# ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

Radial Lead Type, High Voltage, Smaller-Sized

nichicon





- High voltage type (2.7V).
- One rank smaller case sized than UM series.
- Wide temperature range (- 25 to +70°C).
- Compliant to the RoHS directive (2002/95/EC).

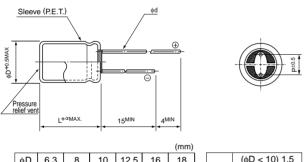




### Specifications

| Item                         | Performance Characteristics  |                    |   |  |  |  |
|------------------------------|--|--------------------|---|--|--|--|
| Category Temperature Range   | - 25 to +70°C  |                    |   |  |  |  |
| Rated Voltage                | 2.7V   |                    |   |  |  |  |
| Rated Capacitance Range      | 1 to 82F See Note  |                    |   |  |  |  |
| Capacitance Tolerance        | ±20% , 20°C  |                    |   |  |  |  |
| Leakage Current              | 0.5C (mA) [C: Rated Capacitance(F)] (After 30 minutes' application of rated voltage, 2.7V) |                    |   |  |  |  |
| Stability at Low Temperature | Capacitance (- 25°C) / Capacitance (+20°C) ×100 ≥ 70%                                      |                    |   |  |  |  |
| ESR, DCR*                    | Refer to the list below (20°C). *DC internal resistance                                    |                    |   |  |  |  |
| Endurance                    | The specifications listed at right shall be met when the capacitors                        | Capacitance change | Within ±30% of the initial capacitance value      |  |  |  |
|                              | are restored to 20°C after the rated voltage is applied for 1000 hours                     | ESR                | 300% or less than the initial specified value     |  |  |  |
|                              | at 70°C.   | Leakage current    | Less than or equal to the initial specified value |  |  |  |
| Shelf Life                   | The specifications listed at right shall be met when the capacitors                        | Capacitance change | Within ±30% of the initial capacitance value      |  |  |  |
|                              | are restored to 20°C after storing the capacitors under no load                            | ESR                | 300% or less than the initial specified value     |  |  |  |
|                              | for 1000 hours at 70°C.  | Leakage current    | Less than or equal to the initial specified value |  |  |  |
| Marking                      | Printed with white color letter on black sleeve.   |                    |   |  |  |  |

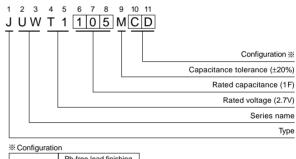
## Drawing



(¢D < 10) 1.5 φD 6.3 8 12.5 10 16 18 α (¢D ≧10) 2.0 Ρ 2.5 3.5 5.0 5.0 7.5 7.5 0.6\* 0.6\* φd 0.5 0.6 0.8 0.8 % In case L>25 for the  $\phi$ 10 and  $\phi$ 12.5 dia unit, lead dia  $\phi$ d=0.8

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

## Type numbering system (Example : 2.7V 1F)



| φD         | Pb-free lead finishing<br>Pb-free PET sleeve |  |  |
|------------|--|--|--|
| 6.3        | CD   |  |  |
| 8 · 10     | PD   |  |  |
| 12.5 to 18 | HD   |  |  |
|            |  |  |  |

## Dimensions

| Rated Voltage<br>( Code ) | Rated<br>Capacitance<br>(F) | Code | ESR<br>(Ω)<br>(at 1kHz) | DCR※<br>Typical (Ω) | Case size $\phi D \times L (mm)$ |
|---------------------------|-----------------------------|------|-------------------------|---------------------|----------------------------------|
|                           | 1                           | 105  | 4                       | 4                   | 6.3×9                            |
|                           | 1.5                         | 155  | 3                       | 2.5                 | 8×11.5                           |
|                           | 2.7                         | 275  | 2                       | 1.2                 | 8×20                             |
|                           | 4.7                         | 475  | 1                       | 0.8                 | $10 \times 20$                   |
| 2.7V                      | 6.8                         | 685  | 0.8                     | 0.7                 | $12.5 \times 20$                 |
| (T1)                      | 12                          | 126  | 0.4                     | 0.6                 | 10×31.5                          |
|                           | 22                          | 226  | 0.3                     | 0.4                 | 12.5 × 31.5                      |
|                           | 33                          | 336  | 0.2                     | 0.28                | 16 	imes 31.5                    |
|                           | 47                          | 476  | 0.2                     | 0.22                | 18×31.5                          |
|                           | 82                          | 826  | 0.1                     | 0.13                | $18 \times 40$                   |

\* The listed DCR value is typical and therefore not a guaranteed value.

#### Note :

- The capacitance calculated from discharge time ( $\Delta T$ ) with constant current ( i ) after 30minuite charge with rated voltage (2.7V).
- The discharge current ( i ) is  $0.01 \times \text{rated capacitance (F)}$ . The discharge time ( $\Delta T$ ) measured between 2V and 1V with
- constant current.

The capacitance calculated bellow.

Capacitance (F) =  $i \times \Delta T$ 

