

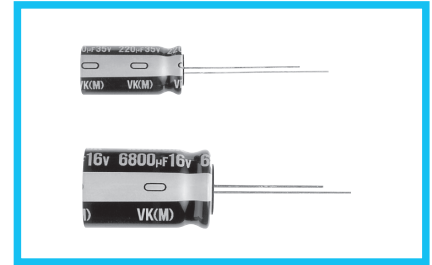
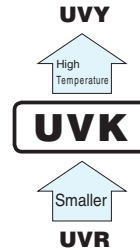
UVK

Miniature Sized



Smaller

- One rank smaller case sizes than UVR.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

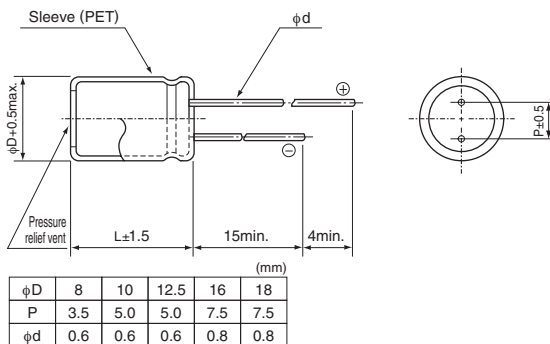


## Specifications

| Item                          | Performance Characteristics  |  |      |      |      |      |  |           |   |            |            |     |
|-------------------------------|--|--|------|------|------|------|--|-----------|---|------------|------------|-----|
| Category Temperature Range    | -40 to +85°C (6.3V to 400V), -25°C to +85°C (450V)   |  |      |      |      |      |  |           |   |            |            |     |
| Rated Voltage Range           | 6.3 to 450V  |  |      |      |      |      |  |           |   |            |            |     |
| Rated Capacitance Range       | 22 to 22000μF  |  |      |      |      |      |  |           |   |            |            |     |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C  |  |      |      |      |      |  |           |   |            |            |     |
| Leakage Current ※             | Rated voltage (V)  | 6.3 to 100V  |      |      |      |      | 160 to 450V  |           |   |            |            |     |
|                               | _____  | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV(μA).<br><br>After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(μA). |      |      |      |      | After 1 minute's application of rated voltage at 20°C, CV ≤ 1000 : I = 0.1CV+40μA or less<br>CV>1000 : I = 0.04CV+100 (μA) or less |           |   |            |            |     |
| Tangent of loss angle (tan δ) | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. Measurement frequency : 120Hz at 20°C  |  |      |      |      |      |  |           |   |            |            |     |
|                               | Rated voltage (V)  | 6.3  | 10   | 16   | 25   | 35   | 50   | 63        | 100   | 160 to 250 | 350 to 450 |     |
|                               | tan δ (max.)   | 0.28   | 0.24 | 0.20 | 0.16 | 0.14 | 0.12   | 0.10      | 0.08  | 0.20       | 0.25       |     |
| Stability at Low Temperature  | Measurement frequency : 120Hz  |  |      |      |      |      |  |           |   |            |            |     |
|                               | Rated voltage (V)  |  | 6.3  | 10   | 16   | 25   | 35   | 50 to 100 | 160 to 200  | 250 to 350 | 400        | 450 |
|                               | Impedance ratio (max.)   | Z(-25°C) / Z(+20°C)  | 5    | 4    | 3    | 2    | 2  | 2         | 3   | 4          | 6          | 15  |
|                               |  | Z(-40°C) / Z(+20°C)  | 12   | 10   | 8    | 5    | 4  | 3         | 4   | 8          | 10         | —   |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.  |  |      |      |      |      | 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 85°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 black sleeve.   |  |      |      |      |      |  |           |   |            |            |     |

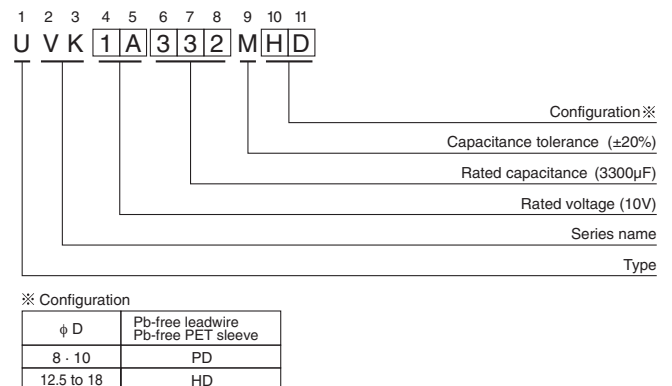
※ I : Leakage Current (µA), C : Rated Capacitance (µF), V : Rated Voltage (V)

