

ALUMINUM ELECTROLYTIC 160V to 450V

SUBMINIATURE HIGH VOLTAGE (NEVH: Radial Lead, NEHH: Axial Leads)

The NEVH and NEHH series subminiature aluminum electrolytic capacitors are ideal for polarized capacitor applications requiring small size, high capacitance, high voltage, low cost, and dependability over broad temperature ranges.

RATINGS

Capacitance Range: 1.0 μ f to 470 μ f

Tolerance: -10%, +75%

Voltage Range: 160V to 450V

PERFORMANCE SPECIFICATIONS

Operating Temperature Range:

- For 160V and 250V:
-40°C to +85°C (-40°F to +185°F)
- For 350V and 450V:
-25°C to +85°C (-13°F to +185°F)

Leakage Current: $I \leq 0.02CV + 100\mu A$ (measured after 3 minutes of applied voltage)

I = Leakage Current (μA)

C = Nominal Capacitance (μf)

V = Rated Voltage (V)

Capacitance Tolerance (M): at +20°C (+68°F), 120Hz

Capacitance Values through 4.7 μ f -10% to +75%

Capacitance Values above 4.7 μ f -10% to +50%

Dissipation Factor: at +20°C (+68°F), 120Hz

| Rated Voltage | 160, 250, and 350 | 450 |
|----------------------------|-------------------|------|
| 1.0 μ f to 470 μ f | 0.20 | 0.25 |

Impedance Ratio at Low Temperature: 120Hz

| Comparison Z WV | 160-250 | 350 | 450 |
|--|---------|-----|-----|
| Z @ -25°C (-13°F) Z @ +20°C (+68°F) | 2 | 2 | 2 |
| Z @ -40°C (-40°F) Z @ +20°C (+68°F) | 4 | - | - |

Surge Voltage:

| DC Rated Voltage | 160 | 250 | 350 | 450 |
|------------------|-----|-----|-----|-----|
| Surge Voltage | 200 | 300 | 400 | 500 |

Load Life: 1000 \pm 12Hrs @ +85°C (+185°F),
at rated voltage

Leakage Current: Within values specified above

Dissipation Factor: Within \pm 200% of specified value

Capacitance Change Max: See Table

| Rated Voltage | Capacitance Change Max |
|---------------|---------------------------------|
| 160V to 450V | Within 20% of the initial value |

Shelf Life: 1000 Hrs @ +85°C (+185°F),
no voltage applied

Leakage Current: Within \pm 200% of specified value

Dissipation Factor: Within \pm 150% of specified value

Capacitance Change Max: Within \pm 20% of initial value

MECHANICAL SPECIFICATIONS

Lead Solderability:

Meets the requirements of MIL-STD 202, Method 208

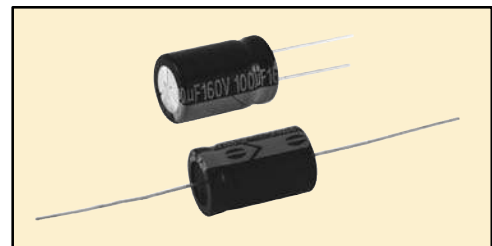
Marking:

Consists of series type, nominal capacitance, rated voltage, temperature range, anode and/or cathode identification, vendor identification.

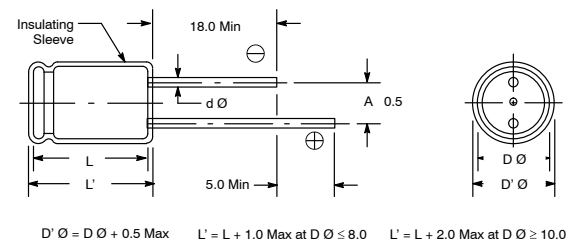
Recommended Cleaning Solvents:

Methanol, isopropanol ethanol, isobutanol, petroleum ether, propanol and/or commercial detergents. Halogenated hydrocarbon cleaning agents such as Freon (MF, TF, or TC), trichloroethylene, trichloroethane, or methylchloride are not recommended as they may damage the capacitor.

