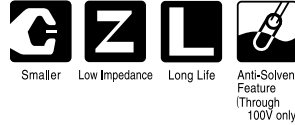


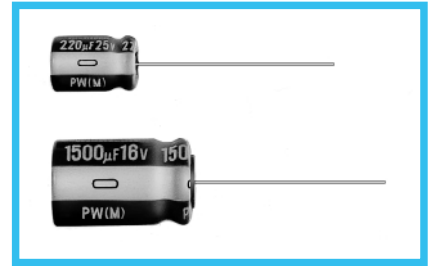
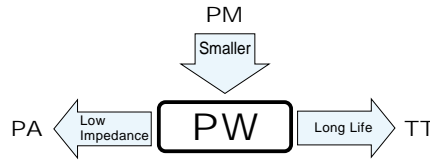
ALUMINUM ELECTROLYTIC CAPACITORS



PW Miniature Sized, Low Impedance, High Reliability For Switching Power Supplies series



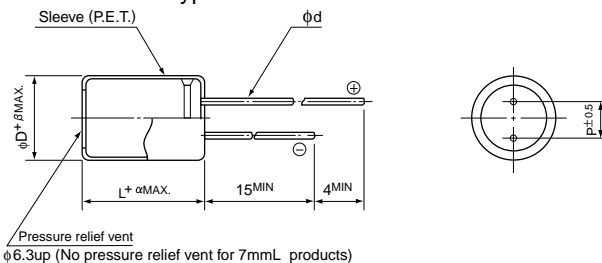
- Smaller case size and lower impedance than PM series.
- Low impedance and high reliability withstanding 2000 hours to 8000 hours.
- Capacitance ranges available based on the numerical values in E12 series under JIS.
- Compliant to the RoHS directive (2002/95/EC).



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 | 0.47 to 15000µF |
| Capacitance Tolerance | ±20% at 120Hz, 20°C |
| Leakage Current | Rated voltage (V) 6.3 to 100 160 to 450 |
| | Leakage current After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater. CV ≤ 1000: I = 0.1CV+40 (µA) max. (1 minute's) CV > 1000: I = 0.04CV+100 (µA) max. (1 minute's) |
| 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 250 315 · 350 400 · 450 tan δ (MAX.) 0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08 0.15 0.20 0.25 |
| Stability at Low Temperature | 120Hz |
| | Rated voltage (V) 6.3 · 10 16 · 25 35 · 50 63 · 100 160 · 200 250 315 · 350 400 450 |
| | Impedance ratio (MAX.) Z-25°C / Z+20°C — — — — 3 3 4 6 15 Z-40°C / Z+20°C — — — — 4 6 8 10 — Z-55°C / Z+20°C 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 8000 hours (2000 hours for φD=4, 5 and 6.3, 3000 hours for φD=8, 5000 hours for φD=10, 7000 hours for φD=12.5) at 105°C, the peak voltage shall not exceed the rated voltage. |
| | 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 white color letter on dark brown sleeve. |

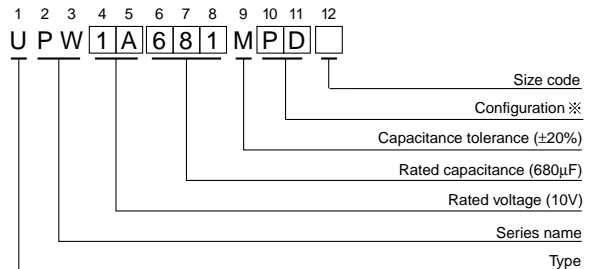
Radial Lead Type



| α | (L = 7) 1.0 (L < 20) 1.5 (L ≥ 20) 2.0 | (mm) | | | | | | | | | | |
|----|---|------|-----|------------|-----|-----|-----|------|-----|------|------|------|
| | | φD | 4 | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 | 20 | 22 |
| P | | 1.5 | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 | 10.0 | 10.0 | 12.5 |
| φd | | 0.45 | 0.5 | 0.5 (0.45) | 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 | 0.5 | 1.0 | 1.0 |

※: Applied to L>25 products
(): Applied to 7mmL products

Type numbering system (Example : 10V 680µF)



| ※ Configuration | |
|-----------------|--|
| φ D | Pb-free leadwire Pb-free PET sleeve |
| 4 · 5 | DD |
| 6.3 | ED (7mm L : DD) |
| 8 · 10 | PD |
| 12.5 to 18 | HD |
| 20 to 25 | RD |

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

Frequency coefficient of rated ripple current

| V | Cap. (µF) | Frequency | | | | |
|------------|---------------|-----------|-------|-------|------|---------------|
| | | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
| 6.3 to 100 | 0.47 to 56 | 0.20 | 0.30 | 0.50 | 0.80 | 1.00 |
| | 68 to 330 | 0.55 | 0.65 | 0.75 | 0.85 | 1.00 |
| | 390 to 1000 | 0.70 | 0.75 | 0.80 | 0.90 | 1.00 |
| | 1200 to 15000 | 0.80 | 0.85 | 0.90 | 0.95 | 1.00 |
| 160 to 450 | 0.47 to 220 | 0.80 | 1.00 | 1.25 | 1.40 | 1.60 |
| | 330 to 470 | 0.90 | 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.