## Radial Lead Type



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

## Type numbering system (Example : 10V 3300µF)



## Frequency coefficient of rated ripple current

| V          | Cap.(µF)   | Frequency     | 50Hz | 120Hz | 300Hz | 1 kHz | 10kHz or more |
|------------|------------|---------------|------|-------|-------|-------|---------------|
| 6.3 to 100 | 33 to 68   |               | 0.75 | 1.00  | 1.35  | 1.57  | 2.00          |
|            |            | 100 to 470    | 0.80 | 1.00  | 1.23  | 1.34  | 1.50          |
|            |            | 1000 to 22000 | 0.85 | 1.00  | 1.10  | 1.13  | 1.15          |
| 160 to 450 | 2.2 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          |

UVK

## ■ 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) |                            | Rated Ripple<br>(mA <sub>rms</sub> )<br>(85°C/120Hz) | Part Number |
|--------------------------------|---------------------------------|------------------------------|--------------|-------------------------------|----------------------------|--|-------------|
|                                |                                 |                              |              | at 20°C after<br>1 minute     | at 20°C after<br>2 minutes |  |             |
| 6.3<br>(0J)                    | 1000                            | 8×11.5                       | 0.28         | 189                           | 63                         | 540  | UVK0J102MPD |
|                                | 2200                            | 10×16                        | 0.30         | 415.8                         | 138.6                      | 890  | UVK0J222MPD |
|                                | 3300                            | 10×20                        | 0.32         | 623.7                         | 207.9                      | 1190   | UVK0J332MPD |
|                                | 4700                            | 12.5×20                      | 0.34         | 888.3                         | 296.1                      | 1550   | UVK0J472MHD |
|                                | 6800                            | 12.5×25                      | 0.38         | 1285.2                        | 428.4                      | 1920   | UVK0J682MHD |
|                                | 10000                           | 16×25                        | 0.46         | 1890                          | 630                        | 2350   | UVK0J103MHD |
|                                | 15000                           | 16×30.5                      | 0.56         | 2835                          | 945                        | 2550   | UVK0J153MHD |
|                                | 22000                           | 18×35.5                      | 0.70         | 4158                          | 1386                       | 3200   | UVK0J223MHD |
| 10<br>(1A)                     | 1000                            | 10×12.5                      | 0.24         | 300                           | 100                        | 650  | UVK1A102MPD |
|                                | 2200                            | 10×16                        | 0.26         | 660                           | 220                        | 990  | UVK1A222MPD |
|                                | 3300                            | 12.5×20                      | 0.28         | 990                           | 330                        | 1450   | UVK1A332MHD |
|                                | 4700                            | 12.5×25                      | 0.30         | 1410                          | 470                        | 1800   | UVK1A472MHD |
|                                | 6800                            | 16×25                        | 0.34         | 2040                          | 680                        | 2250   | UVK1A682MHD |
|                                | 10000                           | 16×30.5                      | 0.42         | 3000                          | 1000                       | 2550   | UVK1A103MHD |
|                                | 15000                           | 16×35.5                      | 0.52         | 4500                          | 1500                       | 2880   | UVK1A153MHD |
|                                | 22000                           | 18×40                        | 0.66         | 6600                          | 2200                       | 3400   | UVK1A223MHD |
| 16<br>(1C)                     | 470                             | 8×11.5                       | 0.20         | 225.6                         | 75.2                       | 440  | UVK1C471MPD |
|                                | 1000                            | 10×12.5                      | 0.20         | 480                           | 160                        | 700  | UVK1C102MPD |
|                                | 2200                            | 10×20                        | 0.22         | 1056                          | 352                        | 1000   | UVK1C222MPD |
|                                | 3300                            | 12.5×25                      | 0.24         | 1584                          | 528                        | 1700   | UVK1C332MHD |
