

# EPIGAP Optronik GmbH

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## Data Sheet

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### UV Enhanced Si Photodiode

EOPD-950-0-5

Rev. 01, 2020

Radiation	Type	Case
UV - near infrared	planar pn-Si photodiode	TO-5, glass window cap

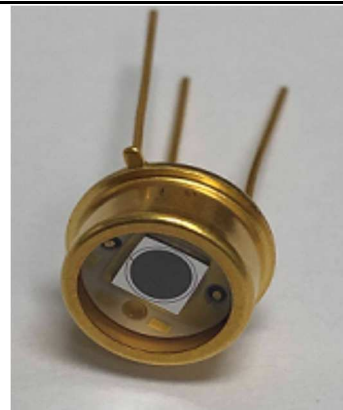
The EOPD-950-0-5 is a circular ( $\varnothing 2.52$ ) 5 mm<sup>2</sup> active area silicon photodiode in an isolated, hermetic TO-5 metal can package with a UV transmitting glass window. It is optimized for applications requiring high sensitivity in the 300 to 560 nm region (UVA, blue & green).

#### FEATURES:

- > Wide dynamic range
- > High shunt resistance
- > Ultra low noise
- > 365 nm & blue / green enhanced

#### APPLICATIONS:

- > Flame detection
- > Currency authentication
- > Spectroscopy equipment
- > Fluorescence



### Absolute Maximum Ratings

T<sub>amb</sub> = 25°C, unless otherwise specified

Parameter	Test Conditions	Symbol	Value	Unit
Reverse voltage		V <sub>R</sub>	50	V
Operating temperature range		T <sub>amb</sub>	-40 to +100	°C
Storage temperature range		T <sub>stg</sub>	-55 to +125	°C
Soldering temperature	5 sec max, 3 mm from the body	T <sub>slid</sub>	260	°C

### Optical and Electrical Characteristics

T<sub>amb</sub> = 25°C, unless otherwise specified

Parameters	Test conditions	Min	Typ	Max	Unit
Dark current	V <sub>R</sub> = 5 V		0.05	0.5	nA
Breakdown voltage	I <sub>R</sub> = 10 μA	50			V
Spectral range		250		1100	nm
Peak sensitivity wavelength			950		nm
Responsivity	V <sub>R</sub> = 0 V, λ = 365 nm		0.22		A/W
Responsivity	V <sub>R</sub> = 0 V, λ = 633 nm		0.40		A/W
Shunt resistance	V <sub>R</sub> = 10 mV	500	800		MΩ
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz		80		pF
Junction capacitance	V <sub>R</sub> = 5 V, f = 1 MHz		18	25	pF
Response time	V <sub>R</sub> = 5 V, R <sub>L</sub> = 50 Ω, λ <sub>p</sub> = 635 nm		100		ns

