

FEATURES AND BENEFITS

- 16 V DC working voltage
- Individually balanced cells
- Compact, lightweight system
- Screw terminals

TYPICAL APPLICATIONS

- Automotive subsystems
- Consumer electronics
- Portable power tools
- Renewable energy systems
- Short term UPS & telecom
- Wind pitch control



PRODUCT SPECIFICATIONS

ELECTRICAL

BMOD0058 E016 B02

Rated Capacitance ¹	58 F
Minimum Capacitance, initial ¹	58 F
Maximum ESR _{DC} , initial ¹	22 mΩ
Rated Voltage	16 V
Absolute Maximum Voltage ¹⁴	17 V
Maximum Continuous Current ($\Delta T = 15^{\circ}C$) ²	12.0 A _{RMS}
Maximum Continuous Current ($\Delta T = 40^{\circ}C$) ²	19 A _{RMS}
Maximum Peak Current, 1 second (non repetitive) ³	200 A
Leakage Current, maximum (B02 Suffix - Passive Balancing) ⁴	25 mA
Maximum Series Voltage	750 V

TEMPERATURE

Operating Temperature (Ambient temperature)	
Minimum	-40°C
Maximum	65°C
Storage Temperature (Stored uncharged)	
Minimum	-40°C
Maximum	70°C

PRODUCT SPECIFICATIONS (Cont'd)

PHYSICAL

BMOD0058 E016 B02

Mass, typical	0.63 kg
Power Terminals	M5 Thread
Recommended Torque - Terminal	4 Nm
Vibration Specification	IEC60068-2-6
Shock Specification	IEC60068-2-27, -29
Environmental Protection	IP54
Cooling	Natural Convection

MONITORING / CELL VOLTAGE MANAGEMENT

Internal Temperature Sensor	N/A
Temperature Interface	N/A
Cell Voltage Monitoring	N/A
Connector	N/A
Cell Voltage Management	Passive

POWER & ENERGY

Usable Specific Power, P_d^5	2,200 W/kg
Impedance Match Specific Power, P_{max}^6	4,600 W/kg
Specific Energy, E_{max}^7	3.3 Wh/kg
Stored Energy ⁸	2.1 Wh

LIFE

High Temperature¹ (at Rated Voltage & Maximum Operating Temperature)	1,500 hours
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
Room Temperature¹ (at Rated Voltage & 25°C)	10 years
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%

PRODUCT SPECIFICATIONS (Cont'd)

BMOD0058 E016 B02

Cycle Life ^{1,9}	500,000 cycles
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
Test Current	35 A
Shelf Life ^{1,10} (Stored uncharged up to a maximum storage temperature)	2 years

SAFETY

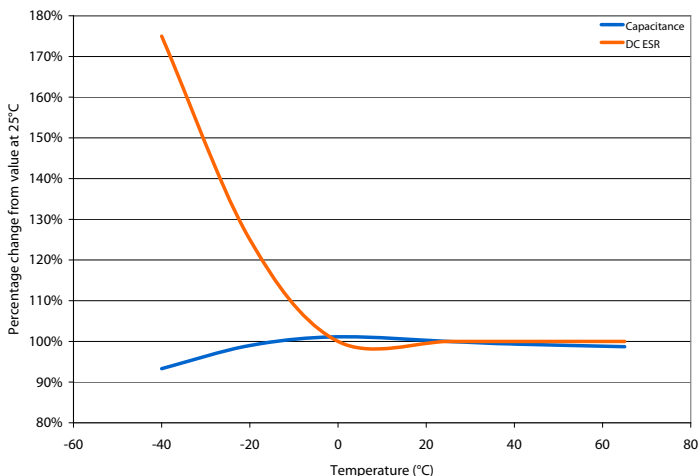
Short Circuit Current, typical (Current possible with short circuit from rated voltage. Do not use as an operating current.)	730 A
Factory High-Pot Test ¹³	Not Required
Certifications	RoHS, UL810a (640 Volts)

TYPICAL CHARACTERISTICS

THERMAL CHARACTERISTICS

Thermal Resistance (R_{ma} , Module Case to Ambient), typical	N/A
Thermal Resistance (R_{ca} , All Cell Cases to Ambient), typical	4.8°C/W
Thermal Capacitance (C_{th}), typical ²	420 J/°C

ESR AND CAPACITANCE VS TEMPERATURE



NOTES

1. Capacitance and ESR_{DC} measured at 25°C per Document Number 1007239 available at www.maxwell.com.
2. Per Maxwell Document 1007239 available at 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. $E_{stored} = \frac{1/2 CV^2}{3,600}$
9. Cycle per Document Number 1007239 available at 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. Duration = 60 seconds. Not intended as an operating parameter.
14. Absolute maximum voltage non repeated, not to exceed 1 second.

