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News Release

August 25, 2026
Maxell, Ltd.

Maxell Develops ER Battery-Sized All-Solid-State Battery Module Supporting Wireless Charging[*1]

Contributing to Improved Maintenance Efficiency and Reduced Environmental Impact through Reduced Battery Replacement Frequency and Reduced Battery Waste

Module　　Internal Module Structure　　Dedicated charger

All-Solid-State Battery Module Supporting Wireless Charging[*1] and dedicated charger (Under development)

Maxell, Ltd. (President and Representative Director: Keiji Nakamura; hereinafter "Maxell") has developed an all-solid-state battery module compatible with a 1/2AA-size (diameter 14.5 mm, height 25.2 mm) lithium thionyl chloride battery (hereinafter ER battery), along with a dedicated charger[*2]. The module is available in two versions, one capable of operating at temperatures up to 125°C and the other up to 150°C.

Currently, ER batteries are widely used in industrial equipment backup systems, smart meters, and IoT devices. Among them, 1/2AA-size ER batteries are mainly used in IoT sensors. However, because ER batteries are primary batteries (non-rechargeable), periodic battery replacement and the disposal of used batteries present ongoing operational challenges.
The newly developed module integrates a wireless charging circuit, highly heat-resistant and highly reliable all-solid-state batteries, and a boost circuit into a 1/2AA-size, while delivering the same 3.6 V output voltage as conventional ER batteries. When used in combination with the dedicated charger[*2], it enables wireless charging[*1] capability to be added to existing equipment without requiring complex circuit design.
By incorporating rechargeable all-solid-state batteries, the module helps reduce battery replacement work and minimize battery waste. In addition, its wireless charging[*1] capability eliminates the need for openings in device housings for battery replacement or charging, making it suitable for equipment that requires a high degree of sealing performance.
One potential application of this module is temperature loggers for food processes used in high-temperature environments. For example, temperature loggers used in the sterilization process of retort foods require both heat resistance and a high degree of sealing performance to prevent moisture ingress.

Currently, Maxell is conducting a joint feasibility study with House Foods Corporation on a temperature logger for food process using this module, and the findings will be presented at the annual convention of the Japan Society for Food Engineering to be held on Monday, August 31.

Under its corporate byline, “Micro batteries. Maximum impact.”, Maxell embodies the belief that small batteries can create great value. Moving forward, Maxell aims to commercialize batteries that offer high reliability, high heat resistance, high power output, and large capacity, enabling applications where conventional batteries face limitations.
Furthermore, Maxell will advance the development and commercialization of module products that integrate all-solid-state batteries with wireless charging and energy harvesting technologies, contributing to the resolution of social challenges and the realization of a sustainable society.

*1 Wireless charging: This function may not be available depending on the enclosure material used in the customer’s equipment.
*2 Dedicated charger: A dedicated design tailored to the customer’s equipment is required.

All-solid-state battery webpage
https://biz.maxell.com/en/rechargeable_batteries/allsolidstate.html

Trademarks
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Contacts
Marketing & Sales Div., Maxell, Ltd.
https://biz.maxell.com/en/rechargeable_batteries/inquiry_form_input1.html

Appendix

Outline Specifications of All-Solid-State Battery Module Compatible with ER Battery Size Supporting Wireless Charging*1 and Dedicated Charger*2

All-Solid-State Battery Module (Under Development)

Items	Content		Remarks
	125℃ Mode	150℃ Model	
Nominal Voltage (V)	3.6	3.6	
Nominal Capacity (mAh)	3.6	2.7	At a load current of 1mA
Operating Temperature (℃)	0～125	0～150	At a load current of 1mA
Batteries installed	PSB401010H (Mass produced)	PSB401010T (Under development)	
Charging hour (hr)	5.0	5.0	When charged at 25℃(when using the dedicated charger*2)
Dimensions (mm)	Diameter 14.5 × Height 25.2	Diameter 14.5 × Height 25.2	

Dedicated Charger*2 (Under Development)

Items	Content	Remarks
Charging hour (hr)	5.0	Auto-off after 5 hours
Operating Temperature (℃)	0～40	
Nominal Voltage (V)	5.0	USB power supply
Dimensions (mm)	Width 52 × Depth 65 × Height 38	

The above specifications are subject to change without notice.

Wireless Charging*1 Image Using the Dedicated Charger*2

*1 Wireless charging: This function may not be available depending on the enclosure material used in the customer's equipment.
*2 Dedicated charger: A dedicated design tailored to the customer's equipment is required.

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