

105°C 標準品  
105°C Standard

•105°C 1000~2000時間品。  
Load Life : 105°C 1000~2000 hours.

RoHS  
compliance



# ◆規格表／SPECIFICATIONS

| 項目 Items                                                                | 特性 Characteristics                                                                                                                                                                      |                                                                       |                                                                                                       |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| カテゴリ温度範囲<br>Category Temperature Range                                  | −55~+105°C                                                                                                                                                                              | −40~+105°C                                                            | −25~+105°C                                                                                            |
| 定格電圧範囲<br>Rated Voltage Range                                           | 6.3~100Vdc                                                                                                                                                                              | 160~400Vdc                                                            | 450Vdc                                                                                                |
| 静電容量許容差<br>Capacitance Tolerance                                        | ±20%(20°C, 120Hz)                                                                                                                                                                       |                                                                       |                                                                                                       |
| 漏れ電流<br>Leakage Current(MAX)                                            | 6.3~100Vdc                                                                                                                                                                              |                                                                       | 160~450Vdc                                                                                            |
|                                                                         | I=0.01CV又は3µAのいずれか大なる値以下<br>I=0.01CV or 3µA whichever is greater.<br>(定格電圧印加2分後)<br>(After 2 minutes application of rated voltage)                                                      |                                                                       | CV≤1000<br>CV>1000                                                                                    |
|                                                                         | I=0.1CV+40µA以下(1分値)<br>I=0.1CV+40µA (1minute)<br>I=0.03CV+15µA以下(5分値)<br>I=0.03CV+15µA (5minutes)                                                                                       |                                                                       | I=0.04CV+100µA以下(1分値)<br>I=0.04CV+100µA (1minute)<br>I=0.02CV+25µA以下(5分値)<br>I=0.02CV+25µA (5minutes) |
|                                                                         | I=漏れ電流(µA)<br>Leakage Current                                                                                                                                                           | C=静電容量(µF)<br>Capacitance                                             | V=定格電圧(Vdc)<br>Rated Voltage                                                                          |
| 損失角の正接(tanδ)<br>Dissipation Factor(MAX)                                 | 定格電圧(Vdc)<br>Rated Voltage                                                                                                                                                              | 6.3 10 16 25 35 50 63 100 160 200 250 350 400 450                     | (20°C, 120Hz)                                                                                         |
|                                                                         | tanδ                                                                                                                                                                                    | 0.28 0.24 0.20 0.16 0.14 0.12 0.10 0.08 0.20 0.20 0.20 0.25 0.25 0.25 |                                                                                                       |
| 耐久<br>Endurance                                                         | 105°C中で右表の時間定格電圧(リプル重畳)印加後、下記項目を満足すること。<br>After applying rated voltage with rated ripple current for specified time at 105°C, the capacitors shall be meet the following requirements. |                                                                       |                                                                                                       |
|                                                                         | 静電容量変化率<br>Capacitance Change                                                                                                                                                           | 初期値の±25%以内<br>Within ±25% of the initial value.                       | ケースサイズ<br>Case Size                                                                                   |
|                                                                         | 損失角の正接<br>Dissipation Factor                                                                                                                                                            | 規格値の200%以下<br>Not more than 200% of the specified value.              | 時間(hrs)<br>Life Time                                                                                  |
|                                                                         | 漏れ電流<br>Leakage Current                                                                                                                                                                 | 規格値以下<br>Not more than the specified value.                           | φD≤8 1000<br>φD≥10 2000                                                                               |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio(MAX) | 定格電圧(Vdc)<br>Rated Voltage                                                                                                                                                              | 6.3 10 16 25 35 50 63 100 160 200 250 350 400 450                     | (120Hz)                                                                                               |
|                                                                         | Z(−25°C)/Z(20°C)                                                                                                                                                                        | 5 4 3 2 2 2 2 2 3 3 4 6 6 7                                           |                                                                                                       |
|                                                                         | Z(−40°C)/Z(20°C)                                                                                                                                                                        | 10 8 6 4 3 3 3 3 4 4 8 8 10 -                                         |                                                                                                       |

## ◆リップル電流補正係数／ MULTIPLIER FOR RIPPLE CURRENT

| 周波数(Hz)<br>Frequency | 60   | 120  | 500  | 1k   | 10k≤ |
|----------------------|------|------|------|------|------|
| 係数<br>Coefficient    |      |      |      |      |      |
| 0.47~1µF             | 0.50 | 1.00 | 1.20 | 1.30 | 1.50 |
| 2.2~4.7µF            | 0.65 | 1.00 | 1.20 | 1.30 | 1.50 |
| 10~47µF              | 0.80 | 1.00 | 1.20 | 1.30 | 1.50 |
| 100~1000µF           | 0.80 | 1.00 | 1.10 | 1.15 | 1.20 |
| 2200~33000µF         | 0.80 | 1.00 | 1.05 | 1.10 | 1.15 |