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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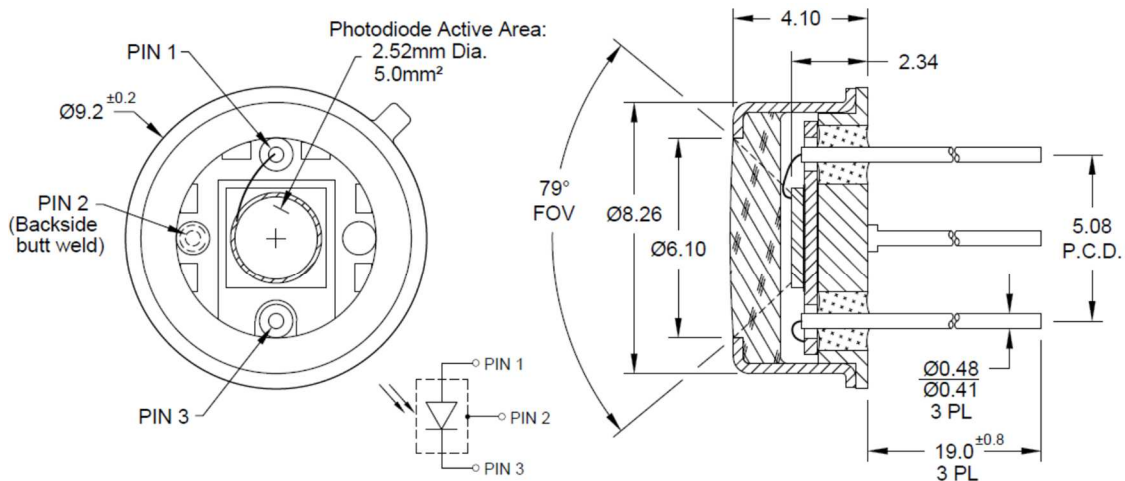
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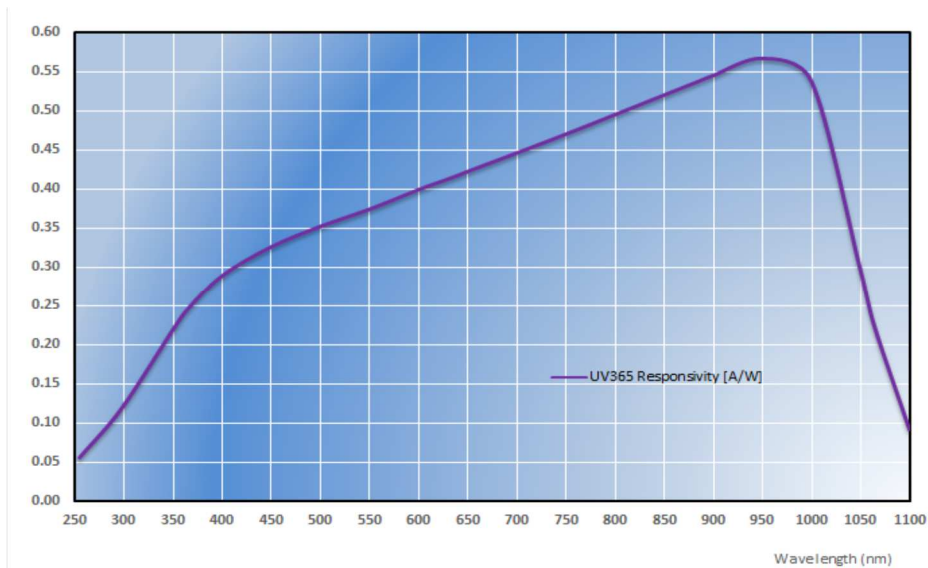
### UV Enhanced Si Photodiode