• Dimension table in next page.

Standard Ratings

| Cap.(μ F) | V(Code) Item Code | 6.3 (0J) | | | | 10 (1A) | | | |
|----------------|-------------------------|--|-----------------------------|----------------|--|--|-----------------------------|----------------|--|
| | | Case size ϕ D \times L (mm) | Impedance (Ω) MAX. | | Rated ripple (mA rms) 105°C / 100kHz | Case size ϕ D \times L (mm) | Impedance (Ω) MAX. | | Rated ripple (mA rms) 105°C / 100kHz |
| | | | 20°C / 100kHz | -10°C / 100kHz | | | 20°C / 100kHz | -10°C / 100kHz | |
| 22 | 220 | 5 \times 11 | 0.60 | 1.20 | 180 | 5 \times 11 ▲ 4 \times 7 | 0.60 2.00 | 1.20 5.00 | 180 65 |
| 27 | 270 | 4 \times 7 | 2.00 | 5.00 | 65 | | | | |
| 33 | 330 | 5 \times 11 ▲ 5 \times 7 | 0.60 0.95 | 1.20 2.40 | 180 120 | 5 \times 11 ▲ 5 \times 7 | 0.60 0.95 | 1.20 2.40 | 180 120 |
| 39 | 390 | | | | | 5 \times 7 | 0.95 | 2.40 | 120 |
| 47 | 470 | 5 \times 11 ▲ 5 \times 7 | 0.60 0.95 | 1.20 2.40 | 180 120 | 5 \times 11 ▲ 4 \times 11 | 0.60 1.30 | 1.20 2.60 | 180 120 |
| 56 | 560 | 5 \times 7 | 0.95 | 2.40 | 120 | | | | |
| 68 | 680 | 4 \times 11 | 1.30 | 2.60 | 120 | | | | |
| 82 | 820 | | | | | 5 \times 11 ▲ 6.3 \times 7 | 0.60 0.45 | 1.20 1.20 | 180 200 |
| 100 | 101 | 5 \times 11 | 0.60 | 1.20 | 180 | 5 \times 11 ▲ 5 \times 15 | 0.60 0.50 | 1.20 1.00 | 180 235 |
| 120 | 121 | 6.3 \times 7 | 0.45 | 1.20 | 200 | | | | |
| 150 | 151 | 6.3 \times 11 ▲ 5 \times 15 | 0.25 0.50 | 0.50 1.00 | 290 235 | 6.3 \times 11 | 0.25 | 0.50 | 290 |
| 180 | 181 | | | | | 6.3 \times 11 | 0.25 | 0.50 | 290 |
| 220 | 221 | 6.3 \times 11 | 0.25 | 0.50 | 290 | 6.3 \times 11 ▲ 6.3 \times 15 | 0.25 0.23 | 0.50 0.46 | 290 430 |
| 330 | 331 | 6.3 \times 11 ▲ 6.3 \times 15 | 0.25 0.23 | 0.50 0.46 | 290 430 | 8 \times 11.5 | 0.117 | 0.234 | 555 |
| 470 | 471 | 8 \times 11.5 | 0.117 | 0.234 | 555 | 8 \times 11.5 | 0.117 | 0.234 | 555 |
| 560 | 561 | 8 \times 11.5 | 0.117 | 0.234 | 555 | | | | |
| 680 | 681 | 10 \times 12.5 | 0.090 | 0.180 | 755 | 10 \times 12.5 ▲ 8 \times 15 | 0.090 0.085 | 0.180 0.170 | 760 730 |
| 820 | 821 | 8 \times 15 ▲ 10 \times 12.5 | 0.085 0.090 | 0.170 0.180 | 730 755 | | | | |
| 1000 | 102 | 10 \times 12.5 | 0.090 | 0.180 | 755 | 10 \times 16 ▲ 8 \times 20 | 0.068 0.065 | 0.136 0.130 | 1050 995 |
| 1200 | 122 | 8 \times 20 ▲ 10 \times 16 | 0.065 0.068 | 0.130 0.136 | 995 1050 | 10 \times 20 | 0.052 | 0.104 | 1220 |
| 1500 | 152 | 10 \times 20 | 0.052 | 0.104 | 1220 | 10 \times 20 ▲ 10 \times 25 | 0.052 0.045 | 0.104 0.090 | 1220 1440 |
| 2200 | 222 | 12.5 \times 20 ▲ 10 \times 25 | 0.038 0.045 | 0.076 0.090 | 1655 1440 | 12.5 \times 20 ▲ 10 \times 31.5 | 0.038 0.035 | 0.076 0.070 | 1655 1815 |
| 2700 | 272 | 10 \times 31.5 | 0.035 | 0.070 | 1815 | 12.5 \times 25 | 0.030 | 0.060 | 1945 |
| 3300 | 332 | 12.5 \times 20 | 0.038 | 0.076 | 1655 | 12.5 \times 25 ▲ 12.5 \times 31.5 | 0.030 0.025 | 0.060 0.050 | 1950 2310 |
| 3900 | 392 | 12.5 \times 25 | 0.030 | 0.060 | 1945 | 12.5 \times 35.5 ▲ 16 \times 20 | 0.022 0.029 | 0.044 0.058 | 2510 2210 |
| 4700 | 472 | 16 \times 25 ▲ 12.5 \times 31.5 | 0.022 0.025 | 0.044 0.050 | 2555 2310 | 16 \times 25 | 0.022 | 0.044 | 2555 |
| 5600 | 562 | 12.5 \times 35.5 ▲ 16 \times 20 | 0.022 0.029 | 0.044 0.058 | 2510 2210 | 16 \times 25 ▲ 18 \times 20 | 0.022 0.028 | 0.044 0.056 | 2560 2490 |
| 6800 | 682 | 16 \times 25 ▲ 18 \times 20 | 0.022 0.028 | 0.044 0.056 | 2560 2490 | 16 \times 31.5 ▲ 18 \times 25 | 0.018 0.020 | 0.036 0.040 | 3010 2740 |
| 8200 | 822 | 16 \times 31.5 | 0.018 | 0.036 | 3010 | 16 \times 35.5 ▲ 18 \times 31.5 | 0.016 0.016 | 0.032 0.032 | 3150 3635 |
| 10000 | 103 | 16 \times 31.5 ▲ 18 \times 25 | 0.016 0.020 | 0.032 0.040 | 3150 2740 | 18 \times 35.5 | 0.015 | 0.030 | 3680 |
| 12000 | 123 | 18 \times 31.5 | 0.016 | 0.032 | 3635 | | | | |
| 15000 | 153 | 18 \times 35.5 | 0.015 | 0.030 | 3680 | 18 \times 40 | 0.014 | 0.028 | 3800 |

