Si photodiodes

S2386 series

For visible to near IR, general-purpose photometry

- **Features**
  - High sensitivity in visible to near infrared range
  - Low dark current
  - High reliability
  - Superior linearity

- **Applications**
  - Analytical instruments
  - Optical measurement equipment

### Structure / Absolute maximum ratings

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Dimensional outline/ Window material*</th>
<th>Package</th>
<th>Photosensitive area size (mm)</th>
<th>Reverse voltage VR max (V)</th>
<th>Operating temperature Topr (°C)</th>
<th>Storage temperature Tstg (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2386-18K</td>
<td>(1)/K</td>
<td>TO-18</td>
<td>1.1 x 1.1</td>
<td>30</td>
<td>-40 to +100</td>
<td>-55 to +125</td>
</tr>
<tr>
<td>S2386-18L</td>
<td>(2)/L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2386-5K</td>
<td>(3)/K</td>
<td>TO-5</td>
<td>2.4 x 2.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2386-44K</td>
<td>(4)/K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2386-45K</td>
<td>(5)/K</td>
<td>TO-8</td>
<td>3.9 x 4.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2386-8K</td>
<td>(6)/K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

* Window material K=borosilicate glass, L=lens type borosilicate glass

### Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted)

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Spectral response range λ (nm)</th>
<th>Peak sensitivity wavelength λp (nm)</th>
<th>Photosensitivity S (A/W)</th>
<th>Short circuit current Isc (100 mA)</th>
<th>Dark current Io (10 mV max.)</th>
<th>Temp. coefficient of Io Tcoid</th>
<th>Rise time tr (VR=0 V, RL=1 kΩ)</th>
<th>Terminal capacitance Ct (VR=0 V, f=10 kHz)</th>
<th>Shunt resistance Rsh (VR=10 mV)</th>
<th>Noise equivalent power NEP (VR=0 V, λ=λp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2386-18K</td>
<td>320 to 1100</td>
<td>960</td>
<td>0.6</td>
<td>0.38</td>
<td>0.45</td>
<td>0.59</td>
<td>1.3</td>
<td>6.5</td>
<td>1.12</td>
<td>6.8 x 10^-14</td>
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<td>440 to 1100</td>
<td>960</td>
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<td>0.38</td>
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- **Spectral response**
  
  ![Spectral response graph](Typ. Ta=25 °C)

- **Photosensitivity temperature characteristic**
  
  ![Photosensitivity temperature characteristic graph](Typ.)

- **Directivity**
  
  ![Directivity graph](Typ. Ta=25 °C)

- **Dark current vs. reverse voltage**
  
  ![Dark current vs. reverse voltage graph](Typ. Ta=25 °C)
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Dimensional outlines (unit: mm)

(1) S2386-18K

(2) S2386-18L

(3) S2386-44K

(4) S2386-5K

Photosensitive surface
Glass

Distance from photosensitive area center to cap center
-0.3 ≤ X ≤ 0.3
-0.3 ≤ Y ≤ 0.3

The glass window may extend a maximum of 0.2 mm above the upper surface of the cap.

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Glass

Distance from photosensitive area center to cap center
-0.3 ≤ X ≤ 0.3
-0.3 ≤ Y ≤ 0.3

The glass window may extend a maximum of 0.2 mm above the upper surface of the cap.
**Related information**

www.hamamatsu.com/sp/ssd/doc_en.html

- **Precautions**
  - Disclaimer
  - Metal, ceramic, plastic package products

- **Technical information**
  - Si photodiode/Application circuit examples

Information described in this material is current as of April 2019. Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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**Si photodiodes | S2386 series**

(5) S2386-45K

![Diagram of S2386-45K](image1)

- Photosensitive area: $3.9 \times 4.6$
- Glass window: $5.0 \pm 0.2$
- Lead: $0.45$

Tolerance unless otherwise noted: $\pm 0.2$

Distance from photosensitive area center to cap center:

- $0.75X \leq 0.1$
- $-0.15Y \leq 0.3$

The glass window may extend a maximum of $0.2 \text{ mm}$ above the upper surface of the cap.

(6) S2386-8K

![Diagram of S2386-8K](image2)

- Photosensitive area: $5.8 \times 5.8$
- Glass window: $5.9 \pm 0.1$
- Lead: $0.4$

Tolerance unless otherwise noted: $\pm 0.2$

Distance from photosensitive area center to cap center:

- $0.315X \leq 0.485$
- $0.45Y \leq 0.4$

The glass window may extend a maximum of $0.2 \text{ mm}$ above the upper surface of the cap.