

## VXR series

105°C 7000時間  
Load Life : 105°C 7000 hours



### ◆規格表／SPECIFICATIONS

| 項目 Item                                                                  | 特性 Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|---------|------------------------------|------------------------------------------------------------|------|-------------------------|---------------------------------------------|--|
| カテゴリ温度範囲<br>Category Temperature Range                                   | -25～+105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 定格電圧範囲<br>Rated Voltage Range                                            | 160～450Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 静電容量許容差<br>Capacitance Tolerance                                         | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 漏れ電流<br>Leakage Current (MAX)                                            | I=3√CV (定格電圧印加5分後)<br>I=3√CV (After 5 minutes application of rated voltage)<br>I=漏れ電流 (μA) C=静電容量 (μF) V=定格電圧 (Vdc)<br>Leakage Current Capacitance Rated Voltage                                                                                                                                                                                                                                                                                                                                                                                                 |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 損失角の正接 (tan δ)<br>Dissipation Factor (MAX)                               | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>160～250</td><td>315～450</td></tr><tr><td>tan δ</td><td>0.15</td><td>0.20</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                      | 定格電圧 (Vdc)<br>Rated Voltage   | 160～250                                           | 315～450 | tan δ                        | 0.15                                                       | 0.20 |                         |                                             |  |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 160～250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 315～450                       |                                                   |         |                              |                                                            |      |                         |                                             |  |
| tan δ                                                                    | 0.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.20                          |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 耐久性<br>Endurance                                                         | 105℃中で7000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 7000 hours at 105℃, the capacitors shall meet the following requirements. <table><tr><td>静電容量変化率<br/>Capacitance Change</td><td colspan="2">初期値の ±20% 以内<br/>Within ±20% of the initial value.</td></tr><tr><td>損失角の正接<br/>Dissipation Factor</td><td colspan="2">規格値の 200% 以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>漏れ電流<br/>Leakage Current</td><td colspan="2">規格値以下<br/>Not more than the specified value.</td></tr></table> | 静電容量変化率<br>Capacitance Change | 初期値の ±20% 以内<br>Within ±20% of the initial value. |         | 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. |      | 漏れ電流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |  |
| 静電容量変化率<br>Capacitance Change                                            | 初期値の ±20% 以内<br>Within ±20% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 漏れ電流<br>Leakage Current                                                  | 規格値以下<br>Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                               |                                                   |         |                              |                                                            |      |                         |                                             |  |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio (MAX) | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>160～250</td><td>315～450</td></tr><tr><td>Z(-25℃)/Z(+20℃)</td><td>3</td><td>8</td></tr></table> (120Hz)                                                                                                                                                                                                                                                                                                                                                                                                       | 定格電圧 (Vdc)<br>Rated Voltage   | 160～250                                           | 315～450 | Z(-25℃)/Z(+20℃)              | 3                                                          | 8    |                         |                                             |  |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 160～250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 315～450                       |                                                   |         |                              |                                                            |      |                         |                                             |  |
| Z(-25℃)/Z(+20℃)                                                          | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8                             |                                                   |         |                              |                                                            |      |                         |                                             |  |

### ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                       |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-----------------------|---------------------|
| □□□                   | VXR             | □□□□□               | M                                | □□□           | SN                    | D x L               |
| 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 | 端子記号<br>Terminal Code | ケースサイズ<br>Case Size |

