

YXF

シリーズ  
SERIES

105°C 4,000~10,000 時間、長寿命品  
105°C 4,000~10,000 hours, Long Life

RoHS  
Compliance

生産中止品  
Obsolete Products



# ◆規格表／SPECIFICATIONS

| 項 目                           | Items                                                                            | 特 性                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |           |      |      |      |      |  | Characteristics               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
|-------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|------|------|------|------|--|-------------------------------|----------------------------------------------------------------------------------|---------------------|----------------------------|----|------------------------------|-----------------------------------------------------------|-----------|-----------|-------------------------|---------------------------------------------|------|------|------|------|--------|------|------|-------------------|---|----------|------|------|---|---|---------|------|-------|--|
| カ テ ゴ リ 温 度 範 囲               | Category Temperature Range                                                       | -40 ~ +105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 定 格 電 圧 範 囲                   | Rated Voltage Range                                                              | 6.3 ~ 100Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 静 電 容 量 許 容 差                 | Capacitance Tolerance                                                            | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 漏 れ 電 流                       | Leakage Current (MAX)                                                            | I=0.01CV又は3μAのいずれか大なる値以下 (定格電圧印加2分後)<br>I=0.01CV or 3μA whichever is greater. (After 2 minutes)<br>I=漏れ電流(μA) C=静電容量(μF) V=定格電圧(Vdc)<br>I = Leakage Current C = Capacitance V = Rated Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 損 失 角 の 正 接 (tan δ )          | Dissipation Factor (MAX)                                                         | <table><tr><td>定格電圧(Vdc)<br/>Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tan δ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> <p>1000μFを超えるものは 1000μF 増す毎に上記の表に 0.02 を加えた値とする。<br/>When capacitance is over 1000μF, tan δ shall be added 0.02 to the listed value with increase of every 1000μF.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |           |      |      |      |      |  | 定格電圧(Vdc)<br>Rated Voltage    | 6.3                                                                              | 10                  | 16                         | 25 | 35                           | 50                                                        | 63        | 100       | tan δ                   | 0.22                                        | 0.19 | 0.16 | 0.14 | 0.12 | 0.10   | 0.09 | 0.08 | (20℃, 120Hz)      |   |          |      |      |   |   |         |      |       |  |
| 定格電圧(Vdc)<br>Rated Voltage    | 6.3                                                                              | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 16                         | 25        | 35   | 50   | 63   | 100  |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| tan δ                         | 0.22                                                                             | 0.19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.16                       | 0.14      | 0.12 | 0.10 | 0.09 | 0.08 |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 耐 久 性                         | Endurance                                                                        | <p>105℃中で右表の時間定格電圧(リプル重畳)印加後、下記の項目を満足すること。<br/>After applying rated voltage with rated ripple current for specified time at 105℃, the capacitors shall meet the following requirements.</p> <table><tr><td>静電容量変化率<br/>Capacitance Change</td><td>初期値の ±25%以内 (6.3Vdc : ±30%)<br/>Within ±25% of the initial value (6.3Vdc : ±30%).</td><td rowspan="3">ケースサイズ<br/>Case Size</td><td colspan="2">時間 (hours)<br/>Time (hours)</td></tr><tr><td>損失角の正接<br/>Dissipation Factor</td><td>規定値の 200%以下<br/>Not more than 200% of the specified value.</td><td>6.3~10Vdc</td><td>16~100Vdc</td></tr><tr><td>漏れ電流<br/>Leakage Current</td><td>規格値以下<br/>Not more than the specified value.</td><td></td><td></td></tr><tr><td></td><td></td><td>φD≤6.3</td><td>4000</td><td>5000</td></tr><tr><td></td><td></td><td>φD=8, 10</td><td>6000</td><td>7000</td></tr><tr><td></td><td></td><td>φD≥12.5</td><td>8000</td><td>10000</td></tr></table> |                            |           |      |      |      |      |  | 静電容量変化率<br>Capacitance Change | 初期値の ±25%以内 (6.3Vdc : ±30%)<br>Within ±25% of the initial value (6.3Vdc : ±30%). | ケースサイズ<br>Case Size | 時間 (hours)<br>Time (hours) |    | 損失角の正接<br>Dissipation Factor | 規定値の 200%以下<br>Not more than 200% of the specified value. | 6.3~10Vdc | 16~100Vdc | 漏れ電流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |      |      |      |      | φD≤6.3 | 4000 | 5000 |                   |   | φD=8, 10 | 6000 | 7000 |   |   | φD≥12.5 | 8000 | 10000 |  |