## ◆副記号／OPTION

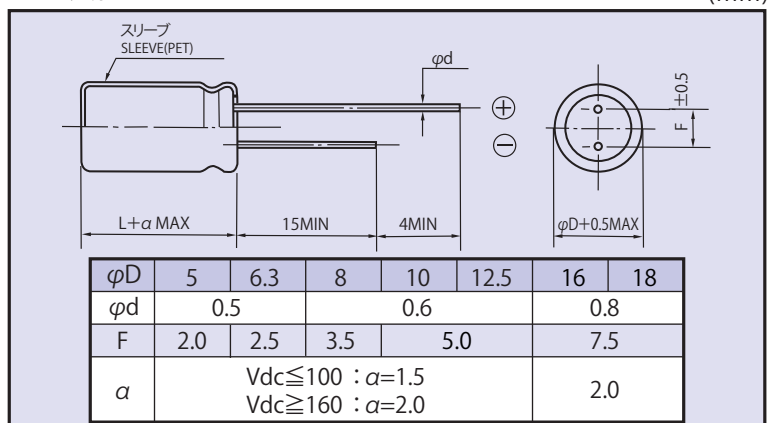
|                    | 記号 Code |
|--------------------|---------|
| PETスリーブ PET Sleeve | EFC     |

## ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | PX              | □□□□□               | M                                | □□□           | □□                      | DxL                 |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | リード加工記号<br>Lead Forming | ケースサイズ<br>Case Size |

## ◆寸法図／DIMENSIONS

(mm)



### ◆標準品一覧表／STANDARD SIZE

 Size  $\phi D \times L$  (mm), Rated Ripple Current (mA r.m.s./105°C, 120Hz)

| 定格電圧<br>Vdc<br>静電容量<br>Cap(μF) | 6.3     |        | 10      |        | 16      |        | 25      |        | 35      |        | 50      |        | 63      |        |
|--------------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
|                                | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple |
| 1                              |         |        |         |        |         |        |         |        |         |        | 5×11    | 10     |         |        |
| 2.2                            |         |        |         |        |         |        |         |        |         |        | 5×11    | 20     |         |        |
| 3.3                            |         |        |         |        |         |        |         |        |         |        | 5×11    | 25     |         |        |
| 4.7                            |         |        |         |        |         |        |         |        |         |        | 5×11    | 32     |         |        |
| 10                             |         |        |         |        |         |        |         |        |         |        | 5×11    | 47     | 5×11    | 48     |
| 22                             |         |        |         |        |         |        |         |        | 5×11    | 64     | 5×11    | 70     | 5×11    | 80     |
| 33                             |         |        |         |        |         |        | 5×11    | 69     | 5×11    | 77     | 5×11    | 94     | 6.3×11  | 100    |
| 47                             |         |        |         |        | 5×11    | 80     | 5×11    | 84     | 5×11    | 100    | 6.3×11  | 115    | 6.3×11  | 140    |
| 100                            | 5×11    | 96     | 5×11    | 105    | 5×11    | 130    | 5×11    | 135    | 6.3×11  | 170    | 8×11.5  | 200    | 8×11.5  | 230    |
| 220                            | 5×11    | 160    | 5×11    | 165    | 6.3×11  | 220    | 6.3×11  | 240    | 8×11.5  | 300    | 10×12.5 | 360    | 10×16   | 390    |
| 330                            | 6.3×11  | 210    | 6.3×11  | 235    | 6.3×11  | 270    | 8×11.5  | 335    | 10×12.5 | 400    | 10×16   | 470    | 10×20   | 540    |
| 470                            | 6.3×11  | 275    | 6.3×11  | 295    | 8×11.5  | 375    | 8×11.5  | 440    | 10×12.5 | 525    | 10×20   | 600    | 12.5×20 | 700    |
| 680                            | 6.3×11  | 285    | 8×11.5  | 430    | 8×11.5  | 480    | 10×12.5 | 630    | 10×16   | 760    | 12.5×20 | 980    | 12.5×25 | 800    |
| 1000                           | 8×11.5  | 460    | 8×11.5  | 500    | 10×12.5 | 640    | 10×16   | 740    | 10×20   | 865    | 12.5×25 | 1060   | 16×25   | 1200   |
| 2200                           | 10×16   | 775    | 10×16   | 860    | 10×20   | 1050   | 12.5×20 | 1090   | 16×25   | 1370   | 16×31.5 | 1600   | 18×31.5 | 1400   |
| 3300                           | 10×20   | 985    | 10×20   | 1100   | 12.5×20 | 1300   | 16×25   | 1500   | 16×25   | 1680   | 18×35.5 | 1780   |         |        |
| 4700                           | 12.5×20 | 1150   | 12.5×20 | 1350   | 12.5×25 | 1650   | 16×25   | 1800   | 16×35.5 | 1870   |         |        |         |        |
| 6800                           | 12.5×25 | 1480   | 16×25   | 1700   | 16×25   | 1900   | 16×35.5 | 1910   | 18×35.5 | 1920   |         |        |         |        |
| 10000                          | 16×25   | 1700   | 16×25   | 1950   | 16×31.5 | 1950   | 18×35.5 | 2050   |         |        |         |        |         |        |
| 15000                          | 16×31.5 | 2090   | 16×35.5 | 2090   | 18×35.5 | 2070   |         |        |         |        |         |        |         |        |
| 22000                          | 18×31.5 | 2280   | 18×35.5 | 2180   |         |        |         |        |         |        |         |        |         |        |
| 33000                          | 18×40   | 2350   |         |        |         |        |         |        |         |        |         |        |         |        |

