

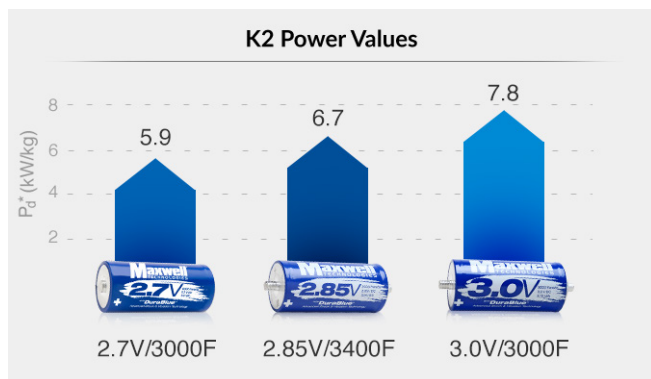


## Introducing the New 3.0-Volt 3000-Farad Cell

Same rugged cell.  
More voltage.  
More power.

The newest addition to Maxwell Technologies' K2 family of ultracapacitors is the 3-volt, 3000-farad cell. Maxwell's first 3-volt cell meets the same life performance criteria as the 2.7-volt cell, with the added benefit of increased power capability—a 31% increase over the 2.7-volt cell and a 16% increase over the 2.85-volt cell.

The 3-volt cell provides higher energy density in the same industry standard 60 mm cylindrical design and an electrostatic storage capability that can cycle a million charges and discharges without performance degradation. The cell is available in quick- and easy-to-implement threaded terminals.



Maxwell Technologies' 3-volt cell provides increased power capability over its predecessors — while maintaining the same life performance criteria.

### Features

- Highest voltage and power of K2 series
- DuraBlue™ Advanced Shock and Vibration Technology
- Up to 1,000,000 duty cycles or 10 year DC life\*
- Up to 20 kW/kg of specific power\*\*
- Up to 4 Wh of stored energy\*\*
- 60 mm diameter cylindrical design

### Applications

- Hybrid and plug-in hybrid bus
- Grid energy storage (stationary)
- Wind turbine pitch control
- Rail (onboard or wayside)
- Automotive (including hybrid vehicles)
- Heavy industrial equipment
- UPS and telecom systems

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

\*\*Typical values represent mean values of production samples.

## Preliminary Specifications and Life Characteristics†

Specifications	Value
Voltage, Rated	3.0 V
Capacitance, Rated	3000 F
ESR <sub>DC</sub> , Rated	0.27 mΩ
Usable Specific Power	7.8 kW/kg
Specific Energy	7.4 Wh/kg
Vibration Specification	ISO 16750-3, Table 12
Shock Specification	IEC 60068-2-27, -29
Operating Temperature Range	-40°C to 65°C

Life Characteristics	Value
<b>DC Life at High Temperature</b>	1500 hours
Capacitance Change	20%
ESR Change	100%
<b>Projected DC Life at 25°C</b>	10 years
Capacitance Change	20%
ESR Change	100%
<b>Projected Cycle Life at 25°C</b>	1,000,000 cycles
Capacitance Change	20%
ESR Change	100%

## DuraBlue™ Advanced Shock and Vibration Technology

The new 3-volt cell also incorporates Maxwell's proprietary DuraBlue™ Advanced Shock and Vibration Technology to provide three times the vibrational resistance and four times the shock immunity of previous ultracapacitor-based competitive offerings, which will maximize life in demanding transportation environments such as onboard rail, hybrid bus and other applications. With the 3-volt cell, the transportation industry has a new way to retrofit systems to increase power, facilitate weight reduction and improve fuel efficiency. Additionally, grid markets will benefit from the 3-volt cell option for smoothing power intermittencies and reducing costs, resulting in increased return on grid energy storage investments.

For more information, visit [www.maxwell.com/3v](http://www.maxwell.com/3v) or email [contactus@maxwell.com](mailto:contactus@maxwell.com).

†This document has not been finalized or approved for release as a formal datasheet and has been provided as a courtesy specifically for engineering assessment purposes. The information provided should not be relied upon in making decisions regarding this product.



**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  
 Tel: +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  
 Tel: +82 10 4518 9829

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