| 静電容量変化率<br>Capacitance Change | 初期値の ±25%以内 (6.3Vdc : ±30%)<br>Within ±25% of the initial value (6.3Vdc : ±30%). | ケースサイズ<br>Case Size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 時間 (hours)<br>Time (hours) |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 損失角の正接<br>Dissipation Factor  | 規定値の 200%以下<br>Not more than 200% of the specified value.                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6.3~10Vdc                  | 16~100Vdc |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 漏れ電流<br>Leakage Current       | 規格値以下<br>Not more than the specified value.                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |           |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
|                               |                                                                                  | φD≤6.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4000                       | 5000      |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
|                               |                                                                                  | φD=8, 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6000                       | 7000      |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
|                               |                                                                                  | φD≥12.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8000                       | 10000     |      |      |      |      |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| 低 温 特 性                       | Low Temperature Stability<br>(インピーダンス比)<br>Low Temperature Stability             | <table><tr><td>定格電圧(Vdc)<br/>Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Z(-25℃) / Z(+20℃)</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃) / Z(+20℃)</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table> <p>(120Hz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |           |      |      |      |      |  | 定格電圧(Vdc)<br>Rated Voltage    | 6.3                                                                              | 10                  | 16                         | 25 | 35                           | 50                                                        | 63        | 100       | Z(-25℃) / Z(+20℃)       | 4                                           | 3    | 2    | 2    | 2    | 2      | 2    | 2    | Z(-40℃) / Z(+20℃) | 8 | 6        | 4    | 3    | 3 | 3 | 3       | 3    |       |  |
| 定格電圧(Vdc)<br>Rated Voltage    | 6.3                                                                              | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 16                         | 25        | 35   | 50   | 63   | 100  |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| Z(-25℃) / Z(+20℃)             | 4                                                                                | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2                          | 2         | 2    | 2    | 2    | 2    |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |
| Z(-40℃) / Z(+20℃)             | 8                                                                                | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4                          | 3         | 3    | 3    | 3    | 3    |  |                               |                                                                                  |                     |                            |    |                              |                                                           |           |           |                         |                                             |      |      |      |      |        |      |      |                   |   |          |      |      |   |   |         |      |       |  |