|                                | 4700                            | 16×25                        | 0.26         | 2256                          | 752                        | 2100   | UVK1C472MHD |
|                                | 6800                            | 16×25                        | 0.30         | 3264                          | 1088                       | 2250   | UVK1C682MHD |
|                                | 10000                           | 16×35.5                      | 0.38         | 4800                          | 1600                       | 2710   | UVK1C103MHD |
|                                | 15000                           | 18×40                        | 0.48         | 7200                          | 2400                       | 3100   | UVK1C153MHD |
| 25<br>(1E)                     | 330                             | 8×11.5                       | 0.16         | 247.5                         | 82.5                       | 390  | UVK1E331MPD |
|                                | 470                             | 10×12.5                      | 0.16         | 352.5                         | 117.5                      | 550  | UVK1E471MPD |
|                                | 1000                            | 10×16                        | 0.16         | 750                           | 250                        | 860  | UVK1E102MPD |
|                                | 2200                            | 12.5×25                      | 0.18         | 1650                          | 550                        | 1550   | UVK1E222MHD |
|                                | 3300                            | 16×25                        | 0.20         | 2475                          | 825                        | 1980   | UVK1E332MHD |
|                                | 4700                            | 16×25                        | 0.22         | 3525                          | 1175                       | 2200   | UVK1E472MHD |
|                                | 6800                            | 16×35.5                      | 0.26         | 5100                          | 1700                       | 2600   | UVK1E682MHD |
|                                | 10000                           | 18×40                        | 0.34         | 7500                          | 2500                       | 2800   | UVK1E103MHD |
| 35<br>(1V)                     | 220                             | 8×11.5                       | 0.14         | 231                           | 77                         | 350  | UVK1V221MPD |
|                                | 330                             | 10×12.5                      | 0.14         | 346.5                         | 115.5                      | 490  | UVK1V331MPD |
|                                | 470                             | 10×16                        | 0.14         | 493.5                         | 164.5                      | 650  | UVK1V471MPD |
|                                | 1000                            | 12.5×20                      | 0.14         | 1050                          | 350                        | 1150   | UVK1V102MHD |
|                                | 2200                            | 16×25                        | 0.16         | 2310                          | 770                        | 1800   | UVK1V222MHD |
|                                | 3300                            | 16×30.5                      | 0.18         | 3465                          | 1155                       | 2100   | UVK1V332MHD |
|                                | 4700                            | 16×35.5                      | 0.20         | 4935                          | 1645                       | 2500   | UVK1V472MHD |
|                                | 6800                            | 18×40                        | 0.24         | 7140                          | 2380                       | 2800   | UVK1V682MHD |
| 50<br>(1H)                     | 100                             | 8×11.5                       | 0.12         | 150                           | 50                         | 260  | UVK1H101MPD |
|                                | 220                             | 10×12.5                      | 0.12         | 330                           | 110                        | 430  | UVK1H221MPD |
|                                | 330                             | 10×16                        | 0.12         | 495                           | 165                        | 590  | UVK1H331MPD |
|                                | 470                             | 10×20                        | 0.12         | 705                           | 235                        | 760  | UVK1H471MPD |
|                                | 1000                            | 12.5×25                      | 0.12         | 1500                          | 500                        | 1350   | UVK1H102MHD |
|                                | 2200                            | 16×30.5                      | 0.14         | 3300                          | 1100                       | 1980   | UVK1H222MHD |
|                                | 3300                            | 18×35.5                      | 0.16         | 4950                          | 1650                       | 2500   | UVK1H332MHD |

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.