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

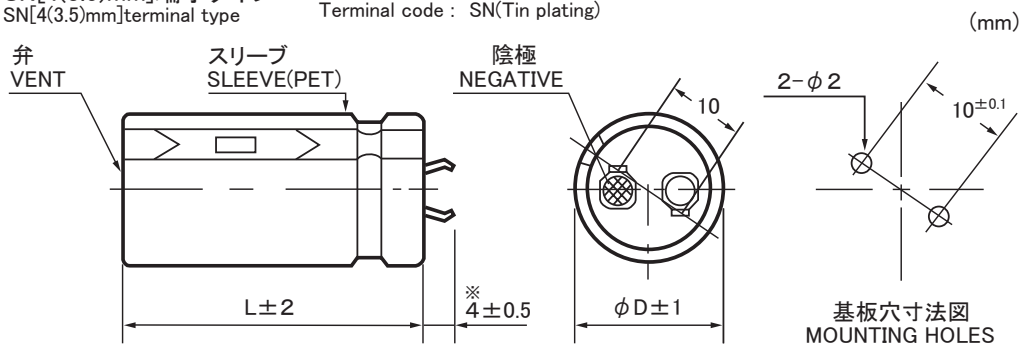
| 周波数 (Hz)<br>Frequency |                | 60<br>(50) | 120<br>(100) | 300  | 500  | 1k   | 10k≤ |
|-----------------------|----------------|------------|--------------|------|------|------|------|
| 係数<br>Coefficient     | 160~<br>250Vdc | 0.80       | 1.00         | 1.15 | 1.20 | 1.30 | 1.50 |
|                       | 315~<br>450Vdc | 0.80       | 1.00         | 1.15 | 1.20 | 1.25 | 1.40 |

### ◆副記号／OPTION

EFC : PET スリーブ、底板なし  
PET Sleeve without plate

◆寸法図／DIMENSIONS

●SN[4(3.5)mm]端子タイプ 端子記号 : SN(錫メッキ)  
SN[4(3.5)mm]terminal type Terminal code : SN(Tin plating)



◆標準品一覧表／STANDARD SIZE

| Cap.<br>( $\mu F$ ) | 160Vdc    |      |           |      |           |      |           |      | 180Vdc    |      |           |      |           |      |           |      |
|---------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
|                     | $\phi 22$ |      | $\phi 25$ |      | $\phi 30$ |      | $\phi 35$ |      | $\phi 22$ |      | $\phi 25$ |      | $\phi 30$ |      | $\phi 35$ |      |
| 220                 |           |      |           |      |           |      |           |      | 22×25     | 1.00 |           |      |           |      |           |      |
| 270                 | 22×25     | 1.10 |           |      |           |      |           |      | 22×25     | 1.10 |           |      |           |      |           |      |
| 330                 | 22×25     | 1.20 |           |      |           |      |           |      | 22×30     | 1.20 | 25×25     | 1.20 |           |      |           |      |
| 390                 | 22×30     | 1.30 | 25×25     | 1.30 |           |      |           |      | 22×30     | 1.30 | 25×25     | 1.30 |           |      |           |      |
| 470                 | 22×35     | 1.40 | 25×30     | 1.40 |           |      |           |      | 22×35     | 1.40 | 25×30     | 1.40 | 30×25     | 1.40 |           |      |
| 560                 | 22×40     | 1.50 | 25×30     | 1.50 | 30×25     | 1.50 |           |      | 22×40     | 1.50 | 25×35     | 1.50 | 30×25     | 1.50 |           |      |
| 680                 | 22×45     | 1.70 | 25×35     | 1.70 | 30×30     | 1.70 |           |      | 22×45     | 1.70 | 25×35     | 1.70 | 30×30     | 1.70 |           |      |
| 820                 | 22×50     | 2.00 | 25×40     | 2.00 | 30×30     | 2.00 |           |      |           |      | 25×40     | 2.00 | 30×35     | 2.00 | 35×30     | 2.00 |
| 1000                |           |      | 25×45     | 2.20 | 30×35     | 2.20 | 35×30     | 2.20 |           |      | 25×50     | 2.20 | 30×35     | 2.20 | 35×30     | 2.20 |
| 1200                |           |      | 25×50     | 2.30 | 30×40     | 2.30 | 35×35     | 2.30 |           |      |           |      | 30×40     | 2.30 | 35×35     | 2.30 |
| 1500                |           |      |           |      | 30×45     | 2.50 | 35×35     | 2.50 |           |      |           |      | 30×50     | 2.50 | 35×40     | 2.50 |
| 1800                |           |      |           |      | 30×50     | 2.70 | 35×40     | 2.70 |           |      |           |      |           |      | 35×45     | 2.70 |
| 2200                |           |      |           |      |           |      | 35×45     | 2.90 |           |      |           |      |           |      | 35×50     | 2.90 |