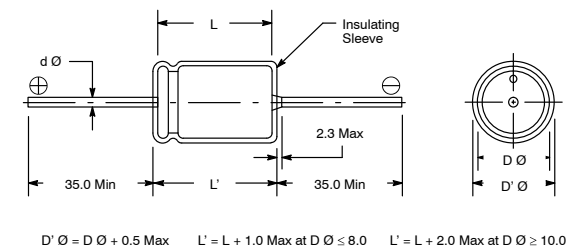
CASE SIZE AND DIMENSIONS:



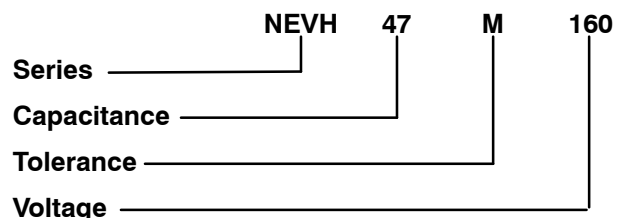
NEVH SERIES



NEHH SERIES (Insulating Bar = Negative)



ORDERING INFORMATION



ALUMINUM ELECTROLYTIC 160V to 450V

NEVH, NEHH SERIES

NEVH Series (Radial Type) Dimensions: Diameter (D Ø) x Length (L): mm

| Cap (µf) \ WV | 160 | 250 | 350 | 450 |
|---------------|-----------|-----------|-----------|-----------|
| 1.0 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 |
| 2.2 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 16 |
| 3.3 | 6 x 11 | 10 x 12.5 | 10 x 16 | 10 x 20 |
| 4.7 | 6 x 11 | 10 x 12.5 | 10 x 16 | 13 x 20 |
| 10 | 10 x 12.5 | 10 x 15 | 13 x 21 | 13 x 25 |
| 22 | 10 x 20 | 10 x 20 | 13 x 25 | 16 x 31.5 |
| 33 | 13 x 21 | 13 x 25 | 16 x 26 | 18 x 35.5 |
| 47 | 13 x 25 | 16 x 25 | 16 x 31 | 22 x 35 |
| 100 | 16 x 25 | 18 x 36 | 22 x 35 | 25 x 40 |
| 220 | 18 x 35 | | | |
| 330 | 22 x 35 | | | |
| 470 | 22 x 40 | | | |

* These dimensions are for reference only, please consult the factory for actual size.

NEVH Series (Radial Type) Mechanical Specifications: mm

| Outside Diameter (D Ø) | 6.3 | 8 | 10 | 13 | 16 | 18 | 22 | 25 |
|------------------------|-----|-----|-----|-----|-----|-----|-----|------|
| Lead Spacing (A) | 2.5 | 3.5 | 5 | 5 | 7.5 | 7.5 | 10 | 12.5 |
| Lead Diameter (d Ø) | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 1.0 |

* These dimensions are for reference only, please consult the factory for actual size.

NEHH Series (Axial Type) Dimensions: Diameter (D Ø) x Length (L): mm

| Cap (µf) \ WV | 160 | 250 | 350 | 450 |
|---------------|----------|---------|---------|---------|
| 1.0 | 6.3 x 16 | | 8 x 16 | 10 x 20 |
| 2.2 | 8 x 16 | 8 x 20 | 10 x 20 | 10 x 20 |
| 3.3 | 8 x 16 | 10 x 20 | 10 x 20 | 10 x 20 |
| 4.7 | 8 x 20 | 10 x 20 | 10 x 20 | 13 x 25 |
| 10 | 10 x 25 | 10 x 20 | 13 x 25 | 16 x 28 |
| 22 | 10 x 20 | 13 x 25 | 13 x 30 | 16 x 33 |
| 33 | 13 x 25 | 13 x 30 | 16 x 30 | 16 x 40 |
| 47 | 13 x 30 | 16 x 30 | 16 x 40 | 16 x 33 |
| 100 | 16 x 30 | 16 x 40 | 18 x 40 | 22 x 40 |
| 220 | 22 x 40 | | | |
| 330 | 25 x 52 | | | |
| 470 | 22 x 52 | | | |

* These dimensions are for reference only, please consult the factory for actual size.

NEHH Series (Axial Type) Mechanical Specifications: mm

| Outside Diameter (D Ø) | 6.3 | 8 | 10 | 13 | 16 | 18 | 22 | 25 |
|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Lead Diameter (d Ø) | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |

* These dimensions are for reference only, please consult the factory for actual size.