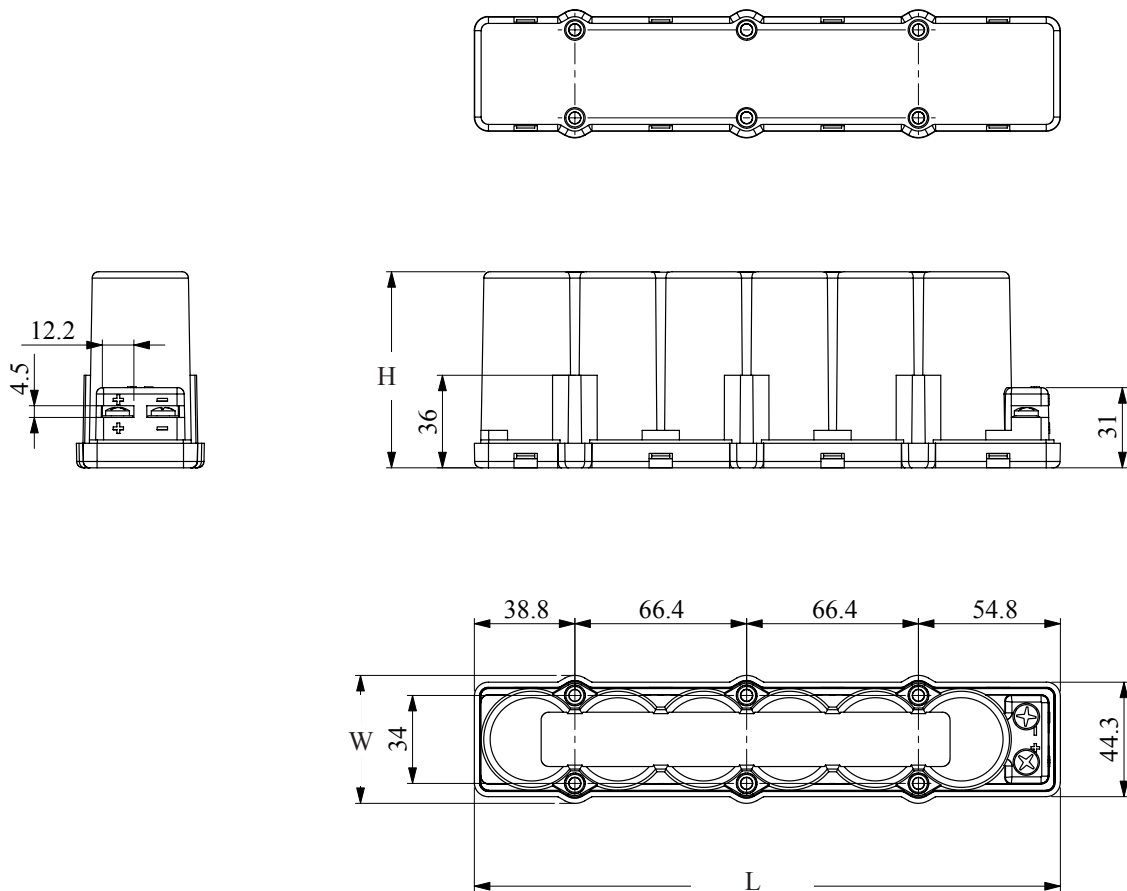
MOUNTING RECOMMENDATIONS

Recommended mounting screw M4. Maximum torque on mounting screws 4 Nm. All 6 mounting locations must be utilized to meet vibration specifications.

MARKINGS

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

BMOD0058 E016



Part Description	Dimensions (mm)			Package Quantity
	L (±0.5mm)	W (±0.5mm)	H (±0.5mm)	
BMOD0058 E016	226.5	49.5	76.0	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. All products featured on this datasheet are covered by the following U.S. patents and their respective foreign counterparts: 7307830, 7203056, 7180726, 7027290, 7.352.558, 7.295.423, 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