Series: BC Power

Round, Terminal Type

> Features:

» Dimensions similar to EN 60086-2 & EN 60285
» Over 500,000 duty cycles
» 10 year life capability
» Higher energy vs. electrolytic
» Higher power vs. batteries
» Aluminum construction
» Round, double ended design
» Ultra-low internal resistance
» Resistant against reverse polarity
» UL Recognized

> Applications:

» Automotive subsystems
» Consumer electronics
» Short term UPS and telecom
» Renewable energy systems
» Portable power tools

> Overview:

The Power-type ultracapacitor product line gives industrial customers a much wider range of choices to meet their energy storage and power delivery requirements. The cells are specifically engineered to provide cost-effective solutions for automotive subsystems, UPS, renewable energy and portable consumer products.

In addition to meeting or exceeding demanding industrial application requirements for both watt-hours of energy storage and watts of power delivery per kilogram, all of these products will perform reliably for more than five hundred-thousand discharge-recharge cycles.

The proprietary architecture and material science of the BOOSTCAP® products enable continued leadership in controlling costs, flexibility in product offerings and allow application specific performance tailoring.

> BC Power Series Specifications:

Item	Product Specification	
Operating Temperature Range	-40 °C to +65 °C	
Storage Temperature Range	-40 °C to +70 °C	
Rated Voltage	2.5 V DC	
Capacitance Tolerance	+ 20%	
Resistance Tolerance	+/- 25%	
Temperature Characteristics	Capacitance Change	Within ± 5% of initial measured value at 25 °C (at -40 °C)
	Internal Resistance	Within 150% of initial measured value at 25 °C (at -40 °C)
Endurance	After 1000 hours application of rated voltage at 65 °C	
	Capacitance Change	Within 20% of initial specified value
	Internal Resistance	Within 25% of initial specified value
Shelf Life	After 1000 hours storage at 65 °C without load shall meet specification for endurance	
Life Test	After 10 years at rated voltage and 25 °C	
	Capacitance Change	Within 20% of initial specified value
	Internal Resistance	Within 100% of initial specified value
Cycle Test	Capacitors cycled between specified voltage and half rated voltage under constant current at 25 °C (500,000 Cycles)	
	Capacitance Change	Within 20% of initial specified value
	Internal Resistance	Within 100% of initial specified value

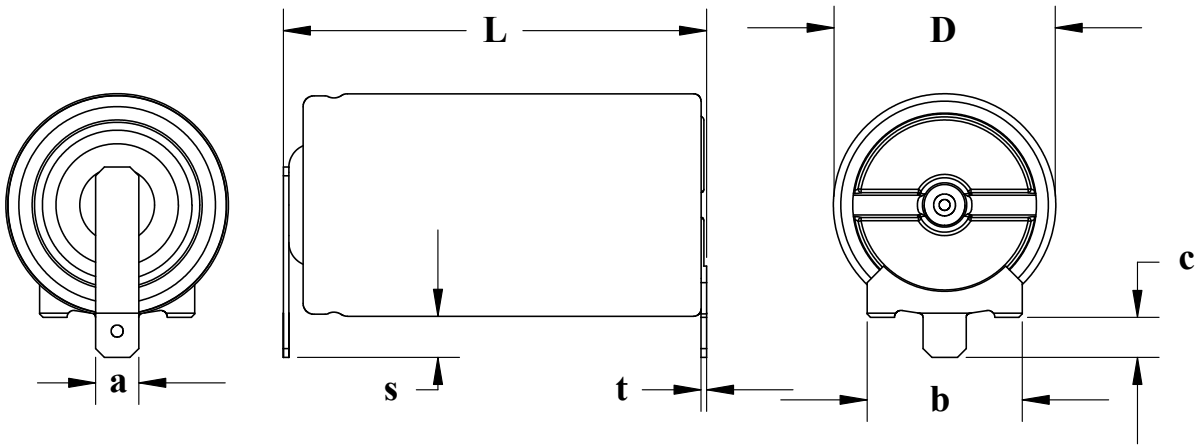
> BC Power Product Specifications:

Part Number	Capacitance (F)	ESR, DC (mohm)	ESR, 1khz (mohm)	Ic (mA)
BCAP0120 P250	120	5.00	2.50	0.15
BCAP0310 P250	310	2.20	1.10	0.45

> BC Power Product Properties:

Maxwell Part No.	Rth (C/W)	Isc (A)	Emax (Wh/kg)	Pmax (W/kg)	Pd (W/kg)
BCAP0120 P250	15.0	730	3.59	21,500	5,100
BCAP0310 P250	10.9	1500	4.48	26,000	5,600

> Dimensions:



Part Number	Vol (l)	Mass (g)	Size (mm)						
			L	D	a	b	c	s	t
BCAP0120 P250	.027	29.0	51	26	4.75	16.0	5.9	6.9	0.5
BCAP0310 P250	.053	60.0	62	33	6.40	22.9	5.9	6.2	0.8

Product dimensions and specifications may change without notice. Please contact Maxwell Technologies directly for any technical specifications critical to application.

> Mounting Recommendations:

Solder tabs to PCB. See application note for further information and slot spacing recommendations

> Markings

Rated capacitance, rated voltage, part number, manufacturer, positive and negative terminal, warning marking, UL symbol, lot number

> Additional Technical Information:

Capacitance and ESR, DC measured per document 1007239

I_c= Leakage current after 72 hours, 25˚C Isc = short circuit current (maximum peak current)

R_{th} = Thermal resistance

$$E_{max} = \frac{½\ CV^2}{3600 \text{ x } mass} \qquad P_{max} = \frac{\frac{V^2}{4R\ (1khz)}}{mass} \qquad P_d = \frac{\frac{0.12V^2}{R\ (DC)}}{mass}$$

Patent Pending

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