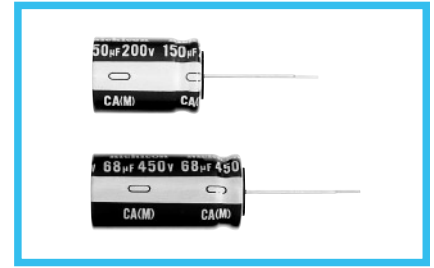
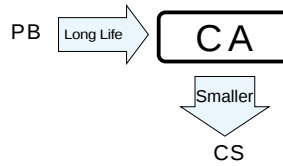


**CA** series

Miniature Sized, High Ripple Current, Long Life



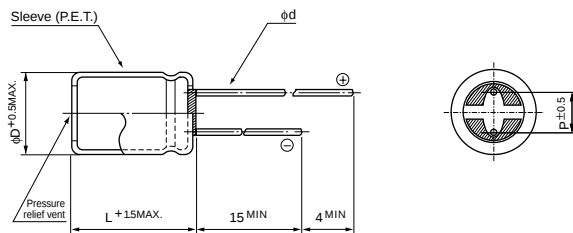
- High ripple current and Long Life product withstanding load life of 12000 hours(10000 hours for  $\phi D=10$ ) at +105°C.
- Suited for ballast application.
- Compliant to the RoHS directive (2002/95/EC).



## Specifications

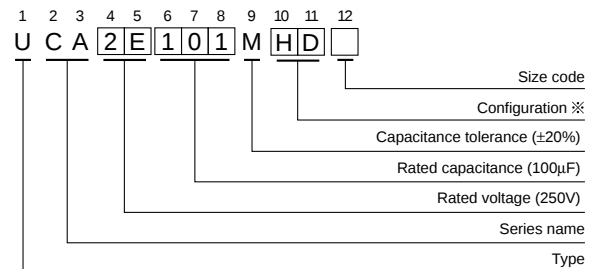
| Item                          | Performance Characteristics                                                                                                                                                                                                                          |      |                 |      |      |                    |                                                   |     |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------|------|------|--------------------|---------------------------------------------------|-----|
| Category Temperature Range    | -25 to +105°C                                                                                                                                                                                                                                        |      |                 |      |      |                    |                                                   |     |
| Rated Voltage Range           | 160 to 450V                                                                                                                                                                                                                                          |      |                 |      |      |                    |                                                   |     |
| Rated Capacitance Range       | 6.8 to 220μF                                                                                                                                                                                                                                         |      |                 |      |      |                    |                                                   |     |
| 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,    Temperature : 20°C                                                                                                                                                                                                 |      |                 |      |      |                    |                                                   |     |
|                               | Rated voltage (V)                                                                                                                                                                                                                                    | 160  | 200             | 250  | 350  | 400                | 450                                               |     |
|                               | tan δ (MAX.)                                                                                                                                                                                                                                         | 0.15 | 0.15            | 0.15 | 0.20 | 0.20               | 0.20                                              |     |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                                                        |      |                 |      |      |                    |                                                   |     |
|                               | Rated voltage (V)                                                                                                                                                                                                                                    |      | 160             | 200  | 250  | 350                | 400                                               | 450 |
|                               | Impedance ratio ZT / Z20 (MAX.)                                                                                                                                                                                                                      |      | Z-25°C / Z+20°C | 3    | 3    | 3                  | 6                                                 | 6   |
| 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 12000 hours (10000 hours for ϕD=10) at 105°C, the peak voltage shall not exceed the rated voltage. |      |                 |      |      | Capacitance change | Within ±20% of the initial capacitance value      |     |
|                               |                                                                                                                                                                                                                                                      |      |                 |      |      | tan δ              | 200% or less than the initial specified value     |     |
|                               |                                                                                                                                                                                                                                                      |      |                 |      |      | Leakage current    | Less than or equal to the initial specified value |     |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.              |      |                 |      |      |                    |                                                   |     |
| Marking                       | Printed with white color letter on dark brown sleeve.                                                                                                                                                                                                |      |                 |      |      |                    |                                                   |     |

