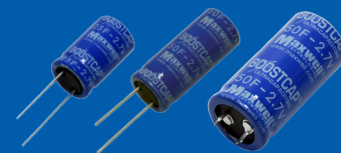


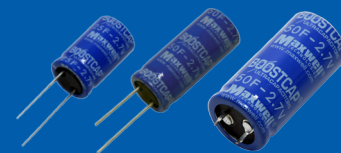
BCAP0025 P270
BCAP0050 P270
BCAP0150 P270



PRODUCT SPECIFICATIONS

CAPACITANCE	BCAP0025	BCAP0050	BCAP0150
Nominal capacitance	25 F	50 F	150 F
Capacitance tolerance	±20%	±20%	±20%
VOLTAGE			
Rated voltage	2.7 V DC	2.7 V DC	2.7 V DC
Surge voltage	2.85 V DC	2.85 V DC	2.85 V DC
RESISTANCE			
ESR, DC	42 mΩ	20 mΩ	14 mΩ
ESR, AC	30 mΩ	15 mΩ	8 mΩ
Resistance tolerance	Max.	Max.	Max.
TEMPERATURE			
Operating temperature range	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C
Storage temperature range	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Temperature characteristics	Capacitance change Internal resistance change		
Capacitance change	Within ± 5% of initial measured value at 25°C (at -40°C)		
Internal resistance change	Within ± 5% of initial measured value at 25°C (at -40°C)		
POWER			
Pd ⁶	2,900 W/g	3,100 W/g	1,700 W/g
Pmax ⁶	8,600 W/kg	8,600 W/kg	6,500 W/kg
ENERGY			
Energy density (E _{max})	3.62 Wh/kg	3.62 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 ¹	Capacitance change Internal resistance change		
Capacitance change	Within 20% of initial value		
Internal resistance change	Within 25% of initial value		
Life test ²	Capacitance change Internal resistance		
Capacitance change	Within 30% of initial value		
Internal resistance	Within 100% of initial value		
CYCLES³			
Capacitance change	Within 30% of initial specified value		
Internal resistance	Within 100% of initial specified value		
CURRENT			
Leakage current ⁴ (I _c)	0.045 mA	0.075 mA	0.5 mA
Maximum continuous current ⁵	6.7 A	13.5 A	40.5 A
Maximum peak current ⁶	33.7 A	67.5 A	202 A
Short circuit current (I _{sc})	103 A	180 A	300 A

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PRODUCT SPECIFICATIONS (cont.)

CONNECTION	BCAP0025	BCAP0050	BCAP0150
Terminal	Radial lead	Radial lead	Snap in
SIZE			
Dimensions	See drawing		
Weight	7g	14g	35g

- ¹ After 1,000 hours application of rated voltage at 65°C. Within % of initial specified value.
- ² After 10 years at rated voltage and 25°C. Within % of initial specified value.
- ³ Capacitors cycled between specified voltage and half rated voltage under constant current at 25°C (500,000 cycles).
- ⁴ After 72 hours at 25°C. Initial leakage current can be higher.
- ⁵ Assuming 15°C temperature rise above ambient temperature.
- ⁶ Maximum peak current calculations: $IMAX = \text{nominal capacitance} \times 0.5 \text{ (rated voltage)} / 1 \text{ sec}$

MARKINGS

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

TYPICAL FEATURES AND BENEFITS

- Ultra-low internal resistance
- Two pin radial lead
- Resistant against reverse polarity
- 500,000 cycles
- 10 year life capability
- 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

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

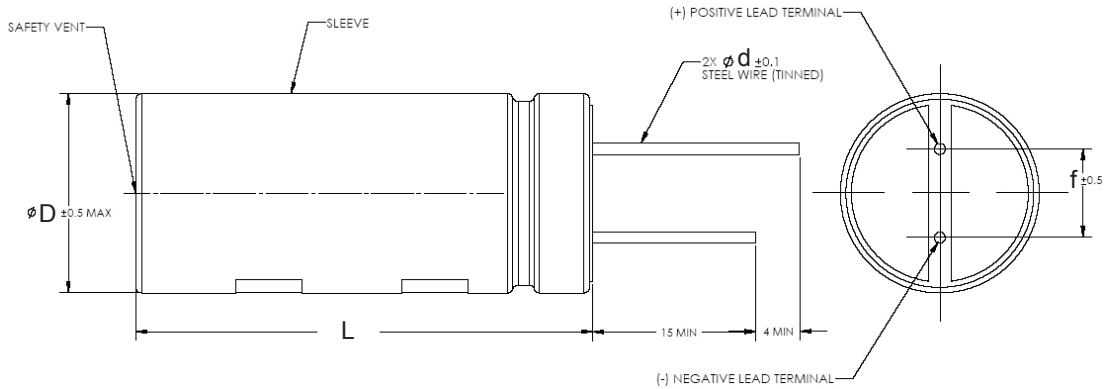
$$E_{max} = \frac{\frac{1}{2} CV^2}{3,600 \times \text{mass}}$$

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

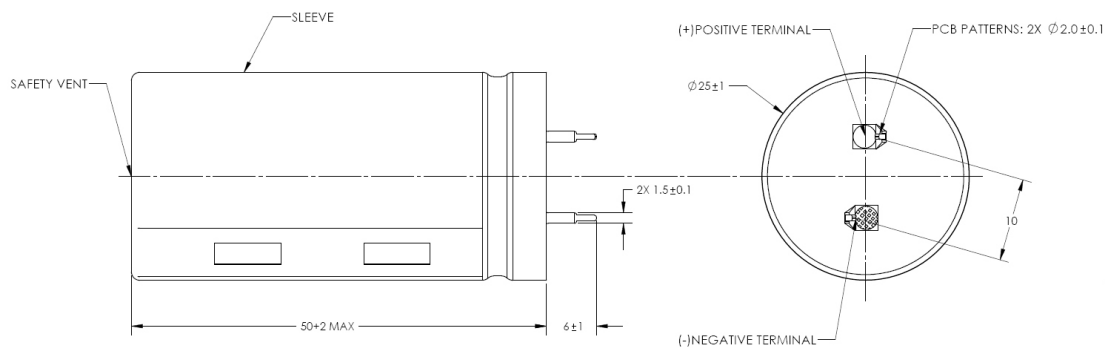
$$P_d = \frac{0.12V^2}{\frac{R(DC)}{\text{mass}}}$$

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DIMENSIONS (mm) - BCAP0025, BCAP0050



DIMENSIONS (mm) - BCAP0150



Part Description	Vol (ØxL)	Mass (g)	Size (mm)			
			L (+2mm max)	D	d	f
BCAP0025 P270 T01	16 x 26	7	26	16	0.8	7.8
BCAP0050 P270 T01	18 x 41	14	41	18	1	8
BCAP0150 P270 T01	25 x 50	35	50	25	2	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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