

## FEATURES AND BENEFITS

- Standard rackmount configurations
- Up to 10KW in half rack, 4U module
- UL registered component

## TYPICAL APPLICATIONS

- Datacenter UPS
- Hospital UPS
- Industrial Process Equipment Backup
- Power for graceful shutdown
- Transition power for motor-generator set or fuel cells



## PRODUCT SPECIFICATIONS

## ELECTRICAL

	BMOD0052	BMOD0065	BMOD0087	BMOD0130
Rated Capacitance <sup>1</sup>	52 F	65 F	87 F	130 F
Minimum Capacitance, initial <sup>1</sup>	52 F	65 F	87 F	130 F
Maximum ESR <sub>DC</sub> , initial <sup>1</sup>	15 mΩ	12 mΩ	9.4 mΩ	8.1 mΩ
Rated Voltage	56 V	56 V	56 V	56 V
Absolute Maximum Voltage <sup>15</sup>	65 V	65 V	65 V	65 V
Maximum Continuous Current ( $\Delta T = 15^{\circ}\text{C}$ ) <sup>2</sup>	58 A <sub>RMS</sub>	65 A <sub>RMS</sub>	73 A <sub>RMS</sub>	79 A <sub>RMS</sub>
Maximum Continuous Current ( $\Delta T = 40^{\circ}\text{C}$ ) <sup>2</sup>	94 A <sub>RMS</sub>	110 A <sub>RMS</sub>	120 A <sub>RMS</sub>	130 A <sub>RMS</sub>
Maximum Peak Current, 1 second <sup>3</sup>	800 A	1,000 A	1,300 A	1,800 A
Leakage Current, maximum (B01 Suffix - VMS 2.0) <sup>4</sup>	N/A	N/A	N/A	N/A
Leakage Current, maximum (B02 Suffix - Passive Balancing) <sup>4</sup>	75 mA	120 mA	120 mA	120 mA
Maximum Series Voltage	750 V	750 V	750 V	750 V

## TEMPERATURE

Operating Temperature (Ambient temperature)				
Minimum	-40°C	-40°C	-40°C	-40°C
Maximum	40°C	40°C	40°C	40°C
Storage Temperature (Stored uncharged)				
Minimum	-40°C	-40°C	-40°C	-40°C
Maximum	70°C	70°C	70°C	70°C

## PRODUCT SPECIFICATIONS (Cont'd)

PHYSICAL	BMOD0052	BMOD0065	BMOD0087	BMOD0130
Mass, typical	15 kg	15 kg	17 kg	18 kg
Power Terminals	M8/M10	M8/M10	M8/M10	M8/M10
Recommended Torque - Terminal	20/30 Nm	20/30 Nm	20/30 Nm	20/30 Nm
Vibration Specification	-	-	-	-
Shock Specification	SAE J2464	SAE J2464	SAE J2464	SAE J2464
Environmental Protection	IP30	IP30	IP30	IP30
Cooling	Natural Convection	Natural Convection	Natural Convection	Natural Convection
MONITORING / CELL VOLTAGE MANAGEMENT				
Internal Temperature Sensor	N/A	N/A	N/A	N/A
Temperature Interface	N/A	N/A	N/A	N/A
Cell Voltage Monitoring	Overvoltage Alarm (B03 only)	Overvoltage Alarm (B03 only)	Overvoltage Alarm (B03 only)	Overvoltage Alarm (B03 only)
Connector	Deutsch DTM (B03 only)	Deutsch DTM (B03 only)	Deutsch DTM (B03 only)	Deutsch DTM (B03 only)
Cell Voltage Management	Passive	Passive	Passive	Passive
POWER & ENERGY				
Usable Specific Power, $P_d^5$	1,700 W/kg	2,100 W/kg	2,400 W/kg	2,600 W/kg
Impedance Match Specific Power, $P_{max}^6$	3,500 W/kg	4,400 W/kg	4,900 W/kg	5,400 W/kg
Specific Energy, $E_{max}^7$	1.5 Wh/kg	1.9 Wh/kg	2.2 Wh/kg	3.1 Wh/kg
Stored Energy <sup>8</sup>	22.6 Wh	28.3 Wh	37.9 Wh	56.6 Wh
LIFE				
High Temperature <sup>1</sup> (at Rated Voltage & Maximum Operating Temperature)	8 years	8 years	8 years	8 years
Capacitance Change (% decrease from minimum initial value)	20%	20%	20%	20%
ESR Change (% increase from maximum initial value)	100%	100%	100%	100%
Room Temperature <sup>1</sup> (at Rated Voltage & 25°C)	14 years	14 years	14 years	14 years
Capacitance Change (% decrease from minimum initial value)	20%	20%	20%	20%
ESR Change (% increase from maximum initial value)	100%	100%	100%	100%
Cycle Life <sup>1,9</sup>	1,000,000 cycles	1,000,000 cycles	1,000,000 cycles	1,000,000 cycles

