



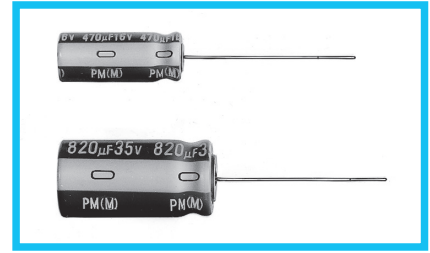
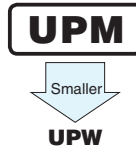
**THE DATASHEET OF  
V15PM10HM3/H**



# ALUMINUM ELECTROLYTIC CAPACITORS

# UPM

Low Impedance, High Reliability



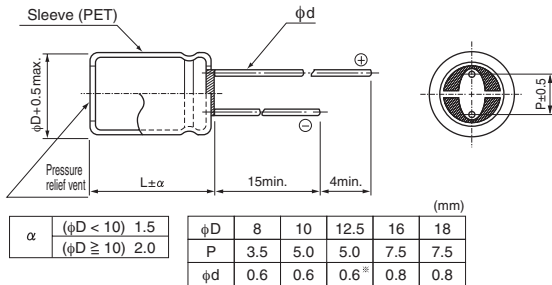
- High reliability withstanding 5000 hour load life at +105°C (3000 hours for smaller case sizes as specified below).
- Capacitance ranges available based on the numerical values in E12 series under JIS.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

## 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. Measurement frequency : 120Hz at 20°C   |   |
|                               | Rated Voltage (V)   | 6.3    10    16    25    35    50    63 to 100    |
| Stability at Low Temperature  | tan δ (max.)  |   |
|                               | Rated voltage (V)   | 6.3 · 10    16    25 · 35    50 to 100            |
| Endurance                     | Impedance ratio (max.)  |   |
|                               | Z(-55°C) / Z(+20°C)   |   |
|                               | 120Hz   |   |
| Shelf Life                    | The specifications listed below shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied at 105°C for the condition listed at right. The peak voltage shall not exceed the rated voltage. |   |
|                               | Rated Voltage   | φD(mm)    φ8    ≥φ10                              |
|                               | 6.3~100V  | 3000hrs.    5000hrs.                              |
|                               | Capacitance change  | Within ±20% of the initial capacitance value      |
| Marking                       | tan δ   | 200% or less than the initial specified value     |
|                               | Leakage current   | Less than or equal to the initial specified value |
|                               | Capacitance change  | Within ±20% of the initial capacitance value      |
| Shelf Life                    | tan δ   | 150% or less than the initial specified value     |
|                               | Leakage current   | Less than or equal to the initial specified value |
|                               | Leakage current   | Less than or equal to the initial specified value |
| Marking                       | Printed with white color letter on dark brown sleeve.   |   |

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

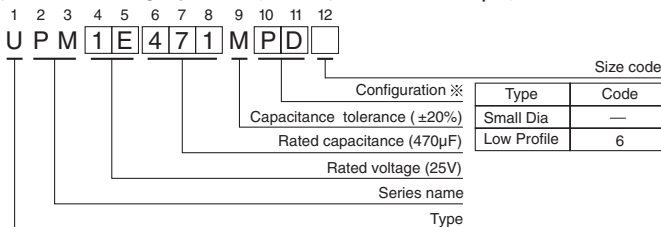
## Radial Lead Type



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

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

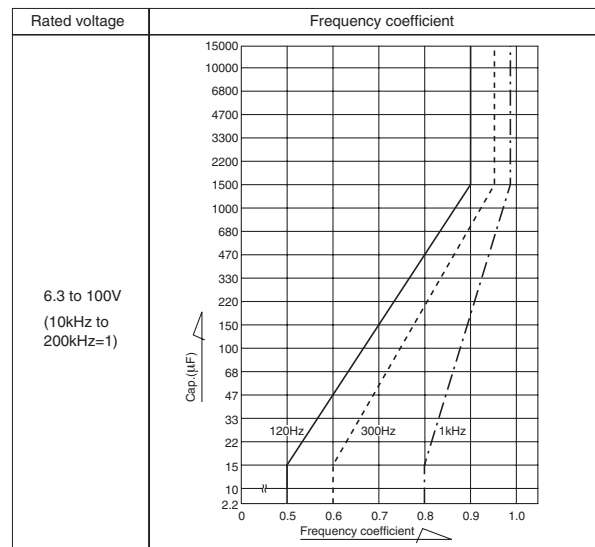
## Type numbering system (Example : 25V 470µF)



※ Configuration

| φ D        | Pb-free leadwire<br>Pb-free PET sleeve |
|------------|--|
| 8 · 10     | PD                                     |
| 12.5 to 18 | HD                                     |

## Frequency coefficient of rated ripple current



● Dimension table in next page.

