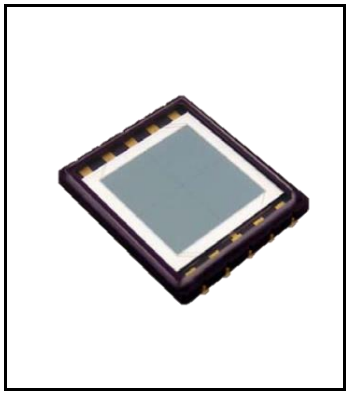
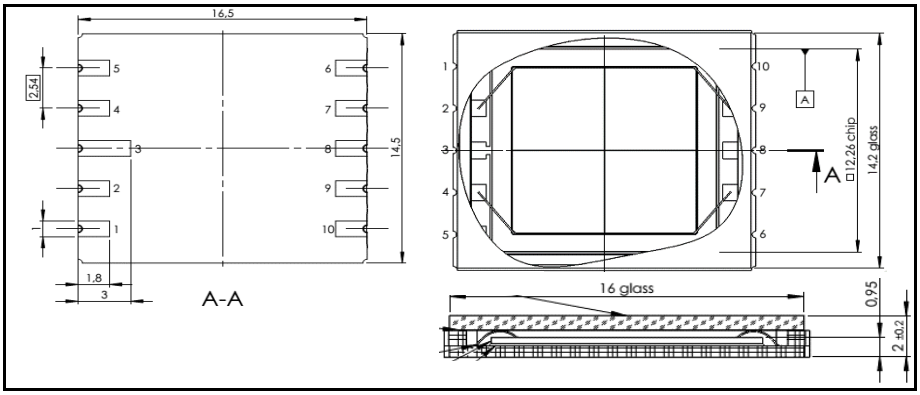
First Sensor





Features

- Quadrant detector
- Low dark current
- Fast rise time, low capacitance
- High QE at 1064 nm

Description

Square active area quadrant PIN detector with 4 x 25 mm² and 50 µm gaps, optimized for 1064 nm. Quasi-hermetic ceramic carrier type package with glass cover (reflow solderable).

Application

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

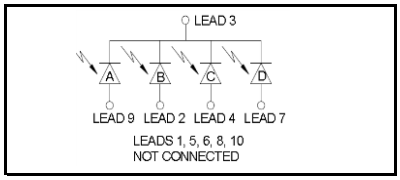
RoHS

2011/65/EU

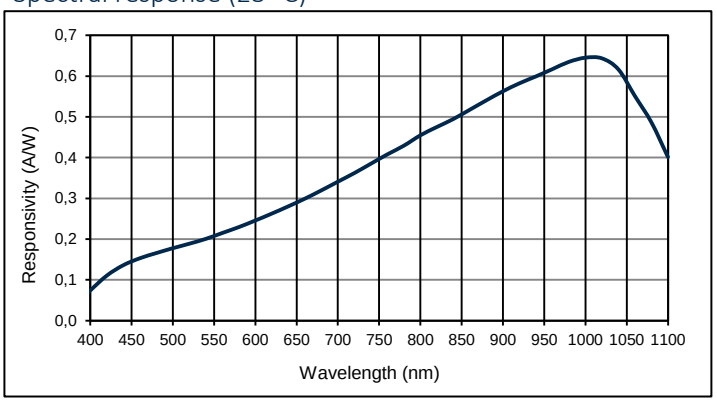
Absolute maximum ratings

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



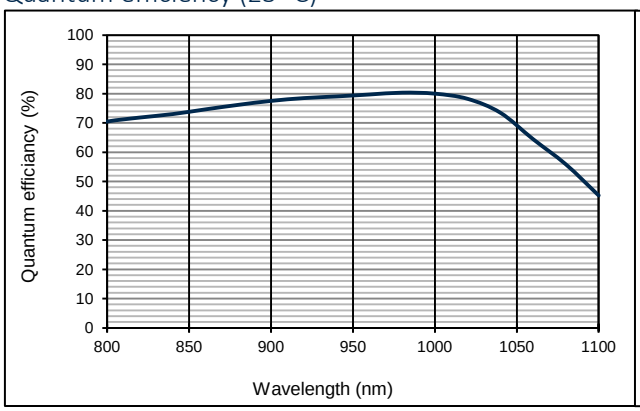
Spectral response (23 °C)



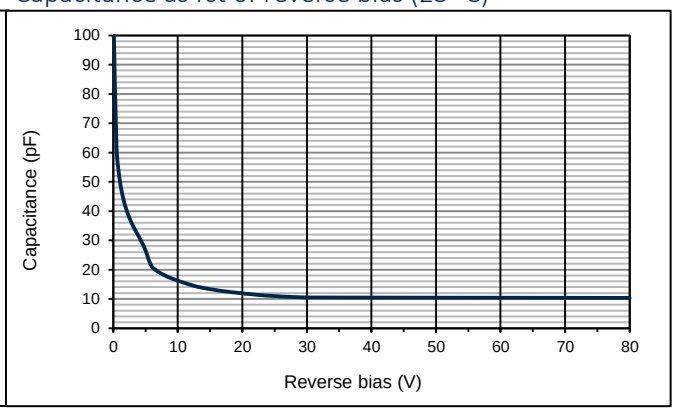
Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Number of elements			4 quadrants		
	Active area			10 x 10		mm
	Active area	per element		25		mm²
	Gap	between elements		50		µm
I_D	Dark current	V_R = 150 V, per element		6.5	20	nA
C	Capacitance	V_R = 150 V, per element		10		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		2		%

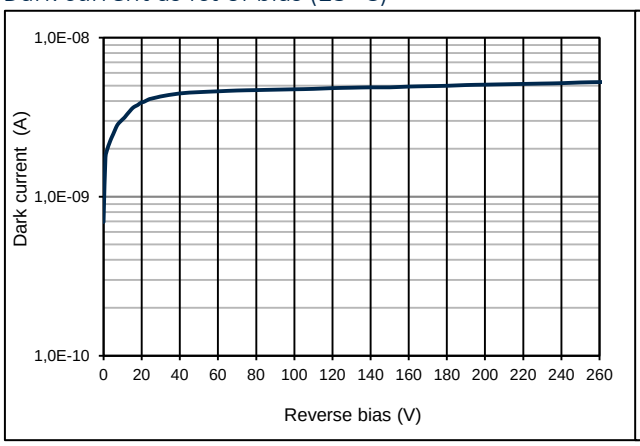
Quantum efficiency (23 °C)



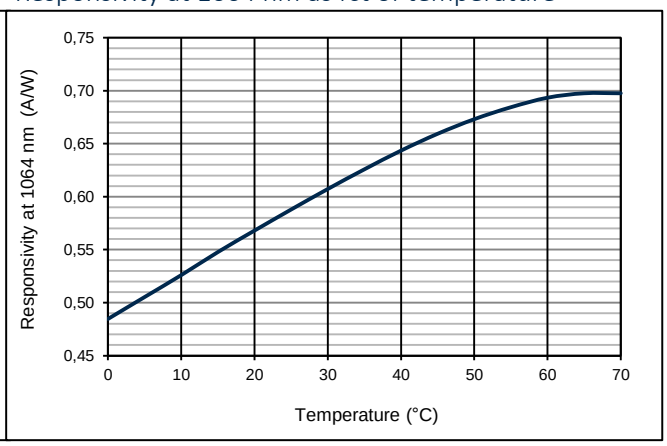
Capacitance as fct of reverse bias (23 °C)



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)