PRODUCT SPECIFICATIONS (Cont'd)

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Capacitance Change (% decrease from minimum initial value)	20%	20%	20%	20%
ESR Change (% increase from maximum initial value)	100%	100%	100%	100%
Test Current	100 A	100 A	100 A	100 A
Shelf Life <sup>1,10</sup> (Stored uncharged up to a maximum storage temperature)	2 years	2 years	2 years	2 years

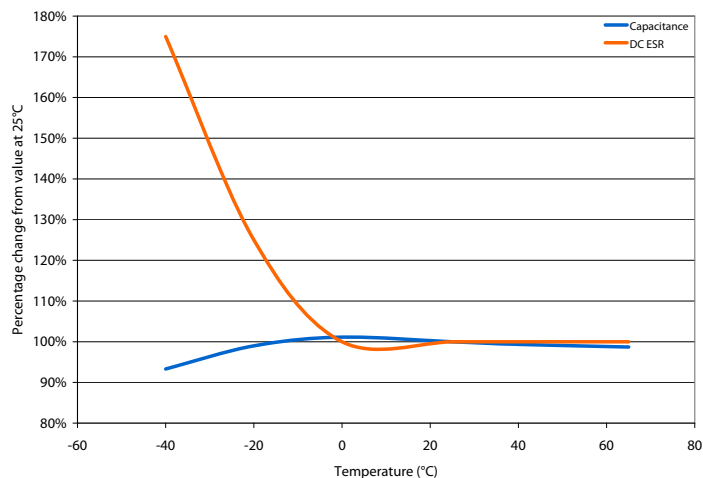
SAFETY

Short Circuit Current, typical (Current possible with short circuit from rated voltage. Do not use as an operating current.)	3,700 A	4,700 A	6,000 A	6,900 A
Factory High-Pot Test <sup>14</sup>	2,500 V DC	2,500 V DC	2,500 V DC	2,500 V DC
Certifications	RoHS UL810a (750 Volts)	RoHS UL810a (750 Volts)	RoHS UL810a (750 Volts)	RoHS UL810a (750 Volts)

TYPICAL CHARACTERISTICS

THERMAL CHARACTERISTICS

Thermal Resistance ( $R_{cm}$ , One Cell Case to Module Case), typical <sup>2</sup>	1.0°C/W	1.0°C/W	1.0°C/W	1.0°C/W
Thermal Resistance ( $R_{ma}$ , Module Case to Ambient), typical	0.20°C/W	0.20°C/W	0.20°C/W	0.20°C/W
Thermal Resistance ( $R_{ca}$ , All Cell Cases to Ambient), typical	0.30°C/W	0.30°C/W	0.30°C/W	0.30°C/W
Thermal Capacitance ( $C_{th}$ ), typical <sup>2</sup>	9,560 J/°C	10,020 J/°C	12,090 J/°C	16,460 J/°C



## NOTES

1. Capacitance and  $ESR_{DC}$  measured at 25°C per Document Number 1007239 available at [www.maxwell.com](http://www.maxwell.com).
2. Per Maxwell Document 1007239 available at [www.maxwell.com](http://www.maxwell.com).
3. Maximum Peak current (1 sec) =  $\frac{1/2 CV}{C \times ESR_{DC} + 1}$
4. After 72 hours at 25°C and rated voltage. Initial leakage current can be higher.
5. Per IEC 62391-2,  $P_d = \frac{0.12V^2}{ESR_{DC} \times \text{mass}}$
6.  $P_{max} = \frac{V^2}{4 \times ESR_{DC} \times \text{mass}}$
7.  $E_{max} = \frac{1/2 CV^2}{3,600 \times \text{mass}}$
8.  $E_{stored} = 1/2 CV^2$
9. Cycle per Document Number 10007239 available at [www.maxwell.com](http://www.maxwell.com).
10. No more than 10% decrease in capacitance from minimum initial capacitance or 50% increase in ESR from maximum initial ESR.
11. Tested at 1 kV DC.
12. For a given application, sufficient cooling must be provided to keep cell case temperatures below 65°. See  $R_{th}$ .
13. Without fan. With fan, mass is 63.4 kg.
14. Duration = 60 seconds. Not intended as an operating parameter.
15. Absolute maximum voltage non repeated, not to exceed 1 second.

