

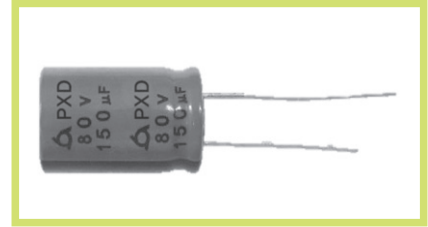
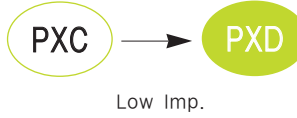
## PXD Series

• 125°C 2,000~5,000Hrs assured.

- Ultra Low Impedance.
- Wide Temperature range.
- Long Life.
- Suitable to fit for automotive equipment.
- RoHS compliant.
- Halogen-free capacitors are also available.

Solvent-proof

WV  $\leq$  80V<sub>DC</sub>

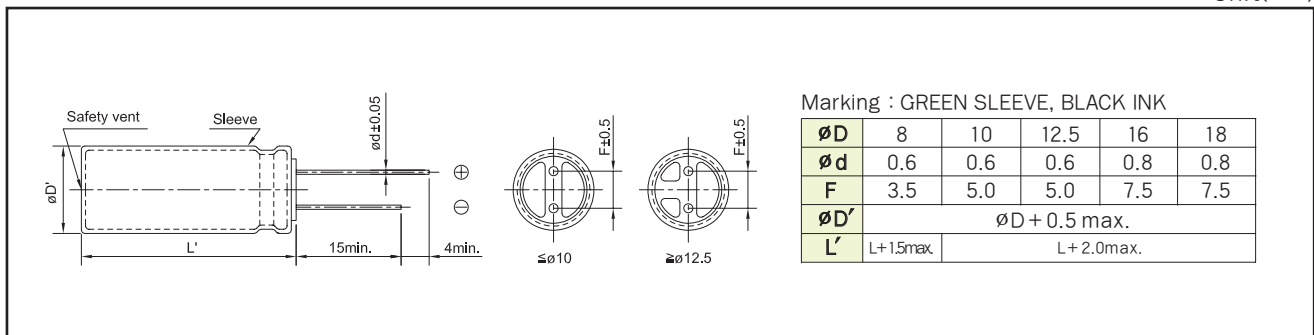


## SPECIFICATIONS

| Item   | Characteristics   |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
|--|---|---------------------------------|--------|---------|----------|-------|-------------------|-------------|---------------------|-------|------|-------------------|------|------|------|---|
| Rated Voltage Range                                | 10 ~ 80 V <sub>DC</sub>   |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Operating Temperature Range                        | -40 ~ +125°C  |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Capacitance Tolerance                              | $\pm 20\%$ (M) (at 20°C, 120Hz)   |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Leakage Current                                    | $I = 0.03CV$ ( $\mu A$ ) or $4\mu A$ , whichever is greater.<br>Where, I:Max. leakage current( $\mu A$ ), C:Nominal capacitance( $\mu F$ ), V:Rated voltage(V <sub>DC</sub> )<br>(at 20°C, 1 minute)  |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Dissipation Factor(Tan $\delta$ )                  | <table border="1"> <tr> <td>Rated Volatag(V<sub>DC</sub>)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50~63</td> <td>80</td> </tr> <tr> <td>TAN<math>\delta</math>(Max.)</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table> <p>When the capacitance exceeds 1.000<math>\mu F</math>, 0.02 shall be added every 1.000<math>\mu F</math> increase.<br/>(at 20°C, 120Hz)</p>   | Rated Volatag(V <sub>DC</sub> ) | 10     | 16      | 25       | 35    | 50~63             | 80          | TAN $\delta$ (Max.) | 0.20  | 0.16 | 0.14              | 0.12 | 0.10 | 0.08 |   |
| Rated Volatag(V <sub>DC</sub> )                    | 10  | 16                              | 25     | 35      | 50~63    | 80    |                   |             |                     |       |      |                   |      |      |      |   |
| TAN $\delta$ (Max.)                                | 0.20  | 0.16                            | 0.14   | 0.12    | 0.10     | 0.08  |                   |             |                     |       |      |                   |      |      |      |   |
| Temperature Characteristics (Max. Impedance ratio) | <table border="1"> <tr> <td>Rated Voltage(V<sub>DC</sub>)</td> <td>10</td> <td>16 ~ 35</td> <td>50</td> <td>63~80</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>2</td> <td>3</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>6</td> <td>4</td> <td>5</td> <td>4</td> </tr> </table> <p>(at 120Hz)</p>   | Rated Voltage(V <sub>DC</sub> ) | 10     | 16 ~ 35 | 50       | 63~80 | Z(-25°C)/Z(+20°C) | 3           | 2                   | 3     | 2    | Z(-40°C)/Z(+20°C) | 6    | 4    | 5    | 4 |
| Rated Voltage(V <sub>DC</sub> )                    | 10  | 16 ~ 35                         | 50     | 63~80   |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Z(-25°C)/Z(+20°C)                                  | 3   | 2                               | 3      | 2       |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Z(-40°C)/Z(+20°C)                                  | 6   | 4                               | 5      | 4       |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Load Life  | <p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied at 125°C.