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## ■ Dimensions

| Rated Voltage<br>(V)<br>(code) | Rated Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D $\times$ L (mm) | tan $\delta$ | Leakage Current<br>( $\mu$ A)<br>(at 20°C after<br>1 minute) | Impedance ( $\Omega$ )<br>max. |                  | Rated Ripple<br>(mArms)   |                 | Part Number  |
|--------------------------------|---------------------------------|---------------------------------------|--------------|--|--------------------------------|------------------|---------------------------|-----------------|--------------|
|                                |                                 |                                       |              |  | 20°C/<br>100kHz                | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz | 105°C/<br>120Hz |              |
| 6.3<br>(0J)                    | 390                             | 8 $\times$ 11.5                       | 0.22         | 73.71  | 0.17                           | 0.34             | 445                       | 345             | UPM0J391MPD  |
|                                | 470                             | 8 $\times$ 15                         | 0.22         | 88.83  | 0.14                           | 0.28             | 550                       | 440             | UPM0J471MPD  |
|                                | 470                             | 10 $\times$ 12.5                      | 0.22         | 88.83  | 0.14                           | 0.28             | 635                       | 505             | UPM0J471MPD6 |
|                                | 560                             | 8 $\times$ 15                         | 0.22         | 105.84   | 0.12                           | 0.24             | 595                       | 485             | UPM0J561MPD  |
|                                | 560                             | 10 $\times$ 12.5                      | 0.22         | 105.84   | 0.13                           | 0.26             | 670                       | 545             | UPM0J561MPD6 |
|                                | 680                             | 8 $\times$ 20                         | 0.22         | 128.52   | 0.10                           | 0.20             | 730                       | 605             | UPM0J681MPD  |
|                                | 680                             | 10 $\times$ 16                        | 0.22         | 128.52   | 0.11                           | 0.22             | 825                       | 685             | UPM0J681MPD6 |
|                                | 820                             | 8 $\times$ 20                         | 0.22         | 154.98   | 0.085                          | 0.17             | 795                       | 675             | UPM0J821MPD  |
|                                | 820                             | 10 $\times$ 16                        | 0.22         | 154.98   | 0.095                          | 0.19             | 840                       | 715             | UPM0J821MPD6 |
|                                | 1000                            | 10 $\times$ 20                        | 0.22         | 189  | 0.075                          | 0.15             | 950                       | 820             | UPM0J102MPD  |
|                                | 1000                            | 12.5 $\times$ 15                      | 0.22         | 189  | 0.085                          | 0.17             | 890                       | 770             | UPM0J102MHD6 |
|                                | 1200                            | 10 $\times$ 20                        | 0.22         | 226.8  | 0.065                          | 0.13             | 1060                      | 930             | UPM0J122MPD  |
|                                | 1200                            | 12.5 $\times$ 15                      | 0.22         | 226.8  | 0.075                          | 0.15             | 950                       | 835             | UPM0J122MHD6 |
|                                | 1500                            | 10 $\times$ 25                        | 0.22         | 283.5  | 0.055                          | 0.11             | 1260                      | 1130            | UPM0J152MPD  |
|                                | 1500                            | 12.5 $\times$ 15                      | 0.22         | 283.5  | 0.065                          | 0.13             | 1020                      | 915             | UPM0J152MHD6 |
|                                | 1800                            | 10 $\times$ 30.5                      | 0.22         | 340.2  | 0.050                          | 0.10             | 1370                      | 1230            | UPM0J182MPD  |
|                                | 1800                            | 16 $\times$ 15                        | 0.22         | 340.2  | 0.055                          | 0.11             | 1270                      | 1140            | UPM0J182MHD6 |
|                                | 2200                            | 10 $\times$ 30.5                      | 0.24         | 415.8  | 0.043                          | 0.086            | 1470                      | 1320            | UPM0J222MPD  |
|                                | 2200                            | 16 $\times$ 15                        | 0.24         | 415.8  | 0.049                          | 0.098            | 1340                      | 1200            | UPM0J222MHD6 |
|                                | 2700                            | 12.5 $\times$ 25                      | 0.24         | 510.3  | 0.038                          | 0.076            | 1700                      | 1530            | UPM0J272MHD  |
|                                | 2700                            | 18 $\times$ 15                        | 0.24         | 510.3  | 0.044                          | 0.088            | 1500                      | 1350            | UPM0J272MHD6 |
|                                | 3300                            | 12.5 $\times$ 25                      | 0.26         | 623.7  | 0.034                          | 0.068            | 1710                      | 1530            | UPM0J332MHD  |
|                                | 3300                            | 18 $\times$ 15                        | 0.26         | 623.7  | 0.039                          | 0.078            | 1600                      | 1440            | UPM0J332MHD6 |
|                                | 3900                            | 12.5 $\times$ 30.5                    | 0.26         | 737.1  | 0.031                          | 0.062            | 1980                      | 1780            | UPM0J392MHD  |
|                                | 3900                            | 16 $\times$ 20                        | 0.26         | 737.1  | 0.036                          | 0.072            | 1770                      | 1590            | UPM0J392MHD6 |
|                                | 4700                            | 12.5 $\times$ 35.5                    | 0.28         | 888.3  | 0.028                          | 0.056            | 2230                      | 2000            | UPM0J472MHD  |
|                                | 4700                            | 18 $\times$ 20                        | 0.28         | 888.3  | 0.032                          | 0.064            | 1920                      | 1720            | UPM0J472MHD6 |
|                                | 5600                            | 12.5 $\times$ 40                      | 0.30         | 1058.4   | 0.026                          | 0.052            | 2460                      | 2210            | UPM0J562MHD  |
|                                | 5600                            | 18 $\times$ 20                        | 0.30         | 1058.4   | 0.030                          | 0.060            | 1980                      | 1780            | UPM0J562MHD6 |
|                                | 6800                            | 16 $\times$ 30.5                      | 0.32         | 1285.2   | 0.024                          | 0.048            | 2510                      | 2250            | UPM0J682MHD  |
|                                | 6800                            | 18 $\times$ 25                        | 0.32         | 1285.2   | 0.027                          | 0.054            | 2350                      | 2110            | UPM0J682MHD6 |
|                                | 8200                            | 16 $\times$ 35.5                      | 0.36         | 1549.8   | 0.022                          | 0.044            | 2770                      | 2490            | UPM0J822MHD  |
| 8200                           | 18 $\times$ 30.5                | 0.36                                  | 1549.8       | 0.025  | 0.050                          | 2600             | 2340                      | UPM0J822MHD6    |              |
| 10000                          | 16 $\times$ 40                  | 0.40                                  | 1890         | 0.020  | 0.040                          | 3110             | 2790                      | UPM0J103MHD     |              |
| 10000                          | 18 $\times$ 30.5                | 0.40                                  | 1890         | 0.023  | 0.046                          | 2720             | 2440                      | UPM0J103MHD6    |              |
| 12000                          | 18 $\times$ 35.5                | 0.44                                  | 2268         | 0.019  | 0.038                          | 3050             | 2740                      | UPM0J123MHD     |              |
| 15000                          | 18 $\times$ 40                  | 0.50                                  | 2835         | 0.018  | 0.036                          | 3300             | 2970                      | UPM0J153MHD     |              |

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.