| Cap.<br>( $\mu F$ ) | 200Vdc    |      |           |      |           |      |           |      | 250Vdc    |      |           |      |           |      |           |      |
|---------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
|                     | $\phi 22$ |      | $\phi 25$ |      | $\phi 30$ |      | $\phi 35$ |      | $\phi 22$ |      | $\phi 25$ |      | $\phi 30$ |      | $\phi 35$ |      |
| 180                 |           |      |           |      |           |      |           |      | 22×25     | 0.90 | 25×25     | 0.90 |           |      |           |      |
| 220                 | 22×25     | 1.00 |           |      |           |      |           |      | 22×30     | 1.00 | 25×25     | 1.00 |           |      |           |      |
| 270                 | 22×30     | 1.10 | 25×25     | 1.10 |           |      |           |      | 22×35     | 1.10 | 25×30     | 1.10 | 30×25     | 1.10 |           |      |
| 330                 | 22×30     | 1.20 | 25×25     | 1.20 |           |      |           |      | 22×40     | 1.20 | 25×30     | 1.20 | 30×25     | 1.20 |           |      |
| 390                 | 22×35     | 1.30 | 25×30     | 1.30 | 30×25     | 1.30 |           |      | 22×45     | 1.30 | 25×35     | 1.30 | 30×30     | 1.30 |           |      |
| 470                 | 22×40     | 1.40 | 25×35     | 1.40 | 30×25     | 1.40 |           |      | 22×50     | 1.40 | 25×40     | 1.40 | 30×30     | 1.40 | 35×30     | 1.40 |
| 560                 | 22×45     | 1.50 | 25×35     | 1.50 | 30×30     | 1.50 |           |      |           |      | 25×45     | 1.50 | 30×35     | 1.50 | 35×30     | 1.50 |
| 680                 | 22×50     | 1.70 | 25×40     | 1.70 | 30×30     | 1.70 |           |      |           |      | 25×50     | 1.70 | 30×40     | 1.70 | 35×35     | 1.70 |
| 820                 |           |      | 25×45     | 2.00 | 30×35     | 2.00 | 35×30     | 2.00 |           |      |           |      | 30×45     | 2.00 | 35×35     | 2.00 |
| 1000                |           |      |           |      | 30×40     | 2.20 | 35×35     | 2.20 |           |      |           |      | 30×50     | 2.20 | 35×40     | 2.20 |
| 1200                |           |      |           |      | 30×45     | 2.30 | 35×40     | 2.30 |           |      |           |      |           |      | 35×45     | 2.30 |
| 1500                |           |      |           |      |           |      | 35×50     | 2.50 |           |      |           |      |           |      |           |      |

ケースサイズ Case Size  $\phi D \times L$ (mm) →  
リップル電流 Ripple Current (A.r.m.s./120Hz,105°C) →

