

Supercapacitors

PHB Series



Description

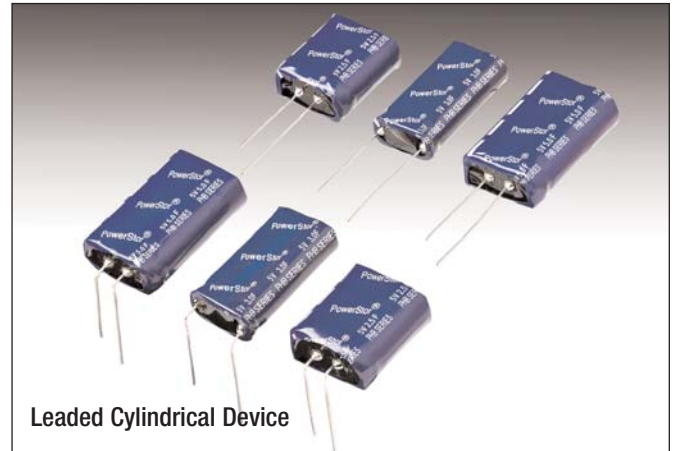
Cooper Bussmann PowerStor supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Cooper Bussmann to offer a wide variety of capacitor 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



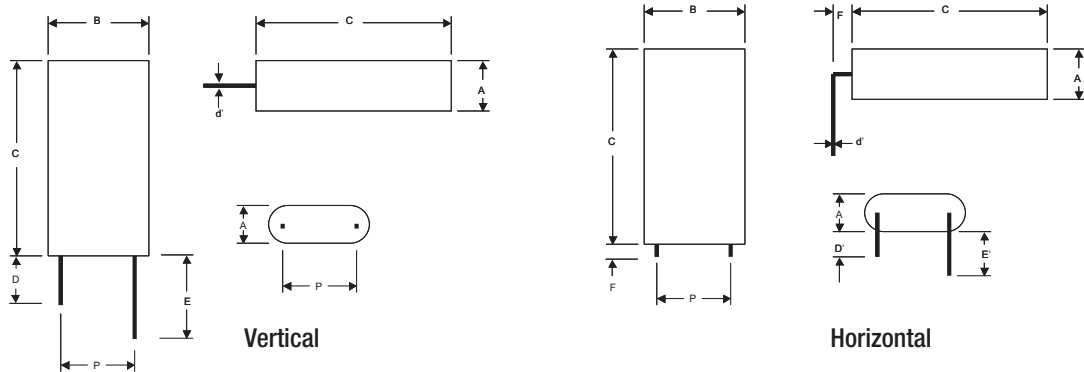
| Specifications | |
|--------------------------------------|---|
| Working Voltage (Maximum) | 5.0V |
| Surge Voltage | 5.5V |
| Nominal Capacitance Range | 1.5F to 5F |
| Capacitance Tolerance | -10% to +30% (20°C) |
| Operating Temperature Range | -25°C to 70°C |
| Extended Operating Temperature Range | -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 |
| P = Pack | | | 5R0 = 5.0V | | | V = Vertical H = Horizontal | Value | Multiplier | | |
| | | | | | | | 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

North America

Cooper Bussmann
1225 Broken Sound Parkway NW
Suite F
Boca Raton, FL 33487-3533
Tel: 1-561-998-4100
Fax: 1-561-241-6640
Toll Free: 1-888-414-2645

Cooper Bussmann
P.O. Box 14460
St. Louis, MO 63178-4460
Tel: 1-636-394-2877
Fax: 1-636-527-1607

Europe

Cooper Bussmann
Cooper (UK) Limited
Burton-on-the-Wolds
Leicestershire • LE12 5TH UK
Tel: +44 (0) 1509 882 737
Fax: +44 (0) 1509 882 786

Cooper Bussmann
Avda. Santa Eulalia, 290
08223
Terrassa, (Barcelona), Spain
Tel: +34 937 362 812
+34 937 362 813
Fax: +34 937 362 719

Asia Pacific

Cooper Bussmann
1 Jalan Kilang Timor
#06-01 Pacific Tech Centre
Singapore 159303
Tel: +65 278 6151
Fax: +65 270 4160

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