PowerStor™

# Supercapacitors

## HB Series

HALOGEN HF FREE  Pb  RoHS

### 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

- Ultra low ESR for high power density
- Large capacitance for high energy density
- UL Recognized

**Cylindrical Device**

| Specifications | |
|---|---|
| Working Voltage | 2.5V |
| Surge Voltage | 3.0V |
| Capacitance | 3.0F to 110F |
| 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 2.1V @ 85°C) |

**Standard Product**

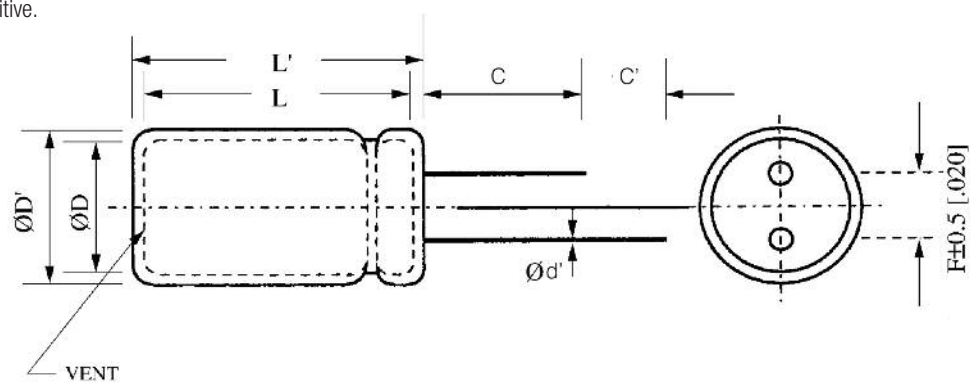
| Capacitance (F) | Part Number | Maximum ESR (Ω) (Equivalent Series Resistance) Measured @ 1kHz | Maximum ESR (Ω) (Equivalent Series Resistance) Measured @ 100Hz | Nominal Leakage Current (μA) After 72 Hrs. @ 20°C | Nominal Dimensions (mm) Diameter | Nominal Dimensions (mm) Length | Typical Mass (grams/piece) |
|---|---|---|---|---|---|---|---|
| 3 | HB0820-2R5305-R | 0.155 | 0.160 | 7 | 8 | 20 | 1.5 |
| 5 | HB1020-2R5505-R | 0.095 | 0.100 | 11 | 10 | 20.5 | 2.4 |
| 6 | HB0830-2R5605-R | 0.095 | 0.100 | 11 | 8 | 30 | 2.4 |
| 10 | HB1030-2R5106-R | 0.060 | 0.060 | 20 | 10 | 30 | 3.5 |
| 15 | HB1325-2R5156-R | 0.045 | 0.050 | 22 | 13 | 26 | 4.8 |
| 25 | HB1625-2R5256-R | 0.036 | 0.040 | 28 | 16 | 25 | 8.2 |
| 35 | HB1635-2R5356-R | 0.028 | 0.030 | 32 | 16 | 35 | 9.8 |
| 60 | HB1840-2R5606-R | 0.023 | 0.025 | 47 | 18 | 40 | 13.8 |
| 110 | HB1860-2R5117-R | 0.018 | 0.020 | 180 | 18 | 60 | 22 |

**Performance**

| Parameter | Capacitance Change (% of initial value) | ESR (% of maximum specified value) |
|---|---|---|
| Life (1000 hrs @ 70°C @ 2.5Vdc) | ≤ 30 % | ≤ 200 % |
| Storage - Low and High Temperature (1000 hrs @ -25°C and 85°C) | ≤ 30 % | ≤ 200 % |

| Dimensions (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Part Number | D | D' | L | L' | F | d' | C | C' |
| HB0820-2R5305-R | 8.0 | 8.5 | 20.5 | 21.0 | 3.5 | 0.50 | 20.0 | 5.0 |
| HB1020-2R5505-R | 10.0 | 10.5 | 21.8 | 22.3 | 5.0 | 0.60 | 20.0 | 5.0 |
| HB0830-2R5605-R | 8.0 | 8.5 | 30.5 | 31.0 | 3.5 | 0.50 | 20.0 | 5.0 |
| HB1030-2R5106-R | 10.0 | 10.5 | 31.0 | 31.5 | 5.0 | 0.60 | 20.0 | 5.0 |
| HB1325-2R5156-R | 13.0 | 13.5 | 27.9 | 28.4 | 5.0 | 0.60 | 20.0 | 5.0 |
| HB1625-2R5256-R | 16.0 | 16.5 | 27.9 | 28.4 | 7.5 | 0.80 | 20.0 | 5.0 |
| HB1635-2R5356-R | 16.0 | 16.5 | 37.5 | 38.0 | 7.5 | 0.80 | 20.0 | 5.0 |
| HB1840-2R5606-R | 18.0 | 18.5 | 41.5 | 42.0 | 7.5 | 0.80 | 20.0 | 5.0 |
| HB1860-2R5117-R | 18.0 | 18.5 | 59.5 | 60.5 | 7.5 | 0.80 | 20.0 | 5.0 |
| *Tolerances* | Maximum | | | | ± 0.5 | ± 0.02 | Minimum | |

**Note:** Longer lead is positive.




| Part Numbering System | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HB | | | | | – | | R | | | | | |
| Series Code | Dimensions (mm) | | | | Voltage (V) R is Decimal | | | | Capacitance (μF) | | | |
| | | | | | | | | | Value | | Multiplier | |
| HB Series | Diameter | | Length | | 2R5 = 2.5V | | | | Example: 106 = 10 x $10^6$μF or 10F | | | |

## Packaging Information

Packaging:

- Standard packaging: Bulk, 100 units per bag.
- Larger bulk packages available on request.

## Part Marking

Manufacturer
Capacitance (F)
Nominal Working Voltage (V)
Series Code (or part number)
Polarity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