PowerStor®

Supercapacitors

PHB Series

Description

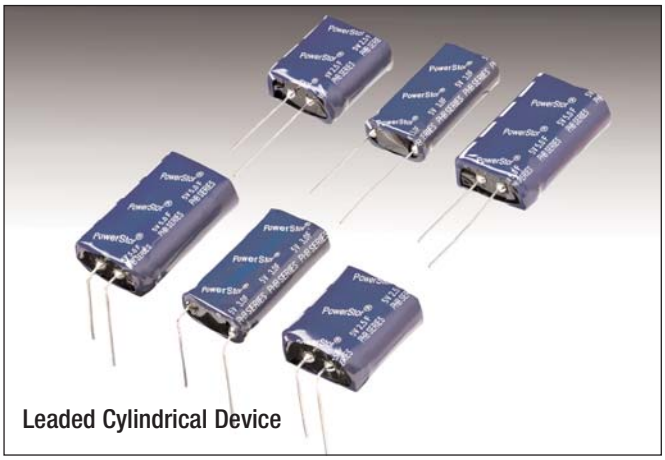
Cooper Bussmann PowerStor supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Cooper Bussmann to offer a wide variety of capacitor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



Leaded Cylindrical Device

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

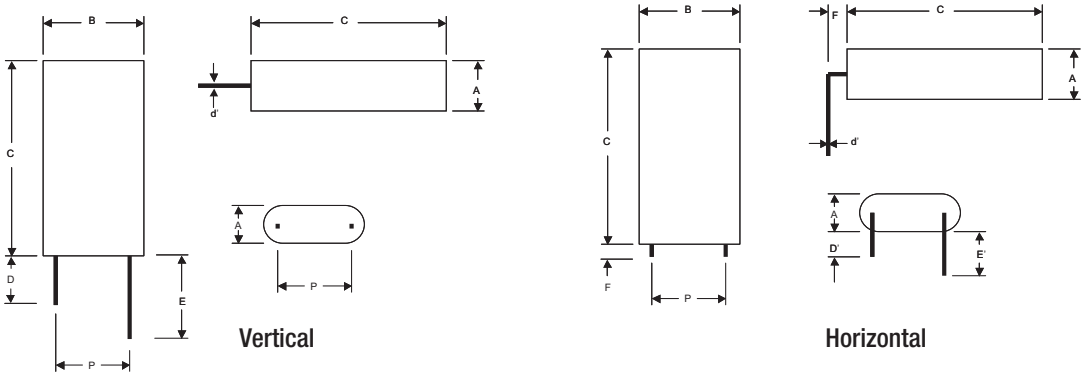
Nominal Capacitance (F)	Part Number		Maximum ESR (Ω) (Equivalent Series Resistance) Measured @		Nominal Leakage Current (μA) After 100 Hrs. @ 5V, 20°C	Nominal Dimensions (mm)	Typical Mass (grams/piece)
	Vertical	Horizontal	1kHz	100Hz			
1.5	PHB-5R0V155-R	PHB-5R0H155-R	0.31	0.33	10	8.5 x 16.8 x 21.5	3.3
2.5	PHB-5R0V255-R	PHB-5R0H255-R	0.19	0.20	14	10.5 x 20.8 x 22.5	5.0
3.0	PHB-5R0V305-R	PHB-5R0H305-R	0.19	0.20	16	8.5 x 16.8 x 31.5	5.3
5.0	PHB-5R0V505-R	PHB-5R0H505-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)	≤ 30 %	≤ 200 %
Storage - Low and High Temperature (1000 hrs @ -25°C and 85°C)	≤ 30 %	≤ 200 %

Dimensions (mm)											
Vertical Part#	Horizontal Part#	A	B	C	d'	D	D'	E	E'	F	P
PHB-5R0V155-R	PHB-5R0H155-R	9.0	17.3	22.0	0.5	20	15	25	20	2.0	11.8
PHB-5R0V255-R	PHB-5R0H255-R	11.0	21.3	23.0	0.6	20	15	25	20	2.0	5.3
PHB-5R0V305-R	PHB-5R0H305-R	9.0	17.3	32.5	0.5	20	15	25	20	2.0	11.8
PHB-5R0V505-R	PHB-5R0H505-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) Value		Capacitance (μF) Multiplier		RoHS Compliant
P = Pack			5R0 = 5.0V			V = Vertical H = Horizontal	Example: 155 = 15 x 10^5μF 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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