**IR photodiode**

**EOPD-1300-5-0.3**

**Rev. 03, 2017**

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**Data Sheet**

**IR photodiode**

**EOPD-1300-5-0.3**

**Rev. 03, 2017**

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**Radiation** | **Type** | **Technology** | **Case**
---|---|---|---
Infrared | Planar | InGaAs/InP | 5 mm plastic

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**Description:**

InGaAs - photodiode mounted in standard 5 mm package without standoff. High spectral sensitivity in the infrared range (NIR, SWIR).

**Applications:**

Optical communications, safety equipment, light barriers

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**Maximum Ratings**

\[ T_{\text{amb}} = 25^\circ\text{C}, \text{unless otherwise specified} \]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active area, diameter</td>
<td>( A_0 )</td>
<td>300</td>
<td>( \mu\text{m} )</td>
</tr>
<tr>
<td>Temperature coefficient of photocurrent</td>
<td>( T \text{C}(I_{\text{ph}}) )</td>
<td>7.4</td>
<td>%/K</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>( T_{\text{amb}} )</td>
<td>-40 to +85</td>
<td>(^\circ\text{C})</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>( T_{\text{stg}} )</td>
<td>-40 to +100</td>
<td>(^\circ\text{C})</td>
</tr>
</tbody>
</table>

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**Optical and Electrical Characteristics**

\[ T_{\text{amb}} = 25^\circ\text{C}, \text{unless otherwise specified} \]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test conditions</th>
<th>Symbol</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown voltage*</td>
<td>( I_R = 10 \mu\text{A} )</td>
<td>( V_R )</td>
<td>5</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Dark current</td>
<td>( V_R = 5 \text{ V} )</td>
<td>( I_0 )</td>
<td>15</td>
<td>40</td>
<td></td>
<td>pA</td>
</tr>
<tr>
<td>Peak sensitivity wavelength</td>
<td>( V_R = 0 \text{ V} )</td>
<td>( \lambda_p )</td>
<td>1600</td>
<td></td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>Responsivity at 1300 nm</td>
<td>( V_R = 0 \text{ V} )</td>
<td>( S_\lambda )</td>
<td>0.9</td>
<td></td>
<td></td>
<td>A/W</td>
</tr>
<tr>
<td>Sensitivity range at 10%</td>
<td>( V_R = 0 \text{ V} )</td>
<td>( \lambda_{\text{min}}, \lambda_{\text{max}} )</td>
<td>800</td>
<td>1750</td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>Spectral bandwidth at 50%</td>
<td>( V_R = 0 \text{ V} )</td>
<td>( \Delta\lambda_{0.5} )</td>
<td>680</td>
<td></td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>Shunt resistance</td>
<td>( V_R = 10 \text{ mV} )</td>
<td>( R_{\text{sh}} )</td>
<td>3</td>
<td>5</td>
<td></td>
<td>G( \Omega )</td>
</tr>
<tr>
<td>Noise equivalent power</td>
<td>( \lambda = 1300 \text{ nm} )</td>
<td>( \text{NEP} )</td>
<td>4x10(^{-15})</td>
<td></td>
<td></td>
<td>W/\sqrt{Hz}</td>
</tr>
<tr>
<td>Specific detectivity</td>
<td>( \lambda = 1300 \text{ nm} )</td>
<td>( D )</td>
<td>4.5x10(^{12})</td>
<td></td>
<td></td>
<td>cm ( \cdot ) \sqrt{Hz} \cdot W(^{-1})</td>
</tr>
<tr>
<td>Junction capacitance</td>
<td>( V_R = 0 \text{ V} )</td>
<td>( C_J )</td>
<td>11</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Photocurrent at ( \lambda = 1300 \text{ nm} )*</td>
<td>( E_z = 1 \text{ mW/cm}^2 )</td>
<td>( I_{\text{ph}} )</td>
<td>0.95</td>
<td></td>
<td></td>
<td>( \mu\text{A} )</td>
</tr>
</tbody>
</table>

*for information only

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We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.
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