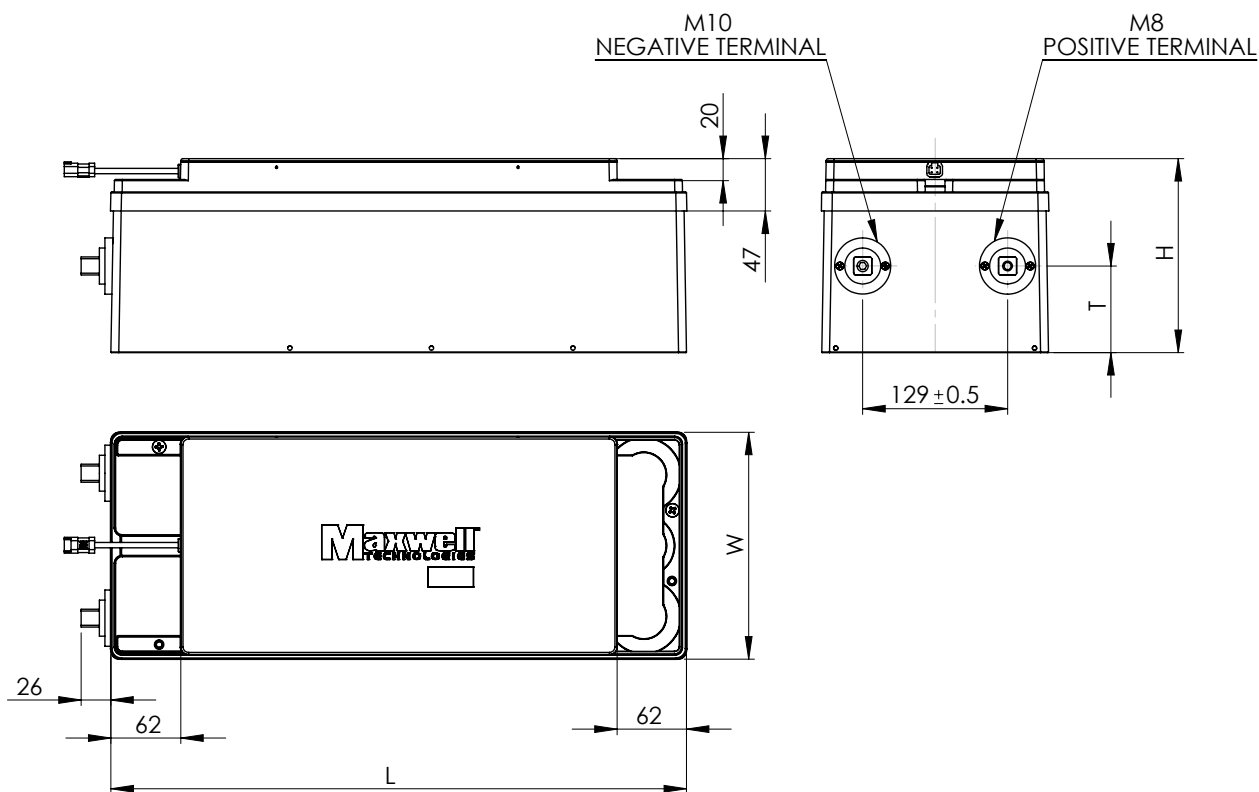
## MOUNTING RECOMMENDATIONS

Please refer to the user manual for installation recommendations

## MARKINGS

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

BMOD0xxx P056 Bxx



Part Description	Dimensions (mm)				Package Quantity
	L (±0.5mm)	W (±0.5mm)	H (max)	T (±0.5mm)	
BMOD0052 P056 B02/03	665	176	116	TBD	1
BMOD0065 P056 B02/03	665	176	127	53	1
BMOD0087 P056 B02/03	665	176	147	TBD	1
BMOD0130 P056 B02/03	665	176	173	77	1

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. All products featured on this datasheet are covered by the following U.S. patents and their respective foreign counterparts: 7027290, 7.352.558, 7.295.426, 7.090.946, 7.508.651, 7.492.571, 7.342.770, 6.643.119, 7.384.433, 7.147.674, 7.317.609, 7.495.349, 7.102.877.



**Maxwell Technologies, Inc.**  
**Global Headquarters**  
5271 Viewridge Court, Suite 100  
San Diego, CA 92123  
USA  
Tel: +1 858 503 3300  
Fax: +1 858 503 3301



**Maxwell Technologies SA**  
CH-1728 Rossens  
Switzerland  
Tel: +41 (0)26 411 85 00  
Fax: +41 (0)26 411 85 05



**Maxwell Technologies, GmbH**  
Brucker Strasse 21  
D-82205 Gilching  
Germany  
Tel: +49 (0)8105 24 16 16  
Fax: +49 (0)8105 24 16 19



**Maxwell Technologies, Inc.**  
**Shanghai Representative Office**  
13E, CR Times Square  
500 Zhangyang Road, Pudong  
Shanghai 200122, P.R. China  
Tel: +86 21 5836 8780  
Fax: +86 21 5836 8790