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## ■ Dimensions

| Rated Voltage<br>(V)<br>(code) | Rated Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D×L (mm) | tan $\delta$ | Leakage Current<br>( $\mu$ A)<br>(at 20°C after<br>1 minute) | Impedance ( $\Omega$ )<br>max. |                  | Rated Ripple<br>(mA <sub>rms</sub> ) |                 | Part Number  |
|--------------------------------|---------------------------------|------------------------------|--------------|--|--------------------------------|------------------|--------------------------------------|-----------------|--------------|
|                                |                                 |                              |              |  | 20°C/<br>100kHz                | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz            | 105°C/<br>120Hz |              |
| 10<br>(1A)                     | 330                             | 8×11.5                       | 0.19         | 99   | 0.16                           | 0.32             | 460                                  | 350             | UPM1A331MPD  |
|                                | 390                             | 8×15                         | 0.19         | 117  | 0.14                           | 0.28             | 550                                  | 430             | UPM1A391MPD  |
|                                | 390                             | 10×12.5                      | 0.19         | 117  | 0.15                           | 0.30             | 635                                  | 490             | UPM1A391MPD6 |
|                                | 470                             | 8×15                         | 0.19         | 141  | 0.12                           | 0.24             | 595                                  | 475             | UPM1A471MPD  |
|                                | 470                             | 10×12.5                      | 0.19         | 141  | 0.13                           | 0.26             | 670                                  | 535             | UPM1A471MPD6 |
|                                | 560                             | 8×20                         | 0.19         | 168  | 0.10                           | 0.20             | 730                                  | 595             | UPM1A561MPD  |
|                                | 560                             | 10×16                        | 0.19         | 168  | 0.11                           | 0.22             | 700                                  | 570             | UPM1A561MPD6 |
|                                | 680                             | 8×20                         | 0.19         | 204  | 0.085                          | 0.17             | 795                                  | 660             | UPM1A681MPD  |
|                                | 680                             | 10×16                        | 0.19         | 204  | 0.090                          | 0.18             | 825                                  | 685             | UPM1A681MPD6 |
|                                | 820                             | 10×20                        | 0.19         | 246  | 0.070                          | 0.14             | 985                                  | 835             | UPM1A821MPD  |
|                                | 820                             | 12.5×15                      | 0.19         | 246  | 0.080                          | 0.16             | 920                                  | 780             | UPM1A821MHD6 |
|                                | 1000                            | 10×20                        | 0.19         | 300  | 0.060                          | 0.12             | 1060                                 | 915             | UPM1A102MPD  |
|                                | 1000                            | 12.5×15                      | 0.19         | 300  | 0.065                          | 0.13             | 1040                                 | 900             | UPM1A102MHD6 |
|                                | 1200                            | 10×25                        | 0.19         | 360  | 0.050                          | 0.10             | 1260                                 | 1120            | UPM1A122MPD  |
|                                | 1200                            | 12.5×15                      | 0.19         | 360  | 0.060                          | 0.12             | 1060                                 | 930             | UPM1A122MHD6 |
|                                | 1500                            | 10×30.5                      | 0.19         | 450  | 0.045                          | 0.09             | 1450                                 | 1300            | UPM1A152MPD  |
|                                | 1500                            | 16×15                        | 0.19         | 450  | 0.050                          | 0.10             | 1330                                 | 1190            | UPM1A152MHD6 |
|                                | 1800                            | 12.5×20                      | 0.19         | 540  | 0.039                          | 0.078            | 1470                                 | 1320            | UPM1A182MHD  |
|                                | 1800                            | 16×15                        | 0.19         | 540  | 0.044                          | 0.088            | 1420                                 | 1270            | UPM1A182MHD6 |
|                                | 2200                            | 12.5×25                      | 0.21         | 660  | 0.034                          | 0.068            | 1710                                 | 1530            | UPM1A222MHD  |
|                                | 2200                            | 18×15                        | 0.21         | 660  | 0.039                          | 0.078            | 1600                                 | 1440            | UPM1A222MHD6 |
|                                | 2700                            | 12.5×30.5                    | 0.21         | 810  | 0.030                          | 0.060            | 1980                                 | 1780            | UPM1A272MHD  |
|                                | 2700                            | 16×20                        | 0.21         | 810  | 0.035                          | 0.070            | 1740                                 | 1560            | UPM1A272MHD6 |
|                                | 3300                            | 12.5×35.5                    | 0.23         | 990  | 0.026                          | 0.052            | 2230                                 | 2000            | UPM1A332MHD  |
|                                | 3300                            | 16×20                        | 0.23         | 990  | 0.031                          | 0.062            | 1850                                 | 1660            | UPM1A332MHD6 |
|                                | 3900                            | 12.5×40                      | 0.23         | 1170   | 0.024                          | 0.048            | 2460                                 | 2210            | UPM1A392MHD  |
|                                | 3900                            | 18×20                        | 0.23         | 1170   | 0.028                          | 0.056            | 2050                                 | 1840            | UPM1A392MHD6 |
|                                | 4700                            | 16×30.5                      | 0.25         | 1410   | 0.023                          | 0.046            | 2420                                 | 2170            | UPM1A472MHD  |
|                                | 4700                            | 18×25                        | 0.25         | 1410   | 0.026                          | 0.052            | 2350                                 | 2110            | UPM1A472MHD6 |
|                                | 5600                            | 16×35.5                      | 0.27         | 1680   | 0.021                          | 0.042            | 2610                                 | 2340            | UPM1A562MHD  |
|                                | 5600                            | 18×25                        | 0.27         | 1680   | 0.024                          | 0.048            | 2440                                 | 2190            | UPM1A562MHD6 |
|                                | 6800                            | 16×35.5                      | 0.29         | 2040   | 0.020                          | 0.040            | 2770                                 | 2490            | UPM1A682MHD  |
| 6800                           | 18×30.5                         | 0.29                         | 2040         | 0.022  | 0.044                          | 2720             | 2440                                 | UPM1A682MHD6    |              |
| 8200                           | 16×40                           | 0.33                         | 2460         | 0.019  | 0.038                          | 3110             | 2790                                 | UPM1A822MHD     |              |
| 8200                           | 18×35.5                         | 0.33                         | 2460         | 0.021  | 0.042                          | 3050             | 2740                                 | UPM1A822MHD6    |              |
| 10000                          | 18×40                           | 0.37                         | 3000         | 0.017  | 0.034                          | 3300             | 2970                                 | UPM1A103MHD     |              |
| 16<br>(1C)                     | 220                             | 8×11.5                       | 0.16         | 105.6  | 0.16                           | 0.32             | 460                                  | 335             | UPM1C221MPD  |
|                                | 270                             | 8×15                         | 0.16         | 129.6  | 0.14                           | 0.28             | 550                                  | 410             | UPM1C271MPD  |
|                                | 270                             | 10×12.5                      | 0.16         | 129.6  | 0.14                           | 0.28             | 635                                  | 470             | UPM1C271MPD6 |
|                                | 330                             | 8×15                         | 0.16         | 158.4  | 0.12                           | 0.24             | 595                                  | 455             | UPM1C331MPD  |
|                                | 330                             | 10×12.5                      | 0.16         | 158.4  | 0.12                           | 0.24             | 670                                  | 510             | UPM1C331MPD6 |
|                                | 390                             | 8×20                         | 0.16         | 187.2  | 0.10                           | 0.20             | 730                                  | 570             | UPM1C391MPD  |

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If there is no size code in the part number, please add size code "1" and then add the appropriate code.

