

**BCAP0005 P270**    **BCAP0050 P270**  
**BCAP0010 P270**    **BCAP0100 P270**  
**BCAP0025 P270**    **BCAP0150 P270**

#### TYPICAL FEATURES AND BENEFITS

- Ultra-low internal resistance
- Two pin radial lead
- Resistant against reverse polarity
- 500,000 cycles, 10 year life capability
- RoHS compliant
- Proprietary material science and packaging technology

#### EXAMPLE APPLICATIONS

- Consumer electronics
- Industrial and automation
- Portable power tools
- Renewable energy systems
- Short term UPS (uninterruptible power supply) and telecom systems

### PRODUCT SPECIFICATIONS

CAPACITANCE	BCAP0005	BCAP0010	BCAP0025	BCAP0050	BCAP0100	BCAP0150
Nominal capacitance	5 F	10 F	25 F	50 F	100 F	150 F
Capacitance tolerance	±20%		-0% / +20%			
<b>VOLTAGE</b>						
Rated voltage	2.7 V DC					
Surge voltage	2.85 V DC					
<b>RESISTANCE</b>						
ESR, DC	200 mΩ	80 mΩ	42 mΩ	20 mΩ	15 mΩ	14 mΩ
ESR, AC	110 mΩ	60 mΩ	28 mΩ	15 mΩ	9 mΩ	8 mΩ
Resistance tolerance	Max.					
<b>TEMPERATURE</b>						
Operating temperature range	-40°C to +65°C					
Storage temperature range	-40°C to +70°C					
Temperature characteristics						
Capacitance change	Within ± 5% of initial measured value at 25°C ( at -40°C)					
Internal resistance change	Within ± 50% of initial measured value at 25°C ( at -40°C)					
<b>POWER</b>						
Pd	1,900 W/kg	2,700 W/kg	2,800 W/kg	3,100 W/kg	2,300 W/kg	1,700 W/kg
Pmax	3,100 W/kg	7,500 W/kg	9,000 W/kg	8,600 W/kg	8,100 W/kg	6,500 W/kg
<b>ENERGY</b>						
Energy density (E <sub>max</sub> )	2.2 Wh/kg	2.5 Wh/kg	3.6 Wh/kg	3.6 Wh/kg	4.0 Wh/kg	4.3 Wh/kg
<b>LIFESPAN</b>						
Shelf life	After 1,000 hours storage at 65°C without load shall meet specification for endurance					
<b>Endurance</b> After 1,000 hours application of rated voltage at 65°C. Within % of initial specified value.						
Capacitance change	Within 30% of initial value					
Internal resistance change	Within 100% of initial value					
<b>Life test</b> After 10 years at rated voltage and 25°C. Within % of initial specified value.						
Capacitance change	Within 30% of initial value					
Internal resistance	Within 100% of initial value					

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**PRODUCT SPECIFICATIONS (cont.)**

CYCLES	BCAP0005	BCAP0010	BCAP0025	BCAP0050	BCAP0100	BCAP0150
Capacitors cycled between specified voltage and half rated voltage under constant current at 25°C (500,000 cycles).						
Capacitance change	Within 30% of initial value					
Internal resistance	Within 100% of initial value					
CURRENT						
Leakage current (I <sub>c</sub> ) After 72 hours at 25°C. Initial leakage current can be higher.	0.015 mA	0.03 mA	0.045 mA	0.075 mA	0.26 mA	0.5 mA
Maximum continuous current Assuming 15°C temperature rise above ambient temperature.	1.6 A	3.5 A	4.9 A	7.1 A	8.2 A	9.1 A
Maximum peak current	3.4 A	7.5 A	16.5 A	33.7 A	54.0 A	65.3 A
Short circuit current (I <sub>sc</sub> )	13.5 A	33.8 A	64.3 A	135.0 A	180.0 A	193.0 A
CONNECTION						
Terminal	Radial lead	Radial lead	Radial lead	Radial lead	Snap in	Snap in
SIZE						
Dimensions	See drawings					
Weight	2.3g	4.0g	7.2g	14.0g	25.0g	35.0g

**MARKINGS**

Modules are marked with the following information: Rated capacitance, rated voltage, product number, name of manufacturer, negative terminal, serial number.

**ADDITIONAL TECHNICAL INFORMATION**

Capacitance and ESR, DC measured per document no. 1007239, available at [www.maxwell.com](http://www.maxwell.com).