▲ : In this case, [6] will be put at 12th digit of type numbering system.

ALUMINUM ELECTROLYTIC CAPACITORS

PW series

Standard Ratings

| Cap. (μF) | V(Code) | Item Code | 16 (1C) | | | | 25 (1E) | | | | | | | | | | | | | |
|-----------|---------|-----------|-----------------------------|--------------------|----------------|---|-----------------------------|--------------------|----------------|---|-------------|-------|-------|------|-------------|-------|-------|------|--|--|
| | | | Case size φD × L (mm) | Impedance (Ω) MAX. | | Rated ripple (mArms) 105°C / 100kHz | Case size φD × L (mm) | Impedance (Ω) MAX. | | Rated ripple (mArms) 105°C / 100kHz | | | | | | | | | | |
| | | | | 20°C / 100kHz | -10°C / 100kHz | | | 20°C / 100kHz | -10°C / 100kHz | | | | | | | | | | | |
| 4.7 | 4R7 | | | | | | | | | | | | | | | | | | | |
| 10 | 100 | | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 4 × 7 | 2.00 | 5.00 | 65 | | |
| 15 | 150 | | 4 × 7 | 2.00 | 5.00 | 65 | | | | | | | | | | | | | | |
| 22 | 220 | | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 5 × 7 | 0.95 | 2.40 | 120 | 4 × 11 | 1.30 | 2.60 | 120 | | |
| 27 | 270 | | 5 × 7 | 0.95 | 2.40 | 120 | 5 × 7 | 0.95 | 2.40 | 120 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 6.3 × 7 | 0.45 | 1.20 | 200 | | |
| 33 | 330 | | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 6.3 × 7 | 0.45 | 1.20 | 200 | | |
| 39 | 390 | | 4 × 11 | 1.30 | 2.60 | 120 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 6.3 × 7 | 0.45 | 1.20 | 200 | 5 × 11 | 0.60 | 1.20 | 180 | | |
| 47 | 470 | | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | | |
| 56 | 560 | | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 0.60 | 1.20 | 180 | ▲ 6.3 × 7 | 0.45 | 1.20 | 200 | 5 × 15 | 0.50 | 1.00 | 235 | | |
| 82 | 820 | | 5 × 15 | 0.50 | 1.00 | 235 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | | |
| 100 | 101 | | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | | |
| 120 | 121 | | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | | |
| 150 | 151 | | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.25 | 0.50 | 290 | | |
| 180 | 181 | | 6.3 × 15 | 0.23 | 0.46 | 430 | 6.3 × 15 | 0.23 | 0.46 | 430 | 6.3 × 15 | 0.23 | 0.46 | 430 | 6.3 × 15 | 0.23 | 0.46 | 430 | | |
| 220 | 221 | | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | | |
| 330 | 331 | | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.117 | 0.234 | 555 | | |
| 470 | 471 | | 10 × 12.5 | 0.090 | 0.180 | 760 | 10 × 12.5 | 0.090 | 0.180 | 760 | 10 × 12.5 | 0.090 | 0.180 | 760 | 10 × 12.5 | 0.090 | 0.180 | 760 | | |
