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 replacement.

Safety with a solidified electrolyte
RICOH has succeeded in completely solidifying the electrolyte. The solidified electrolyte eliminates the risk of leakage due to aging, ensuring safety and high durability.
This product contains fragile glass that can cause injuries if broken. Accidentally swallowing DSSCs could result in internal injury or bleeding due to broken glass. Infants can take batteries out of devices and swallow them. RICOH EH DSSCs are not designed to operate in extreme environments. They are not 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 check for symptoms and events that cannot be predicted by stand-alone tests, 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 0 to 50°C and at a humidity of 90%RH at 40°C or lower. It is recommended to operate under LEDs or fluorescent lighting with an illumination intensity of 1500 lx or less. This product should be stored at a temperature of −10 to 60°C and at a humidity of 90%RH at 40°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.).

### Applications

RICOH DSSCs can be used in various sensors and remote controllers.

- Environmental sensors (for measuring temperature, humidity, illumination, atmospheric pressure, etc.)
  - 1719-size

- Remote controllers (for projectors)
  - 2832-size

RICOH DSSCs built into an office desk.

(Released on June 11, 2019)

Desk LOOPLINE T1
5284-size
Sold by: Taisei Co., Ltd.

RICOH DSSCs can be built into an office desk to generate electricity in an indoor environment with LED lighting. RICOH DSSCs can also recharge detachable mobile batteries on an office desk.

### Cautions for using EH DSSCs

- This product contains fragile glass that can cause injuries if broken.
- Accidentally swallowing DSSCs could result in internal injury or bleeding due to broken glass.
- Infants can take batteries out of devices and swallow them. RICOH EH DSSCs are not designed to operate in extreme environments. They are not 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 check for symptoms and events that cannot be predicted by stand-alone tests, 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 0 to 50°C and at a humidity of 90%RH at 40°C or lower.
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- This product should be stored at a temperature of −10 to 60°C and at a humidity of 90%RH at 40°C or lower.
- Avoid storing under direct sunlight.

### Specifications of the RICOH EH DSSC Series

<table>
<thead>
<tr>
<th>Model</th>
<th>RICOH EH DSSC5284</th>
<th>RICOH EH DSSC2832</th>
<th>RICOH EH DSSC1719</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>52 mm × 84 mm</td>
<td>28 mm × 32 mm</td>
<td>17 mm × 19 mm</td>
</tr>
<tr>
<td>Maximum output (P(max) min.</td>
<td>230 μW</td>
<td>40 μW</td>
<td>11 μW</td>
</tr>
<tr>
<td>Open-circuit voltage (VOC) typ.</td>
<td>5.4 V</td>
<td>4.5 V</td>
<td>Glass</td>
</tr>
<tr>
<td>Maximum output operating voltage (Vp(max) typ.</td>
<td>51 μA</td>
<td>8 μA</td>
<td>2 μA</td>
</tr>
<tr>
<td>Maximum output operating current (Ip(max) typ.</td>
<td>230 μW</td>
<td>40 μW</td>
<td>11 μW</td>
</tr>
<tr>
<td>Substrate</td>
<td>Glass</td>
<td>Glass</td>
<td>Glass</td>
</tr>
<tr>
<td>Thickness</td>
<td>1.4 mm</td>
<td>Indoor</td>
<td>Indoor</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Indoor</td>
<td>Indoor</td>
<td>Indoor</td>
</tr>
</tbody>
</table>

Electrical characteristics and conditions: 200 lx white LED with color temp. of 25°C

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.

- 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.

RICOH
imagine. change.

Inquiries and orders:

Specifications as of January 2020.