

NXE Series

- 105°C 3,000~4,000Hrs assured.

- Non-solvent proof.
- Ultra Low ESR, Long Life.
- For MAIN-Board, SMPS.
- RoHS compliant.
- Halogen-free capacitors are also available.

NXC

NXE

Long Life

**SPECIFICATIONS**

| Item | Characteristics | | | | | | | | | | | | | | | | | |
|---|--|---------------------|-------------|------|------|--------------------|--------------------------------------|--------------------------------------|-------------------|---|---|---|---------------------|-----------------|------------------------------------|---------------------|-------------|------|
| Rated Voltage Range | 6.3 ~ 35 V _{DC} | | | | | | | | | | | | | | | | | |
| Operating Temperature Range | -40 ~ + 105°C | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | $\pm 20\%$ (M) (at 20°C, 120Hz) | | | | | | | | | | | | | | | | | |
| Leakage Current | <p>I=0.03CV(μA) or 4μA, whichever is greater. Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(V_{DC}) (at 20°C, 2 minutes)</p> | | | | | | | | | | | | | | | | | |
| Dissipation Factor(Tan δ) | <table border="1"> <tr> <td>Rated Voltage(V_{DC})</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr> <tr> <td>Tanδ(Max.)</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td></tr> </table> (at 20°C, 120Hz) | | | | | | Rated Voltage(V _{DC}) | 6.3 | 10 | 16 | 25 | 35 | Tan δ (Max.) | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 |
| Rated Voltage(V _{DC}) | 6.3 | 10 | 16 | 25 | 35 | | | | | | | | | | | | | |
| Tan δ (Max.) | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | | | | | | | | | | | | | |
| Temperature Characteristics (Max. Impedance ratio) | <table border="1"> <tr> <td>Z(-25°C)/ Z(20°C)</td><td>2</td></tr> <tr> <td>Z(-40°C)/ Z(20°C)</td><td>3</td></tr> </table> (at 120Hz) | | | | | | Z(-25°C)/ Z(20°C) | 2 | Z(-40°C)/ Z(20°C) | 3 | | | | | | | | |
| Z(-25°C)/ Z(20°C) | 2 | | | | | | | | | | | | | | | | | |
| Z(-40°C)/ Z(20°C) | 3 | | | | | | | | | | | | | | | | | |
| Load Life | <p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) at 105°C for the specified period of time.</p> <table border="1"> <tr> <td>Capacitance change</td><td>$\leq \pm 25\%$ of the initial value</td> <td>$\emptyset D$</td><td>Life Time</td> </tr> <tr> <td>Tanδ</td><td>$\leq 200\%$ of the initial specified value</td> <td>$\emptyset 8$</td><td>3,000 hours</td> </tr> <tr> <td>Leakage current</td><td>\leq The initial specified value</td> <td>$\emptyset 10 \sim$</td><td>4,000 hours</td> </tr> </table> | | | | | Capacitance change | $\leq \pm 25\%$ of the initial value | $\emptyset D$ | Life Time | Tan δ | $\leq 200\%$ of the initial specified value | $\emptyset 8$ | 3,000 hours | Leakage current | \leq The initial specified value | $\emptyset 10 \sim$ | 4,000 hours | |
| Capacitance change | $\leq \pm 25\%$ of the initial value | $\emptyset D$ | Life Time | | | | | | | | | | | | | | | |
| Tan δ | $\leq 200\%$ of the initial specified value | $\emptyset 8$ | 3,000 hours | | | | | | | | | | | | | | | |
| Leakage current | \leq The initial specified value | $\emptyset 10 \sim$ | 4,000 hours | | | | | | | | | | | | | | | |
| 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 105°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> <table border="1"> <tr> <td>Capacitance change</td><td>$\leq \pm 25\%$ of the initial value</td> </tr> <tr> <td>Tanδ</td><td>$\leq 200\%$ of the initial specified value</td> </tr> <tr> <td>Leakage current</td><td>$\leq 200\%$ of the initial specified value</td> </tr> </table> | | | | | | Capacitance change | $\leq \pm 25\%$ of the initial value | Tan δ | $\leq 200\%$ of the initial specified value | Leakage current | $\leq 200\%$ of the initial specified value | | | | | | |
| Capacitance change | $\leq \pm 25\%$ of the initial value | | | | | | | | | | | | | | | | | |
| Tan δ | $\leq 200\%$ of the initial specified value | | | | | | | | | | | | | | | | | |
| Leakage current | $\leq 200\%$ of the initial specified value | | | | | | | | | | | | | | | | | |
| Others | Satisfied characteristics KS C IEC 60384-4 | | | | | | | | | | | | | | | | | |

DIMENSIONS OF NXE Series

Unit(mm)

| Safety vent | | | Sleeve | | Dimensions | | Marking : DARK BROWN SLEEVE, SILVER INK | | |
|---------------|----|--------|----------------|------------------|---------------|---------------|---|--------------------------|------------|
| $\emptyset D$ | L' | 15min. | $\emptyset 10$ | $\emptyset 12.5$ | $\emptyset D$ | $\emptyset d$ | $\emptyset D'$ | $\emptyset D + 0.5$ max. | L' |
| 10 | 15 | 4 | 10 | 12.5 | 8 | 0.6 | 12.5 | 12.5 | L+1.5 max. |
| 12.5 | 15 | 4 | 12.5 | 12.5 | 10 | 0.6 | 12.5 | 12.5 | L+2.0 max. |
| 15 | 15 | 4 | 15 | 15 | 12.5 | 0.6 | 15 | 15 | 15 |