### EOPD-950-0-5



Unit: mm, Tolerance: ±0.15

Device dimensions in mm

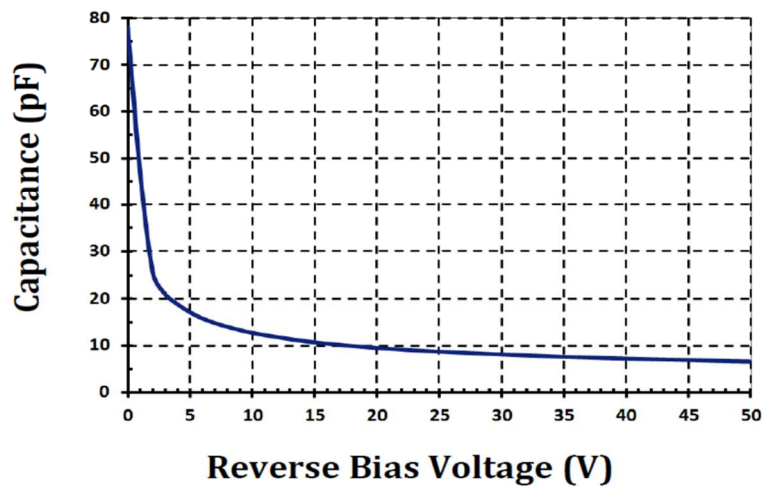


Spectral sensitivity in A/W

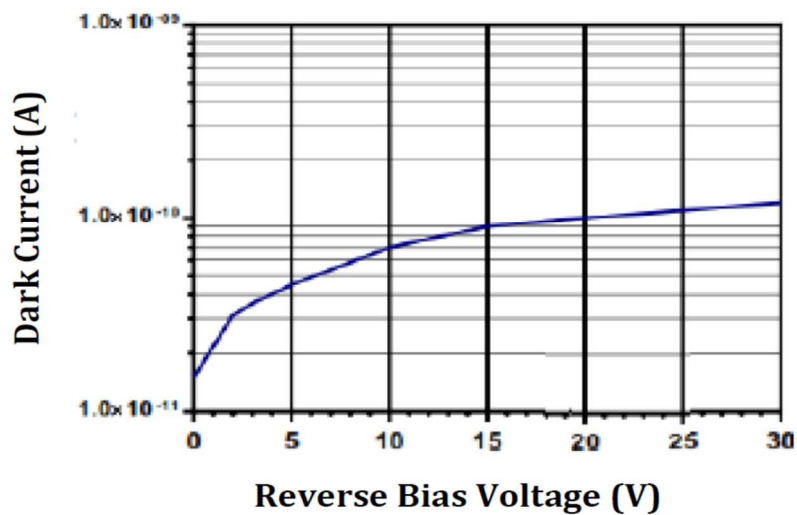


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**Capacitance vs Reverse Bias**



**Dark Current vs Reverse Bias (23°C)**

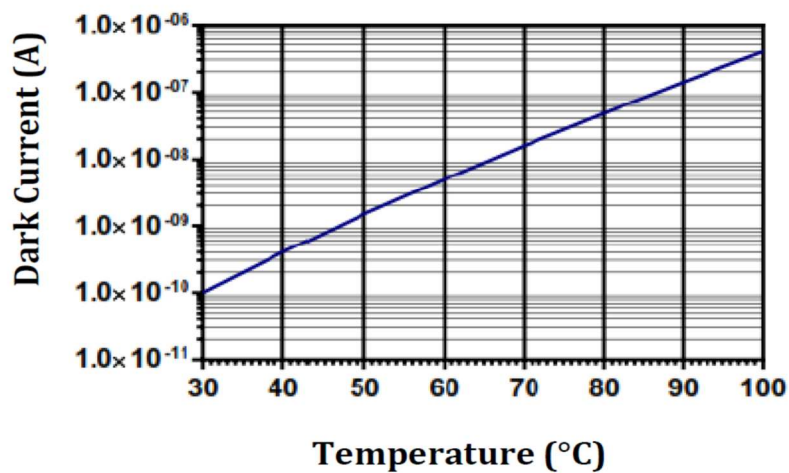


**Data Sheet**

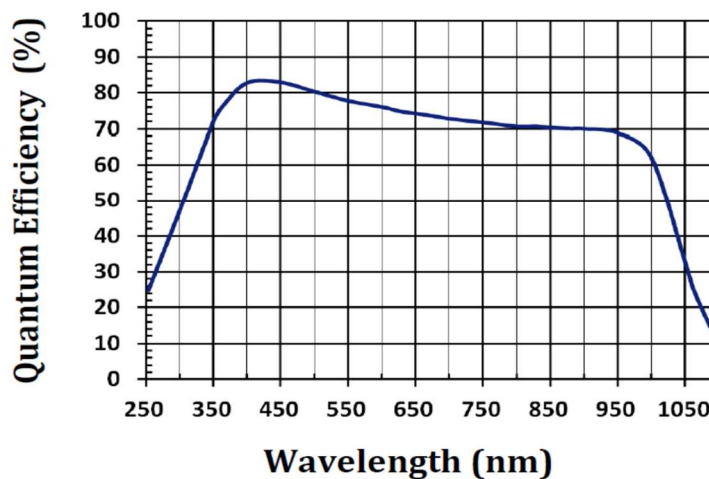
**UV Enhanced Si Photodiode**

**EOPD-950-0-5**

**Dark Current vs Temperature ( $V_r=10V$ )**



**Series 4 Quantum Efficiency ( $23^{\circ}C$ )**



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