UVK

## ■ 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) |                            | Rated Ripple<br>(mA <sub>rms</sub> )<br>(85°C/120Hz) | Part Number |
|--------------------------------|---------------------------------|------------------------------|--------------|-------------------------------|----------------------------|--|-------------|
|                                |                                 |                              |              | at 20°C after<br>1 minute     | at 20°C after<br>2 minutes |  |             |
| 63<br>(1J)                     | 68                              | 8×11.5                       | 0.10         | 128.52                        | 42.84                      | 220  | UVK1J680MPD |
|                                | 100                             | 8×11.5                       | 0.10         | 189                           | 63                         | 280  | UVK1J101MPD |
|                                | 220                             | 10×16                        | 0.10         | 415.8                         | 138.6                      | 490  | UVK1J221MPD |
|                                | 330                             | 10×20                        | 0.10         | 623.7                         | 207.9                      | 710  | UVK1J331MPD |
|                                | 470                             | 12.5×20                      | 0.10         | 888.3                         | 296.1                      | 900  | UVK1J471MHD |
|                                | 1000                            | 16×25                        | 0.10         | 1890                          | 630                        | 1300   | UVK1J102MHD |
|                                | 2200                            | 18×35.5                      | 0.12         | 4158                          | 1386                       | 2300   | UVK1J222MHD |
| 100<br>(2A)                    | 33                              | 8×11.5                       | 0.08         | 99                            | 33                         | 180  | UVK2A330MPD |
|                                | 47                              | 8×11.5                       | 0.08         | 141                           | 47                         | 200  | UVK2A470MPD |
|                                | 68                              | 10×12.5                      | 0.08         | 204                           | 68                         | 270  | UVK2A680MPD |
|                                | 100                             | 10×16                        | 0.08         | 300                           | 100                        | 340  | UVK2A101MPD |
|                                | 220                             | 12.5×20                      | 0.08         | 660                           | 220                        | 550  | UVK2A221MHD |
|                                | 330                             | 12.5×25                      | 0.08         | 990                           | 330                        | 760  | UVK2A331MHD |
|                                | 470                             | 16×25                        | 0.08         | 1410                          | 470                        | 1000   | UVK2A471MHD |
|                                | 1000                            | 18×35.5                      | 0.08         | 3000                          | 1000                       | 1350   | UVK2A102MHD |
| 160<br>(2C)                    | 10                              | 8×11.5                       | 0.20         | 164                           | —                          | 80   | UVK2C100MPD |
|                                | 22                              | 10×12.5                      | 0.20         | 240.8                         | —                          | 130  | UVK2C220MPD |
|                                | 33                              | 10×16                        | 0.20         | 311.2                         | —                          | 180  | UVK2C330MPD |
|                                | 47                              | 10×20                        | 0.20         | 400.8                         | —                          | 210  | UVK2C470MPD |
|                                | 68                              | 12.5×20                      | 0.20         | 535.2                         | —                          | 350  | UVK2C680MHD |
|                                | 100                             | 12.5×25                      | 0.20         | 740                           | —                          | 430  | UVK2C101MHD |
|                                | 220                             | 16×30.5                      | 0.20         | 1508                          | —                          | 580  | UVK2C221MHD |
|                                | 330                             | 18×35.5                      | 0.20         | 2212                          | —                          | 800  | UVK2C331MHD |
|                                | 470                             | 18×40                        | 0.20         | 3108                          | —                          | 1200   | UVK2C471MHD |
| 200<br>(2D)                    | 10                              | 8×11.5                       | 0.20         | 180                           | —                          | 80   | UVK2D100MPD |
|                                | 22                              | 10×16                        | 0.20         | 276                           | —                          | 150  | UVK2D220MPD |
|                                | 33                              | 10×20                        | 0.20         | 364                           | —                          | 200  | UVK2D330MPD |
|                                | 47                              | 12.5×20                      | 0.20         | 476                           | —                          | 270  | UVK2D470MHD |
|                                | 68                              | 12.5×25                      | 0.20         | 644                           | —                          | 350  | UVK2D680MHD |
|                                | 100                             | 16×25                        | 0.20         | 900                           | —                          | 450  | UVK2D101MHD |
|                                | 220                             | 16×35.5                      | 0.20         | 1860                          | —                          | 700  | UVK2D221MHD |
|                                | 330                             | 18×40                        | 0.20         | 2740                          | —                          | 950  | UVK2D331MHD |
|                                | 470                             | 18×40                        | 0.20         | 3108                          | —                          | 1200   | UVK2D471MHD |
| 250<br>(2E)                    | 10                              | 10×12.5                      | 0.20         | 200                           | —                          | 100  | UVK2E100MPD |
|                                | 22                              | 10×20                        | 0.20         | 320                           | —                          | 150  | UVK2E220MPD |
|                                | 33                              | 10×20                        | 0.20         | 430                           | —                          | 200  | UVK2E330MPD |
|                                | 47                              | 12.5×20                      | 0.20         | 570                           | —                          | 270  | UVK2E470MHD |
|                                | 68                              | 16×25                        | 0.20         | 780                           | —                          | 380  | UVK2E680MHD |
|                                | 100                             | 16×25                        | 0.20         | 1100                          | —                          | 440  | UVK2E101MHD |
|                                | 220                             | 18×35.5                      | 0.20         | 2300                          | —                          | 680  | UVK2E221MHD |

