DATASHEET 56V MODULE

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	BMOD0130 P056 B03
Rated Capacitance[1]	130 F
Minimum Capacitance, initial[1]	130 F
Maximum ESR $_{DC,}$ initial[1]	8.1 mΩ
Rated Voltage	56 V
Absolute Maximum Voltage[14]	62 V
Maximum Continuous Current (ΔT = 15°C)[2]	61 A
Maximum Continuous Current (ΔT = 40°C)[2]	99 A
Maximum Peak Current, 1 second (non repetitive)[3]	1,800 A
Standby Current, maximum (Passive Balancing)[4]	120 mA
Maximum Series Voltage	750 V
TEMPERATURE	
Operating Temperature (Ambient temperature)	
Minimum	-40°C
Maximum	40°C
Storage Temperature (Stored uncharged)	
Minimum	-40°C
Maximum	70°C

PRODUCT SPECIFICATIONS (Cont'd)

PHYSICAL	BMOD0130
Mass, typical	18 kg
Power Terminals	M8/M10
Recommended Torque - Terminal	20/30 Nm
Vibration Specification	Telcordia GR-63-CORE Zone 4
Shock Specification	-
Environmental Protection	IP30
Cooling	Natural Convection
MONITORING / CELL VOLTAGE MANAGEMENT	
Internal Temperature Sensor	N/A
Temperature Interface	N/A
Cell Voltage Monitoring	Overvoltage Alarm
Connector	Deutsch DTM
Cell Voltage Management	Passive
POWER & ENERGY	
Usable Specific Power, P_d [5]	2,600 W/kg
Impedance Match Specific Power, P_{max} [6]	5,400 W/kg
Specific Energy, E_{max} [7]	3.1 Wh/kg
Stored Energy[8]	56.6 Wh
LIFE	
High Temperature[1] (at Rated Voltage & Maximum Operating Temperature)	8 years
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
Room Temperature[1] (at Rated Voltage & 25°C)	14 years
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%

PRODUCT SPECIFICATIONS (Cont'd)

	BMOD0130
Cycle Life[1,9]	1,000,000 cycles
Capacitance Change (% decrease from minimum initial value)	20%
ESR Change (% increase from maximum initial value)	100%
Test Current	100 A
Shelf Life[1,10] (Stored uncharged up to a maximum storage temperature)	2 years

SAFETY

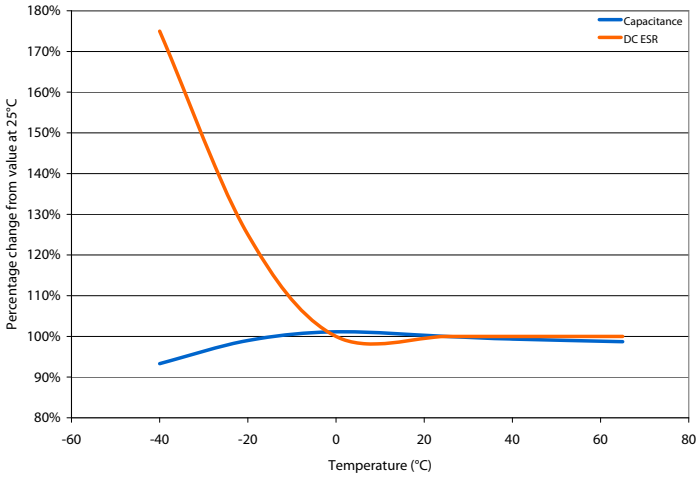
Short Circuit Current, typical (Current possible with short circuit from rated voltage. Do not use as an operating current.)	6,900 A
Factory High-Pot Test[13]	3,500 V DC
Certifications	RoHS UL810a (750 V)

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	0.50°C/W
Thermal Capacitance (C_{th}), typical[2]	16,460 J/°C

ESR AND CAPACITANCE VS TEMPERATURE



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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. 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.

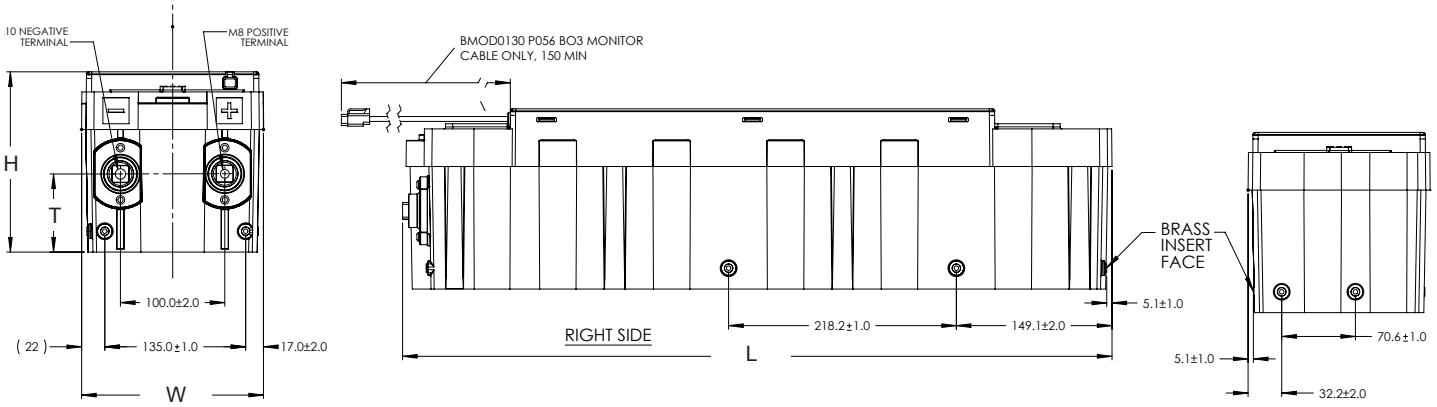
MOUNTING RECOMMENDATIONS

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.

BMOD0130 P056 B03



Part Description	Dimensions (mm) L (max)	W (max)	H (max)	T (±2mm)	Package Quantity
BMOD0130 P056 B03	683	177	175	74.9	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.

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