| 560 | 561 | | ▲ 8 × 15 | 0.085 | 0.170 | 730 | ▲ 8 × 15 | 0.085 | 0.170 | 730 | ▲ 8 × 15 | 0.085 | 0.170 | 730 | ▲ 8 × 15 | 0.085 | 0.170 | 730 | | |
| 680 | 681 | | 10 × 16 | 0.068 | 0.136 | 1050 | 10 × 16 | 0.068 | 0.136 | 1050 | 10 × 16 | 0.068 | 0.136 | 1050 | 10 × 16 | 0.068 | 0.136 | 1050 | | |
| 820 | 821 | | ▲ 8 × 20 | 0.065 | 0.130 | 995 | ▲ 8 × 20 | 0.065 | 0.130 | 995 | ▲ 8 × 20 | 0.065 | 0.130 | 995 | ▲ 8 × 20 | 0.065 | 0.130 | 995 | | |
| 1000 | 102 | | 10 × 20 | 0.052 | 0.104 | 1220 | 10 × 20 | 0.052 | 0.104 | 1220 | 10 × 20 | 0.052 | 0.104 | 1220 | 10 × 20 | 0.052 | 0.104 | 1220 | | |
| 1200 | 122 | | 10 × 25 | 0.045 | 0.090 | 1440 | 10 × 25 | 0.045 | 0.090 | 1440 | 10 × 25 | 0.045 | 0.090 | 1440 | 10 × 25 | 0.045 | 0.090 | 1440 | | |
| 1500 | 152 | | 12.5 × 20 | 0.038 | 0.076 | 1655 | 12.5 × 20 | 0.038 | 0.076 | 1655 | 12.5 × 20 | 0.038 | 0.076 | 1655 | 12.5 × 20 | 0.038 | 0.076 | 1655 | | |
| 1800 | 182 | | ▲ 10 × 31.5 | 0.035 | 0.070 | 1815 | ▲ 10 × 31.5 | 0.035 | 0.070 | 1815 | ▲ 10 × 31.5 | 0.035 | 0.070 | 1815 | ▲ 10 × 31.5 | 0.035 | 0.070 | 1815 | | |
| 2200 | 222 | | 12.5 × 25 | 0.030 | 0.060 | 1945 | 12.5 × 25 | 0.030 | 0.060 | 1945 | 12.5 × 25 | 0.030 | 0.060 | 1945 | 12.5 × 25 | 0.030 | 0.060 | 1945 | | |
| 2700 | 272 | | 12.5 × 31.5 | 0.025 | 0.050 | 2310 | 12.5 × 31.5 | 0.025 | 0.050 | 2310 | 12.5 × 31.5 | 0.025 | 0.050 | 2310 | 12.5 × 31.5 | 0.025 | 0.050 | 2310 | | |
| 3300 | 332 | | ▲ 16 × 20 | 0.029 | 0.058 | 2210 | ▲ 16 × 20 | 0.029 | 0.058 | 2210 | ▲ 16 × 20 | 0.029 | 0.058 | 2210 | ▲ 16 × 20 | 0.029 | 0.058 | 2210 | | |
| 3900 | 392 | | 16 × 25 | 0.022 | 0.044 | 2555 | 16 × 25 | 0.022 | 0.044 | 2555 | 16 × 25 | 0.022 | 0.044 | 2555 | 16 × 25 | 0.022 | 0.044 | 2555 | | |
| 4700 | 472 | | ▲ 18 × 20 | 0.028 | 0.056 | 2490 | ▲ 18 × 20 | 0.028 | 0.056 | 2490 | ▲ 18 × 20 | 0.028 | 0.056 | 2490 | ▲ 18 × 20 | 0.028 | 0.056 | 2490 | | |
| 5600 | 562 | | 16 × 35.5 | 0.016 | 0.032 | 3150 | 16 × 35.5 | 0.016 | 0.032 | 3150 | 16 × 35.5 | 0.016 | 0.032 | 3150 | 16 × 35.5 | 0.016 | 0.032 | 3150 | | |
| 6800 | 682 | | ▲ 18 × 31.5 | 0.016 | 0.032 | 3635 | ▲ 18 × 31.5 | 0.016 | 0.032 | 3635 | ▲ 18 × 31.5 | 0.016 | 0.032 | 3635 | ▲ 18 × 31.5 | 0.016 | 0.032 | 3635 | | |
| 8200 | 822 | | 18 × 35.5 | 0.015 | 0.030 | 3680 | 18 × 35.5 | 0.015 | 0.030 | 3680 | 18 × 35.5 | 0.015 | 0.030 | 3680 | 18 × 35.5 | 0.015 | 0.030 | 3680 | | |
| 10000 | 103 | | 18 × 40 | 0.014 | 0.028 | 3800 | 18 × 40 | 0.014 | 0.028 | 3800 | 18 × 40 | 0.014 | 0.028 | 3800 | 18 × 40 | 0.014 | 0.028 | 3800 | | |

