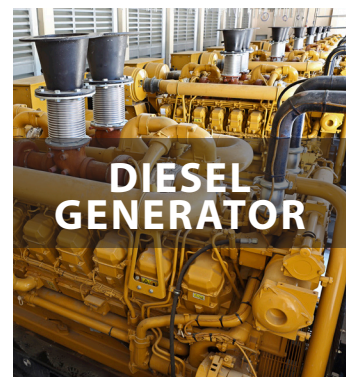


Possible scenario for 1 MW / 60 second configuration in a standard 20' container with BMOD0130 modules.



The evolution of electricity supply, demand, efficiency and reliability is driving significant infrastructural and operational improvements of electrical grids worldwide. Grid energy storage systems store and release power when and where it is required within grids to maintain their stability and maximize efficiency. Energy storage systems can balance and increase grid flexibility when managing multiple energy generation resources, integrating a high level of intermittent renewable energy, or operating a micro grid. Maxwell ultracapacitors provide cost-effective and reliable instantaneous power. With over 11 GW of power installed worldwide, the long life, high power and superior charge/discharge cycling of ultracapacitors make them the ideal energy storage solution for utility scale, microgrid, or commercial applications. Ultracapacitors can be used as a standalone solution or in combination with other energy storage technologies such as batteries. By combining two complementary technologies, ultracapacitors can extend battery life and reduce overall operating cost, providing fast response as well as backup capacity. With Maxwell ultracapacitors, it is easy to design scalable systems with lifetimes of up to a million charge/discharge cycles at 100% depth of discharge.*

Features and Benefits

- Power shaping
- Ramp rate control
- Frequency regulation
- Reactive power firming
- Increase grid stability
- Increase power quality
- Low-maintenance operation
- Non-toxic, lead-free materials

*Results may vary. Additional terms and conditions, including the limited warranty, apply at the time of purchase. See the warranty details and enclosed information for applicable operating and use requirements.

Possible Scenario for a 1 MW / 60 Second Configuration



Operating Parameters

	BMOD0165	BMOD0130
Capacitance	165 F	130 F
Voltage	43.5 V*	56 V
ESR _{DC}	6.3 mohm	8.1 mohm
Leakage Current	5.2 mA	120 mA
Total Energy, Individual Module	43.4 Wh**	56.6 Wh

1 MW / 60 Second System Characteristics[†]

Configuration	17 series x 38 parallel	10 series x 50 parallel
Total Number of Modules	646	500
Capacitance	368 F	650 F
Voltage	740 V	560 V
Floor Space ^{††}	106 ft	89 ft

* Module voltage reduced to maintain the same individual cell voltage (~2.4 V) as the 56 V module solution.

** Total module energy based on reduced cell voltage.

† Discharge to V1/2

†† 6' height

Images not to scale. Results may vary. For specification configuration needs, please contact Maxwell at contactus@maxwell.com.

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: 6643119, 7295423, 7180726, 7295423, 7342770, 7352558, 7384433, 7440258, 7492571, 7508651, 7580243, 7791860, 7816891, 7859826, 7883553, 7935155, 8072734, 8098481, 8279580, and patents pending.



Maxwell Technologies, Inc.
Global Headquarters
 3888 Calle Fortunada
 San Diego, CA 92123
 USA
 Tel: +1 (858) 503-3300
 Fax: +1 (858) 503-3301



Maxwell Technologies SA
 Route de Montena 65
 CH-1728 Rossens
 Switzerland
 Tel: +41 (0)26 411 85 00
 Fax: +41 (0)26 411 85 05



Maxwell Technologies, GmbH
 Leopoldstrasse 244
 80807 München
 Germany
 Tel: +49 (0)89 4161403 0
 Fax: +49 (0)89 4161403 99



**Maxwell Technologies
 Shanghai Trading Co., Ltd**
 Unit A2BC, 12th Floor
 Huarun Times Square
 500 Zhangyang Road, Pudong
 Shanghai 200122, P.R. China
 Phone: +86 21 3852 4000
 Fax: +86 21 3852 4099



Maxwell Technologies Korea Co., Ltd
 Room 1524, D-Cube City Office Tower, 15F
 #662 Gyeongin-Ro, Guro-Gu,
 Seoul, Korea 152-706
 Phone: +82 10 4518 9829

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