

ALUMINUM ELECTROLYTIC CAPACITORS

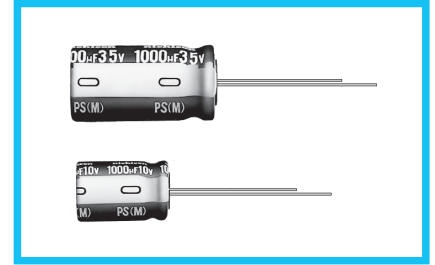
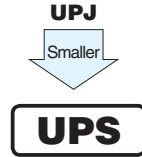
nichicon

UPS

Miniature Sized, Low Impedance,
For Switching Power Supplies



- Wide temperature range type, miniature sized.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

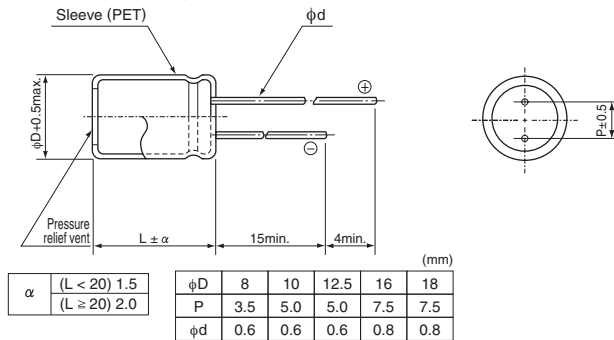


Specifications

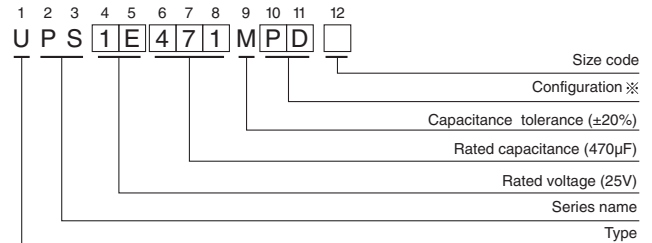
| Item | Performance Characteristics | | | | | | | | |
|-------------------------------|--|---------------------|----------|---------|---------|--------------------|------|---|-----|
| Category Temperature Range | -55 to +105°C | | | | | | | | |
| Rated Voltage Range | 6.3 to 100V | | | | | | | | |
| Rated Capacitance Range | 22 to 15000μF | | | | | | | | |
| 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 0.03CV (μA). | | | | | | | | |
| Tangent of loss angle (tan δ) | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF | | | | | | | | |
| | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| tan δ (max.) | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | |
| Stability at Low Temperature | Measurement frequency : 120Hz | | | | | | | | |
| | Rated voltage (V) | | 6.3 · 10 | 16 · 25 | 35 · 50 | 63 · 100 | | | |
| | Impedance ratio (max.) | Z(-25°C) / Z(+20°C) | — | — | — | 2 | | | |
| | | Z(-40°C) / Z(+20°C) | — | — | — | 3 | | | |
| Z(-55°C) / Z(+20°C) | | 5 | 4 | 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 3000 hours (2000 hours for φD= 8 to 10) 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. | | | | | | | | |

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

Radial Lead Type



Type numbering system (Example : 25V 470µF)



※ Configuration

| φ D | Pb-free leadwire Pb-free PET sleeve |
|------------|--|
| 8 · 10 | PD |
| 12.5 to 18 | 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 | 300Hz | 1kHz | 10kHz or more |
|----------------------|------|-------|-------|------|---------------|
| 22 to 47 | — | 0.17 | 0.40 | 0.65 | 1.00 |
| 100 to 220 | 0.30 | 0.50 | 0.65 | 0.80 | 1.00 |
| 330 to 680 | 0.57 | 0.71 | 0.82 | 0.90 | 1.00 |
| 1000 to 15000 | 0.75 | 0.87 | 0.96 | 0.98 | 1.00 |

• Dimension table in next page.

