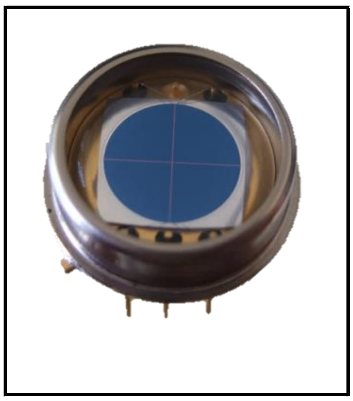
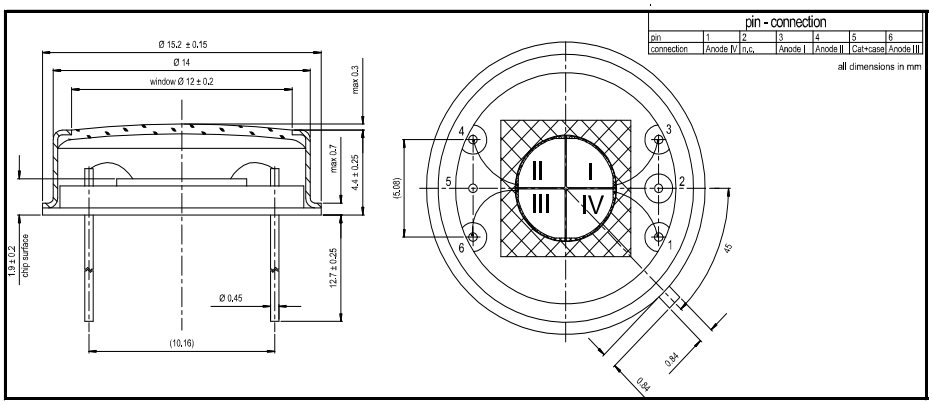
First Sensor





Features

- Quadrant detector
- 4 x 5.7 mm² active area
- Low dark current
- Fast rise time, low capacitance
- High QE at 1064 nm

Description

Circular active area quadrant PIN detector with 70 µm gaps, optimized for 1064 nm. Metal can type hermetic TO8S package with clear glass window.

Application

- 1064 nm laser detection
- High speed photometry
- NIR pulsed light sensor

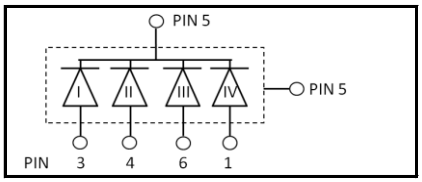
RoHS

2011/65/EU

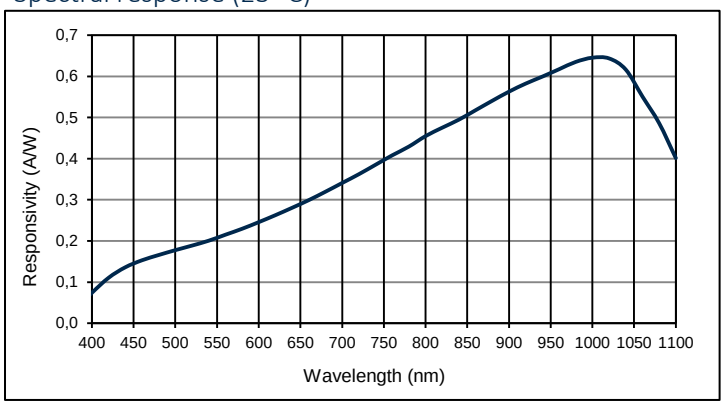
Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-55	125	°C
T_{OP}	Operating temp	-40	85	°C
V_{OP}	Operating voltage		250	V
I_{PEAK}	Peak DC current		10	mA

Schematic



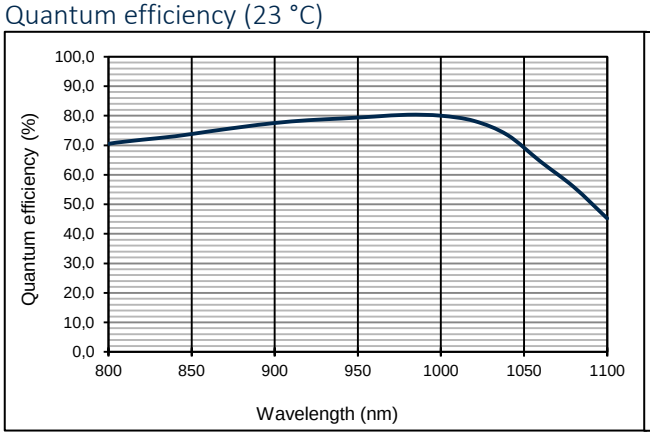
Spectral response (23 °C)



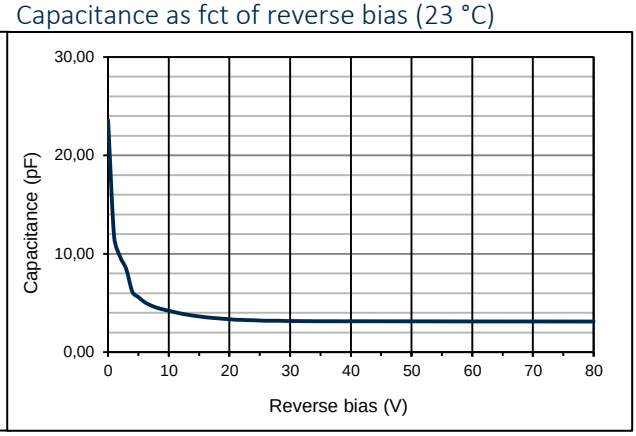
Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Number of elements			4 quadrants		
	Active area			diameter 5330 (total)		µm
	Active area	per element		5.67		mm²
	Gap	between elements		70		µm
I_D	Dark current	V_R = 150 V, per element		1.5	3.5	nA
C	Capacitance	V_R = 150 V; per element		2	4	pF
	Responsivity	V_R = 150 V; λ = 1064 nm; R_L = 50 Ω	0.42	0.48	0.65	A/W
t_R	Rise time	V_R = 180 V; λ = 1064 nm; R_L = 50 Ω		12		ns
V_{BR}	Breakdown voltage	I_R = 2 µA	250			V
	Temperature coefficiant	Change of I_{PH} with temperature		1.07		%/K
	Cross talk	V_R = 150 V; λ = 1064 nm; R_L = 50 Ω		0.5	2	%

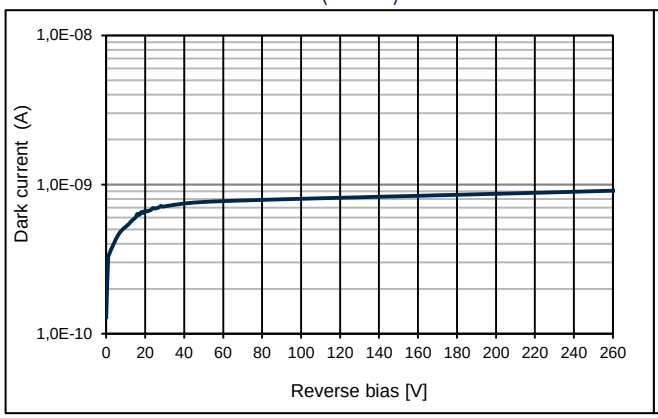
Quantum efficiency (23 °C)



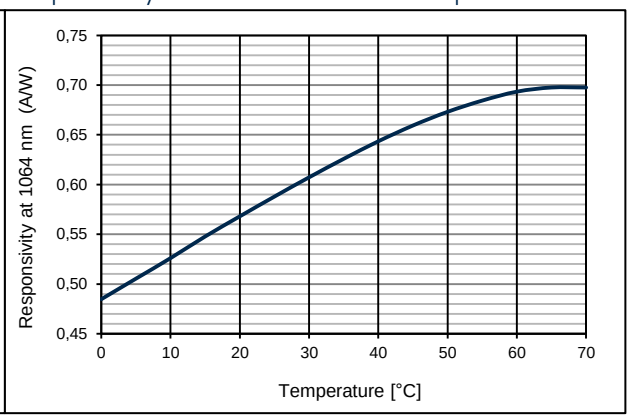
Capacitance as fct of reverse bias (23 °C)



Dark current as fct of bias (23 °C)



Responsivity at 1064 nm as fct of temperature



Package dimension:

Small quantities: Foam pad, boxed (12 cm x 16.5 cm)