

## European Solar and Energy Storage Solutions

# Guyana maxwell ultracapacitor



### All In One

Integrating battery packs



### Intelligent Integration

integrated photovoltaic storage cabinet



### High-capacity

50 - 500kWh



### Rated AC Power

50 - 100kW



### Degree of Protection

IP54



### Altitude

3000m(>3000m derating)



### Operating Temperature Range

-20~60°C(Derating above 50 °C)

## Overview

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What are Maxwell ultracapacitors?

Maxwell ultracapacitors. Changing how world stores and uses energy. Maxwell's industry-leading ultracapacitors are breakthrough energy storage and delivery devices that offer millions of times more capacitance than traditional capacitors. They deliver rapid, reliable bursts of power for.

Who is Maxwell Technologies?

Maxwell Technologies leading global supplier of ultracapacitors. Backup Power + Regenerative Power + Burst Power + Quick Charge + Cold Starting.

Are ultracapacitor systems sustainable?

Ultracapacitor systems use sustainable based products offering a long-lasting source of reliable high-power energy storage that can help eliminate lead-acid and other hazardous materials in batteries. With our UP™ line of products we are starting a power revolution. from sustainable source (coconut shells).

What are ultracapacitors & how do they work?

ULTRACAPACITORS deliver quick bursts of energy during peak power demands, then quickly store energy and capture excess power that is otherwise lost. They efficiently complement a primary energy source in today's applications because they discharge and recharge quickly.

Can ultracapacitors handle peak power demands or recapture energy?

However, they cannot efficiently handle peak power demands or recapture energy in today's applications because they discharge and recharge slowly. ULTRACAPACITORS deliver quick bursts of energy during peak power demands, then quickly store energy and capture excess power that is otherwise lost.

Are ultracapacitors a high power device?

Ultracapacitors are inherently high power devices compared to batteries, but as indicated in Table 8, they can have a wide range of power capability from 0.5–2 kW/kg for presently available devices to 1–6 kW/kg in projected future devices. Very high power capability ( $\gg 1$  kW/kg) can be achieved by utilizing thin electrodes ( $\ll 100$   $\mu\text{m}$ ) in the device.

## Guyana maxwell ultracapacitor

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### Maxwell's High Power and Energy Cell

Page 1 Document number: 3003279-EN.2  
maxwell 2.7V 3000F TRPITR E DTSEET Maxwell's High Power and Energy Cell The newly updated Maxwell Technologies' 2.7V 3000F ultracapacitor cell is designed to support the latest trends in renewable energy, industrial electrification, and transportation. Updated to meet the demands of

### Ultracapacitors: why, how, and where is the technology

Ultracapacitors have much lower energy density than batteries and their low energy density is in most cases the factor that determines the feasibility of their use in a particular high power application. For ultracapacitors, the trade-off between the energy density and the RC time constant of the device is an important design consideration.



### Maxwell ultracapacitors.

Maxwell's industry-leading ultracapacitors are breakthrough energy storage and delivery devices that offer millions of times more capacitance than traditional capacitors. They deliver rapid, reliable bursts of power for hundreds of thousands of duty cycles - ...

## MAXWELL Ultracapacitors

Maxwell 896 MAXWELL Ultracapacitors The BC series ultracapacitor product line gives industrial customers a wide range of choices to meet their energy storage and power delivery requirements. The 350F Energy cell provides higher energy for longer discharge applications, while the 310F Power cell provides higher power for



## Top 10 Leading Companies in the Global Ultracapacitor Market

Maxwell Technologies: A Pioneer in Ultracapacitor Innovation. Overview: Maxwell Technologies, a subsidiary of Tesla in 2019, is one of the most recognized names in the ultracapacitor industry. The company specializes in energy storage and power delivery solutions, with ultracapacitors at the core of its technology offerings.

## UCAP Power(TM)

UCAP Power(TM), a global provider of ultracapacitor-based power solutions across a wide range of renewable markets. Ultracapacitor systems use sustainable based products offering a long-lasting source of reliable high-power energy storage that can help eliminate lead-acid and other hazardous materials in batteries.



## Maxwell ultracapacitors.

Maxwell's industry-leading ultracapacitors are breakthrough energy storage and delivery devices that offer millions of times more capacitance than traditional capacitors. They deliver rapid, reliable bursts of power for

hundreds of



## MAXWELL ULTRACAPACITORS: ENERGY STORAGE DEVICES ...

14 million Maxwell ultracapacitor cells sold since 2011 MAXWELL ULTRACAPACITORS: ENERGY STORAGE DEVICES FOR MISSION CRITICAL BACK-UP POWER APPLICATIONS Replace your battery-based cache backup with an ultracapacitor-based power and start enjoying cost savings, increased reliability, and peace of mind.