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■ 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. |              | Rated Ripple (mArms) |              | Part Number  |
|--------------------------|------------------------|---------------------|-------|---|--------------------|--------------|----------------------|--------------|--------------|
|                          |                        |                     |       |   | 20°C/100kHz        | -10°C/100kHz | 105°C/10 to 200kHz   | 105°C/120Hz  |              |
| 16 (1C)                  | 390                    | 10×16               | 0.16  | 187.2   | 0.10               | 0.20         | 730                  | 570          | UPM1C391MPD6 |
|                          | 470                    | 8×20                | 0.16  | 225.6   | 0.090              | 0.18         | 770                  | 615          | UPM1C471MPD  |
|                          | 470                    | 10×16               | 0.16  | 225.6   | 0.090              | 0.18         | 825                  | 660          | UPM1C471MPD6 |
|                          | 560                    | 10×20               | 0.16  | 268.8   | 0.075              | 0.15         | 950                  | 775          | UPM1C561MPD  |
|                          | 560                    | 12.5×15             | 0.16  | 268.8   | 0.080              | 0.16         | 920                  | 750          | UPM1C561MHD6 |
|                          | 680                    | 10×20               | 0.16  | 326.4   | 0.065              | 0.13         | 1060                 | 880          | UPM1C681MPD  |
|                          | 680                    | 12.5×15             | 0.16  | 326.4   | 0.070              | 0.14         | 985                  | 820          | UPM1C681MHD6 |
|                          | 820                    | 10×25               | 0.16  | 393.6   | 0.055              | 0.11         | 1260                 | 1070         | UPM1C821MPD  |
|                          | 820                    | 12.5×15             | 0.16  | 393.6   | 0.060              | 0.12         | 1060                 | 900          | UPM1C821MHD6 |
|                          | 1000                   | 10×30.5             | 0.16  | 480   | 0.047              | 0.094        | 1410                 | 1220         | UPM1C102MPD  |
|                          | 1000                   | 16×15               | 0.16  | 480   | 0.055              | 0.11         | 1270                 | 1100         | UPM1C102MHD6 |
|                          | 1200                   | 12.5×20             | 0.16  | 576   | 0.041              | 0.082        | 1430                 | 1250         | UPM1C122MHD  |
|                          | 1200                   | 16×15               | 0.16  | 576   | 0.046              | 0.092        | 1390                 | 1220         | UPM1C122MHD6 |
|                          | 1500                   | 12.5×25             | 0.16  | 720   | 0.036              | 0.072        | 1700                 | 1530         | UPM1C152MHD  |
|                          | 1500                   | 18×15               | 0.16  | 720   | 0.041              | 0.082        | 1560                 | 1400         | UPM1C152MHD6 |
|                          | 1800                   | 12.5×30.5           | 0.16  | 864   | 0.032              | 0.064        | 1880                 | 1690         | UPM1C182MHD  |
|                          | 1800                   | 16×20               | 0.16  | 864   | 0.037              | 0.074        | 1700                 | 1530         | UPM1C182MHD6 |
|                          | 2200                   | 12.5×30.5           | 0.18  | 1056  | 0.028              | 0.056        | 2010                 | 1800         | UPM1C222MHD  |
|                          | 2200                   | 16×20               | 0.18  | 1056  | 0.033              | 0.066        | 1800                 | 1620         | UPM1C222MHD6 |
|                          | 2700                   | 12.5×35.5           | 0.18  | 1296  | 0.025              | 0.050        | 2230                 | 2000         | UPM1C272MHD  |
|                          | 2700                   | 16×25               | 0.18  | 1296  | 0.030              | 0.060        | 2190                 | 1970         | UPM1C272MHD6 |
|                          | 3300                   | 12.5×40             | 0.20  | 1584  | 0.023              | 0.046        | 2460                 | 2210         | UPM1C332MHD  |
|                          | 3300                   | 18×20               | 0.20  | 1584  | 0.027              | 0.054        | 2090                 | 1880         | UPM1C332MHD6 |
|                          | 3900                   | 16×30.5             | 0.20  | 1872  | 0.022              | 0.044        | 2510                 | 2250         | UPM1C392MHD  |
|                          | 3900                   | 18×25               | 0.20  | 1872  | 0.025              | 0.050        | 2350                 | 2110         | UPM1C392MHD6 |
|                          | 4700                   | 16×35.5             | 0.22  | 2256  | 0.020              | 0.040        | 2770                 | 2490         | UPM1C472MHD  |
|                          | 4700                   | 18×30.5             | 0.22  | 2256  | 0.023              | 0.046        | 2720                 | 2440         | UPM1C472MHD6 |
|                          | 5600                   | 16×40               | 0.24  | 2688  | 0.019              | 0.038        | 3110                 | 2790         | UPM1C562MHD  |
| 5600                     | 18×35.5                | 0.24                | 2688  | 0.022   | 0.044              | 2620         | 2350                 | UPM1C562MHD6 |              |
| 6800                     | 18×35.5                | 0.26                | 3264  | 0.018   | 0.036              | 3050         | 2740                 | UPM1C682MHD  |              |
| 8200                     | 18×40                  | 0.30                | 3936  | 0.017   | 0.034              | 3300         | 2970                 | UPM1C822MHD  |              |
| 25 (1E)                  | 150                    | 8×11.5              | 0.14  | 112.5   | 0.16               | 0.32         | 460                  | 320          | UPM1E151MPD  |
|                          | 180                    | 8×15                | 0.14  | 135   | 0.14               | 0.28         | 550                  | 390          | UPM1E181MPD  |
|                          | 180                    | 10×12.5             | 0.14  | 135   | 0.15               | 0.30         | 635                  | 450          | UPM1E181MPD6 |
|                          | 220                    | 8×15                | 0.14  | 165   | 0.11               | 0.22         | 625                  | 455          | UPM1E221MPD  |
|                          | 220                    | 10×12.5             | 0.14  | 165   | 0.13               | 0.26         | 670                  | 485          | UPM1E221MPD6 |
|                          | 270                    | 8×20                | 0.14  | 202.5   | 0.095              | 0.19         | 750                  | 560          | UPM1E271MPD  |
|                          | 270                    | 10×16               | 0.14  | 202.5   | 0.11               | 0.22         | 700                  | 525          | UPM1E271MPD6 |
|                          | 330                    | 8×20                | 0.14  | 247.5   | 0.085              | 0.17         | 795                  | 610          | UPM1E331MPD  |
|                          | 330                    | 10×16               | 0.14  | 247.5   | 0.095              | 0.19         | 825                  | 630          | UPM1E331MPD6 |
|                          | 390                    | 10×20               | 0.14  | 292.5   | 0.070              | 0.14         | 985                  | 770          | UPM1E391MPD  |
|                          | 390                    | 12.5×15             | 0.14  | 292.5   | 0.080              | 0.16         | 920                  | 720          | UPM1E391MHD6 |
|                          | 470                    | 10×20               | 0.14  | 352.5   | 0.065              | 0.13         | 1060                 | 845          | UPM1E471MPD  |

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.

UPM

## ■ Dimensions

| Rated Voltage (V)<br>(code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA)<br>(at 20°C after 1 minute) | Impedance (Ω)<br>max. |                  | Rated Ripple (mA <sub>rms</sub> ) |                 | Part Number  |
|-----------------------------|------------------------|---------------------|-------|--|-----------------------|------------------|-----------------------------------|-----------------|--------------|
|                             |                        |                     |       |  | 20°C/<br>100kHz       | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz         | 105°C/<br>120Hz |              |
| 25<br>(1E)                  | 470                    | 12.5×15             | 0.14  | 352.5  | 0.070                 | 0.14             | 985                               | 785             | UPM1E471MHD6 |
|                             | 560                    | 10×25               | 0.14  | 420  | 0.055                 | 0.11             | 1260                              | 1030            | UPM1E561MPD  |
|                             | 560                    | 12.5×15             | 0.14  | 420  | 0.060                 | 0.12             | 1060                              | 860             | UPM1E561MHD6 |
|                             | 680                    | 10×30.5             | 0.14  | 510  | 0.046                 | 0.092            | 1420                              | 1180            | UPM1E681MPD  |
|                             | 680                    | 16×15               | 0.14  | 510  | 0.055                 | 0.11             | 1270                              | 1050            | UPM1E681MHD6 |
|                             | 820                    | 12.5×20             | 0.14  | 615  | 0.041                 | 0.082            | 1440                              | 1220            | UPM1E821MHD  |
|                             | 820                    | 16×15               | 0.14  | 615  | 0.049                 | 0.098            | 1340                              | 1140            | UPM1E821MHD6 |
|                             | 1000                   | 12.5×25             | 0.14  | 750  | 0.036                 | 0.072            | 1700                              | 1470            | UPM1E102MHD  |
|                             | 1000                   | 18×15               | 0.14  | 750  | 0.043                 | 0.086            | 1520                              | 1310            | UPM1E102MHD6 |
|                             | 1200                   | 12.5×25             | 0.14  | 900  | 0.032                 | 0.064            | 1760                              | 1550            | UPM1E122MHD  |
|                             | 1200                   | 18×15               | 0.14  | 900  | 0.039                 | 0.078            | 1600                              | 1400            | UPM1E122MHD6 |
|                             | 1500                   | 12.5×30.5           | 0.14  | 1125   | 0.029                 | 0.058            | 1980                              | 1780            | UPM1E152MHD  |
|                             | 1500                   | 16×20               | 0.14  | 1125   | 0.034                 | 0.068            | 1770                              | 1590            | UPM1E152MHD6 |
|                             | 1800                   | 12.5×35.5           | 0.14  | 1350   | 0.026                 | 0.052            | 2230                              | 2000            | UPM1E182MHD  |
|                             | 1800                   | 16×25               | 0.14  | 1350   | 0.031                 | 0.062            | 2190                              | 1970            | UPM1E182MHD6 |
|                             | 2200                   | 12.5×40             | 0.16  | 1650   | 0.024                 | 0.048            | 2460                              | 2210            | UPM1E222MHD  |
|                             | 2200                   | 18×20               | 0.16  | 1650   | 0.028                 | 0.056            | 2050                              | 1840            | UPM1E222MHD6 |
|                             | 2700                   | 16×30.5             | 0.16  | 2025   | 0.022                 | 0.044            | 2510                              | 2250            | UPM1E272MHD  |
|                             | 2700                   | 18×25               | 0.16  | 2025   | 0.025                 | 0.050            | 2350                              | 2110            | UPM1E272MHD6 |
|                             | 3300                   | 16×35.5             | 0.18  | 2475   | 0.020                 | 0.040            | 2770                              | 2490            | UPM1E332MHD  |
| 3300                        | 18×30.5                | 0.18                | 2475  | 0.023  | 0.046                 | 2720             | 2440                              | UPM1E332MHD6    |              |
| 3900                        | 16×40                  | 0.18                | 2925  | 0.019  | 0.038                 | 3110             | 2790                              | UPM1E392MHD     |              |
| 3900                        | 18×35.5                | 0.18                | 2925  | 0.021  | 0.042                 | 3050             | 2740                              | UPM1E392MHD6    |              |
| 4700                        | 18×40                  | 0.20                | 3525  | 0.018  | 0.036                 | 3300             | 2970                              | UPM1E472MHD     |              |
| 35<br>(1V)                  | 100                    | 8×11.5              | 0.12  | 105  | 0.16                  | 0.32             | 460                               | 305             | UPM1V101MPD  |
|                             | 120                    | 8×15                | 0.12  | 126  | 0.14                  | 0.28             | 550                               | 370             | UPM1V121MPD  |
|                             | 120                    | 10×12.5             | 0.12  | 126  | 0.15                  | 0.30             | 635                               | 425             | UPM1V121MPD6 |
|                             | 150                    | 8×15                | 0.12  | 157.5  | 0.12                  | 0.24             | 595                               | 415             | UPM1V151MPD  |
|                             | 150                    | 10×12.5             | 0.12  | 157.5  | 0.12                  | 0.24             | 680                               | 475             | UPM1V151MPD6 |
|                             | 180                    | 8×20                | 0.12  | 189  | 0.10                  | 0.20             | 730                               | 520             | UPM1V181MPD  |
|                             | 180                    | 10×16               | 0.12  | 189  | 0.11                  | 0.22             | 700                               | 500             | UPM1V181MPD6 |
|                             | 220                    | 8×20                | 0.12  | 231  | 0.085                 | 0.17             | 795                               | 580             | UPM1V221MPD  |
|                             | 220                    | 10×16               | 0.12  | 231  | 0.090                 | 0.18             | 825                               | 600             | UPM1V221MPD6 |
|                             | 270                    | 10×20               | 0.12  | 283.5  | 0.070                 | 0.14             | 985                               | 735             | UPM1V271MPD  |
|                             | 270                    | 12.5×15             | 0.12  | 283.5  | 0.080                 | 0.16             | 920                               | 690             | UPM1V271MHD6 |
|                             | 330                    | 10×20               | 0.12  | 346.5  | 0.060                 | 0.12             | 1060                              | 810             | UPM1V331MPD  |
|                             | 330                    | 12.5×15             | 0.12  | 346.5  | 0.065                 | 0.13             | 1020                              | 780             | UPM1V331MHD6 |
|                             | 390                    | 10×25               | 0.12  | 409.5  | 0.055                 | 0.11             | 1260                              | 980             | UPM1V391MPD  |
|                             | 390                    | 12.5×15             | 0.12  | 409.5  | 0.060                 | 0.12             | 1060                              | 825             | UPM1V391MHD6 |
|                             | 470                    | 10×30.5             | 0.12  | 493.5  | 0.046                 | 0.092            | 1450                              | 1160            | UPM1V471MPD  |
|                             | 470                    | 16×15               | 0.12  | 493.5  | 0.055                 | 0.11             | 1270                              | 1010            | UPM1V471MHD6 |
|                             | 560                    | 12.5×20             | 0.12  | 588  | 0.041                 | 0.082            | 1430                              | 1170            | UPM1V561MHD  |
| 560                         | 16×15                  | 0.12                | 588   | 0.048  | 0.096                 | 1360             | 1110                              | UPM1V561MHD6    |              |