▲ : In this case, [6] will be put at 12th digit of type numbering system.
 ※ : In this case, [3] will be put at 12th digit of type numbering system.

Standard Ratings

| Cap.(μ F) | V(Code) | Item Code | 35 (1V) | | | 50 (1H) | | | | |
|----------------|---------|---------------|------------------------------------|-----------------------------|----------------|--------------------------------------|------------------------------------|-----------------------------|----------------|--------------------------------------|
| | | | Case size ϕ D \times L (mm) | Impedance (Ω) MAX. | | Rated ripple (mA rms) 105°C / 100kHz | Case size ϕ D \times L (mm) | Impedance (Ω) MAX. | | Rated ripple (mA rms) 105°C / 100kHz |
| | | | | 20°C / 100kHz | -10°C / 100kHz | | | 20°C / 100kHz | -10°C / 100kHz | |
| 0.47 | R47 | | | | | 5 × 11 | 5.00 | 10.0 | 25 | |
| 1 | 010 | | | | | 5 × 11 | 3.50 | 7.00 | 40 | |
| 2.2 | 2R2 | | | | | 5 × 11 | 3.00 | 6.00 | 55 | |
| 3.3 | 3R3 | | | | | 5 × 11 | 2.60 | 5.20 | 65 | |
| 4.7 | 4R7 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 2.30 | 4.60 | 90 | |
| 6.8 | 6R8 | 4 × 7 | 2.00 | 5.00 | 65 | | | | | |
| 10 | 100 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 1.40 | 2.80 | 120 | |
| | | ▲ 5 × 7 | 0.95 | 2.40 | 120 | ▲ 4 × 11 | 2.50 | 5.00 | 90 | |
| 12 | 120 | 5 × 7 | 0.95 | 2.40 | 120 | | | | | |
| 18 | 180 | 4 × 11 | 1.30 | 2.60 | 120 | 5 × 11 | 1.30 | 2.60 | 155 | |
| 22 | 220 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 11 | 1.20 | 2.40 | 170 | |
| 27 | 270 | 5 × 11 | 0.60 | 1.20 | 180 | 5 × 15 | 0.90 | 1.80 | 215 | |
| | | ▲ 6.3 × 7 | 0.45 | 1.20 | 200 | | | | | |
| 33 | 330 | 5 × 11 | 0.60 | 1.20 | 180 | 6.3 × 11 | 0.43 | 0.86 | 300 | |
| 39 | 390 | 5 × 15 | 0.50 | 1.00 | 235 | | | | | |
| 47 | 470 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 11 | 0.43 | 0.86 | 300 | |
| 56 | 560 | 6.3 × 11 | 0.25 | 0.50 | 290 | 6.3 × 15 | 0.40 | 0.80 | 360 | |
| 82 | 820 | 6.3 × 15 | 0.23 | 0.46 | 430 | 8 × 11.5 | 0.234 | 0.468 | 485 | |
| 100 | 101 | 8 × 11.5 | 0.117 | 0.234 | 555 | 8 × 11.5 | 0.234 | 0.468 | 485 | |
| 120 | 121 | | | | | 8 × 15 | 0.155 | 0.310 | 635 | |
