

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%			
VOLTAGE						
Rated voltage	2.7 V DC					
Surge voltage	2.85 V DC					
RESISTANCE						
ESR, DC	200 mΩ	80 mΩ	42 mΩ	20 mΩ	15 mΩ	14 mΩ
ESR, AC	110 mΩ	60 mΩ	30 mΩ	15 mΩ	9 mΩ	8 mΩ
Resistance tolerance	Max.					
TEMPERATURE						
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)					
POWER						
Pd	1,980 W/kg	2,730 W/kg	2,900 W/kg	3,100 W/kg	2,400 W/kg	1,700 W/kg
Pmax	7,500 W/kg	7,550 W/kg	8,600 W/kg	8,600 W/kg	8,100 W/kg	6,500 W/kg
ENERGY						
Energy density (E _{max})	2.3 Wh/kg	2.53 Wh/kg	3.62 Wh/kg	3.62 Wh/kg	4.05 Wh/kg	4.34 Wh/kg
LIFESPAN						
Shelf life	After 1,000 hours storage at 65°C without load shall meet specification for endurance					
Endurance 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 40% of initial value					
Life test 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 _c) 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 _{sc})	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	2.2g	4.0g	7.0g	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.

I_c = leakage current after 72 hours at 25°C

I_{sc} = short circuit current (maximum peak current)

R_{th} = thermal resistance

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

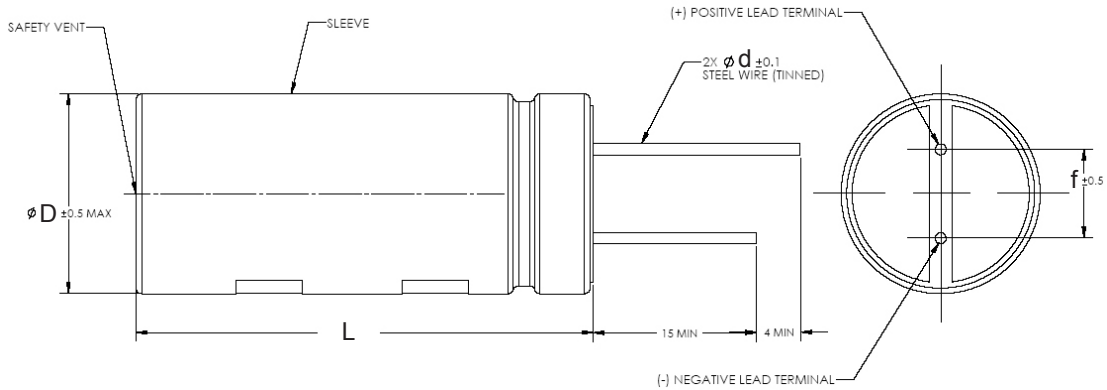
$$P_{max} = \frac{V^2}{\frac{4R(1kHz)}{mass}}$$

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

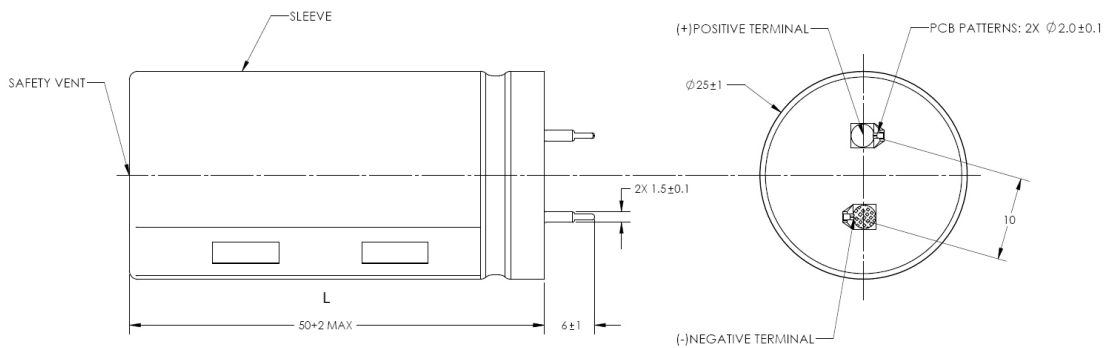
$$\text{Maximum Peak Current (1 sec)} = \frac{\frac{1}{2} V}{R(DC) + \frac{1}{C}}$$

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



DIMENSIONS (mm) - BCAP0100, BCAP0150



Part Description	Vol ($\phi \times L$)	Mass (g)	Size (mm)			
			L (+2mm max)	D	d	f
BCAP0005 P270	10 x 20	2.2	20	10	0.6	5.3
BCAP0010 P270	10 x 30	4	30	10	0.6	5.3
BCAP0025 P270 T01	16 x 26	7	26	16	0.8	7.5
BCAP0050 P270 T01	18 x 41	14	41	18	0.8	7.5
BCAP0100 P270 T01	22 x 45	25	45	22	1.5	10
BCAP0150 P270 T01	25 x 50	35	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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