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.

## UPM

### ■ Dimensions

| Rated Voltage (V)<br>(code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA)<br>(at 20°C after 1 minute) | Impedance (Ω)<br>max. |                  | Rated Ripple (mA <sub>rms</sub> ) |                 | Part Number  |
|-----------------------------|------------------------|---------------------|-------|--|-----------------------|------------------|-----------------------------------|-----------------|--------------|
|                             |                        |                     |       |  | 20°C/<br>100kHz       | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz         | 105°C/<br>120Hz |              |
| 35<br>(1V)                  | 680                    | 12.5×25             | 0.12  | 714  | 0.036                 | 0.072            | 1700                              | 1410            | UPM1V681MHD  |
|                             | 680                    | 18×15               | 0.12  | 714  | 0.042                 | 0.084            | 1540                              | 1280            | UPM1V681MHD6 |
|                             | 820                    | 12.5×25             | 0.12  | 861  | 0.032                 | 0.064            | 1760                              | 1490            | UPM1V821MHD  |
|                             | 820                    | 18×15               | 0.12  | 861  | 0.038                 | 0.076            | 1620                              | 1380            | UPM1V821MHD6 |
|                             | 1000                   | 12.5×30.5           | 0.12  | 1050   | 0.029                 | 0.058            | 1980                              | 1710            | UPM1V102MHD  |
|                             | 1000                   | 16×20               | 0.12  | 1050   | 0.034                 | 0.068            | 1770                              | 1530            | UPM1V102MHD6 |
|                             | 1200                   | 12.5×35.5           | 0.12  | 1260   | 0.026                 | 0.052            | 2230                              | 1960            | UPM1V122MHD  |
|                             | 1200                   | 16×25               | 0.12  | 1260   | 0.031                 | 0.062            | 2190                              | 1920            | UPM1V122MHD6 |
|                             | 1500                   | 12.5×40             | 0.12  | 1575   | 0.024                 | 0.048            | 2460                              | 2210            | UPM1V152MHD  |
|                             | 1500                   | 18×20               | 0.12  | 1575   | 0.028                 | 0.056            | 2050                              | 1840            | UPM1V152MHD6 |
|                             | 1800                   | 16×30.5             | 0.12  | 1890   | 0.022                 | 0.044            | 2510                              | 2250            | UPM1V182MHD  |
|                             | 1800                   | 18×25               | 0.12  | 1890   | 0.025                 | 0.050            | 2350                              | 2110            | UPM1V182MHD6 |
|                             | 2200                   | 16×35.5             | 0.14  | 2310   | 0.020                 | 0.040            | 2770                              | 2490            | UPM1V222MHD  |
|                             | 2200                   | 18×30.5             | 0.14  | 2310   | 0.023                 | 0.046            | 2720                              | 2440            | UPM1V222MHD6 |
|                             | 2700                   | 16×40               | 0.14  | 2835   | 0.018                 | 0.036            | 3110                              | 2790            | UPM1V272MHD  |
|                             | 2700                   | 18×35.5             | 0.14  | 2835   | 0.021                 | 0.042            | 3050                              | 2740            | UPM1V272MHD6 |
| 3300                        | 18×40                  | 0.16                | 3465  | 0.017  | 0.034                 | 3300             | 2970                              | UPM1V332MHD     |              |
| 50<br>(1H)                  | 68                     | 8×11.5              | 0.10  | 102  | 0.20                  | 0.40             | 415                               | 260             | UPM1H680MPD  |
|                             | 82                     | 8×15                | 0.10  | 123  | 0.17                  | 0.34             | 505                               | 320             | UPM1H820MPD  |
|                             | 82                     | 10×12.5             | 0.10  | 123  | 0.18                  | 0.36             | 530                               | 340             | UPM1H820MPD6 |
|                             | 100                    | 8×20                | 0.10  | 150  | 0.14                  | 0.28             | 620                               | 410             | UPM1H101MPD  |
|                             | 100                    | 10×16               | 0.10  | 150  | 0.16                  | 0.32             | 580                               | 385             | UPM1H101MPD6 |
|                             | 120                    | 8×20                | 0.10  | 180  | 0.12                  | 0.24             | 755                               | 510             | UPM1H121MPD  |
|                             | 120                    | 10×16               | 0.10  | 180  | 0.13                  | 0.26             | 755                               | 510             | UPM1H121MPD6 |
|                             | 150                    | 10×20               | 0.10  | 225  | 0.10                  | 0.20             | 820                               | 570             | UPM1H151MPD  |
|                             | 150                    | 12.5×15             | 0.10  | 225  | 0.11                  | 0.22             | 785                               | 545             | UPM1H151MHD6 |
|                             | 180                    | 10×20               | 0.10  | 270  | 0.085                 | 0.17             | 945                               | 670             | UPM1H181MPD  |
|                             | 180                    | 12.5×15             | 0.10  | 270  | 0.095                 | 0.19             | 845                               | 605             | UPM1H181MHD6 |
|                             | 220                    | 10×25               | 0.10  | 330  | 0.075                 | 0.15             | 1150                              | 840             | UPM1H221MPD  |
|                             | 220                    | 12.5×15             | 0.10  | 330  | 0.080                 | 0.16             | 920                               | 670             | UPM1H221MHD6 |
|                             | 270                    | 10×30.5             | 0.10  | 405  | 0.065                 | 0.13             | 1200                              | 900             | UPM1H271MPD  |
|                             | 270                    | 16×15               | 0.10  | 405  | 0.070                 | 0.14             | 1120                              | 840             | UPM1H271MHD6 |
|                             | 330                    | 10×30.5             | 0.10  | 495  | 0.055                 | 0.11             | 1300                              | 995             | UPM1H331MPD  |
|                             | 330                    | 16×15               | 0.10  | 495  | 0.060                 | 0.12             | 1210                              | 925             | UPM1H331MHD6 |
|                             | 390                    | 12.5×25             | 0.10  | 585  | 0.048                 | 0.096            | 1440                              | 1120            | UPM1H391MHD  |
| 390                         | 16×15                  | 0.10                | 585   | 0.055  | 0.11                  | 1270             | 990                               | UPM1H391MHD6    |              |
| 470                         | 12.5×25                | 0.10                | 705   | 0.044  | 0.088                 | 1500             | 1200                              | UPM1H471MHD     |              |