| | | ▲ 10 × 12.5 | | | | | 0.162 | 0.324 | 620 | |
| 150 | 151 | 8 × 11.5 | 0.117 | 0.234 | 555 | 10 × 12.5 | 0.162 | 0.324 | 615 | |
| 180 | 181 | | | | | 8 × 20 | 0.120 | 0.240 | 860 | |
| | | ▲ 10 × 16 | | | | | 0.119 | 0.238 | 850 | |
| 220 | 221 | 10 × 12.5 | 0.090 | 0.180 | 760 | 10 × 16 | 0.119 | 0.238 | 850 | |
| | | ▲ 8 × 15 | 0.085 | 0.170 | 730 | ▲ 10 × 20 | 0.090 | 0.180 | 1030 | |
| 270 | 271 | | | | 10 × 25 | 0.082 | 0.164 | 1200 | | |
| 330 | 331 | 10 × 16 | 0.068 | 0.136 | 1050 | 10 × 20 | 0.090 | 0.180 | 1030 | |
| | | ▲ 8 × 20 | 0.065 | 0.130 | 995 | ▲ 10 × 31.5 | 0.060 | 0.120 | 1610 | |
| 390 | 391 | 10 × 20 | 0.052 | 0.104 | 1220 | 12.5 × 20 | 0.063 | 0.126 | 1480 | |
| 470 | 471 | 10 × 20 | 0.052 | 0.104 | 1220 | 12.5 × 20 | 0.060 | 0.120 | 1500 | |
| 560 | 561 | 10 × 25 | 0.045 | 0.090 | 1440 | 12.5 × 25 | 0.050 | 0.100 | 1832 | |
| 680 | 681 | 12.5 × 20 | 0.038 | 0.076 | 1660 | 12.5 × 25 | 0.050 | 0.100 | 1840 | |
| | | ▲ 10 × 31.5 | 0.035 | 0.070 | 1815 | ▲ 16 × 20 | 0.048 | 0.096 | 1840 | |
| 820 | 821 | | | | | 12.5 × 35.5 | 0.034 | 0.068 | 2290 | |
| | | ▲ 18 × 20 | | | | | 0.042 | 0.084 | 2420 | |
| 1000 | 102 | 12.5 × 25 | 0.030 | 0.060 | 1950 | 16 × 25 | 0.034 | 0.068 | 2235 | |
| 1200 | 122 | 12.5 × 31.5 | 0.025 | 0.050 | 2310 | 16 × 31.5 | 0.028 | 0.056 | 2700 | |
| | | ▲ 16 × 20 | 0.029 | 0.058 | 2210 | ▲ 18 × 25 | 0.029 | 0.058 | 2610 | |
| 1500 | 152 | 16 × 25 | 0.022 | 0.044 | 2555 | 16 × 31.5 | 0.028 | 0.056 | 2700 | |
| | | ▲ 12.5 × 35.5 | 0.022 | 0.044 | 2510 | ▲ 16 × 35.5 | 0.025 | 0.050 | 2790 | |
| 1800 | 182 | 16 × 25 | 0.022 | 0.044 | 2555 | 18 × 31.5 | 0.025 | 0.050 | 3000 | |
| | | ▲ 18 × 20 | 0.028 | 0.056 | 2490 | | | | | |
| 2200 | 222 | 16 × 31.5 | 0.018 | 0.036 | 3010 | 18 × 35.5 | 0.023 | 0.046 | 3100 | |
| | | ▲ 18 × 25 | 0.020 | 0.040 | 2740 | | | | | |
| 2700 | 272 | 16 × 35.5 | 0.016 | 0.032 | 3150 | | | | | |
| | | ▲ 18 × 31.5 | 0.016 | 0.032 | 3635 | | | | | |
| 3300 | 332 | 18 × 35.5 | 0.015 | 0.030 | 3680 | | | | | |
| 4700 | 472 | 18 × 40 | 0.014 | 0.028 | 3800 | | | | | |

▲ : In this case, [6] will be put at 12th digit of type numbering system.

ALUMINUM ELECTROLYTIC CAPACITORS

■ Standard Ratings

| V(Code) | | 63 (1J) | | | | 100 (2A) | | | | | | | |
|----------|------|---------------|-----------------------------|--------------------|----------------|---|-----------------------------|--------------------|----------------|---|-------|-------|------|
| Cap.(μF) | Code | Item | Case size φD × L (mm) | Impedance (Ω) MAX. | | Rated ripple (mArms) 105°C / 100kHz | Case size φD × L (mm) | Impedance (Ω) MAX. | | Rated ripple (mArms) 105°C / 100kHz | | | |
| | | | | 20°C / 100kHz | -10°C / 100kHz | | | 20°C / 100kHz | -10°C / 100kHz | | | | |
| 0.47 | R47 | | | | | | 5 × 11 | 43.0 | 86.0 | 20 | | | |
| 1 | 010 | | | | | | 5 × 11 | 20.0 | 40.0 | 30 | | | |
| 2.2 | 2R2 | | | | | | 5 × 11 | 9.80 | 19.6 | 44 | | | |
| 3.3 | 3R3 | | | | | | 5 × 11 | 6.60 | 13.2 | 58 | | | |
| 4.7 | 4R7 | | 5 × 11 | 4.70 | 9.40 | 68 | 5 × 11 | 4.60 | 9.20 | 74 | | | |
| 6.8 | 6R8 | | 5 × 11 | 2.50 | 5.00 | 95 | 5 × 11 | 3.50 | 7.00 | 95 | | | |
| | | ▲ 4 × 11 | 3.50 | 7.00 | 80 | | | | | | | | |
| 10 | 100 | | 5 × 11 | 2.10 | 4.20 | 110 | 6.3 × 11 | 1.80 | 3.60 | 130 | | | |
| 12 | 120 | | 5 × 11 | 2.00 | 4.00 | 145 | | | | | | | |
| 15 | 150 | | 6.3 × 11 | 1.20 | 2.40 | 160 | 8 × 11.5 | 0.83 | 1.66 | 180 | | | |
| 18 | 180 | | 5 × 15 | 1.30 | 2.60 | 200 | 6.3 × 15 | 0.80 | 1.60 | 200 | | | |
| 22 | 220 | | 6.3 × 11 | 0.71 | 1.42 | 250 | 8 × 11.5 | 0.68 | 1.36 | 230 | | | |
| 33 | 330 | | 6.3 × 11 | 0.71 | 1.42 | 250 | 10 × 12.5 | 0.46 | 0.92 | 320 | | | |
| | | ▲ 8 × 15 | 0.45 | 0.90 | 360 | | | | | | | | |
| 39 | 390 | | 6.3 × 15 | 0.70 | 1.40 | 330 | | | | | | | |
| | | | | | | | 10 × 16 | 0.37 | 0.74 | 420 | | | |
| 47 | 470 | | 8 × 11.5 | 0.342 | 0.684 | 405 | ▲ 8 × 20 | 0.37 | 0.74 | 420 | | | |
| 68 | 680 | | 8 × 11.5 | 0.342 | 0.684 | 405 | 10 × 20 | 0.30 | 0.60 | 490 | | | |
| 82 | 820 | | | | | | 10 × 25 | 0.25 | 0.50 | 540 | | | |
| 100 | 101 | | 10 × 12.5 | 0.256 | 0.512 | 540 | 12.5 × 20 | 0.18 | 0.36 | 580 | | | |
| | | ▲ 8 × 15 | 0.230 | 0.460 | 535 | | | | | | | | |
| 120 | 121 | | 10 × 16 | 0.194 | 0.388 | 600 | | | | | | | |
| 150 | 151 | | 10 × 16 | 0.194 | 0.388 | 660 | 12.5 × 25 | 0.13 | 0.26 | 710 | | | |
| 180 | 181 | | 10 × 20 | 0.147 | 0.294 | 890 | 12.5 × 31.5 | 0.12 | 0.24 | 790 | | | |
| | | ▲ 12.5 × 15 | 0.150 | 0.300 | 1020 | ▲ 16 × 20 | 0.13 | 0.26 | 750 | | | | |
| 220 | 221 | | 10 × 20 | 0.147 | 0.294 | 885 | 16 × 25 | 0.10 | 0.20 | 890 | | | |
| | | ▲ 10 × 25 | 0.130 | 0.260 | 1050 | ▲ 18 × 20 | 0.11 | 0.22 | 850 | | | | |
| 270 | 271 | | 16 × 15 | 0.090 | 0.180 | 1410 | | | | | | | |
| 330 | 331 | | 12.5 × 20 | 0.085 | 0.170 | 1290 | 16 × 25 | 0.090 | 0.18 | 1080 | | | |
| 390 | 391 | | 12.5 × 25 | 0.070 | 0.140 | 1720 | 18 × 25 | 0.083 | 0.166 | 1260 | | | |
| | | ▲ 18 × 15 | 0.086 | 0.172 | 1690 | | | | | | | | |
| 470 | 471 | | 12.5 × 25 | 0.070 | 0.140 | 1720 | 16 × 31.5 | 0.076 | 0.152 | 1310 | | | |
| | | ▲ 12.5 × 31.5 | 0.055 | 0.110 | 2090 | | | | | | | | |
| 560 | 561 | | * 16 × 20 | 0.059 | 0.118 | 1770 | | | | | | | |
| 680 | 681 | | 16 × 25 | 0.050 | 0.100 | 2160 | 18 × 31.5 | 0.068 | 0.136 | 1370 | | | |
| | | ▲ 12.5 × 35.5 | 0.047 | 0.094 | 2270 | 16 × 35.5 | | | | | 0.064 | 0.128 | 1410 |
| | | * 18 × 20 | 0.055 | 0.110 | 2290 | | | | | | | | |
| 820 | 821 | | 16 × 31.5 | 0.043 | 0.086 | 2670 | | | | | | | |
| | | ▲ 18 × 25 | 0.043 | 0.086 | 2590 | | | | | | | | |
| 1000 | 102 | | 16 × 31.5 | 0.043 | 0.086 | 2770 | 18 × 40 | 0.047 | 0.094 | 1520 | | | |
| | | ▲ 16 × 35.5 | 0.036 | 0.072 | 2770 | | | | | | | | |
| 1200 | 122 | | 18 × 31.5 | 0.032 | 0.064 | 2950 | | | | | | | |
| 1500 | 152 | | 18 × 35.5 | 0.030 | 0.060 | 3100 | | | | | | | |
| 2200 | 222 | | 18 × 40 | 0.028 | 0.056 | 3200 | | | | | | | |

