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Maxell, Ltd.

Maxell Develops All-Solid-State Battery Power Module Compatible with ER Battery Size

Reduce battery replacement frequency, contributing to improved maintainability
and reduced environmental impact

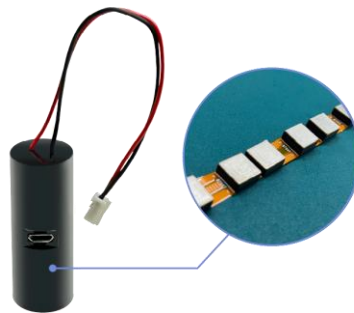


Image of the All-Solid-State Battery Power Module Compatible with ER Battery Size

Maxell, Ltd. (President and Representative Director: Keiji Nakamura; hereinafter “Maxell”) has developed an all-solid-state battery power module which matches the same size and output voltage as a lithium thionyl chloride battery (ER battery).

ER batteries are widely used in industrial equipment backup systems, smart meters, and IoT sensors.

However, since they are primary (non-rechargeable) batteries, regular battery replacement is required, which increases maintenance workload and leads to the challenge of increasing waste batteries.

This module features a circuit designed to match the output voltage (3.6 V) of ER batteries, housed in standard ER battery size-compatible casing (diameter 17.9 mm, height 50 mm), enabling easy adoption even for users currently using ER batteries. It incorporates eight mass-produced “PSB401010H” all-solid-state batteries to provide approximately a capacity of 35 mAh, with the charging circuit (charging at 5 V) integrated within the module.

By adopting this module as a backup power source for industrial equipment, battery replacement frequency is reduced, leading to decreased maintenance time and increased operating hours, thereby improving productivity. Furthermore, it also contributes to minimizing environmental impact by reducing the amount of waste batteries.

This all-solid-state battery power module will be exhibited and demonstrated at “AUTOMOTIVE WORLD 2026” held at Tokyo Big Sight from Wednesday, January 21 to Friday, January 23 (venue: Tokyo Big Sight, West Hall 2, Booth No. W10-73).

Maxell is advancing the development of all-solid-state batteries with high-performance and high reliability, that can be applied to areas where existing batteries cannot be used, focusing on four key features: high reliability, high heat resistance, high output, and large capacity. In addition, Maxell is developing modules that combine all-solid-state batteries with wireless power transfer and energy harvesting technologies, contributing to solving social challenges and realizing a sustainable society.

All-solid-state-battery webpage

https://biz.maxell.com/en/rechargeable_batteries/allsolidstate.html

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Contacts

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https://biz.maxell.com/en/rechargeable_batteries/inquiry_form_input1.html

Appendix

Outline Specifications of All-Solid-State Battery Power Module Compatible with ER Battery Size

Items	Content	Remarks
Nominal Voltage (V)	Connector output 3.6	
Nominal Capacity (mAh)	35	
Batteries installed	PSB401010H (8cells)	Connected in parallel inside the module
Charging connector	USB 2.0 Micro-B connector	
Charging voltage (V)	5	
Charging hour (hr)	12	CCCV charging
Dimensions (mm)	Diameter 17.9 × Height 50.0	Excluding connection terminals
Operating Temperature (°C)	Charge: -20 ~ +125 Discharge: -40 ~ +125	

The above specifications are subject to change without notice.