| 定格電圧<br>Vdc<br>静電容量<br>Cap(μF) | 100     |        | 160     |        | 200     |        | 250     |        | 350     |        | 400     |        | 450     |        |
|--------------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
|                                | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple |
| 0.47                           |         |        |         |        |         |        | 6.3×11  | 8      | 6.3×11  | 8      |         |        |         |        |
| 1                              | 5×11    | 15     |         |        |         |        | 6.3×11  | 16     | 6.3×11  | 16     | 6.3×11  | 16     | 6.3×11  | 15     |
| 2.2                            | 5×11    | 21     |         |        |         |        | 6.3×11  | 30     | 6.3×11  | 25     | 8×11.5  | 31     | 8×11.5  | 20     |
| 3.3                            | 5×11    | 30     |         |        | 6.3×11  | 36     | 6.3×11  | 30     | 8×11.5  | 30     | 8×11.5  | 34     | 10×12.5 | 33     |
| 4.7                            | 5×11    | 35     | 6.3×11  | 43     | 6.3×11  | 40     | 8×11.5  | 45     | 8×11.5  | 45     | 10×12.5 | 42     | 10×12.5 | 35     |
| 10                             | 5×11    | 60     | 8×11.5  | 77     | 8×11.5  | 57     | 10×12.5 | 90     | 10×16   | 95     | 10×16   | 64     | 10×20   | 37     |
| 22                             | 6.3×11  | 98     | 10×12.5 | 92     | 10×16   | 105    | 10×16   | 105    | 12.5×20 | 175    | 12.5×20 | 140    | 12.5×25 | 100    |
| 33                             | 8×11.5  | 140    | 10×16   | 125    | 10×20   | 140    | 10×20   | 140    | 12.5×25 | 220    | 16×25   | 170    | 16×25   | 125    |
| 47                             | 8×11.5  | 185    | 10×20   | 150    | 10×20   | 195    | 12.5×20 | 190    | 16×25   | 260    | 16×25   | 200    | 16×31.5 | 155    |
| 100                            | 10×16   | 290    | 12.5×25 | 320    | 16×25   | 340    | 16×25   | 310    | 18×31.5 | 370    | 18×35.5 | 310    | 18×40   | 200    |
| 220                            | 12.5×20 | 560    | 16×31.5 | 410    | 16×35.5 | 580    | 18×35.5 | 485    |         |        |         |        |         |        |
| 330                            | 12.5×25 | 690    | 18×31.5 | 570    | 18×40   | 675    |         |        |         |        |         |        |         |        |
| 470                            | 16×25   | 880    | 18×40   | 855    |         |        |         |        |         |        |         |        |         |        |
| 680                            | 16×31.5 | 900    |         |        |         |        |         |        |         |        |         |        |         |        |
| 1000                           | 18×35.5 | 985    |         |        |         |        |         |        |         |        |         |        |         |        |

 =生産中止予定品  
Obsolete Products

 =新規設計非推奨品  
Not recommended for new designs