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.

UPM

## ■ Dimensions

| Rated Voltage<br>(V)<br>(code) | Rated Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D $\times$ L (mm) | tan $\delta$ | Leakage Current<br>( $\mu$ A)<br>(at 20°C after<br>1 minute) | Impedance ( $\Omega$ )<br>max. |                  | Rated Ripple<br>(mArms)   |                 | Part Number  |
|--------------------------------|---------------------------------|---------------------------------------|--------------|--|--------------------------------|------------------|---------------------------|-----------------|--------------|
|                                |                                 |                                       |              |  | 20°C/<br>100kHz                | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz | 105°C/<br>120Hz |              |
| 50<br>(1H)                     | 470                             | 18 $\times$ 15                        | 0.10         | 705  | 0.046                          | 0.092            | 1470                      | 1170            | UPM1H471MHD6 |
|                                | 560                             | 12.5 $\times$ 30.5                    | 0.10         | 840  | 0.040                          | 0.080            | 1720                      | 1410            | UPM1H561MHD  |
|                                | 560                             | 16 $\times$ 20                        | 0.10         | 840  | 0.044                          | 0.088            | 1550                      | 1270            | UPM1H561MHD6 |
|                                | 680                             | 12.5 $\times$ 35.5                    | 0.10         | 1020   | 0.036                          | 0.072            | 1900                      | 1580            | UPM1H681MHD  |
|                                | 680                             | 16 $\times$ 20                        | 0.10         | 1020   | 0.040                          | 0.080            | 1630                      | 1350            | UPM1H681MHD6 |
|                                | 820                             | 12.5 $\times$ 40                      | 0.10         | 1230   | 0.033                          | 0.066            | 2120                      | 1800            | UPM1H821MHD  |
|                                | 820                             | 18 $\times$ 20                        | 0.10         | 1230   | 0.036                          | 0.072            | 1810                      | 1540            | UPM1H821MHD6 |
|                                | 1000                            | 16 $\times$ 30.5                      | 0.10         | 1500   | 0.030                          | 0.060            | 2150                      | 1860            | UPM1H102MHD  |
|                                | 1000                            | 18 $\times$ 25                        | 0.10         | 1500   | 0.033                          | 0.066            | 2020                      | 1750            | UPM1H102MHD6 |
|                                | 1200                            | 16 $\times$ 35.5                      | 0.10         | 1800   | 0.028                          | 0.056            | 2320                      | 2040            | UPM1H122MHD  |
|                                | 1200                            | 18 $\times$ 30.5                      | 0.10         | 1800   | 0.031                          | 0.062            | 2140                      | 1880            | UPM1H122MHD6 |
|                                | 1500                            | 16 $\times$ 40                        | 0.10         | 2250   | 0.026                          | 0.052            | 2650                      | 2380            | UPM1H152MHD  |
|                                | 1500                            | 18 $\times$ 30.5                      | 0.10         | 2250   | 0.029                          | 0.058            | 2340                      | 2100            | UPM1H152MHD6 |
|                                | 1800                            | 18 $\times$ 35.5                      | 0.10         | 2700   | 0.025                          | 0.050            | 2620                      | 2350            | UPM1H182MHD  |
| 2200                           | 18 $\times$ 40                  | 0.12                                  | 3300         | 0.024  | 0.048                          | 2790             | 2510                      | UPM1H222MHD     |              |
| 63<br>(1J)                     | 47                              | 8 $\times$ 11.5                       | 0.08         | 88.83  | 0.25                           | 0.50             | 365                       | 215             | UPM1J470MPD  |
|                                | 56                              | 8 $\times$ 15                         | 0.08         | 105.84   | 0.21                           | 0.42             | 450                       | 275             | UPM1J560MPD  |
|                                | 56                              | 10 $\times$ 12.5                      | 0.08         | 105.84   | 0.23                           | 0.46             | 450                       | 275             | UPM1J560MPD6 |
|                                | 68                              | 8 $\times$ 15                         | 0.08         | 128.52   | 0.17                           | 0.34             | 500                       | 315             | UPM1J680MPD  |
|                                | 68                              | 10 $\times$ 12.5                      | 0.08         | 128.52   | 0.19                           | 0.38             | 495                       | 310             | UPM1J680MPD6 |
|                                | 82                              | 8 $\times$ 20                         | 0.08         | 154.98   | 0.15                           | 0.30             | 600                       | 385             | UPM1J820MPD  |
|                                | 82                              | 10 $\times$ 16                        | 0.08         | 154.98   | 0.16                           | 0.32             | 580                       | 375             | UPM1J820MPD6 |
|                                | 100                             | 10 $\times$ 20                        | 0.08         | 189  | 0.12                           | 0.24             | 750                       | 495             | UPM1J101MPD  |
|                                | 100                             | 12.5 $\times$ 15                      | 0.08         | 189  | 0.14                           | 0.28             | 695                       | 460             | UPM1J101MHD6 |
|                                | 120                             | 10 $\times$ 20                        | 0.08         | 226.8  | 0.10                           | 0.20             | 820                       | 555             | UPM1J121MPD  |
|                                | 120                             | 12.5 $\times$ 15                      | 0.08         | 226.8  | 0.12                           | 0.24             | 750                       | 510             | UPM1J121MHD6 |
|                                | 150                             | 10 $\times$ 25                        | 0.08         | 283.5  | 0.090                          | 0.18             | 950                       | 665             | UPM1J151MPD  |
|                                | 150                             | 12.5 $\times$ 15                      | 0.08         | 283.5  | 0.095                          | 0.19             | 845                       | 590             | UPM1J151MHD6 |
|                                | 180                             | 10 $\times$ 30.5                      | 0.08         | 340.2  | 0.075                          | 0.15             | 1110                      | 790             | UPM1J181MPD  |
|                                | 180                             | 16 $\times$ 15                        | 0.08         | 340.2  | 0.080                          | 0.16             | 1050                      | 750             | UPM1J181MHD6 |
|                                | 220                             | 12.5 $\times$ 20                      | 0.08         | 415.8  | 0.065                          | 0.13             | 1140                      | 835             | UPM1J221MHD  |
|                                | 220                             | 16 $\times$ 15                        | 0.08         | 415.8  | 0.070                          | 0.14             | 1120                      | 820             | UPM1J221MHD6 |
|                                | 270                             | 12.5 $\times$ 25                      | 0.08         | 510.3  | 0.055                          | 0.11             | 1340                      | 1000            | UPM1J271MHD  |
|                                | 270                             | 18 $\times$ 15                        | 0.08         | 510.3  | 0.060                          | 0.12             | 1290                      | 965             | UPM1J271MHD6 |
|                                | 330                             | 12.5 $\times$ 25                      | 0.08         | 623.7  | 0.049                          | 0.098            | 1420                      | 1090            | UPM1J331MHD  |
|                                | 330                             | 18 $\times$ 15                        | 0.08         | 623.7  | 0.050                          | 0.10             | 1410                      | 1080            | UPM1J331MHD6 |
|                                | 390                             | 12.5 $\times$ 30.5                    | 0.08         | 737.1  | 0.043                          | 0.086            | 1620                      | 1260            | UPM1J391MHD  |
|                                | 390                             | 16 $\times$ 20                        | 0.08         | 737.1  | 0.047                          | 0.094            | 1500                      | 1170            | UPM1J391MHD6 |
|                                | 470                             | 12.5 $\times$ 35.5                    | 0.08         | 888.3  | 0.039                          | 0.078            | 1780                      | 1420            | UPM1J471MHD  |
|                                | 470                             | 16 $\times$ 25                        | 0.08         | 888.3  | 0.042                          | 0.084            | 1700                      | 1360            | UPM1J471MHD6 |
|                                | 560                             | 12.5 $\times$ 40                      | 0.08         | 1058.4   | 0.035                          | 0.070            | 1950                      | 1590            | UPM1J561MHD  |
|                                | 560                             | 18 $\times$ 20                        | 0.08         | 1058.4   | 0.039                          | 0.078            | 1730                      | 1410            | UPM1J561MHD6 |
|                                | 680                             | 16 $\times$ 30.5                      | 0.08         | 1285.2   | 0.032                          | 0.064            | 2050                      | 1700            | UPM1J681MHD  |

