

Supercapacitors

PHB Series



Description

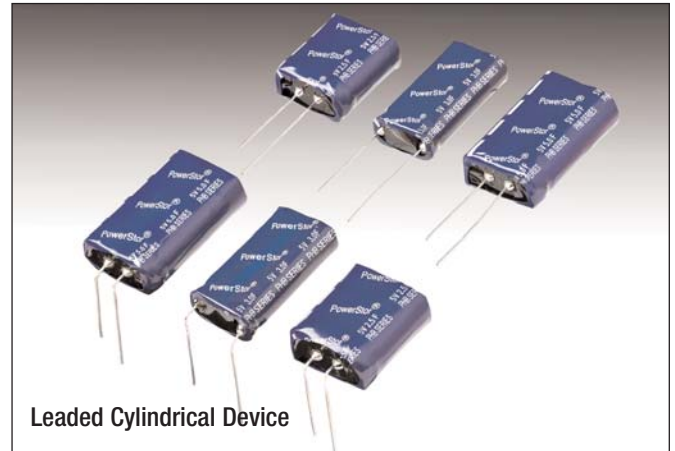
Cooper Bussmann PowerStor supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Cooper Bussmann to offer a wide variety of capacitor solutions tailored to specific applications that range from a few micro-amps for several days to several amps for milliseconds.

Features & Benefits

- Large capacitance for high energy density
- Low ESR for high power density

Applications

- Bridging or hold-up power
- Memory back-up
- Battery Swap out



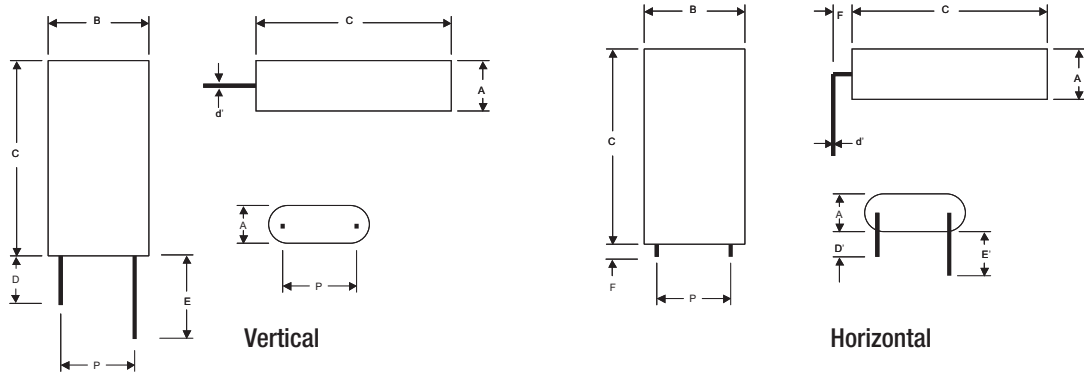
| Specifications | |
|--------------------------------------|---|
| Working Voltage (Maximum) | 5.0V |
| Surge Voltage | 5.5V |
| Nominal Capacitance Range | 1.5F to 5F |
| Capacitance Tolerance | -10% to +30% (20°C) |
| Operating Temperature Range | -25°C to 70°C |
| Extended Operating Temperature Range | -25°C to 85°C (with linear voltage derating to 4.0V @ 85°C) |

| Standard Product | | | | | | | |
|-------------------------|---------------|---------------|--|-------|--|-------------------------|----------------------------|
| Nominal Capacitance (F) | Part Number | | Maximum ESR (Ω) (Equivalent Series Resistance) Measured @ | | Nominal Leakage Current (μ A) After 100 Hrs. @ 5V, 20°C | Nominal Dimensions (mm) | Typical Mass (grams/piece) |
| | Vertical | Horizontal | 1kHz | 100Hz | | | |
| 1.5 | PHB-5ROV155-R | PHB-5ROH155-R | 0.31 | 0.33 | 10 | 8.5 x 16.8 x 21.5 | 3.3 |
| 2.5 | PHB-5ROV255-R | PHB-5ROH255-R | 0.19 | 0.20 | 14 | 10.5 x 20.8 x 22.5 | 5.0 |
| 3.0 | PHB-5ROV305-R | PHB-5ROH305-R | 0.19 | 0.20 | 16 | 8.5 x 16.8 x 31.5 | 5.3 |
| 5.0 | PHB-5ROV505-R | PHB-5ROH505-R | 0.12 | 0.13 | 25 | 10.5 x 20.8 x 32 | 7.5 |

| Performance | | |
|---|--|---------------------------------------|
| Parameter | Capacitance Change (% of initial specified value) | ESR (% of initial specified value) |
| Life (1000 hrs @ 70°C @ 5Vdc) | $\leq 30\%$ | $\leq 200\%$ |
| Storage - Low and High Temperature (1000 hrs @ -25°C and 85°C) | $\leq 30\%$ | $\leq 200\%$ |

| Dimensions (mm) | | | | | | | | | | | |
|-------------------|------------------|----------------|------|------|---------------|----------------|----|----|--------------|-----|------|
| Vertical Part# | Horizontal Part# | A | B | C | d' | D | D' | E | E' | F | P |
| PHB-5ROV155-R | PHB-5ROH155-R | 9.0 | 17.3 | 22.0 | 0.5 | 20 | 15 | 25 | 20 | 2.0 | 11.8 |
| PHB-5ROV255-R | PHB-5ROH255-R | 11.0 | 21.3 | 23.0 | 0.6 | 20 | 15 | 25 | 20 | 2.0 | 5.3 |
| PHB-5ROV305-R | PHB-5ROH305-R | 9.0 | 17.3 | 32.5 | 0.5 | 20 | 15 | 25 | 20 | 2.0 | 11.8 |
| PHB-5ROV505-R | PHB-5ROH505-R | 11.0 | 21.3 | 32.5 | 0.6 | 20 | 15 | 25 | 20 | 2.0 | 5.3 |
| Tolerances | | Maximum | | | ± 0.02 | Minimum | | | ± 0.5 | | |

Note: Longer lead is positive.



| Part Numbering System | | | | | | | | | | |
|-----------------------|---------|---|----------------------------|---|---|--------------------------------|--|------------|---|----------------|
| P | HB | - | 5 | R | 0 | □ | □ | □ | - | R |
| Series Code | Version | | Voltage (V) R = Decimal | | | Configuration | Capacitance (μF) | | | RoHS Compliant |
| | | | 5R0 = 5.0V | | | V = Vertical H = Horizontal | Value | Multiplier | | |
| P = Pack | | | | | | | Example: 155 = 15 x 10 ⁵ μF or 1.5F | | | |

Packaging Information

Standard packaging: Bulk, 100 units per package.

Large, bulk packaging available upon request.

Part Marking

Manufacturer

Capacitance (F)

Max. Operating Voltage (V)

Series Code (or part number)

Polarity

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