▲ : In this case, [6] will be put at 12th digit of type numbering system.

* : In this case, [3] will be put at 12th digit of type numbering system.

| V(Code) | | 160 | | 200 | | 250 | | 315 | | 350 | | 400 | | 450 | |
|-----------|------|-------------|------|-----------|------|-------------|------|-----------|-----|-------------|-----|-------------|-----|-------------|-----|
| Cap. (μF) | Code | 2C | | 2D | | 2E | | 2F | | 2V | | 2G | | 2W | |
| | | 0.47 | R47 | 6.3 × 11 | 12 | 6.3 × 11 | 12 | 6.3 × 11 | 12 | 8 × 11.5 | 11 | 8 × 11.5 | 11 | | |
| 1 | 010 | 6.3 × 11 | 17 | 6.3 × 11 | 17 | 6.3 × 11 | 17 | 8 × 11.5 | 16 | 10 × 12.5 | 17 | 10 × 12.5 | 16 | 10 × 12.5 | 18 |
| 2.2 | 2R2 | 6.3 × 11 | 25 | 6.3 × 11 | 25 | 8 × 11.5 | 29 | 10 × 12.5 | 28 | 10 × 16 | 31 | 10 × 16 | 27 | 10 × 20 | 29 |
| 3.3 | 3R3 | 8 × 11.5 | 36 | 8 × 11.5 | 36 | 10 × 12.5 | 42 | 10 × 12.5 | 34 | 10 × 16 | 38 | 10 × 20 | 36 | 12.5 × 20 | 41 |
| 4.7 | 4R7 | 8 × 11.5 | 43 | 10 × 12.5 | 50 | 10 × 12.5 | 50 | 10 × 16 | 45 | 10 × 20 | 49 | 10 × 20 | 43 | 12.5 × 20 | 49 |
| 10 | 100 | 10 × 12.5 | 70 | 10 × 16 | 80 | 10 × 20 | 88 | 10 × 20 | 72 | 12.5 × 20 | 82 | 12.5 × 25 | 72 | 16 × 25 | 75 |
| 22 | 220 | 10 × 20 | 130 | 10 × 20 | 140 | 12.5 × 25 | 155 | 12.5 × 25 | 120 | 16 × 25 | 130 | 16 × 25 | 110 | 16 × 31.5 | 115 |
| 33 | 330 | 12.5 × 20 | 180 | 12.5 × 25 | 190 | 12.5 × 25 | 190 | 16 × 25 | 155 | 16 × 31.5 | 160 | 16 × 31.5 | 140 | ● 18 × 35.5 | 145 |
| 47 | 470 | 12.5 × 25 | 220 | 12.5 × 25 | 220 | 16 × 25 | 230 | 16 × 35.5 | 190 | ● 18 × 35.5 | 200 | ● 18 × 35.5 | 170 | 20 × 40 | 175 |
| 100 | 101 | 16 × 25 | 330 | 16 × 31.5 | 335 | ● 18 × 35.5 | 340 | Δ 18 × 40 | 285 | 20 × 40 | 290 | 22 × 50 | 350 | 25 × 50 | 350 |
| 220 | 221 | ● 18 × 35.5 | 500 | Δ 18 × 40 | 515 | 20 × 40 | 525 | 22 × 50 | 540 | 25 × 50 | 550 | | | | |
| 330 | 331 | 20 × 40 | 900 | 22 × 40 | 1100 | 22 × 50 | 1150 | | | | | | | | |
| 470 | 471 | 22 × 50 | 1200 | 22 × 50 | 1310 | 25 × 50 | 1350 | | | | | | | | |

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

Size φ20 × 31 is available for capacitors marked " ● "

Size φ20 × 35 is available for capacitors marked " Δ "

In this case, [6] will be put at 12th digit of type numbering system.