## ◆呼称方法／PART NUMBER

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

## ◆副記号／OPTION

| 標準品<br>Standard item | 記号 Code |
|----------------------|---------|
|                      | EFC     |

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

| 周波数 (Hz)<br>Frequency | 120  | 1k   | 10k  | 100k≤ |
|-----------------------|------|------|------|-------|
| 1µF                   | 0.35 | 0.60 | 0.80 | 1.00  |
| 2.2~10µF              | 0.42 | 0.60 | 0.80 | 1.00  |
| 22~33µF               | 0.55 | 0.75 | 0.90 | 1.00  |
| 47~330µF              | 0.70 | 0.85 | 0.95 | 1.00  |
| 470~1000µF            | 0.75 | 0.90 | 0.98 | 1.00  |
| 2200~15000µF          | 0.80 | 0.95 | 1.00 | 1.00  |

#### ◆標準品一覧表／STANDARD SIZE

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>( $\mu$ F) | 外形寸法<br>Size<br>$\phi$ D×L(mm) | 定格リプル電流<br>Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | インピーダンス( $\Omega$ MAX)<br>Impedance |               |
|--------------------------------|-----------------------------------|--------------------------------|--------------------------------------------------------------|-------------------------------------|---------------|
|                                |                                   |                                |                                                              | 20°C, 100kHz                        | -10°C, 100kHz |
| 6.3                            | 100                               | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 220                               | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 330                               | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 470                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 1000                              | 10×12.5                        | 580                                                          | 0.16                                | 0.65          |
|                                | 2200                              | 12.5×20                        | 1300                                                         | 0.062                               | 0.21          |
|                                | 3300                              | 12.5×20                        | 1300                                                         | 0.062                               | 0.21          |
|                                | 4700                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 6800                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 10000                             | 16×31.5                        | 2000                                                         | 0.029                               | 0.087         |
|                                | 15000                             | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |
| 10                             | 100                               | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 220                               | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 330                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 470                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 1000                              | 10×16                          | 770                                                          | 0.12                                | 0.46          |
|                                | 2200                              | 12.5×20                        | 1300                                                         | 0.062                               | 0.21          |
|                                | 3300                              | 12.5×25                        | 1650                                                         | 0.048                               | 0.16          |
|                                | 4700                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 6800                              | 16×31.5                        | 2000                                                         | 0.029                               | 0.087         |
|                                | 10000                             | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |
|                                |                                   |                                |                                                              |                                     |               |
| 16                             | 47                                | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 100                               | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 220                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 330                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 470                               | 10×12.5                        | 580                                                          | 0.16                                | 0.65          |
|                                | 1000                              | 10×20                          | 1050                                                         | 0.078                               | 0.30          |
|                                | 2200                              | 12.5×25                        | 1650                                                         | 0.048                               | 0.16          |
|                                | 3300                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 4700                              | 16×31.5                        | 2000                                                         | 0.029                               | 0.087         |
|                                | 6800                              | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |
|                                |                                   |                                |                                                              |                                     |               |
| 25                             | 33                                | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 47                                | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 100                               | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 220                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 330                               | 10×12.5                        | 580                                                          | 0.16                                | 0.65          |
|                                | 470                               | 10×16                          | 770                                                          | 0.12                                | 0.46          |
|                                | 1000                              | 12.5×20                        | 1300                                                         | 0.062                               | 0.21          |
|                                | 2200                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 3300                              | 16×31.5                        | 2000                                                         | 0.029                               | 0.087         |
|                                | 4700                              | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |
|                                |                                   |                                |                                                              |                                     |               |
| 35                             | 33                                | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 47                                | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 100                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 220                               | 10×12.5                        | 580                                                          | 0.16                                | 0.65          |
|                                | 330                               | 10×16                          | 770                                                          | 0.12                                | 0.46          |
|                                | 470                               | 10×20                          | 1050                                                         | 0.078                               | 0.30          |
|                                | 1000                              | 12.5×25                        | 1650                                                         | 0.048                               | 0.16          |
|                                | 2200                              | 16×31.5                        | 2000                                                         | 0.029                               | 0.087         |
|                                | 3300                              | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>( $\mu$ F) | 外形寸法<br>Size<br>$\phi$ D×L(mm) | 定格リプル電流<br>Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | インピーダンス( $\Omega$ MAX)<br>Impedance |               |
|--------------------------------|-----------------------------------|--------------------------------|--------------------------------------------------------------|-------------------------------------|---------------|
|                                |                                   |                                |                                                              | 20°C, 100kHz                        | -10°C, 100kHz |
| 50                             | 1                                 | 5×11                           | 30                                                           | 4.0                                 | 8.0           |
|                                | 2.2                               | 5×11                           | 43                                                           | 2.5                                 | 6.0           |
|                                | 3.3                               | 5×11                           | 53                                                           | 2.2                                 | 5.6           |
|                                | 4.7                               | 5×11                           | 88                                                           | 1.9                                 | 5.0           |
|                                | 10                                | 5×11                           | 100                                                          | 1.5                                 | 4.0           |
|                                | 22                                | 5×11                           | 150                                                          | 0.90                                | 3.6           |
|                                | 33                                | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 47                                | 6.3×11                         | 250                                                          | 0.40                                | 1.6           |
|                                | 100                               | 8×11.5                         | 400                                                          | 0.25                                | 1.0           |
|                                | 220                               | 10×16                          | 770                                                          | 0.12                                | 0.46          |
|                                | 330                               | 10×20                          | 1050                                                         | 0.078                               | 0.30          |
|                                | 470                               | 12.5×20                        | 1300                                                         | 0.062                               | 0.21          |
|                                | 1000                              | 16×25                          | 1850                                                         | 0.034                               | 0.096         |
|                                | 2200                              | 18×35.5                        | 2200                                                         | 0.025                               | 0.058         |
|                                |                                   |                                |                                                              |                                     |               |
|                                |                                   |                                |                                                              |                                     |               |

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