FEATURES AND BENEFITS

- 160V DC working voltage
- Passive balancing

TYPICAL APPLICATIONS

- Wind pitch control
- Short-term UPS
- Renewable energy systems

PRODUCT SPECIFICATIONS

ELECTRICAL	BMOD0006 E160 B02
Rated Capacitance[1]	5.8 F
Minimum Capacitance, initial[1]	5.8 F
Maximum ESR_{DC}, initial[1]	220 mΩ
Rated Voltage	160 V
Absolute Maximum Voltage[11]	170 V
Maximum Continuous Current (ΔT = 15 °C)[2]	7.0 A_{RMS}
Maximum Continuous Current (ΔT = 40 °C)[2]	13.0 A_{RMS}
Maximum Peak Current, 1 second (non-repetitive)[3]	200 A
Leakage Current, maximum (Passive Balancing) [4]	25 mA
Maximum Series Voltage	660 V
TEMPERATURE	
Operating Temperature (Ambient Temperature)	
Minimum	-40°C
Maximum[12]	65°C
Storage Temperature (Stored Uncharged)	
Minimum	-40°C
Maximum	70°C
PHYSICAL	
Mass, typical	5.1 kg
Power Terminals	M5 Thread
Recommended Torque - Terminal	4.0 Nm
Vibration Specification	IEC60068-2-6
Shock Specification	IEC60068-2-27,-29
Environmental Protection (except terminals)	IP54
Cooling	Natural Convection

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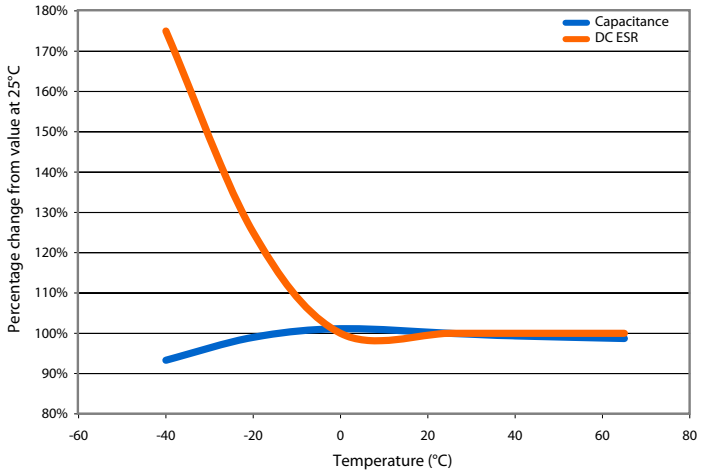
PRODUCT SPECIFICATIONS (Cont'd)

MONITORING / CELL VOLTAGE MANAGEMENT	BMOD0006 E160 B02
Internal Temperature Sensor	N/A
Temperature Interface	N/A
Cell Voltage Monitoring	Voltage Center Tap
Connector	M4
Cell Voltage Management	Passive
POWER AND ENERGY	
Usable Specific Power, P_d [5]	2700 W/kg
Impedance Match Specific Power, P_{max} [6]	5600 W/kg
Specific Energy, E_{max} [7]	4.0 Wh/kg
Stored Energy, E_{Stored}	20.6 Wh
LIFE	
High Temperature[12] (at Rated Voltage and Maximum Operating Temperature)	1500 hours
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
Room Temperature[1] (at Rated Voltage and 25 °C)	10 years
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
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 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
High-Pot Test[13]	5600 V DC
Certifications	RoHS

TYPICAL CHARACTERISTICS

THERMAL CHARACTERISTICS	BMOD0006 E160 B02
Thermal Resistance (R_{ma} Module Case to Ambient), typical	N/A
Thermal Resistance (R_{ca} All Cell Cases to Ambient), typical	1.1°C/W
Thermal Capacitance (C_{th}), typical[2]	4,800 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) = $\frac{½\ CV}{C \times ESR_{DC} + 1}$
4. After 72 hours at 25 °C and rated voltage. Initial leakage current can be higher.
5. Per IEC 62391-2, $P_d = \frac{0.12V^2}{ESR_{DC} \times Mass}$
6. $P_{max} = \frac{V^2}{4 \times ESR_{DC} \times Mass}$
7. $E_{max} = \frac{½\ CV^2}{3{,}600 \times Mass}$
8. $E_{stored} = \frac{½\ CV^2}{3{,}600}$
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. Absolute maximum voltage non repeated, not to exceed 1 second.
12. For a given application, sufficient cooling must be provided to keep cell case temperatures below 65°C. See R_{ca}.
13. Duration = 60 seconds. Not intended as an operating parameter.

