

# Supercapacitors

## PHB Series



### Description

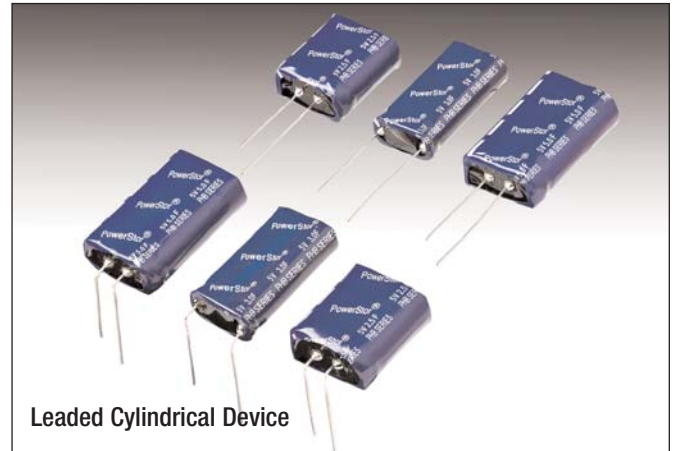
Cooper Bussmann PowerStor supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Cooper Bussmann to offer a wide variety of capacitor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



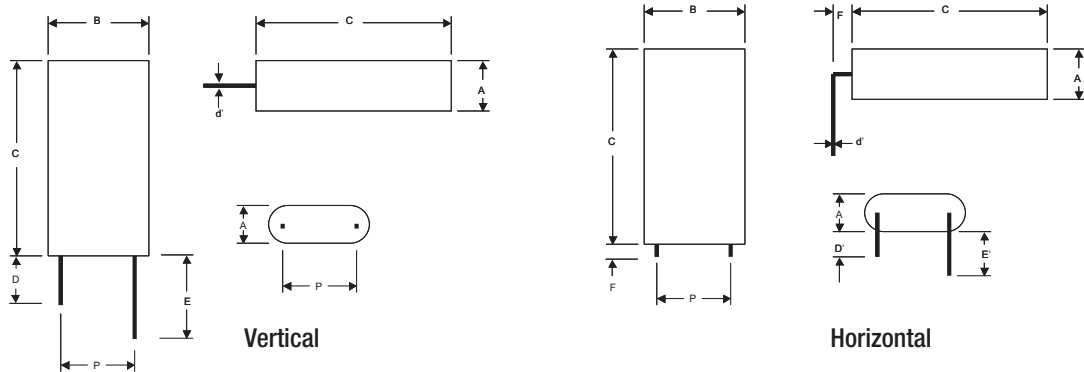
Specifications	
Working Voltage (Maximum)	5.0V
Surge Voltage	5.5V
Nominal Capacitance Range	1.5F to 5F
Capacitance Tolerance	-10% to +30% (20°C)
Operating Temperature Range	-25°C to 70°C
Extended Operating Temperature Range	-25°C to 85°C (with linear voltage derating to 4.0V @ 85°C)

Standard Product							
Nominal Capacitance (F)	Part Number		Maximum ESR ( $\Omega$ ) (Equivalent Series Resistance) Measured @		Nominal Leakage Current ( $\mu$ 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
<b>Tolerances</b>		<b>Maximum</b>			<b>± 0.02</b>	<b>Minimum</b>			<b>± 0.5</b>		

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 <sup>5</sup> 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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