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.

## UPM

### ■ 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. |              | Rated Ripple (mArms) |              | Part Number  |
|--------------------------|------------------------|---------------------|-------|---|--------------------|--------------|----------------------|--------------|--------------|
|                          |                        |                     |       |   | 20°C/100kHz        | -10°C/100kHz | 105°C/10 to 200kHz   | 105°C/120Hz  |              |
| 63 (1J)                  | 680                    | 18×25               | 0.08  | 1285.2  | 0.035              | 0.070        | 1940                 | 1610         | UPM1J681MHD6 |
|                          | 820                    | 16×35.5             | 0.08  | 1549.8  | 0.029              | 0.058        | 2220                 | 1890         | UPM1J821MHD  |
|                          | 820                    | 18×30.5             | 0.08  | 1549.8  | 0.032              | 0.064        | 2110                 | 1790         | UPM1J821MHD6 |
|                          | 1000                   | 16×40               | 0.08  | 1890  | 0.027              | 0.054        | 2370                 | 2050         | UPM1J102MHD  |
|                          | 1000                   | 18×35.5             | 0.08  | 1890  | 0.029              | 0.058        | 2280                 | 1970         | UPM1J102MHD6 |
|                          | 1200                   | 18×40               | 0.08  | 2268  | 0.025              | 0.050        | 2510                 | 2210         | UPM1J122MHD  |
| 80 (1K)                  | 33                     | 8×11.5              | 0.08  | 79.2  | 0.53               | 1.40         | 275                  | 150          | UPM1K330MPD  |
|                          | 39                     | 8×15                | 0.08  | 93.6  | 0.46               | 1.20         | 300                  | 170          | UPM1K390MPD  |
|                          | 39                     | 10×12.5             | 0.08  | 93.6  | 0.49               | 1.30         | 380                  | 215          | UPM1K390MPD6 |
|                          | 47                     | 8×15                | 0.08  | 112.8   | 0.39               | 1.10         | 360                  | 215          | UPM1K470MPD  |
|                          | 47                     | 10×12.5             | 0.08  | 112.8   | 0.42               | 1.10         | 410                  | 245          | UPM1K470MPD6 |
|                          | 56                     | 8×20                | 0.08  | 134.4   | 0.34               | 0.92         | 490                  | 295          | UPM1K560MPD  |
|                          | 56                     | 10×16               | 0.08  | 134.4   | 0.36               | 0.97         | 500                  | 305          | UPM1K560MPD6 |
|                          | 68                     | 10×20               | 0.08  | 163.2   | 0.28               | 0.76         | 570                  | 355          | UPM1K680MPD  |
|                          | 68                     | 12.5×15             | 0.08  | 163.2   | 0.31               | 0.84         | 520                  | 325          | UPM1K680MHD6 |
|                          | 82                     | 10×20               | 0.08  | 196.8   | 0.25               | 0.68         | 620                  | 395          | UPM1K820MPD  |
|                          | 82                     | 12.5×15             | 0.08  | 196.8   | 0.27               | 0.73         | 560                  | 355          | UPM1K820MHD6 |
|                          | 100                    | 10×25               | 0.08  | 240   | 0.21               | 0.57         | 795                  | 525          | UPM1K101MPD  |
|                          | 100                    | 12.5×15             | 0.08  | 240   | 0.23               | 0.62         | 605                  | 400          | UPM1K101MHD6 |
|                          | 120                    | 10×30.5             | 0.08  | 288   | 0.18               | 0.49         | 870                  | 585          | UPM1K121MPD  |
|                          | 120                    | 16×15               | 0.08  | 288   | 0.20               | 0.54         | 663                  | 445          | UPM1K121MHD6 |
|                          | 150                    | 10×30.5             | 0.08  | 360   | 0.15               | 0.41         | 955                  | 665          | UPM1K151MPD  |
|                          | 150                    | 16×15               | 0.08  | 360   | 0.18               | 0.47         | 699                  | 470          | UPM1K151MHD6 |
|                          | 180                    | 12.5×25             | 0.08  | 432   | 0.13               | 0.35         | 1040                 | 735          | UPM1K181MHD  |
|                          | 180                    | 16×15               | 0.08  | 432   | 0.15               | 0.41         | 766                  | 545          | UPM1K181MHD6 |
|                          | 220                    | 12.5×30.5           | 0.08  | 528   | 0.12               | 0.32         | 1160                 | 845          | UPM1K221MHD  |
|                          | 220                    | 18×15               | 0.08  | 528   | 0.13               | 0.35         | 881                  | 645          | UPM1K221MHD6 |
|                          | 270                    | 12.5×30.5           | 0.08  | 648   | 0.10               | 0.27         | 1270                 | 945          | UPM1K271MHD  |
|                          | 270                    | 16×20               | 0.08  | 648   | 0.11               | 0.30         | 1240                 | 920          | UPM1K271MHD6 |
|                          | 330                    | 12.5×35.5           | 0.08  | 792   | 0.088              | 0.24         | 1450                 | 1100         | UPM1K331MHD  |
|                          | 330                    | 16×25               | 0.08  | 792   | 0.099              | 0.27         | 1440                 | 1100         | UPM1K331MHD6 |
|                          | 390                    | 12.5×40             | 0.08  | 936   | 0.078              | 0.21         | 1610                 | 1250         | UPM1K391MHD  |
|                          | 390                    | 18×20               | 0.08  | 936   | 0.089              | 0.24         | 1450                 | 1120         | UPM1K391MHD6 |
|                          | 470                    | 16×30.5             | 0.08  | 1128  | 0.069              | 0.19         | 1790                 | 1430         | UPM1K471MHD  |
|                          | 470                    | 18×25               | 0.08  | 1128  | 0.080              | 0.22         | 1650                 | 1320         | UPM1K471MHD6 |
|                          | 560                    | 16×35.5             | 0.08  | 1344  | 0.062              | 0.17         | 2000                 | 1640         | UPM1K561MHD  |
|                          | 560                    | 18×30.5             | 0.08  | 1344  | 0.072              | 0.19         | 1750                 | 1430         | UPM1K561MHD6 |
|                          | 680                    | 16×40               | 0.08  | 1632  | 0.055              | 0.15         | 2200                 | 1830         | UPM1K681MHD  |
| 680                      | 18×30.5                | 0.08                | 1632  | 0.065   | 0.18               | 1850         | 1540                 | UPM1K681MHD6 |              |
| 820                      | 18×35.5                | 0.08                | 1968  | 0.049   | 0.13               | 2250         | 1910                 | UPM1K821MHD  |              |
| 1000                     | 18×40                  | 0.08                | 2400  | 0.044   | 0.12               | 2370         | 2050                 | UPM1K102MHD  |              |