CAT.8100M

UPS

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | Impedance (Ω) max. (20°C/100kHz) | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------|------------------------|-------|--|--|--|-------------|
| 6.3 (0J) | 470 | 8×11.5 | 0.24 | 88.83 | 0.28 | 410 | UPS0J471MPD |
| | 680 | 10×12.5 | 0.24 | 128.52 | 0.19 | 600 | UPS0J681MPD |
| | 1000 | 10×12.5 | 0.24 | 189 | 0.19 | 600 | UPS0J102MPD |
| | 1500 | 10×20 | 0.24 | 283.5 | 0.11 | 1000 | UPS0J152MPD |
| | 2200 | 12.5×20 | 0.26 | 415.8 | 0.075 | 1250 | UPS0J222MHD |
| | 3300 | 12.5×20 | 0.28 | 623.7 | 0.075 | 1250 | UPS0J332MHD |
| | 4700 | 16×25 | 0.30 | 888.3 | 0.038 | 1900 | UPS0J472MHD |
| | 6800 | 16×25 | 0.34 | 1285.2 | 0.038 | 1900 | UPS0J682MHD |
| | 10000 | 16×30.5 | 0.42 | 1890 | 0.033 | 2350 | UPS0J103MHD |
| | 15000 | 18×35.5 | 0.52 | 2835 | 0.030 | 2700 | UPS0J153MHD |
| 10 (1A) | 330 | 8×11.5 | 0.20 | 99 | 0.28 | 410 | UPS1A331MPD |
| | 470 | 8×11.5 | 0.20 | 141 | 0.28 | 410 | UPS1A471MPD |
| | 680 | 10×12.5 | 0.20 | 204 | 0.19 | 600 | UPS1A681MPD |
| | 1000 | 10×16 | 0.20 | 300 | 0.14 | 800 | UPS1A102MPD |
| | 1500 | 10×20 | 0.20 | 450 | 0.11 | 1000 | UPS1A152MPD |
| | 2200 | 12.5×20 | 0.22 | 660 | 0.075 | 1250 | UPS1A222MHD |
| | 3300 | 12.5×25 | 0.24 | 990 | 0.057 | 1550 | UPS1A332MHD |
| | 4700 | 16×25 | 0.26 | 1410 | 0.038 | 1900 | UPS1A472MHD |
| | 6800 | 16×30.5 | 0.30 | 2040 | 0.033 | 2350 | UPS1A682MHD |
| | 10000 | 18×35.5 | 0.38 | 3000 | 0.030 | 2700 | UPS1A103MHD |
| | 15000 | 18×40 | 0.48 | 4500 | 0.027 | 3300 | UPS1A153MHD |
| 16 (1C) | 220 | 8×11.5 | 0.16 | 105.6 | 0.28 | 410 | UPS1C221MPD |
| | 330 | 8×11.5 | 0.16 | 158.4 | 0.28 | 410 | UPS1C331MPD |
| | 470 | 10×12.5 | 0.16 | 225.6 | 0.19 | 600 | UPS1C471MPD |
| | 680 | 10×16 | 0.16 | 326.4 | 0.14 | 800 | UPS1C681MPD |
| | 1000 | 10×20 | 0.16 | 480 | 0.11 | 1000 | UPS1C102MPD |
| | 1500 | 12.5×20 | 0.16 | 720 | 0.075 | 1250 | UPS1C152MHD |
| | 2200 | 12.5×25 | 0.18 | 1056 | 0.057 | 1550 | UPS1C222MHD |
| | 3300 | 16×25 | 0.20 | 1584 | 0.038 | 1900 | UPS1C332MHD |
| | 4700 | 16×30.5 | 0.22 | 2256 | 0.033 | 2350 | UPS1C472MHD |
| | 6800 | 18×35.5 | 0.26 | 3264 | 0.030 | 2700 | UPS1C682MHD |
| | 10000 | 18×40 | 0.34 | 4800 | 0.027 | 3300 | UPS1C103MHD |
| 25 (1E) | 150 | 8×11.5 | 0.14 | 112.5 | 0.28 | 410 | UPS1E151MPD |
| | 220 | 8×11.5 | 0.14 | 165 | 0.28 | 410 | UPS1E221MPD |
| | 330 | 10×12.5 | 0.14 | 247.5 | 0.19 | 600 | UPS1E331MPD |
| | 470 | 10×16 | 0.14 | 352.5 | 0.14 | 800 | UPS1E471MPD |
| | 680 | 10×20 | 0.14 | 510 | 0.11 | 1000 | UPS1E681MPD |
| | 1000 | 12.5×20 | 0.14 | 750 | 0.075 | 1250 | UPS1E102MHD |
| | 1500 | 16×25 | 0.14 | 1125 | 0.038 | 1900 | UPS1E152MHD |
| | 2200 | 16×25 | 0.16 | 1650 | 0.038 | 1900 | UPS1E222MHD |
| | 3300 | 16×30.5 | 0.18 | 2475 | 0.033 | 2350 | UPS1E332MHD |
| | 4700 | 18×35.5 | 0.20 | 3525 | 0.030 | 2700 | UPS1E472MHD |
| | 6800 | 18×40 | 0.24 | 5100 | 0.027 | 3300 | UPS1E682MHD |

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.