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UVK

## ■ 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) |                            | Rated Ripple<br>(mA <sub>rms</sub> )<br>(85°C/120Hz) | Part Number |
|--------------------------------|---------------------------------|---------------------------------------|--------------|-------------------------------|----------------------------|--|-------------|
|                                |                                 |                                       |              | at 20°C after<br>1 minute     | at 20°C after<br>2 minutes |  |             |
| 350<br>(2V)                    | 3.3                             | 8 $\times$ 11.5                       | 0.25         | 146.2                         | —                          | 43   | UVK2V3R3MPD |
|                                | 4.7                             | 8 $\times$ 11.5                       | 0.25         | 165.8                         | —                          | 55   | UVK2V4R7MPD |
|                                | 10                              | 10 $\times$ 12.5                      | 0.25         | 240                           | —                          | 90   | UVK2V100MPD |
|                                | 22                              | 12.5 $\times$ 20                      | 0.25         | 408                           | —                          | 150  | UVK2V220MHD |
|                                | 33                              | 12.5 $\times$ 25                      | 0.25         | 562                           | —                          | 240  | UVK2V330MHD |
|                                | 47                              | 16 $\times$ 25                        | 0.25         | 758                           | —                          | 300  | UVK2V470MHD |
|                                | 68                              | 16 $\times$ 25                        | 0.25         | 1052                          | —                          | 400  | UVK2V680MHD |
|                                | 100                             | 18 $\times$ 35.5                      | 0.25         | 1500                          | —                          | 520  | UVK2V101MHD |
| 400<br>(2G)                    | 2.2                             | 8 $\times$ 11.5                       | 0.25         | 128                           | —                          | 38   | UVK2G2R2MPD |
|                                | 3.3                             | 8 $\times$ 11.5                       | 0.25         | 152.8                         | —                          | 48   | UVK2G3R3MPD |
|                                | 4.7                             | 10 $\times$ 12.5                      | 0.25         | 175.2                         | —                          | 60   | UVK2G4R7MPD |
|                                | 10                              | 10 $\times$ 16                        | 0.25         | 260                           | —                          | 90   | UVK2G100MPD |
|                                | 22                              | 12.5 $\times$ 25                      | 0.25         | 452                           | —                          | 200  | UVK2G220MHD |
|                                | 33                              | 16 $\times$ 25                        | 0.25         | 628                           | —                          | 240  | UVK2G330MHD |
|                                | 47                              | 16 $\times$ 25                        | 0.25         | 852                           | —                          | 280  | UVK2G470MHD |
|                                | 68                              | 16 $\times$ 30.5                      | 0.25         | 1188                          | —                          | 340  | UVK2G680MHD |
|                                | 100                             | 18 $\times$ 35.5                      | 0.25         | 1700                          | —                          | 440  | UVK2G101MHD |
| 450<br>(2W)                    | 2.2                             | 8 $\times$ 11.5                       | 0.25         | 139                           | —                          | 28   | UVK2W2R2MPD |
|                                | 3.3                             | 10 $\times$ 12.5                      | 0.25         | 159.4                         | —                          | 40   | UVK2W3R3MPD |
|                                | 4.7                             | 10 $\times$ 12.5                      | 0.25         | 184.6                         | —                          | 46   | UVK2W4R7MPD |
|                                | 10                              | 10 $\times$ 20                        | 0.25         | 280                           | —                          | 80   | UVK2W100MPD |
|                                | 22                              | 12.5 $\times$ 25                      | 0.25         | 496                           | —                          | 140  | UVK2W220MHD |
|                                | 33                              | 16 $\times$ 25                        | 0.25         | 694                           | —                          | 180  | UVK2W330MHD |
|                                | 47                              | 16 $\times$ 30.5                      | 0.25         | 946                           | —                          | 220  | UVK2W470MHD |
|                                | 68                              | 18 $\times$ 35.5                      | 0.25         | 1324                          | —                          | 260  | UVK2W680MHD |
|                                | 100                             | 18 $\times$ 40                        | 0.25         | 1900                          | —                          | 280  | UVK2W101MHD |

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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.

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