* $\emptyset 10 \times 12L$, $L' \leq L+1.5$

NXE Series



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

RATINGS OF NXE series

| Vdc μF | Items | Ø D × L(mm) | Rated Ripple Current (mArms/105°C, 100kHz) | 6.3 | |
|-----------|-----------|-------------|---|-----------------------|------------------------|
| | | | | (Ω max./20°C, 100kHz) | (Ω max./-10°C, 100kHz) |
| 1,200 | 8 × 15 | 1,490 | 0.028 | 0.085 | |
| 1,800 | 8 × 20 | 1,870 | 0.019 | 0.057 | |
| 1,500 | 10 × 12 | 1,540 | 0.030 | 0.091 | |
| 1,500 | 10 × 12.5 | 1,540 | 0.030 | 0.091 | |
| 1,800 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 2,200 | 10 × 20 | 2,550 | 0.013 | 0.039 | |
| 3,300 | 10 × 25 | 2,800 | 0.012 | 0.036 | |

| Vdc μF | Items | Ø D × L(mm) | Rated Ripple Current (mArms/105°C, 100kHz) | 10 | |
|-----------|-----------|-------------|---|-----------------------|------------------------|
| | | | | (Ω max./20°C, 100kHz) | (Ω max./-10°C, 100kHz) |
| 1,000 | 8 × 15 | 1,490 | 0.028 | 0.085 | |
| 1,500 | 8 × 20 | 1,870 | 0.019 | 0.057 | |
| 1,000 | 10 × 12 | 1,540 | 0.030 | 0.091 | |
| 1,000 | 10 × 12.5 | 1,540 | 0.030 | 0.091 | |
| 1,200 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 1,500 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 1,800 | 10 × 20 | 2,550 | 0.013 | 0.039 | |
| 2,200 | 10 × 25 | 2,800 | 0.012 | 0.036 | |

| Vdc μF | Items | Ø D × L(mm) | Rated Ripple Current (mArms/105°C, 100kHz) | 16 | |
|-----------|-----------|-------------|---|-----------------------|------------------------|
| | | | | (Ω max./20°C, 100kHz) | (Ω max./-10°C, 100kHz) |
| 680 | 8 × 15 | 1,490 | 0.028 | 0.085 | |
| 1,000 | 8 × 20 | 1,870 | 0.019 | 0.057 | |
| 680 | 10 × 12 | 1,540 | 0.030 | 0.091 | |
| 680 | 10 × 12.5 | 1,540 | 0.030 | 0.091 | |
| 1,000 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 1,500 | 10 × 20 | 2,550 | 0.013 | 0.039 | |
| 1,800 | 10 × 25 | 2,800 | 0.012 | 0.036 | |

| Vdc μF | Items | Ø D × L(mm) | Rated Ripple Current (mArms/105°C, 100kHz) | 25 | |
|-----------|-----------|-------------|---|-----------------------|------------------------|
| | | | | (Ω max./20°C, 100kHz) | (Ω max./-10°C, 100kHz) |
| 390 | 8 × 15 | 1,490 | 0.028 | 0.085 | |
| 560 | 8 × 20 | 1,870 | 0.019 | 0.057 | |
| 470 | 10 × 12 | 1,540 | 0.030 | 0.091 | |
| 470 | 10 × 12.5 | 1,540 | 0.030 | 0.091 | |
| 680 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 820 | 10 × 20 | 2,550 | 0.013 | 0.039 | |
| 1,000 | 10 × 25 | 2,800 | 0.012 | 0.036 | |
| 1,200 | 12.5 × 20 | 3,000 | 0.014 | 0.042 | |

| Vdc μF | Items | Ø D × L(mm) | Rated Ripple Current (mArms/105°C, 100kHz) | 35 | |
|-----------|-----------|-------------|---|-----------------------|------------------------|
| | | | | (Ω max./20°C, 100kHz) | (Ω max./-10°C, 100kHz) |
| 270 | 8 × 15 | 1,490 | 0.028 | 0.085 | |
| 390 | 8 × 20 | 1,870 | 0.019 | 0.057 | |
| 330 | 10 × 12 | 1,540 | 0.030 | 0.091 | |
| 330 | 10 × 12.5 | 1,540 | 0.030 | 0.091 | |
| 470 | 10 × 16 | 2,000 | 0.019 | 0.057 | |
| 560 | 10 × 20 | 2,550 | 0.013 | 0.039 | |
| 680 | 10 × 25 | 2,800 | 0.012 | 0.036 | |

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

| Cap.(μF) | Freq.(Hz) | 120 | 1k | 10k | 50k | 100k |
|---------------|-----------|------|------|------|------|------|
| 270 ~ 560 | | 0.50 | 0.85 | 0.94 | 0.96 | 1.00 |
| 680 ~ 1,800 | | 0.60 | 0.87 | 0.95 | 0.97 | 1.00 |
| 2,200 ~ 3,300 | | 0.75 | 0.90 | 0.95 | 0.97 | 1.00 |