### ◆標準品一覧表／STANDARD SIZE

| Cap.<br>( $\mu$ F) | 315Vdc    |      |           |      |           |      |           |      | 350Vdc    |      |           |      |           |      |           |      |
|--------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
|                    | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 82                 | 22×25     | 0.64 |           |      |           |      |           |      | 22×25     | 0.64 |           |      |           |      |           |      |
| 100                | 22×30     | 0.69 |           |      |           |      |           |      | 22×30     | 0.69 | 25×25     | 0.69 |           |      |           |      |
| 120                | 22×30     | 0.75 | 25×25     | 0.75 |           |      |           |      | 22×35     | 0.75 | 25×30     | 0.75 |           |      |           |      |
| 150                | 22×35     | 0.82 | 25×30     | 0.82 | 30×25     | 0.82 |           |      | 22×40     | 0.82 | 25×30     | 0.82 | 30×25     | 0.82 |           |      |
| 180                | 22×40     | 0.90 | 25×30     | 0.90 | 30×25     | 0.90 |           |      | 22×45     | 0.90 | 25×35     | 0.90 | 30×30     | 0.90 |           |      |
| 220                | 22×45     | 1.00 | 25×35     | 1.00 | 30×30     | 1.00 |           |      | 22×50     | 1.00 | 25×40     | 1.00 | 30×30     | 1.00 |           |      |
| 270                |           |      | 25×40     | 1.10 | 30×35     | 1.10 | 35×30     | 1.10 |           |      | 25×45     | 1.10 | 30×35     | 1.10 | 35×30     | 1.10 |
| 330                |           |      | 25×50     | 1.20 | 30×40     | 1.20 | 35×30     | 1.20 |           |      |           |      | 30×40     | 1.20 | 35×35     | 1.20 |
| 390                |           |      |           |      | 30×40     | 1.30 | 35×35     | 1.30 |           |      |           |      | 30×45     | 1.30 | 35×35     | 1.30 |
| 470                |           |      |           |      | 30×45     | 1.40 | 35×40     | 1.40 |           |      |           |      | 30×50     | 1.40 | 35×40     | 1.40 |
| 560                |           |      |           |      |           |      | 35×45     | 1.50 |           |      |           |      |           |      | 35×50     | 1.50 |
| 680                |           |      |           |      |           |      | 35×50     | 1.70 |           |      |           |      |           |      |           |      |

| Cap.<br>( $\mu$ F) | 400Vdc    |      |           |      |           |      |           |      | 450Vdc    |      |           |      |           |      |           |      |
|--------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
|                    | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 39                 |           |      |           |      |           |      |           |      | 22×25     | 0.37 |           |      |           |      |           |      |
| 47                 |           |      |           |      |           |      |           |      | 22×30     | 0.40 |           |      |           |      |           |      |
| 56                 | 22×25     | 0.51 |           |      |           |      |           |      | 22×35     | 0.47 | 25×25     | 0.47 |           |      |           |      |
| 68                 | 22×30     | 0.56 | 25×25     | 0.56 |           |      |           |      | 22×40     | 0.53 | 25×30     | 0.53 |           |      |           |      |
| 82                 | 22×30     | 0.64 | 25×25     | 0.64 |           |      |           |      | 22×45     | 0.56 | 25×35     | 0.56 | 30×25     | 0.56 |           |      |
| 100                | 22×35     | 0.69 | 25×30     | 0.69 |           |      |           |      | 22×50     | 0.64 | 25×40     | 0.64 | 30×30     | 0.64 |           |      |
| 120                | 22×40     | 0.75 | 25×30     | 0.75 | 30×25     | 0.75 |           |      |           |      | 25×45     | 0.72 | 30×30     | 0.72 |           |      |
| 150                | 22×45     | 0.82 | 25×35     | 0.82 | 30×30     | 0.82 |           |      |           |      | 25×50     | 0.79 | 30×40     | 0.79 | 35×30     | 0.79 |
| 180                | 22×50     | 0.90 | 25×40     | 0.90 | 30×30     | 0.90 | 35×25     | 0.90 |           |      |           |      | 30×45     | 0.87 | 35×35     | 0.87 |
| 220                |           |      | 25×45     | 1.00 | 30×35     | 1.00 | 35×30     | 1.00 |           |      |           |      | 30×50     | 1.00 | 35×40     | 1.00 |
| 270                |           |      |           |      | 30×40     | 1.10 | 35×35     | 1.10 |           |      |           |      |           |      | 35×45     | 1.19 |
| 330                |           |      |           |      | 30×45     | 1.20 | 35×40     | 1.20 |           |      |           |      |           |      | 35×50     | 1.38 |
| 390                |           |      |           |      |           |      | 35×45     | 1.30 |           |      |           |      |           |      |           |      |
| 470                |           |      |           |      |           |      | 35×50     | 1.40 |           |      |           |      |           |      |           |      |

ケースサイズ Case Size  $\phi D \times L$ (mm)  $\longrightarrow$   
 リプル電流 Ripple Current (A.r.m.s./120Hz,105°C)  $\longrightarrow$