</p> <p>Capacitance change <math>\leq \pm 30\%</math> of the initial value</p> <p>Tan<math>\delta</math> <math>\leq 300\%</math> of the initial specified value</p> <p>Leakage current <math>\leq</math> The initial specified value</p> <table border="1"> <tr> <td><math>\phi D</math></td> <td>10~50V</td> <td>63~80V</td> </tr> <tr> <td>8<math>\phi</math></td> <td>2,000</td> <td>-</td> </tr> <tr> <td>10<math>\phi</math> ~</td> <td>4,000</td> <td>5,000</td> </tr> </table> | $\phi D$                        | 10~50V | 63~80V  | 8 $\phi$ | 2,000 | -                 | 10 $\phi$ ~ | 4,000               | 5,000 |      |                   |      |      |      |   |
| $\phi D$   | 10~50V  | 63~80V                          |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| 8 $\phi$   | 2,000   | -                               |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| 10 $\phi$ ~  | 4,000   | 5,000                           |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Shelf Life   | <p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change <math>\leq \pm 30\%</math> of the initial value</p> <p>Tan<math>\delta</math> <math>\leq 300\%</math> of the initial specified value</p> <p>Leakage current <math>\leq</math> The initial specified value</p>   |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |
| Others   | Satisfied characteristics KS C IEC 60384-4  |                                 |        |         |          |       |                   |             |                     |       |      |                   |      |      |      |   |

## DIMENSIONS OF PXD Series

Unit(mm)



**RATINGS OF PXD Series**

| V <sub>DC</sub> |               | 10                      |       |  | 16            |                         |       | 25   |               |                         |       |  |
|-----------------|---------------|-------------------------|-------|--|---------------|-------------------------|-------|--|---------------|-------------------------|-------|--|
| Item<br>μF      | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) |
|                 |               | 20°C                    | -40°C |  |               | 20°C                    | -40°C |  |               | 20°C                    | -40°C |  |
| 100             |               |                         |       |  | 8 × 11.5      | 0.24                    | 3.6   | 400  |               |                         |       |  |
| 220             | 8 × 11.5      | 0.24                    | 3.6   | 400  | 10 × 12.5     | 0.11                    | 1.1   | 720  | 10 × 12.5     | 0.11                    | 1.1   | 720  |
| 330             | 10 × 12.5     | 0.11                    | 1.1   | 720  | 10 × 12.5     | 0.11                    | 1.1   | 720  | 10 × 16       | 0.071                   | 0.71  | 950  |
| 470             | 10 × 12.5     | 0.11                    | 1.1   | 720  | 10 × 16       | 0.071                   | 0.71  | 950  | 10 × 20       | 0.056                   | 0.56  | 1,100  |
| 1,000           | 10 × 20       | 0.056                   | 0.56  | 1,100  | 12.5 × 20     | 0.044                   | 0.31  | 1,250  | 12.5 × 25     | 0.030                   | 0.21  | 1,550  |
| 2,200           | 12.5 × 25     | 0.030                   | 0.21  | 1,550  | 16 × 25       | 0.023                   | 0.16  | 2,000  | 16 × 31.5     | 0.019                   | 0.13  | 2,500  |
| 3,300           | 16 × 25       | 0.023                   | 0.16  | 2,000  | 16 × 31.5     | 0.019                   | 0.13  | 2,500  |               |                         |       |  |
| 4,700           | 16 × 31.5     | 0.019                   | 0.13  | 2,500  |               |                         |       |  |               |                         |       |  |