I<sub>c</sub> = leakage current after 72 hours at 25°C

I<sub>sc</sub> = short circuit current (maximum peak current)

R<sub>th</sub> = thermal resistance

$$E_{max} = \frac{\frac{1}{2} CV^2}{3,600 \times mass}$$

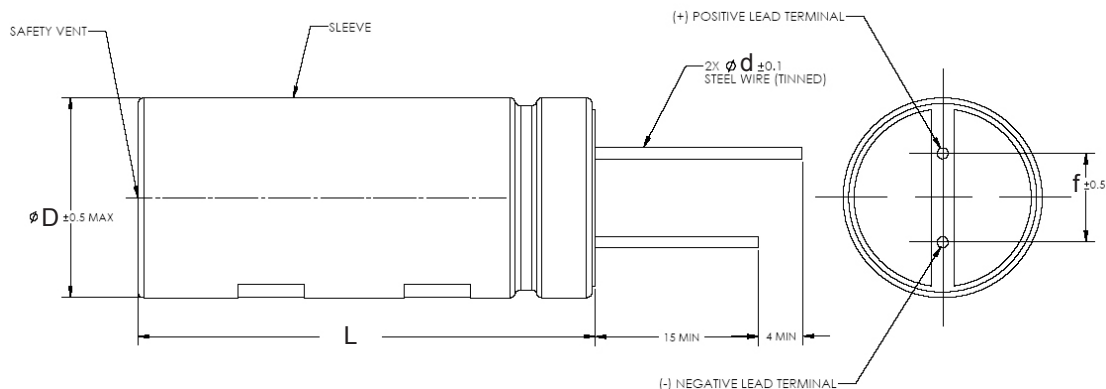
$$P_{max} = \frac{V^2}{4R(1kHz) \times mass}$$

$$P_d = \frac{0.12V^2}{R(DC) \times mass}$$

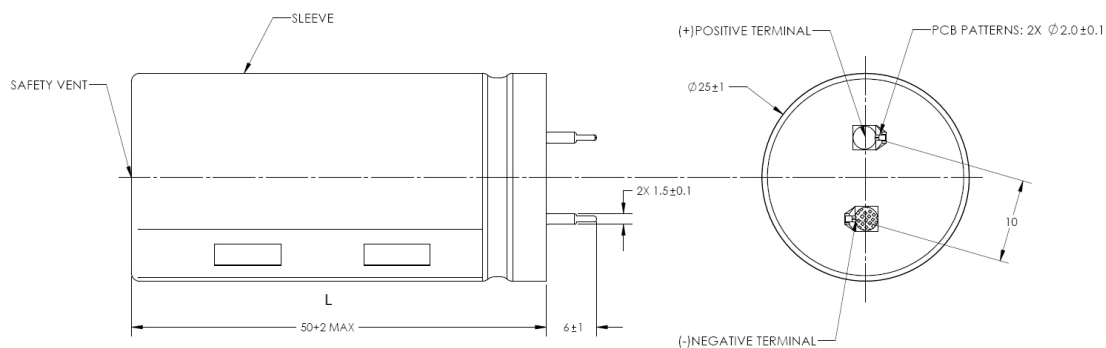
$$\text{Maximum Peak Current (1 sec)} = \frac{\frac{1}{2} V}{R(DC) + \frac{1}{C}}$$

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**DIMENSIONS (mm) - BCAP0005, BCAP0010, BCAP0025, BCAP0050**



**DIMENSIONS (mm) - BCAP0100, BCAP0150**



Part Description	Vol (ØxL)	Mass (g)	Size (mm)			
			L (+2mm max)	D	d	f
<b>BCAP0005 P270 T01</b>	10 x 20	2.3	20	10	0.6	5.3
<b>BCAP0010 P270 T01</b>	10 x 30	4.0	30	10	0.6	5.3
<b>BCAP0025 P270 T01</b>	16 x 26	7.2	26	16	0.8	7.5
<b>BCAP0050 P270 T01</b>	18 x 41	14.0	41	18	0.8	7.5
<b>BCAP0100 P270 T07</b>	22 x 45	25.0	45	22	1.5	10
<b>BCAP0150 P270 T07</b>	25 x 50	35.0	50	25	1.5	10

Product dimensions are for reference only unless otherwise identified. Product dimensions and specifications may change without notice. Please contact Maxwell Technologies directly for any technical specifications critical to application.

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