

- High ripple current, Long life.
- 高紋波電流、長壽命

■ SPECIFICATIONS 規格表

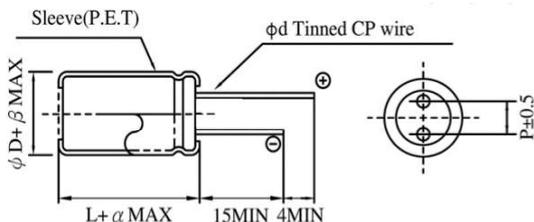
| Item                                    | Performance Characteristics 特性   |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
|---|--|-------------------------------|--|--|--|------------------------|---|-----|------------|---|---------------|------|------|------|------|----|----|
| Operating Temperature Range<br>工作溫度範圍   | -40 ~ +105°C   |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Voltage Range<br>額定電壓範圍                 | 160 ~ 450V   |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Capacitance Tolerance<br>靜電容量容許差        | ±20% at 120Hz, 20°C  |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Leakage Current<br>漏電流                  | After 1 minute application of rated voltage, leakage current is lower than 0.04CV+100(μA),<br>I = 0.04CV+100 (μA) 以下 (1分鐘)<br>I = Leakage Current (漏電流) C = Capacitance (靜電容量) V = Rated Voltage (額定電壓)  |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Tangent of loss angle<br>損失角正切值         | <table border="1"> <tr> <td>Rated voltage (V)<br/>額定電壓</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Tanδ (MAX)</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </table> <p>(Frequency : 120Hz , Temperature : 20°C)</p>  | Rated voltage (V)<br>額定電壓     | 160  | 200                                    | 250  | 400                    | 420   | 450 | Tanδ (MAX) | 0.24                                    | 0.24          | 0.24 | 0.24 | 0.24 | 0.24 |    |    |
| Rated voltage (V)<br>額定電壓               | 160  | 200                           | 250  | 400                                    | 420  | 450                    |   |     |            |   |               |      |      |      |      |    |    |
| Tanδ (MAX)                              | 0.24   | 0.24                          | 0.24                                       | 0.24                                   | 0.24   | 0.24                   |   |     |            |   |               |      |      |      |      |    |    |
| Stability at Low Temperature<br>溫度特性    | <table border="1"> <tr> <td colspan="2">Rated voltage (V)</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Impedance Ratio<br/>阻抗比<br/>ZT/Z 20 (MAX)</td> <td>Z-25°C/Z+20°C</td> <td>6</td> <td>6</td> <td>6</td> <td>8</td> <td>10</td> <td>10</td> </tr> </table> <p>(Frequency:120Hz)</p>  | Rated voltage (V)             |  | 160                                    | 200  | 250                    | 400   | 420 | 450        | Impedance Ratio<br>阻抗比<br>ZT/Z 20 (MAX) | Z-25°C/Z+20°C | 6    | 6    | 6    | 8    | 10 | 10 |
| Rated voltage (V)                       |  | 160                           | 200  | 250                                    | 400  | 420                    | 450   |     |            |   |               |      |      |      |      |    |    |
| Impedance Ratio<br>阻抗比<br>ZT/Z 20 (MAX) | Z-25°C/Z+20°C  | 6                             | 6  | 6                                      | 8  | 10                     | 10  |     |            |   |               |      |      |      |      |    |    |
| Endurance<br>耐久性                        | <p>After applying rated voltage with rated ripple current for 15000 hours at 105°C, the capacitors shall meet the following requirements.<br/>在105°C環境中，不超過額定電壓的範圍內疊加額定紋波電流，連續加載15000小時後，滿足下列各項要求</p> <table border="1"> <tr> <td>Capacitance Change<br/>靜電容量變化率</td> <td>Within ±30% of initial Value<br/>初期值的±30%以內</td> </tr> <tr> <td>Tangent of loss angle (Tanδ)<br/>損失角正切值</td> <td>Not exceeding 300% of initial specified value<br/>規格值300%以下</td> </tr> <tr> <td>Leakage current<br/>漏電流</td> <td>Not exceeding of initial specified value<br/>規格值以下</td> </tr> </table> | Capacitance Change<br>靜電容量變化率 | Within ±30% of initial Value<br>初期值的±30%以內 | Tangent of loss angle (Tanδ)<br>損失角正切值 | Not exceeding 300% of initial specified value<br>規格值300%以下 | Leakage current<br>漏電流 | Not exceeding of initial specified value<br>規格值以下 |     |            |   |               |      |      |      |      |    |    |
| Capacitance Change<br>靜電容量變化率           | Within ±30% of initial Value<br>初期值的±30%以內   |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Tangent of loss angle (Tanδ)<br>損失角正切值  | Not exceeding 300% of initial specified value<br>規格值300%以下   |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Leakage current<br>漏電流                  | Not exceeding of initial specified value<br>規格值以下  |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |
| Shelf Life<br>高溫無負荷                     | <p>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.<br/>在105°C下無負荷放置 1000 小時後，在20 °C下依據JIS C 5101-4 4.1項進行電壓處理後，將滿足以上耐久性的特性值</p>  |                               |  |  |  |                        |   |     |            |   |               |      |      |      |      |    |    |