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.



## ■ Dimensions

| Rated Voltage (V)<br>(code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA)<br>(at 20°C after 1 minute) | Impedance (Ω)<br>max. |                  | Rated Ripple (mA <sub>rms</sub> ) |                 | Part Number  |
|-----------------------------|------------------------|---------------------|-------|--|-----------------------|------------------|-----------------------------------|-----------------|--------------|
|                             |                        |                     |       |  | 20°C/<br>100kHz       | -10°C/<br>100kHz | 105°C/<br>10 to<br>200kHz         | 105°C/<br>120Hz |              |
| 100<br>(2A)                 | 22                     | 8×11.5              | 0.08  | 66   | 0.55                  | 1.50             | 275                               | 145             | UPM2A220MPD  |
|                             | 27                     | 8×15                | 0.08  | 81   | 0.47                  | 1.30             | 300                               | 160             | UPM2A270MPD  |
|                             | 27                     | 10×12.5             | 0.08  | 81   | 0.50                  | 1.40             | 380                               | 205             | UPM2A270MPD6 |
|                             | 33                     | 8×15                | 0.08  | 99   | 0.38                  | 1.00             | 360                               | 200             | UPM2A330MPD  |
|                             | 33                     | 10×12.5             | 0.08  | 99   | 0.42                  | 1.10             | 410                               | 230             | UPM2A330MPD6 |
|                             | 39                     | 8×20                | 0.08  | 117  | 0.33                  | 0.89             | 490                               | 280             | UPM2A390MPD  |
|                             | 39                     | 10×16               | 0.08  | 117  | 0.36                  | 0.97             | 500                               | 285             | UPM2A390MPD6 |
|                             | 47                     | 10×20               | 0.08  | 141  | 0.28                  | 0.76             | 570                               | 340             | UPM2A470MPD  |
|                             | 47                     | 12.5×15             | 0.08  | 141  | 0.31                  | 0.84             | 520                               | 310             | UPM2A470MHD6 |
|                             | 56                     | 10×20               | 0.08  | 168  | 0.24                  | 0.65             | 620                               | 375             | UPM2A560MPD  |
|                             | 56                     | 12.5×15             | 0.08  | 168  | 0.27                  | 0.73             | 560                               | 340             | UPM2A560MHD6 |
|                             | 68                     | 10×25               | 0.08  | 204  | 0.21                  | 0.57             | 795                               | 500             | UPM2A680MPD  |
|                             | 68                     | 12.5×15             | 0.08  | 204  | 0.23                  | 0.62             | 605                               | 380             | UPM2A680MHD6 |
|                             | 82                     | 10×30.5             | 0.08  | 246  | 0.18                  | 0.49             | 870                               | 555             | UPM2A820MPD  |
|                             | 82                     | 16×15               | 0.08  | 246  | 0.19                  | 0.51             | 681                               | 435             | UPM2A820MHD6 |
|                             | 100                    | 10×30.5             | 0.08  | 300  | 0.15                  | 0.41             | 955                               | 635             | UPM2A101MPD  |
|                             | 100                    | 16×15               | 0.08  | 300  | 0.17                  | 0.46             | 719                               | 475             | UPM2A101MHD6 |
|                             | 120                    | 12.5×25             | 0.08  | 360  | 0.13                  | 0.35             | 1040                              | 700             | UPM2A121MHD  |
|                             | 120                    | 16×15               | 0.08  | 360  | 0.14                  | 0.38             | 793                               | 535             | UPM2A121MHD6 |
|                             | 150                    | 12.5×25             | 0.08  | 450  | 0.11                  | 0.30             | 1120                              | 780             | UPM2A151MHD  |
|                             | 150                    | 18×15               | 0.08  | 450  | 0.12                  | 0.32             | 917                               | 640             | UPM2A151MHD6 |
|                             | 180                    | 12.5×30.5           | 0.08  | 540  | 0.098                 | 0.26             | 1270                              | 900             | UPM2A181MHD  |
|                             | 180                    | 16×20               | 0.08  | 540  | 0.11                  | 0.30             | 1240                              | 880             | UPM2A181MHD6 |
|                             | 220                    | 12.5×35.5           | 0.08  | 660  | 0.087                 | 0.23             | 1450                              | 1050            | UPM2A221MHD  |
|                             | 220                    | 16×25               | 0.08  | 660  | 0.093                 | 0.25             | 1440                              | 1050            | UPM2A221MHD6 |
|                             | 270                    | 12.5×40             | 0.08  | 810  | 0.072                 | 0.19             | 1610                              | 1200            | UPM2A271MHD  |
|                             | 270                    | 18×20               | 0.08  | 810  | 0.080                 | 0.22             | 1450                              | 1080            | UPM2A271MHD6 |
|                             | 330                    | 16×30.5             | 0.08  | 990  | 0.062                 | 0.17             | 1790                              | 1370            | UPM2A331MHD  |
|                             | 330                    | 18×25               | 0.08  | 990  | 0.070                 | 0.19             | 1650                              | 1260            | UPM2A331MHD6 |
|                             | 390                    | 16×35.5             | 0.08  | 1170   | 0.053                 | 0.14             | 2000                              | 1550            | UPM2A391MHD  |
| 390                         | 18×30.5                | 0.08                | 1170  | 0.062  | 0.17                  | 1850             | 1430                              | UPM2A391MHD6    |              |
| 470                         | 16×40                  | 0.08                | 1410  | 0.047  | 0.13                  | 2200             | 1760                              | UPM2A471MHD     |              |
| 470                         | 18×35.5                | 0.08                | 1410  | 0.056  | 0.15                  | 1970             | 1570                              | UPM2A471MHD6    |              |
| 560                         | 18×35.5                | 0.08                | 1680  | 0.041  | 0.11                  | 2250             | 1840                              | UPM2A561MHD     |              |
| 680                         | 18×40                  | 0.08                | 2040  | 0.036  | 0.097                 | 2300             | 1910                              | UPM2A681MHD     |              |

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

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