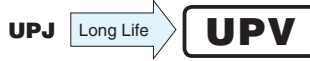
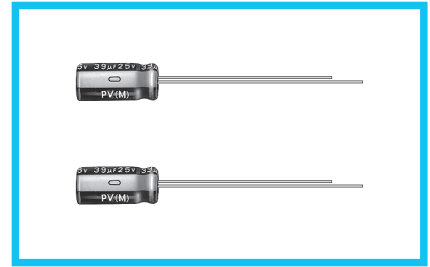


**UPV** Miniature Sized, Low Impedance,  
High Reliability



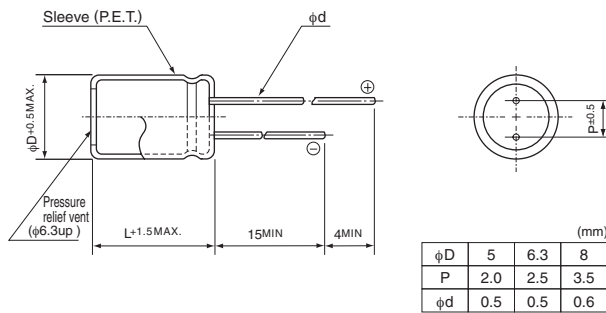
- Miniature sized low impedance series withstanding 5000 hours load life at +105°C.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).



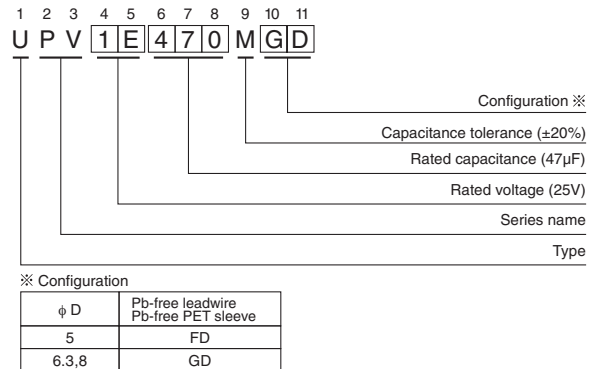
## Specifications

| Item                          | Performance Characteristics  |     |                    |    |    |    |    |   |
|-------------------------------|--|-----|--------------------|----|----|----|----|---|
| Category Temperature Range    | -55 to +105°C  |     |                    |    |    |    |    |   |
| Rated Voltage Range           | 6.3 to 50V   |     |                    |    |    |    |    |   |
| Rated Capacitance Range       | 1.5 to 390µF   |     |                    |    |    |    |    |   |
| 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 or 4 (µA), whichever is greater.  |     |                    |    |    |    |    |   |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C  |     |                    |    |    |    |    |   |
|                               | Rated voltage (V)  | 6.3 | 10                 | 16 | 25 | 35 | 50 |   |
| Stability at Low Temperature  | Measurement frequency : 120Hz  |     |                    |    |    |    |    |   |
|                               | Rated voltage (V)  | 6.3 | 10                 | 16 | 25 | 35 | 50 |   |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours at 105°C.   |     | Capacitance change |    |    |    |    | Within ±30% of the initial capacitance value      |
|                               |  |     | tan δ              |    |    |    |    | 300% or less than the initial specified value     |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed at right. |     | Capacitance change |    |    |    |    | Within ±20% of the initial capacitance value      |
|                               |  |     | tan δ              |    |    |    |    | 150% or less than the initial specified value     |
| Marking                       | Printed with white color letter on dark brown sleeve.  |     | Leakage current    |    |    |    |    | Less than or equal to the initial specified value |

## Radial Lead Type

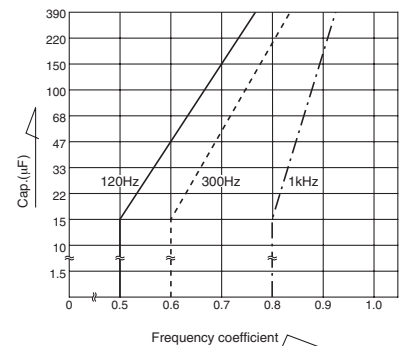


## Type numbering system (Example : 25V 47µF)



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

• Frequency coefficient of rated ripple current (10kHz to 200kHz=1)



Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

• Dimension table in next page.