■ Frequency Coefficient of Allowable Ripple Current 容許紋波電流的頻率係數

|                   |      |       |      |       |          |
|-------------------|------|-------|------|-------|----------|
| Frequency<br>頻率   | 50Hz | 120Hz | 1KHz | 10KHz | 100KHz ~ |
| Coefficient<br>係數 | 0.80 | 1.00  | 1.90 | 2.35  | 2.50     |

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### ▪ RADIAL LEAD TYPE 尺寸圖



|    |              |      |     |     |
|----|--------------|------|-----|-----|
| ΦD | 10           | 12.5 | 16  | 18  |
| P  | 5.0          | 5.0  | 7.5 | 7.5 |
| Φd | 0.6          | ※0.6 | 0.8 | 0.8 |
| β  | 0.5          | 0.5  | 0.5 | 0.5 |
| α  | L < 20 : 1.5 |      |     |     |
|    | L ≥ 20 : 2.0 |      |     |     |

※In case L ≥ 35 for the φ12.5 dia. unit, lead dia. φd = 0.8mm

### ▪ DIMENSIONS 尺寸

Rated Ripple Current(mA r.m.s. at 105°C,120Hz)

| Item<br>Cap(μF) | 160V<br>200V      |        | 200V<br>250V      |        | 250V<br>300V      |        |
|-----------------|-------------------|--------|-------------------|--------|-------------------|--------|
|                 | Size<br>D x L(mm) | Ripple | Size<br>D x L(mm) | Ripple | Size<br>D x L(mm) | Ripple |
| 10              | 10 x 16           | 190    | 10 x 16           | 205    | 10 x 20           | 215    |
| 22              | 10 x 20           | 235    | 10 x 20           | 255    | 10 x 20           | 265    |
| 33              | 10 x 20           | 320    | 10 x 20           | 340    | 10 x 25           | 350    |
| 47              | 10 x 25           | 410    | 12.5 x 20         | 520    | 12.5 x 25         | 535    |
| 68              | 12.5 x 20         | 620    | 12.5 x 25         | 685    | 16 x 20           | 680    |
| 82              | 12.5 x 25         | 660    | 12.5 x 25         | 695    | 16 x 25           | 720    |
| 100             | 12.5 x 30.5       | 685    | 12.5 x 35.5       | 740    | 16 x 30.5         | 765    |
|                 | 16 x 20           | 685    | 16 x 20           | 740    |                   |        |
| 150             | 16 x 25           | 960    | 16 x 25           | 975    | 18 x 30.5         | 1020   |
| 220             | 16 x 30.5         | 1055   | 18 x 30.5         | 1120   | 18 x 35.5         | 1270   |
| 330             | 18 x 30.5         | 1535   | 18 x 35.5         | 1615   | 18 x 45           | 1725   |
| 470             | 18 x 40           | 1960   | 18 x 45           | 2065   | 18 x 50           | 2130   |
| 560             | 18 x 45           | 2170   | 18 x 50           | 2220   |                   |        |

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Rated Ripple Current(mA r.m.s. at 105°C,120Hz)

| W.V             | 400V              |        | 420V              |        | 450V              |        |
|-----------------|-------------------|--------|-------------------|--------|-------------------|--------|
| S.V             | 450V              |        | 470V              |        | 500V              |        |
| Item<br>Cap(μF) | Size<br>D x L(mm) | Ripple | Size<br>D x L(mm) | Ripple | Size<br>D x L(mm) | Ripple |
| 6.8             | 10 x 16           | 155    | 10 x 16           | 155    | 10 x 20           | 150    |
| 10              | 10 x 20           | 175    | 10 x 20           | 195    | 12.5 x 20         | 215    |
| 15              | 12.5 x 20         | 260    | 12.5 x 20         | 270    | 12.5 x 25         | 275    |
| 22              | 12.5 x 25         | 380    | 12.5 x 25         | 390    | 16 x 20           | 390    |
| 33              | 16 x 20           | 500    | 16 x 20           | 510    | 16 x 25           | 515    |
| 47              | 18 x 20           | 620    | 18 x 25           | 630    | 18 x 30.5         | 635    |
| 68              | 18 x 25           | 760    | 18 x 30.5         | 770    | 18 x 35.5         | 780    |
| 82              | 18 x 30.5         | 810    | 18 x 35.5         | 815    | 18 x 40           | 820    |
| 100             | 18 x 35.5         | 965    | 18 x 40           | 975    | 18 x 45           | 980    |
| 120             | 18 x 40           | 1035   | 18 x 45           | 1050   | 18 x 50           | 1060   |
| 150             | 18 x 45           | 1260   |                   |        |                   |        |