PRELIMINARY

COOPER Bussmann

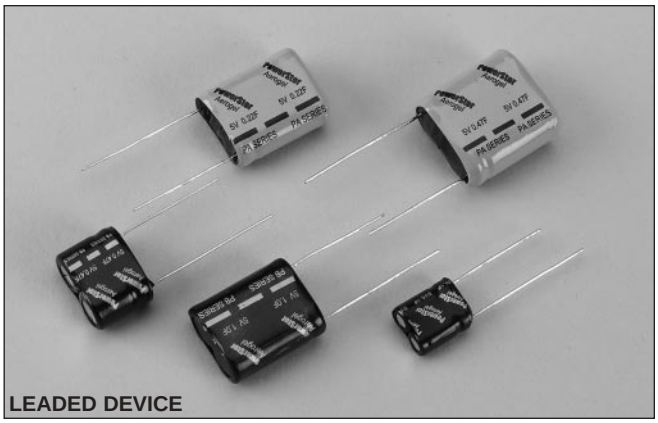
PowerStor®

Aerogel Supercapacitors
P Series

Description

The PowerStor Aerogel Capacitor is a unique, ultra-high capacitance device based on a novel type of carbon foam, known as carbon aerogel. Aerogel capacitors are similar to supercapacitors, ultracapacitors and electrochemical double layer capacitors (EDLCs) with the added benefit of low ESR (Equivalent Series Resistance).

The P Series is available in an ultra-low ESR version, PA or a low ESR but higher energy density version, PB.



LEADED DEVICE

SERIES	FEATURES AND BENEFITS		APPLICATIONS
	Generic	Specific	
PA	5.0 volts Low ESR High capacitance Long cycle life Low leakage currents	Ultra-low ESR	Pulse power Bridge or hold up power
PB		Low ESR with higher energy density	Bridge or hold up power Memory backup Battery swap out

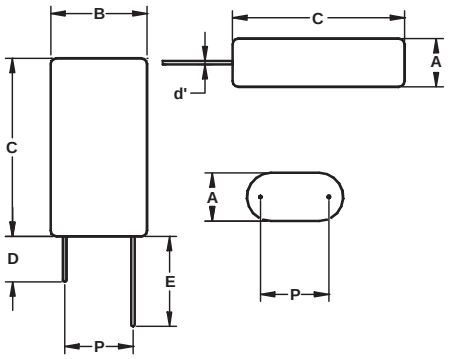
SPECIFICATIONS	
Working Voltage	5.0 volts
Surge Voltage	6.0 volts
Nominal Capacitance Range	0.1 to 1.0 F
Capacitance Tolerance	-20% to +80% (20°C)
Operating Temperature Range	-25°C to 70°C

STANDARD PRODUCTS			
LOW ESR (PB SERIES)			
Nominal Capacitance (F)	**Part Number**	**Nominal ESR (Equivalent Series Resistance) Measured @ 1kHz (Ω)**	**Nominal Dimensions**
0.1	PB-5R0V104 PB-5R0H104	10	5.5 x 10.8 x 12.5 mm
0.47	PB-5R0V474 PB-5R0H474	2	8.5 x 16.8 x 14.0 mm
1.0	PB-5R0V105 PB-5R0H105	1	8.5 x 16.8 x 21.5 mm
ULTRA-LOW ESR (PA SERIES)			
0.22	PA-5R0V224 PA-5R0H224	0.30	8.5 x 16.8 x 21.5 mm
0.47	PA-5R0V474 PA-5R0H474	0.20	10.5 x 20.8 x 21.5 mm

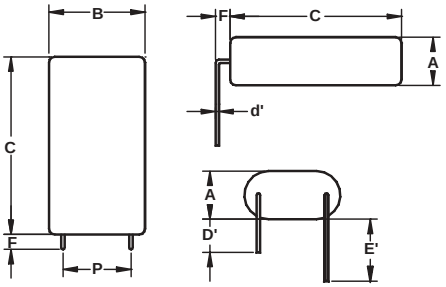
PERFORMANCE		
Parameter	**Capacitance Change (% of initial measured value)**	**ESR (% of initial specified value)**
Life (1000 hrs @ 70°C @ 5.0 volts DC)	≤ 30	≤ 300
Storage - Low and High Temperature (1000 hrs @ -25°C and 70°C)	≤ 30	≤ 300

DIMENSIONS (mm)										
Part Number	**A**	**B**	**C**	**d'**	**D**	**D'**	**E**	**E'**	**F**	**P**
PB-5R0V104 **PB-5R0H104**	6.0	11.3	13.0	0.5	20	15	25	20	2.0	7.3
PB-5R0V474 **PB-5R0H474**	9.0	17.3	14.5	0.5	20	15	25	20	2.0	11.8
PB-5R0V105 **PB-5R0H105**	9.0	17.3	22.0	0.5	20	15	25	20	2.0	11.8
PA-5R0V224 **PA-5R0H224**	9.0	17.3	22.0	0.5	20	15	25	20	2.0	11.8
PA-5R0V474 **PA-5R0H474**	11.0	21.3	22.0	0.6	20	15	25	20	2.0	5.3
Tolerances	Maximum			± 0.02	Minimum				± 0.5	

Note: Longer lead is positive



VERTICAL



HORIZONTAL

PART NUMBERING SYSTEM								
P		**-**	**5**	**R**	**0**		☐ ☐	☐
Series Code	Version		Voltage (V) R is decimal			Configuration	Capacitance (µF)	
P = Pack	A = Ultra-low ESR B = High Capacitance		5R0 = 5.0V			V = Vertical H = Horizontal	Value	Multiplier
							Example: 474 = 47 x 10^4 µ F or 0.47 F	

PACKAGING INFORMATION

Standard packaging: Bulk, 100 units per package.

Larger bulk packages available upon request.

PART MARKING

Manufacturer
Capacitance (F)
Max. Operating Voltage (V)
Polarity Marking

PS-5132 4/03

Visit us on the Web at www.cooperET.com
3601 Quantum Boulevard Boynton Beach, Florida 33426-8638
Tel: +1-561-752-5000 Toll Free: +1-888-414-2645 Fax: +1-561-742-1178