DATASHEET
MC BMOD POWER SERIES 16 V MODULES

BMOD0110 P016 B01
BMOD0250 P016 B01
BMOD0500 P016 B01
BMOD0500 P016 B02

FEATURES AND BENEFITS

- Ultra-low internal resistance
- Highest power performance available
- Lowest time constant
- 16.2 V operating voltage
- Over 1,000,000 duty cycles
- Individually balanced cells
- Voltage and temperature sensor output included
- Compact, rugged, fully enclosed splash proof design

APPLICATIONS

- Transportation
- Automotive
- Industrial
- Uninterruptible Power Supplies (UPS)
- Telecommunication

PRODUCT SPECIFICATIONS

CAPACITANCE	BMOD0110	BMOD0250	BMOD0500 B01	BMOD0500 B02
Nominal capacitance	110 F	250 F	500 F	500 F
Tolerance capacitance	+20%			
VOLTAGE				
Rated voltage	16.2 V DC			
Surge voltage	16.8 V DC			
Maximum operating voltage	750 V DC			
Isolation voltage[1]	2,500 V AC			
RESISTANCE				
ESR, DC[2]	5.4 mΩ	4.1 mΩ	2.4 mΩ	2.4 mΩ
Resistance tolerance	Max.			
Thermal resistance (Rth)	1.1°C/W	0.91°C/W	0.5°C/W	0.5°C/W
TEMPERATURE				
Operating temperature range	-40°C to +65°C			
Storage temperature range	-40°C to +70°C			
Temperature characteristics				
Capacitance change	± 5% at 25°C (at -40°C)			
Internal resistance change	± 150% at 25°C (at -40°C)			
POWER				
Pd	2,300 W/kg	1,700 W/kg	2,700 W/kg	2,300 W/kg
Pmax	6,000 W/kg	4,400 W/kg	6,700 W/kg	6,700 W/kg
ENERGY				
Emax	1.49 Wh/kg	2.05 Wh/kg	3.17 Wh/kg	3.17 Wh/kg
LIFESPAN				
Endurance After 1,500 hours application of rated voltage at 65°C. Within % of initial specified value.				
Capacitance change	<20% decrease			
Internal resistance change	<60% increase			
Shelf life	After 1,500 hours storage at 65°C without load shall meet specification for endurance.			

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Life test After 10 years at rated voltage and 25°C. Within % of initial specified value.				
Capacitance change	30% decrease			
Internal resistance	150% increase			
CYCLES				
Cycle test Capacitors cycled between specified voltage and half rated voltage under constant current at 25°C (1,000,000).				
Capacitance change Within % of initial specified value.	30% decrease			
Internal resistance Within % of initial specified value.	150% increase			
CURRENT	**BMOD0110**	**BMOD0250**	**BMOD0500 B01**	**BMOD0500 B02**
Leakage current [3]	1.5 mA	3.0 mA	5.2 mA	150 mA
Short circuit current (Isc) [4]	3,500 A	3,900 A	4,800 A	4,800 A
Maximum continuous current	30 A	115 A	150 A	150 A
Maximum peak current, 1 sec		2,000 A	4,000 A	4,000 A
CONNECTION				
Terminal	Screw			
MONITORING (IN-BUILT)				
Balancing[5]	VMS	VMS	VMS	Passive
Thermal monitoring	NTC			
SIZE				
Dimensions (L x W x H) (mm) (±0.5mm)	See drawings			
Weight	2.7 kg	4.45 kg	5.75 kg	5.75 kg
RATINGS				
Humidity resistance	IP65			
Vibration resistance	N/A	SAE J2380	SAE J2380	SAE J2380

[1] 50Hz, 1 min. Maximum string operating voltage 1,500 V DC.
[2] Max., room temperature.
[3] After 72 hours at 25°C. Initial leakage current can be higher.
[4] **CAUTION:** C urrent possible with short circuit from UR. Do not use as an operating current.
[5] VMS = Maxwell Technologies Voltage Management System.

MOUNTING RECOMMENDATIONS

BMOD0110 modules can be secured at 4 locations at provided holes for M6 bolts. Follow user manual instructions for terminal, balance and output connections.

BMOD0250 and **BMOD0500** modules can be secured at 8 locations, 4 front face and/or 4 bottom face, at provided holes for M6 bolts. Follow user manual instructions for terminal, balance and output connections.

MARKINGS

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

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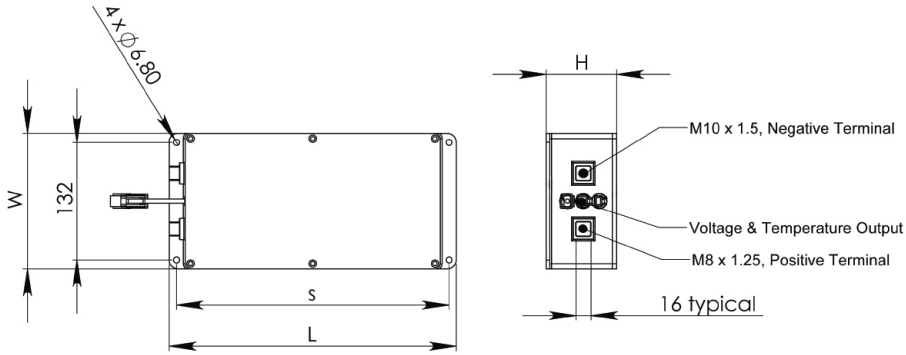
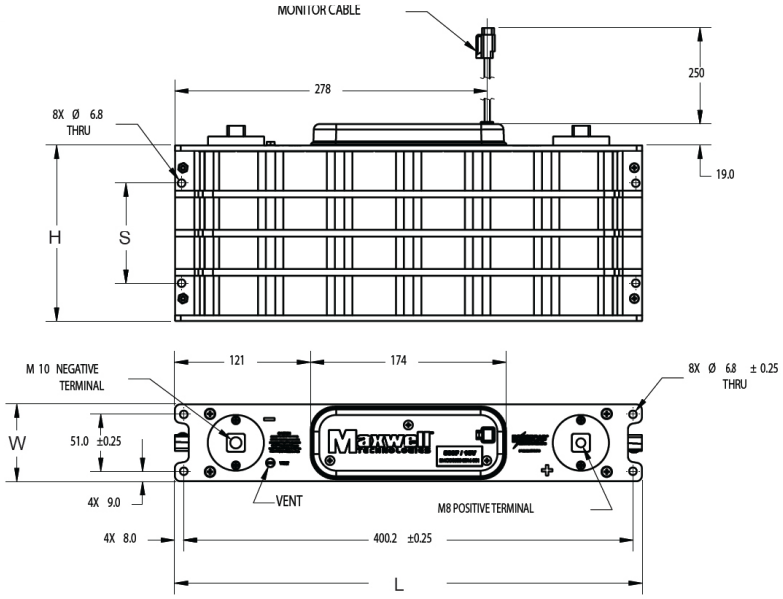
BMOD0500 P016 B01
BMOD0500 P016 B02

DIMENSIONS (mm)



Part number	L (±0.25mm)	W (±0.25mm)	H (±0.5mm)	s (±0.5mm)
BMOD0110 P016 B01	260.1	154.9	79.3	240.0



Part number	L (±0.25mm)	W (±0.25mm)	H (±0.5mm)	s (±0.5mm)
BMOD0250 P016 B01	416.2	67.2	103.2	53.7
BMOD0500 P016 B01	416.2	67.2	156.7	89.3
BMOD0500 P016 B02	416.2	67.2	156.7	89.3

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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