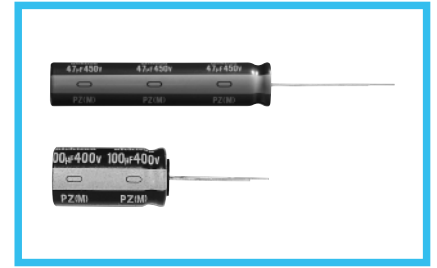
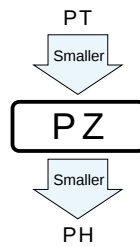


**PZ** High Voltage, Smaller-sized series



Upgrade

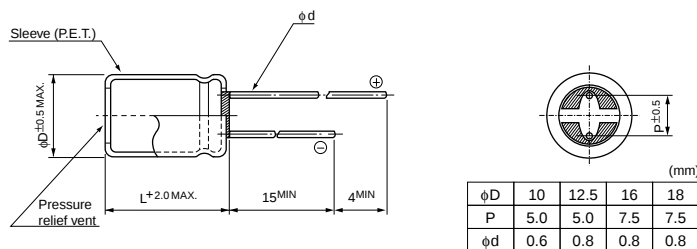
- High ripple current.
- Load life of 2000 hours at 105°C.
- Suited for ballast applications.
- Compliant to the RoHS directive (2002/95/EC).



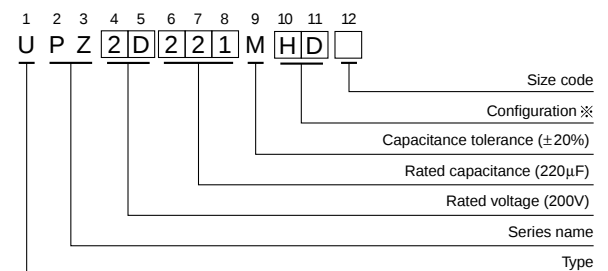
## Specifications

| Item                          | Performance Characteristics                                                                                                                                                                                                             |                 |      |      |      |                    |                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------|------|--------------------|---------------------------------------------------|
| Category Temperature Range    | -25 to +105°C                                                                                                                                                                                                                           |                 |      |      |      |                    |                                                   |
| Rated Voltage Range           | 200 to 450V                                                                                                                                                                                                                             |                 |      |      |      |                    |                                                   |
| Rated Capacitance Range       | 18 to 470μF                                                                                                                                                                                                                             |                 |      |      |      |                    |                                                   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                                     |                 |      |      |      |                    |                                                   |
| Leakage Current               | After 1 minute's application of rated voltage, leakage current is not more than 0.04CV+100 (μA).                                                                                                                                        |                 |      |      |      |                    |                                                   |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C                                                                                                                                                                                                   |                 |      |      |      |                    |                                                   |
|                               | Rated voltage (V)                                                                                                                                                                                                                       | 200             | 250  | 400  | 420  | 450                |                                                   |
|                               | tan δ (MAX.)                                                                                                                                                                                                                            | 0.12            | 0.15 | 0.15 | 0.20 | 0.20               |                                                   |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                                           |                 |      |      |      |                    |                                                   |
|                               | Rated voltage (V)                                                                                                                                                                                                                       | 200             | 250  | 400  | 420  | 450                |                                                   |
|                               | Impedance ratio ZT / Z20 (MAX.)                                                                                                                                                                                                         | Z-25°C / Z+20°C | 3    | 3    | 8    | 8                  | 8                                                 |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 2000 hours at 105°C, the peak voltage shall not exceed the rated voltage.             |                 |      |      |      | Capacitance change | Within ±20% of the initial capacitance value      |
|                               |                                                                                                                                                                                                                                         |                 |      |      |      | tan δ              | 200% or less than the initial specified value     |
|                               |                                                                                                                                                                                                                                         |                 |      |      |      | Leakage current    | Less than or equal to the initial specified value |
|                               |                                                                                                                                                                                                                                         |                 |      |      |      |                    |                                                   |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. |                 |      |      |      |                    |                                                   |
| Marking                       | Printed with white color letter on dark brown sleeve.                                                                                                                                                                                   |                 |      |      |      |                    |                                                   |

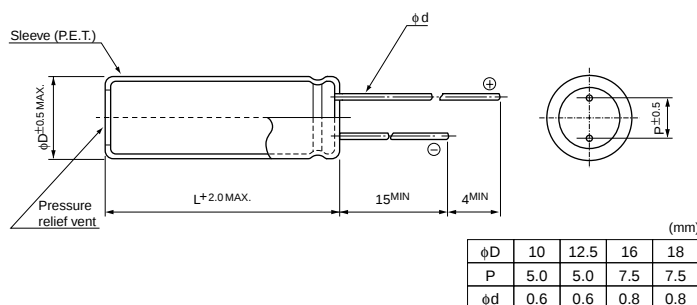
## Radial Lead Type



## Type numbering system (Example : 200V 220μF)



## Pencil - shaped Type



### ※ Configuration

| Size code  | Blank, 6                            | 9  |
|------------|-------------------------------------|----|
| φ D        | Pb-free leadwire Pb-free PET sleeve |    |
| 10         | PD                                  | ND |
| 12.5 to 18 | HD                                  | NY |

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

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.

