

Energy Harvesting Technology

RICOH
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RICOH EH DSSC Series



Features of Solid-State Dye-Sensitized Solar Cells

High power output in areas with low light



With excellent power generation efficiency in low lighting environments such as near office walls, and in warehouses and factories, RICOH DSSCs provide power for IoT devices, such as those operating on coin cell batteries, eliminating the need for battery replacement.

A wide range of operating temperatures



RICOH EH DSSCs maintain high power output from $-30\text{ }^{\circ}\text{C}$ to $60\text{ }^{\circ}\text{C}$. They can be used in refrigerated and frozen environments, as well as in an indoor environment.

Safety ensured by replacing a liquid electrolyte



RICOH has succeeded in solidifying the electrolyte. The solidified electrolyte eliminates the risk of leakage due to aging, ensuring safety and high durability.



RICOH EH DSSC5284b



RICOH EH DSSC2832b

Sample Application Products

RICOH EH Environment Sensor D201/D202
(for measuring temperature, humidity, illumination, atmospheric pressure, etc.)

2832-size



This sensor acquires and sends environmental information such as temperature, humidity, illumination, and atmospheric pressure without a battery or wiring.

SMART R MOUSE
(Optical sensor type)

2832-size



Generating power by itself, this 2.4 GHz RF wireless mouse with LIC requires no battery replacement.

* Manufactured by: BifrosTec Inc.

Remote controllers
(for projectors)

2832-size



This self-power generating remote controller eliminates the worry of low battery.

Desk LOOPLINE T1

5284-size



This desk can recharge a detachable mobile battery under the desktop.

* Manufactured and sold by: Taisei Co., Ltd.

Specifications of the RICOH EH DSSC Series

Model	 RICOH EH DSSC5284b	 RICOH EH DSSC2832b
Dimensions	52 mm × 84 mm	28 mm × 32 mm
Maximum output (Pmax) min.	276 μW	48 μW
Open-circuit voltage (Voc) typ.	5.4 V	
Maximum output operating voltage (Vpmax) typ.	4.5 V	
Maximum output operating current (Ippmax) typ.	61.3 μA	10.7 μA
Substrate	Front side: glass, Back side: film	
Thickness	0.9 mm	
Operating environment	Indoor	

Conditions: 200 lx with white 5000 K LED, 25 °C

*For the factory shipment schedule of each product, please contact our sales staff.

Replacing existing batteries with RICOH EH DSSCs

RICOH EH DSSCs provide power for IoT devices, such as those operating on coin cell batteries, eliminating the need for replacement.

*Configurations may change depending on the operating environments and frequencies of the target devices. For details, please contact our sales staff.

Cautions for using EH DSSCs	<ul style="list-style-type: none"> ● This product contains glass that can cause injuries if broken. ● Accidentally swallowing DSSCs could result in internal injury or bleeding due to broken glass. ● Be especially watchful that infants can take batteries out of devices and swallow them. ● RICOH EH DSSCs are not designed to be waterproof, water-resistant, or shockproof. ● Avoid touching the light-receiving faces of the DSSCs. If foreign matter adheres to the face, immediately remove it. ● Applying excessive force (by pushing, bending, twisting, etc.) on DSSCs may break them. ● When removing the adhesive tape fixing DSSCs, be careful not to apply excessive force. ● Avoid scratching the glass surface. To remove dirt, gently wipe it away. ● To avoid issues that cannot be predicted by stand-alone tests of the DSSCs by themselves, please be sure to conduct evaluations and tests to confirm compatibility with your products. ● This product is designed for indoor use at a temperature of -30 to 60 °C. ● It is recommended to operate under LEDs or fluorescent lighting with an illumination intensity of 1500 lx or less. ● After taking it out of the dark place below 30 lx, leave it in a bright place for a little while before using it.
Storage and transportation	<ul style="list-style-type: none"> ● This product should be stored at a temperature of -40 to 70 °C and at a humidity of 90% RH at 60 °C or lower. ● Avoid storing under direct sunlight. ● The recommended storage environment is at ordinary temperature with low light (in a drawer, cardboard box, etc.).

-Product appearance and specifications may be changed without prior notice for improvement purpose.

-Company and product names are trademarks or registered trademarks of their respective companies

-Please contact your sales representative for details on performance, specifications, and restricting conditions, etc

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● Inquiries and orders: