

# EPIGAP Optronik GmbH

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## Data Sheet

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### Photodiode Chip VIS-IR

### EOPC-940-0.1

Rev. 02, 2018

Radiation	Type	Electrodes
VIS - near infrared	planar pn-Si photodiode	p (anode) up

The EOPC-940-0.1 is a 0.1 mm<sup>2</sup> photodiode chip specifically designed for general applications requiring high signal and low noise.

#### FEATURES:

- > Wide Dynamic Range
- > High Shunt Resistance
- > Ultra Low Noise

#### APPLICATIONS:

- > Colorimeters
- > Currency Authentication
- > Spectroscopy Equipment
- > Fluorescence



### Absolute Maximum Ratings

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

Parameter	Test Conditions	Symbol	Value	Unit
Operating temperature range		T <sub>amb</sub>	-40 to +110	°C
Storage temperature range		T <sub>stg</sub>	-55 to +125	°C
Reverse voltage		V <sub>R</sub>	30	V

### 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	0.1	nA
Forward voltage	I <sub>F</sub> =2 mA			0.8	V
Breakdown voltage	I <sub>R</sub> =10 μA	20			V
Spectral range		200		1100	nm
Peak sensitivity wavelength			950		nm
Responsivity*	V <sub>R</sub> =0 V, λ=410 nm		0.22		A/W
Responsivity*	V <sub>R</sub> =0 V, λ=940 nm		0.6		A/W
Shunt resistance	V <sub>R</sub> =10 mV	1000	2000		MΩ
Capacitance	V <sub>R</sub> =0 V, f=1 MHz		2.5	3	pF
Capacitance	V <sub>R</sub> =10 V, f=1 MHz		0.5	1	pF
Response time	V <sub>R</sub> =10 V, R <sub>L</sub> =50 Ω, λ <sub>p</sub> =410 nm		20		ns

\*for the bare die, not encapsulated or assembled with a window cap

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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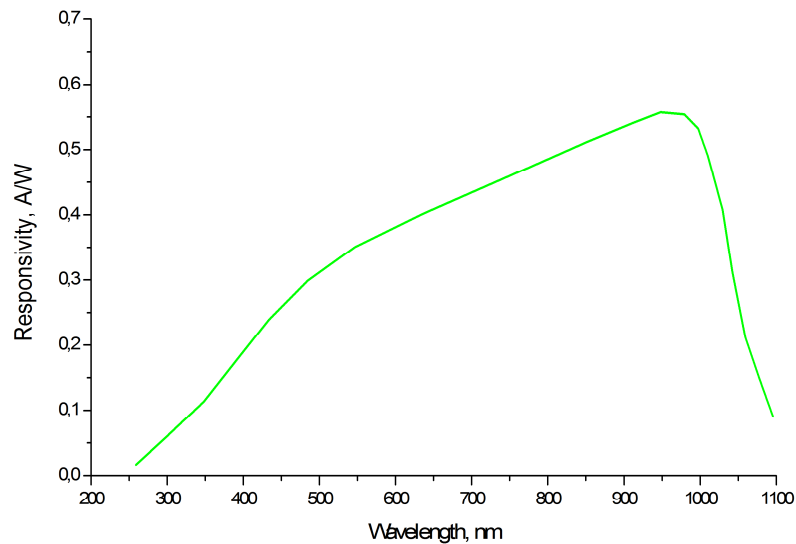
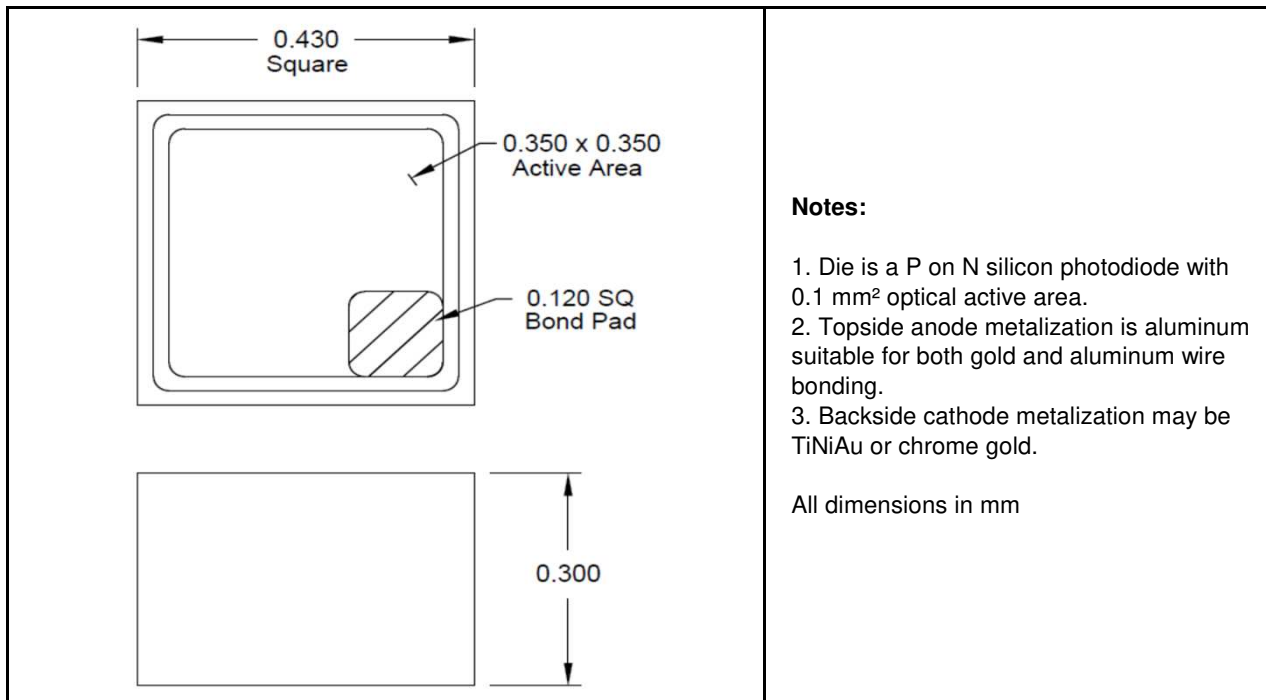
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Typical spectral responsivity

Art. No. 123 036



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