## ■ Dimensions

| Cap.(μF) | V<br>Code | 200                  |              | 400                  |            | 420                |            | 450                 |              |
|----------|-----------|----------------------|--------------|----------------------|------------|--------------------|------------|---------------------|--------------|
|          |           | 2D                   |              | 2G                   |            | W6                 |            | 2W                  |              |
| 18       | 180       |                      |              |                      |            |                    |            | 10×31.5             | 180          |
| 22       | 220       |                      |              |                      |            | 10×31.5            | 200        |                     |              |
| 27       | 270       |                      |              | 10×31.5              | 240        |                    |            |                     |              |
| 33       | 330       |                      |              |                      |            |                    |            | 12.5×31.5           | 280          |
| 39       | 390       |                      |              |                      |            | 12.5×31.5          | 310        | 12.5×35.5           | 320          |
| 47       | 470       |                      |              | 12.5×31.5            | 370        | 12.5×35.5          | 360        | 12.5×40             | 380          |
| 56       | 560       |                      |              | 12.5×35.5            | 420        | 12.5×40            | 430        | 16×31.5             | 440          |
| 68       | 680       |                      |              | 12.5×40              | 480        | 16×31.5            | 510        | 16×35.5             | 490          |
| 82       | 820       | 10×31.5              | 400          |                      |            | 16×35.5            | 570        | 16×40<br>▲ 18×31.5  | 550<br>550   |
| 100      | 101       |                      |              | 16×31.5              | 580        | 16×40<br>▲ 18×31.5 | 610<br>610 | 18×35.5             | 650          |
| 120      | 121       |                      |              | 16×35.5<br>▲ 18×31.5 | 670<br>670 | 18×35.5            | 660        | 18×40               | 740          |
| 150      | 151       | 12.5×31.5            | 620          | 16×40<br>▲ 18×35.5   | 770<br>770 | 18×40              | 710        |                     |              |
| 180      | 181       | 12.5×35.5            | 700          | 18×40                | 880        |                    |            |                     |              |
| 220      | 221       | 12.5×40              | 800          |                      |            |                    |            |                     |              |
| 270      | 271       | 16×31.5              | 870          |                      |            |                    |            |                     |              |
| 330      | 331       | 16×35.5<br>▲ 18×31.5 | 1010<br>1010 |                      |            |                    |            |                     |              |
| 390      | 391       | 16×40<br>▲ 18×35.5   | 1130<br>1120 |                      |            |                    |            |                     |              |
| 470      | 471       | 18×40                | 1270         |                      |            |                    |            | Case size φD×L (mm) | Rated ripple |

Rated ripple current (mA<sub>rms</sub>) at 105°C 120Hz

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

## Pencil-shaped Type

| Cap.(μF) | V<br>Code | 200       |      | 250       |      | 400       |     | 450                 |              |
|----------|-----------|-----------|------|-----------|------|-----------|-----|---------------------|--------------|
|          |           | 2D        |      | 2E        |      | 2G        |     | 2W                  |              |
| 33       | 330       |           |      |           |      |           |     | ● 10×40             | 360          |
| 47       | 470       |           |      |           |      | ● 10×40   | 435 | ● 10×50             | 450          |
| 56       | 560       |           |      |           |      | ● 10×50   | 520 |                     |              |
| 82       | 820       |           |      | ● 10×40   | 610  |           |     | ● 12.5×50           | 730          |
| 100      | 101       |           |      |           |      | ● 12.5×50 | 770 |                     |              |
| 120      | 121       | ● 10×40   | 680  | ● 10×50   | 740  |           |     |                     |              |
| 150      | 151       | ● 10×50   | 830  |           |      |           |     |                     |              |
| 220      | 221       |           |      | ● 12.5×50 | 1140 |           |     | Case size φD×L (mm) | Rated ripple |
| 270      | 271       | ● 12.5×50 | 1265 |           |      |           |     |                     |              |

Rated ripple current (mA<sub>rms</sub>) at 105°C 120Hz

● : In this case, [9] will be put at 12th digit of type numbering system.

## ● Frequency coefficient of rated ripple current

| V          | 60Hz | 120Hz | 500Hz | 1kHz | 10kHz or more |
|------------|------|-------|-------|------|---------------|
| 200        | 0.80 | 1.00  | 1.20  | 1.30 | 1.40          |
| 400 to 450 | 0.80 | 1.00  | 1.25  | 1.40 | 1.50          |