 10 × 16 | 125 | 10 × 20 | 140 | 10 × 20 | 140 | 12.5 × 25 | 170 | 16 × 25 | 170 | 16 × 25 | 125 | |
| 47 | 470 | 8 × 11.5 | 140 | 10 × 20 | 150 | 12.5 × 20 | 195 | 12.5 × 20 | 190 | 16 × 25 | 210 | 16 × 25 | 200 | 16 × 31.5 | 155 | |
| 68 | 680 | 10 × 12.5 | 190 | 12.5 × 20 | 250 | 12.5 × 25 | 250 | 16 × 25 | 270 | 16 × 25 | 285 | 16 × 31.5 | 240 | 18 × 35.5 | 185 | |
| 100 | 101 | 10 × 16 | 240 | 12.5 × 25 | 310 | 16 × 25 | 320 | 16 × 25 | 310 | 18 × 35.5 | 370 | 18 × 35.5 | 310 | 18 × 40 | 200 | |
| 220 | 221 | 12.5 × 20 | 390 | 16 × 31.5 | 410 | 16 × 35.5 | 500 | 18 × 35.5 | 485 | 22 × 50 | 540 | 22 × 50 | 460 | 25 × 50 | 250 | |
| 330 | 331 | 12.5 × 25 | 540 | 18 × 35.5 | 570 | 18 × 40 | 675 | 20 × 40 | 710 | 25 × 50 | 710 | | | | | |
| 470 | 471 | 16 × 25 | 715 | 18 × 40 | 855 | 22 × 40 | 925 | 22 × 50 | 1000 | | | | | | | |
| 1000 | 102 | 18 × 35.5 | 960 | 25 × 50 | 1350 | | | | | | | | | | | |
| 2200 | 222 | 22 × 50 | 1750 | | | | | | | | | | | | | |
| 3300 | 332 | 25 × 50 | 2070 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | Case size φ D × L (mm) | Rated ripple |

Rated ripple current (mArms) at 105°C 120Hz

● Frequency coefficient of rated ripple current

| V | Cap.(μF) | Frequency | | | | |
|------------|---------------|-----------|-------|-------|-------|----------------|
| | | 50Hz | 120Hz | 300Hz | 1 kHz | 10 kHz or more |
| 6.3 to 100 | 0.1 to 68 | 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 68000 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |
| 160 to 450 | 0.1 to 220 | 0.80 | 1.00 | 1.25 | 1.40 | 1.60 |
| | 330 to 1000 | 0.90 | 1.00 | 1.10 | 1.13 | 1.15 |

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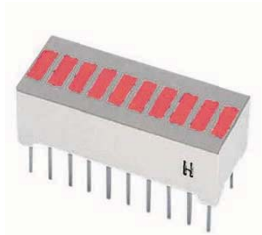
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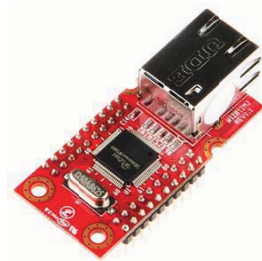
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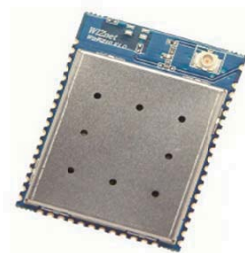
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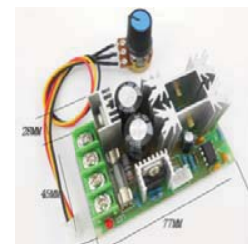
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