| V <sub>DC</sub> |               | 35                      |       |  | 50            |                         |       | 63   |               |                         |       |  |
|-----------------|---------------|-------------------------|-------|--|---------------|-------------------------|-------|--|---------------|-------------------------|-------|--|
| Item<br>μF      | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) |
|                 |               | 20°C                    | -40°C |  |               | 20°C                    | -40°C |  |               | 20°C                    | -40°C |  |
| 10              |               |                         |       |  | 8 × 11.5      | 0.30                    | 4.5   | 230  |               |                         |       |  |
| 22              |               |                         |       |  | 8 × 11.5      | 0.30                    | 4.5   | 320  |               |                         |       |  |
| 33              |               |                         |       |  | 8 × 11.5      | 0.30                    | 4.5   | 340  |               |                         |       |  |
| 47              |               |                         |       |  | 8 × 11.5      | 0.30                    | 4.5   | 340  |               |                         |       |  |
| 100             | 8 × 11.5      | 0.24                    | 3.60  | 400  | 10 × 12.5     | 0.18                    | 1.5   | 590  |               |                         |       |  |
|                 | 10 × 12.5     | 0.11                    | 1.10  | 720  |               |                         |       |  |               |                         |       |  |
| 220             | 10 × 16       | 0.071                   | 0.71  | 950  | 10 × 20       | 0.074                   | 0.74  | 950  | 12.5 X 20     | 0.19                    | 1.5   | 950  |
| 330             | 10 × 20       | 0.056                   | 0.56  | 1,100  | 12.5 × 20     | 0.061                   | 0.43  | 1,150  | 12.5 X 25     | 0.15                    | 1.2   | 1,450  |
| 470             | 12.5 × 20     | 0.044                   | 0.31  | 1,250  | 12.5 × 25     | 0.040                   | 0.28  | 1,400  | 12.5 X 30     | 0.090                   | 0.71  | 1,700  |
| 1,000           | 16 × 25       | 0.023                   | 0.16  | 2,000  | 16 × 31.5     | 0.028                   | 0.15  | 2,200  | 16 X 31.5     | 0.058                   | 0.46  | 2,100  |

| V <sub>DC</sub> |               | 80                      |       |  |
|-----------------|---------------|-------------------------|-------|--|
| Item<br>μF      | ∅ D×L<br>(mm) | Imp.<br>(Ω max./100kHz) |       | Rated Ripple<br>Current<br>(mArms)<br>(125°C,100kHz) |
|                 |               | 20°C                    | -40°C |  |
| 220             | 12.5 X 25     | 0.15                    | 1.2   | 1,450  |
| 330             | 12.5 X 30     | 0.090                   | 0.71  | 1,700  |
|                 | 16 X 20       | 0.085                   | 0.58  | 1,790  |
| 470             | 12.5 X 35     | 0.070                   | 0.55  | 2,000  |
|                 | 16 X 25       | 0.061                   | 0.48  | 2,030  |
| 560             | 18 X 25       | 0.049                   | 0.34  | 2,280  |
| 680             | 18 X 30       | 0.041                   | 0.26  | 2,580  |
| 820             | 18 X 35.5     | 0.035                   | 0.21  | 2,890  |

**RATED RIPPLE CURRENT MULTIPLIERS**

Frequency Multipliers

| Freq.(Hz)<br>Cap.(μF) | 120  | 1k   | 10k  | 50k  | 100k |
|-----------------------|------|------|------|------|------|
| 10 ~ 100              | 0.40 | 0.75 | 0.90 | 0.93 | 1.00 |
| 220 ~ 470             | 0.50 | 0.85 | 0.94 | 0.96 | 1.00 |
| 1,000                 | 0.60 | 0.87 | 0.95 | 0.97 | 1.00 |
| 2,200 ~ 3,300         | 0.75 | 0.90 | 0.95 | 0.97 | 1.00 |
| 4,700                 | 0.85 | 0.95 | 0.98 | 0.99 | 1.00 |