

### Features

- 100 mm<sup>2</sup> Quadrant PIN detector
- High sensitivity
- Small gap
- Low dark current

### Description

Low dark current quadrant photodiode with 4x24.4 mm<sup>2</sup> active area. Non-hermetic ceramic carrier package with glass window. Silicon potted version available (50127601).

### Application

- Laser beam position sensor
- Autocollimators
- Optical tweezers
- Ellipsometers

### RoHS

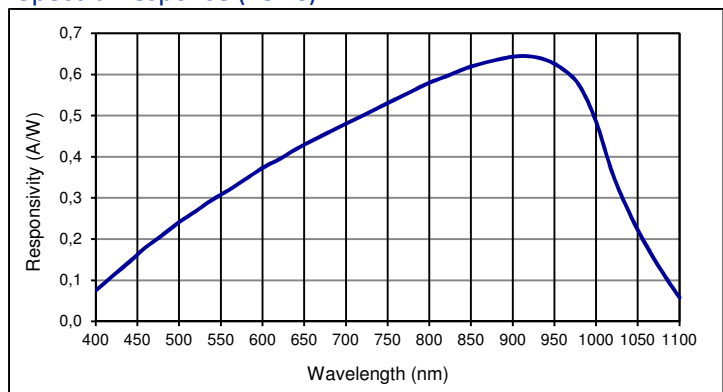
2002/95/EC



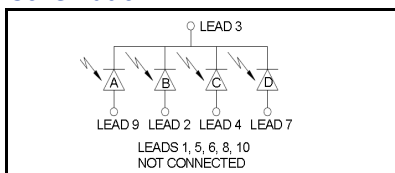
### Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T <sub>STG</sub>	Storage temp	-40	100	°C
T <sub>OP</sub>	Operating temp	-20	70	°C
V <sub>max</sub>	Max reverse voltage		20	V
I <sub>PEAK</sub>	Peak DC current		10	mA

### Spectral response (23 °C)



### Schematic



### Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Number of elements		4 quadrants			
	Active area		100 x 100			mm
	Active area	per element	24.35			mm <sup>2</sup>
	Gap	between elements	50			µm
I <sub>D</sub>	Dark current	V <sub>R</sub> = 10 V; per element		4.0		nA
C	Capacitance	V <sub>R</sub> = 0 V; per element		240		pF
		V <sub>R</sub> = 10 V; per element		40		pF
	Responsivity	λ = 632 nm		0.4		A/W
		λ = 900 nm		0.64		A/W
t <sub>R</sub>	Rise time	V <sub>R</sub> = 0 V; λ = 850 nm; R <sub>L</sub> = 50 Ω		2000		ns
		V <sub>R</sub> = 10 V; λ = 850 nm; R <sub>L</sub> = 50 Ω		40		ns
	Shunt Resistance	V <sub>R</sub> = 5 mV; per element		25		MΩ
	N.E.P.	V <sub>R</sub> = 5 V; λ = 900 nm; per element		5.6 E-14		W/√Hz
V <sub>BR</sub>	Breakdown voltage	I <sub>R</sub> = 2 µA	20	50		V

#### European, International Sales:



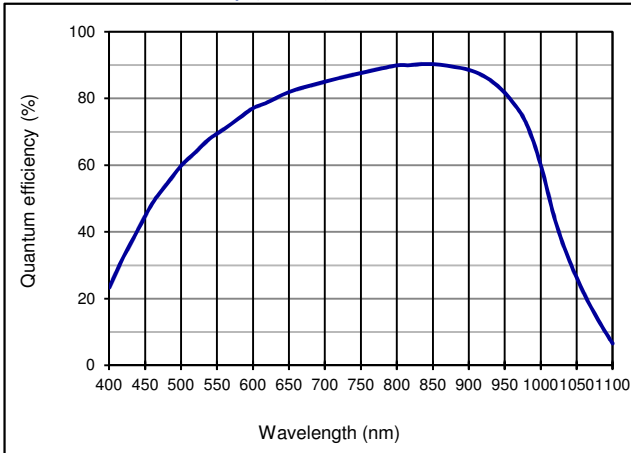
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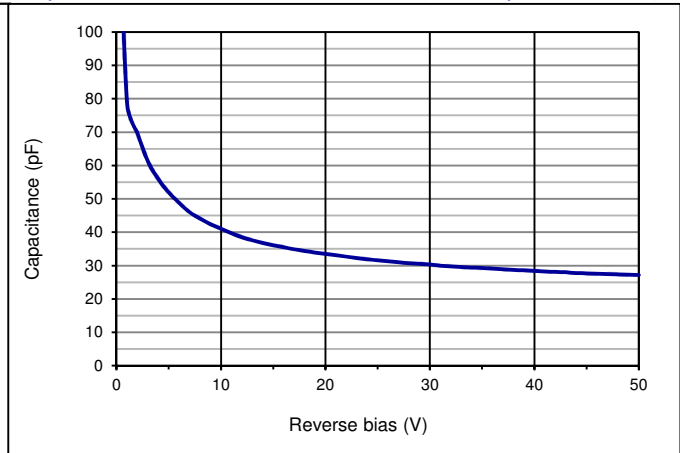


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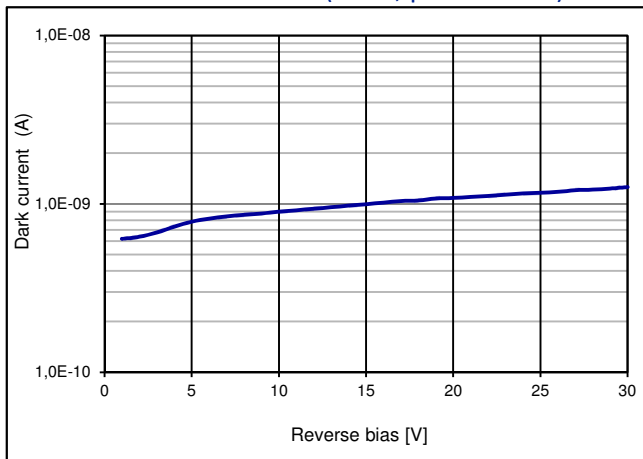
Quantum efficiency (23 °C)



Capacitance as fct of reverse bias (23 °C; per element)



Dark current as fct of bias (23 °C; per element)



**Package dimension:**

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

**Handling precautions:**

- For ESD protection standard precautionary measures are sufficient
- For further questions please refer to document "Instructions for handling and processing"
- Package with epoxy potting on special request

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

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