UPS

■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | Impedance (Ω) max. (20°C/100kHz) | Rated Ripple (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------------|---------------------------|------------------------|-------|--|--|--|-------------|
| 35 (1V) | 100 | 8×11.5 | 0.12 | 105 | 0.28 | 410 | UPS1V101MPD |
| | 150 | 8×11.5 | 0.12 | 157.5 | 0.28 | 410 | UPS1V151MPD |
| | 220 | 10×12.5 | 0.12 | 231 | 0.19 | 600 | UPS1V221MPD |
| | 330 | 10×16 | 0.12 | 346.5 | 0.14 | 800 | UPS1V331MPD |
| | 470 | 10×20 | 0.12 | 493.5 | 0.11 | 1000 | UPS1V471MPD |
| | 680 | 12.5×20 | 0.12 | 714 | 0.075 | 1250 | UPS1V681MHD |
| | 1000 | 12.5×25 | 0.12 | 1050 | 0.057 | 1550 | UPS1V102MHD |
| | 1500 | 16×25 | 0.12 | 1575 | 0.038 | 1900 | UPS1V152MHD |
| | 2200 | 16×30.5 | 0.14 | 2310 | 0.033 | 2350 | UPS1V222MHD |
| | 3300 | 18×35.5 | 0.16 | 3465 | 0.030 | 2700 | UPS1V332MHD |
| | 4700 | 18×40 | 0.18 | 4935 | 0.027 | 3300 | UPS1V472MHD |
| 50 (1H) | 100 | 8×11.5 | 0.10 | 150 | 0.36 | 340 | UPS1H101MPD |
| | 150 | 10×12.5 | 0.10 | 225 | 0.26 | 490 | UPS1H151MPD |
| | 220 | 10×16 | 0.10 | 330 | 0.18 | 650 | UPS1H221MPD |
| | 330 | 10×20 | 0.10 | 495 | 0.15 | 810 | UPS1H331MPD |
| | 470 | 12.5×20 | 0.10 | 705 | 0.13 | 1100 | UPS1H471MHD |
| | 680 | 12.5×25 | 0.10 | 1020 | 0.10 | 1200 | UPS1H681MHD |
| | 1000 | 16×25 | 0.10 | 1500 | 0.058 | 1600 | UPS1H102MHD |
| | 1500 | 16×30.5 | 0.10 | 2250 | 0.040 | 2000 | UPS1H152MHD |
| | 2200 | 18×35.5 | 0.12 | 3300 | 0.035 | 2300 | UPS1H222MHD |
| 63 (1J) | 47 | 8×11.5 | 0.09 | 88.83 | 0.65 | 310 | UPS1J470MPD |
| | 100 | 10×12.5 | 0.09 | 189 | 0.31 | 390 | UPS1J101MPD |
| | 150 | 10×16 | 0.09 | 283.5 | 0.25 | 440 | UPS1J151MPD |
| | 220 | 10×20 | 0.09 | 415.8 | 0.20 | 700 | UPS1J221MPD |
| | 330 | 12.5×20 | 0.09 | 623.7 | 0.12 | 980 | UPS1J331MHD |
| | 470 | 12.5×25 | 0.09 | 888.3 | 0.081 | 1200 | UPS1J471MHD |
| | 680 | 16×25 | 0.09 | 1285.2 | 0.058 | 1300 | UPS1J681MHD |
| | 1000 | 16×30.5 | 0.09 | 1890 | 0.049 | 1380 | UPS1J102MHD |
| | 1500 | 18×35.5 | 0.09 | 2835 | 0.038 | 1750 | UPS1J152MHD |
| | 2200 | 18×40 | 0.11 | 4158 | 0.032 | 2120 | UPS1J222MHD |
| 100 (2A) | 22 | 8×11.5 | 0.08 | 66 | 0.68 | 230 | UPS2A220MPD |
| | 33 | 10×12.5 | 0.08 | 99 | 0.46 | 320 | UPS2A330MPD |
| | 47 | 10×16 | 0.08 | 141 | 0.37 | 420 | UPS2A470MPD |
| | 100 | 12.5×20 | 0.08 | 300 | 0.18 | 580 | UPS2A101MHD |
| | 150 | 12.5×25 | 0.08 | 450 | 0.13 | 710 | UPS2A151MHD |
| | 220 | 16×25 | 0.08 | 660 | 0.10 | 890 | UPS2A221MHD |
| | 330 | 16×25 | 0.08 | 990 | 0.090 | 1080 | UPS2A331MHD |
| | 470 | 16×30.5 | 0.08 | 1410 | 0.076 | 1310 | UPS2A471MHD |
| | 680 | 16×35.5 | 0.08 | 2040 | 0.064 | 1410 | UPS2A681MHD |
| | 1000 | 18×40 | 0.08 | 3000 | 0.047 | 1520 | UPS2A102MHD |

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.