## Maxwell Ultracapacitor Modules - AEP Components

Standardized Maxwell Ultracapacitor modules. Maxwell's ultracapacitor modules are available in 5V, 16V, 24V, 48V, 56V, 75V, 90V, 125V, 160V and 240V. They all offer over 1 million duty cycles. The standardized ultracapacitor modules consists of single cells in series or parallel connection for a diverse range of energy storage, transportation

## USER MANUAL

Notes on Using Ultracapacitor Cells Maxwell Technologies, Inc. MAXWELL TECHNOLOGIES INC. USER MANUAL Ultracapacitor Cells 3002189-EN.13 , 2 Ultracapacitors, also known as supercapacitors or electric double layer

capacitors (EDLC), have unusually high energy densities compared to conventional electrolytic



## Ultracapacitor Overview

ULTRACAPACITORS deliver quick bursts of energy during peak power demands, then quickly store energy and capture excess power that is otherwise lost. They efficiently complement a primary energy source in today's applications because they discharge and recharge quickly.

## 2.7V 310 & 350F ULTRACAPACITOR CELLS

Maxwell ultracapacitors have less than 10 Wh capacity to meet the requirements of Special Provisions 361. Both individual ultracapacitors and modules composed of those ultracapacitors shipped by Maxwell can be transported without being treated as dangerous goods (hazardous materials) under transportation regulations. ½ CV2 3,600 80% 90% 100%



## Maxwell Technologies Supercapacitors / Ultracapacitors

Maxwell Technologies Supercapacitors / Ultracapacitors are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for Maxwell Technologies

Supercapacitors / Ultracapacitors.



## Cells

Maxwell Technologies' DuraBlue® Advanced Shock and Vibration Technology combines Maxwell's patented electrode formulation and manufacturing process with a robust proprietary cell structure, resulting in a product line specialized for the most demanding shock and vibration requirements of the industrial and transportation industries.



## Top 10 Reasons

MAXWELL ultracapacitors are designed with a very low equivalent series resistance (ESR), allowing them to deliver and absorb very high current. The low ESR of MAXWELL ultracapacitors allows them to be charged very quickly, making them well suited for regenerative braking applications and other quick-charge scenarios. The inherent

## UNINTERRUPTIBLE POWER SUPPLY (UPS) APPLICATION BRIEF

Maxwell Technologies' ultracapacitor-based UPS module provides reliable energy storage for short-duration bridge power and backup power. With an operating life of up to 14 years\* and requiring

minimal maintenance, the Maxwell solution is also an optimal energy source for power quality improvement for online UPS. The Maxwell UPS module can



## USER MANUAL

Maxwell ultracapacitor modules are designed to provide years of trouble-free operation. Proper handling is required to avoid damage to the module. In particular, the following handling precautions should be observed:

- o Do not stack modules once they have been removed from the shipping containers.
- o Do not drop modules.



## 48 Volt Modules

Maxwell's DuraBlue<sup>®</sup> Advanced Shock and Vibration Technology is the company's latest advance in ultracapacitor reliability and performance. It combines Maxwell's unique electrode formation and manufacturing process with a patent-pending cell structure design, resulting in a significant increase in vibration immunity of as much as 300



## 2.7V 350F Ultracapacitor Cell

Maxwell Technologies 2.7V 350F Ultracapacitor Cell is designed for performance and system optimization in a small form factor with low ESR. This ultracapacitor cell can be used alone, integrated into a module assembly, or in a hybrid configuration. Maxwell 2.7V 350F ultracapacitor cell feature snap-in terminals for PCB mounting, a 33mm diameter



## New 3.0V/3000F Ultracapacitor Cell in Stock

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.



## Maxwell supercap news: 2.85V, 3,400F cell, 17% more power

Maxwell Technologies introduces its newest member of its K2 family of ultracapacitors, the 2.85-Volt, 3,400-Farad cell. DuraBlue technology is tested to demanding environmental requirements for transportation, increasing vibrational resistance by about 300% and shock immunity by 400% when compared to ultracapacitor-based competitive offerings.



## Maxwell Technologies Expanding Ultracapacitor Production ...

Maxwell Technologies, Inc. is outfitting a new ultracapacitor electrode production facility that

will double the company's current electrode capacity by year end, and is increasing internal and outsourced assembly capabilities to ensure that it can meet rapidly increasing worldwide demand for ultracapacitor products.



## Contact Us

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