## UPV

### ■ Dimensions

| V(Code)        |      | 6.3 (0J)        |                          |                                  | 10 (1A)                 |                          |                                  | 16 (1C)                 |                          |                                  | 25 (1E)                 |                          |                                  |                         |
|----------------|------|-----------------|--------------------------|----------------------------------|-------------------------|--------------------------|----------------------------------|-------------------------|--------------------------|----------------------------------|-------------------------|--------------------------|----------------------------------|-------------------------|
| Cap.( $\mu$ F) | Code | Item            | Case size                | Impedance                        | Rated ripple            | Case size                | Impedance                        | Rated ripple            | Case size                | Impedance                        | Rated ripple            | Case size                | Impedance                        | Rated ripple            |
|                |      |                 | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz |
| 33             | 330  |                 |                          |                                  |                         |                          |                                  |                         |                          |                                  |                         | 5 $\times$ 11            | 1.40                             | 155                     |
| 39             | 390  |                 |                          |                                  |                         |                          |                                  |                         |                          |                                  |                         | 5 $\times$ 11            | 1.10                             | 175                     |
| 47             | 470  |                 |                          |                                  |                         |                          |                                  |                         | 5 $\times$ 11            | 1.40                             | 155                     | 6.3 $\times$ 11          | 0.94                             | 210                     |
| 56             | 560  |                 |                          |                                  |                         |                          |                                  |                         | 5 $\times$ 11            | 1.10                             | 175                     | 6.3 $\times$ 11          | 0.75                             | 235                     |
| 68             | 680  |                 |                          |                                  |                         | 5 $\times$ 11            | 1.40                             | 155                     | 6.3 $\times$ 11          | 0.85                             | 220                     | 6.3 $\times$ 11          | 0.61                             | 260                     |
| 82             | 820  |                 |                          |                                  |                         | 5 $\times$ 11            | 1.10                             | 175                     | 6.3 $\times$ 11          | 0.71                             | 240                     | 6.3 $\times$ 11          | 0.51                             | 285                     |
| 100            | 101  | 5 $\times$ 11   | 1.50                     | 150                              | 6.3 $\times$ 11         | 0.94                     | 210                              | 6.3 $\times$ 11         | 0.60                     | 265                              | 8 $\times$ 11.5         | 0.41                     | 370                              |                         |
| 120            | 121  | 5 $\times$ 11   | 1.10                     | 175                              | 6.3 $\times$ 11         | 0.75                     | 235                              | 6.3 $\times$ 11         | 0.49                     | 290                              | 8 $\times$ 11.5         | 0.34                     | 405                              |                         |
| 150            | 151  | 6.3 $\times$ 11 | 0.83                     | 225                              | 6.3 $\times$ 11         | 0.60                     | 265                              | 8 $\times$ 11.5         | 0.39                     | 375                              | 8 $\times$ 11.5         | 0.27                     | 460                              |                         |
| 180            | 181  | 6.3 $\times$ 11 | 0.66                     | 250                              | 6.3 $\times$ 11         | 0.49                     | 290                              | 8 $\times$ 11.5         | 0.34                     | 405                              |                         |                          |                                  |                         |
| 220            | 221  | 6.3 $\times$ 11 | 0.51                     | 285                              | 8 $\times$ 11.5         | 0.41                     | 370                              | 8 $\times$ 11.5         | 0.27                     | 460                              |                         |                          |                                  |                         |
| 270            | 271  | 8 $\times$ 11.5 | 0.41                     | 370                              | 8 $\times$ 11.5         | 0.34                     | 405                              |                         |                          |                                  |                         |                          |                                  |                         |
| 330            | 331  | 8 $\times$ 11.5 | 0.34                     | 405                              | 8 $\times$ 11.5         | 0.27                     | 460                              |                         |                          |                                  |                         |                          |                                  |                         |
| 390            | 391  | 8 $\times$ 11.5 | 0.29                     | 445                              |                         |                          |                                  |                         |                          |                                  |                         |                          |                                  |                         |

| V(Code)        |      | 35 (1V)         |                          |                                  | 50 (1H)                 |                          |                                  |                         |
|----------------|------|-----------------|--------------------------|----------------------------------|-------------------------|--------------------------|----------------------------------|-------------------------|
| Cap.( $\mu$ F) | Code | Item            | Case size                | Impedance                        | Rated ripple            | Case size                | Impedance                        | Rated ripple            |
|                |      |                 | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz | $\phi$ D $\times$ L (mm) | ( $\Omega$ ) MAX.<br>20°C/100kHz | (mArms)<br>105°C/100kHz |
| 1.5            | 1R5  |                 |                          |                                  | 5 $\times$ 11           | 11.0                     | 45                               |                         |
| 2.2            | 2R2  |                 |                          |                                  | 5 $\times$ 11           | 7.00                     | 54                               |                         |
| 3.3            | 3R3  |                 |                          |                                  | 5 $\times$ 11           | 4.60                     | 66                               |                         |
| 4.7            | 4R7  |                 |                          |                                  | 5 $\times$ 11           | 3.10                     | 81                               |                         |
| 6.8            | 6R8  |                 |                          |                                  | 5 $\times$ 11           | 2.50                     | 91                               |                         |
| 10             | 100  |                 |                          |                                  | 5 $\times$ 11           | 2.00                     | 115                              |                         |
| 12             | 120  |                 |                          |                                  | 5 $\times$ 11           | 1.70                     | 125                              |                         |
| 15             | 150  |                 |                          |                                  | 5 $\times$ 11           | 1.30                     | 145                              |                         |
| 18             | 180  |                 |                          |                                  | 5 $\times$ 11           | 1.10                     | 155                              |                         |
| 22             | 220  | 5 $\times$ 11   | 1.30                     | 160                              | 6.3 $\times$ 11         | 0.91                     | 195                              |                         |
| 27             | 270  | 5 $\times$ 11   | 1.00                     | 180                              | 6.3 $\times$ 11         | 0.74                     | 215                              |                         |
| 33             | 330  | 6.3 $\times$ 11 | 0.83                     | 225                              | 6.3 $\times$ 11         | 0.60                     | 240                              |                         |
| 39             | 390  | 6.3 $\times$ 11 | 0.70                     | 245                              | 6.3 $\times$ 11         | 0.50                     | 260                              |                         |
| 47             | 470  | 6.3 $\times$ 11 | 0.58                     | 270                              | 8 $\times$ 11.5         | 0.42                     | 330                              |                         |
| 56             | 560  | 6.3 $\times$ 11 | 0.48                     | 295                              | 8 $\times$ 11.5         | 0.35                     | 360                              |                         |
| 68             | 680  | 8 $\times$ 11.5 | 0.41                     | 370                              | 8 $\times$ 11.5         | 0.28                     | 410                              |                         |
| 82             | 820  | 8 $\times$ 11.5 | 0.32                     | 415                              |                         |                          |                                  |                         |
| 100            | 101  | 8 $\times$ 11.5 | 0.27                     | 460                              |                         |                          |                                  |                         |

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