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.

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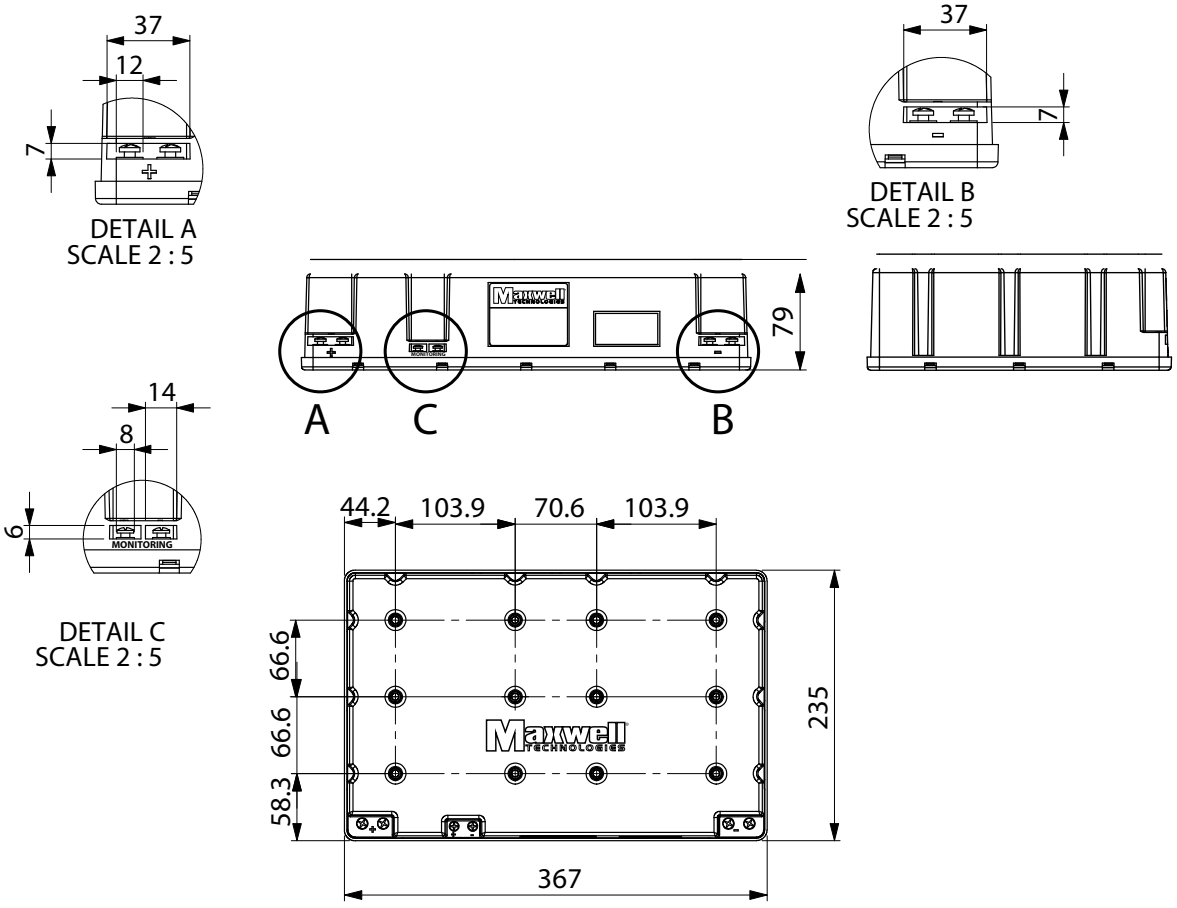

Part Description	Dimensions (mm) L (±0.5mm)	W (±0.2mm)	H (±0.7mm)	Package Quantity
BMOD0006 E160 B02	367	235	79	3

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. All products featured on this datasheet are covered by U.S. patents and their respective foreign counterparts. Patent information can be found at www.maxwell.com.

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