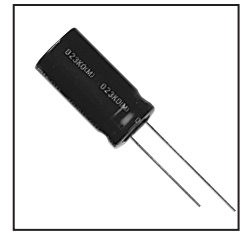


- High ripple current, low E.S.R. and long life
- Suitable for electronic ballast, adaptor and switching power
- Corresponding product to RoHS

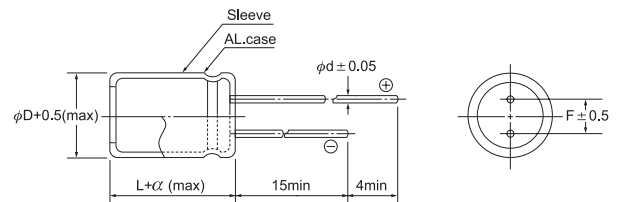


### ● SPECIFICATION

| Item  | Characteristic   |   |           |      |   |           |      |     |  |
|---|--|---|-----------|------|---|-----------|------|-----|--|
| Operation Temperature Range                     | -40 ~ +105°C   |   |           |      | -25 ~ +105°C  |           |      |     |  |
| Rated Working Voltage                           | 160 ~ 400VDC   |   |           |      | 450VDC  |           |      |     |  |
| Capacitance Tolerance (120Hz 20°C)              | ±20%(M)  |   |           |      |   |           |      |     |  |
| Leakage Current (20°C)                          | $I \leq 0.06CV + 10 (\mu A)$<br>Whichever is greater after 2 minutes   |   |           |      | I : Leakage Current ( $\mu A$ )<br>C : Rated Capacitance ( $\mu F$ )<br>V : Working Voltage (V) |           |      |     |  |
| Surge Voltage (20°C)                            | W.V.   | 160                                     | 200       | 250  | 350   | 400       | 450  |     |  |
|   | S.V.   | 200                                     | 250       | 300  | 400   | 450       | 500  |     |  |
| Dissipation Factor (tan $\delta$ ) (120Hz 20°C) | W.V.   | 160                                     | 200       | 250  | 350   | 400       | 450  |     |  |
|   | tan $\delta$   | 0.15                                    | 0.15      | 0.15 | 0.24  | 0.24      | 0.24 |     |  |
| Low Temperature Stability                       | Impedance ratio at 120Hz   |   |           |      |   |           |      |     |  |
|   | Rated Voltage (V)  |   | 160 ~ 250 |      |   | 350 ~ 400 |      | 450 |  |
|   | -25°C / +20°C  |   | 3         |      |   | 6         |      | 6   |  |
|   | -40°C / +20°C  |   | 4         |      |   | 6         |      | —   |  |
| Load Life                                       | After hours ( $\phi D \leq 8mm$ 3000 hours $\phi D \geq 10mm$ 5000 hours) application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage $\leq$ rate working voltage)   |   |           |      |   |           |      |     |  |
|   | Capacitance Change   | $\leq \pm 20\%$ of initial value        |           |      |   |           |      |     |  |
|   | Dissipation Factor   | $\leq 200\%$ of initial specified value |           |      |   |           |      |     |  |
|   | Leakage current  | $\leq$ initial specified value          |           |      |   |           |      |     |  |
| Shelf Life                                      | At + 105°C no voltage application after 1000 hours. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hrs and not more than 48 hrs before measurement. Cap & DF shall meet the limits for load life characteristics, Leakage current $\leq 500\%$ of the initial specified value |   |           |      |   |           |      |     |  |

### ● DIMENSIONS (mm)

| $\phi D$ | 10  | 12.5 | 16  | 18  |
|----------|-----|------|-----|-----|
| F        | 5.0 | 5.0  | 7.5 | 7.5 |
| d        | 0.6 | 0.6  | 0.8 | 0.8 |
| $\alpha$ | 1.5 | 2.0  | 2.0 | 2.0 |



### ● RIPPLE CURRENT COEFFICIENTS

| Temperature(°C) | 65   | 75   | 85   | 95   | 105  |
|-----------------|------|------|------|------|------|
| Multiplier      | 1.80 | 1.65 | 1.50 | 1.25 | 1.00 |

| Frequency (Hz) | 120        | 1k   | 10k  | 100k |
|----------------|------------|------|------|------|
| W.V.           | Multiplier |      |      |      |
| 160~450        | 0.50       | 0.80 | 0.90 | 1.00 |

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)  
 Max impedance :  $\Omega$  20°C 100kHz  
 Max ripple current : mA(rms) 105°C 100kHz

| $\mu\text{F}$ | V(DC)<br>Item | 160     |      |      | 200     |      |       | 250     |      |      |
|---------------|---------------|---------|------|------|---------|------|-------|---------|------|------|
|               |               | DxL     | IMP. | R.C. | DxL     | IMP. | R.C.  | DxL     | IMP. | R.C. |
| 10            |               |         |      |      |         | →    | 10x20 | 3.18    | 240  |      |
| 22            |               | 10x20   | 1.47 | 350  | 10x20   | 1.47 | 350   | 12.5x20 | 1.74 | 380  |
| 33            |               | 10x20   | 1.15 | 430  | 12.5x20 | 1.15 | 460   | 12.5x25 | 1.35 | 510  |
| 47            |               | 12.5x20 | 0.92 | 550  | 12.5x20 | 0.92 | 550   | 12.5x25 | 1.08 | 610  |
| 68            |               | 12.5x25 | 0.71 | 730  | 12.5x25 | 0.71 | 730   | 16x25   | 0.84 | 730  |
| 100           |               | 16x25   | 0.59 | 890  | 16x25   | 0.59 | 890   | 16x32   | 0.70 | 980  |
| 150           |               | 16x32   | 0.41 | 1210 | 16x32   | 0.41 | 1210  | 18x32   | 0.49 | 1290 |
| 220           |               | 16x32   | 0.31 | 1460 | 18x36   | 0.31 | 1640  | 18x40   | 0.36 | 1730 |
| 330           |               | 18x36   | 0.25 | 2010 |         |      |       |         |      |      |

| $\mu\text{F}$ | V(DC)<br>Item | 350     |      |      | 400     |      |         | 450     |      |      |
|---------------|---------------|---------|------|------|---------|------|---------|---------|------|------|
|               |               | DxL     | IMP. | R.C. | DxL     | IMP. | R.C.    | DxL     | IMP. | R.C. |
| 3.3           |               |         |      |      |         | →    | 10x20   | 4.47    | 150  |      |
| 4.7           |               |         |      |      |         | →    | 12.5x20 | 3.77    | 190  |      |
| 10            |               | 10x20   | 2.94 | 220  | 10x20   | 2.94 | 290     | 12.5x25 | 2.95 | 300  |
| 22            |               | 12.5x20 | 1.60 | 340  | 12.5x25 | 1.60 | 460     | 16x25   | 1.61 | 450  |
| 33            |               | 12.5x25 | 1.25 | 460  | 12.5x25 | 1.25 | 620     | 16x32   | 1.25 | 620  |
| 47            |               | 16x25   | 1.00 | 560  | 16x25   | 1.00 | 740     | 18x32   | 1.01 | 780  |
| 68            |               | 16x32   | 0.78 | 740  | 16x32   | 0.78 | 990     | 18x36   | 0.78 | 990  |
| 100           |               | 18x36   | 0.65 | 1010 | 18x36   | 0.65 | 1350    |         |      |      |

All blank voltage on sleeve marking is the same voltage as " → "point to.