## Radial Lead Type



|    | 10  | 12.5 | 16  | 18  |
|----|-----|------|-----|-----|
| φD | 10  | 12.5 | 16  | 18  |
| P  | 5.0 | 5.0  | 7.5 | 7.5 |
| φd | 0.6 | 0.6  | 0.8 | 0.8 |

## Type numbering system (Example : 250V 100µF)



### ※ Configuration

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

- 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.<br>( $\mu$ F) | V<br>Code | 160       |      | 200       |      | 250       |      | 350       |      | 400       |      | 450                                 |     |
|--------------------|-----------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------------------------------------|-----|
|                    |           | 2C        |      | 2D        |      | 2E        |      | 2V        |      | 2G        |      | 2W                                  |     |
| 6.8                | 6R8       |           |      |           |      |           |      | 10 × 16   | 220  | 10 × 16   | 220  | 10 × 20                             | 150 |
| 10                 | 100       | 10 × 16   | 250  | 10 × 16   | 250  | 10 × 20   | 300  | 10 × 20   | 280  | 10 × 20   | 280  | 12.5 × 20                           | 320 |
| 22                 | 220       | 10 × 20   | 500  | 10 × 20   | 500  | 12.5 × 20 | 600  | 12.5 × 20 | 350  | 12.5 × 20 | 430  | 16 × 25                             | 560 |
|                    |           | ▲ 16 × 20 | 600  | ▲ 18 × 20 | 560  |           |      |           |      |           |      |                                     |     |
| 33                 | 330       | 10 × 20   | 565  | 12.5 × 20 | 600  | 12.5 × 20 | 630  | 16 × 20   | 600  | 16 × 25   | 640  | 16 × 31.5                           | 700 |
|                    |           | ▲ 18 × 20 | 640  | ▲ 18 × 25 | 700  |           |      |           |      |           |      |                                     |     |
| 47                 | 470       | 12.5 × 20 | 725  | 12.5 × 20 | 780  | 12.5 × 25 | 720  | 16 × 25   | 700  | 16 × 31.5 | 840  | 18 × 31.5                           | 900 |
|                    |           | ▲ 16 × 20 | 750  | ▲ 18 × 20 | 750  | ▲ 18 × 25 | 840  |           |      |           |      |                                     |     |
| 68                 | 680       | 12.5 × 25 | 950  | 12.5 × 25 | 950  | 16 × 25   | 1000 | 16 × 31.5 | 1100 | 18 × 31.5 | 1000 |                                     |     |
|                    |           | ▲ 16 × 20 | 970  | ▲ 16 × 20 | 970  | ▲ 18 × 20 | 920  | ▲ 18 × 25 | 875  |           |      |                                     |     |
| 100                | 101       | 16 × 25   | 1280 | 16 × 25   | 1280 | 16 × 31.5 | 1400 |           |      |           |      |                                     |     |
|                    |           | ▲ 18 × 20 | 1180 | ▲ 18 × 20 | 1180 | ▲ 18 × 25 | 1345 |           |      |           |      |                                     |     |
| 150                | 151       | 16 × 31.5 | 1360 | 16 × 31.5 | 1360 | 18 × 31.5 | 1500 |           |      |           |      |                                     |     |
|                    |           | ▲ 18 × 25 | 1360 | ▲ 18 × 25 | 1360 |           |      |           |      |           |      |                                     |     |
| 220                | 221       | 16 × 31.5 | 1400 | 18 × 31.5 | 1700 |           |      |           |      |           |      | Case size<br>$\phi D \times L$ (mm) | ※   |
|                    |           | ▲ 18 × 25 | 1400 |           |      |           |      |           |      |           |      |                                     |     |

※: Rated ripple current (mA rms) at 105°C 100kHz

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

## ● Frequency coefficient of rated ripple current

| Frequency   | 50Hz | 120Hz | 1kHz | 10kHz | 100kHz or more |
|-------------|------|-------|------|-------|----------------|
| Coefficient | 0.40 | 0.50  | 0.80 | 0.90  | 1.00           |