
**Features**

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

**Description**

Low dark current circular active area quadrant PIN photodiode with 4 x 0.25 mm<sup>2</sup> active area. Metal can type hermetic TO52 package with clear glass window.

**Application**

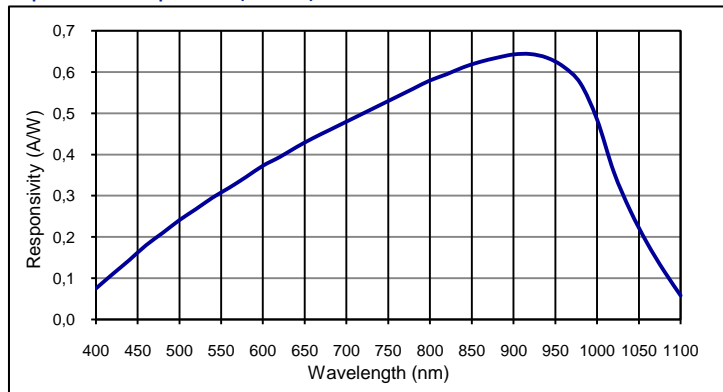
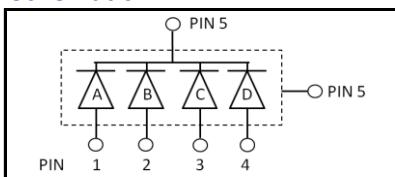
- Laser beam position sensor
- Autocollimators
- Optical tweezers
- Ellipsometers

**RoHS**

2002/95/EC


**Absolute maximum ratings**

Symbol	Parameter	Min	Max	Unit
T <sub>STG</sub>	Storage temp	-55	125	°C
T <sub>OP</sub>	Operating temp	-40	100	°C
V <sub>max</sub>	Max reverse voltage		50	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		diameter 1130 (total)			µm
	Active area	per element	0.25			mm <sup>2</sup>
	Gap	between elements	16			µm
I <sub>D</sub>	Dark current	V <sub>R</sub> = 10 V; per element		0.1		nA
C	Capacitance	V <sub>R</sub> = 0 V; per element		5		pF
		V <sub>R</sub> = 10 V; per element		0.75		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		20		ns
		V <sub>R</sub> = 80 V; λ = 850 nm; R <sub>L</sub> = 50 Ω		10		ns
	Shunt Resistance	V <sub>R</sub> = 5 mV; per element	500	1000		MΩ
	N.E.P.	V <sub>R</sub> = 5 V; λ = 900 nm; per element		9 E-15		W/√Hz
V <sub>BR</sub>	Breakdown voltage	I <sub>R</sub> = 2 µA	50	100		V

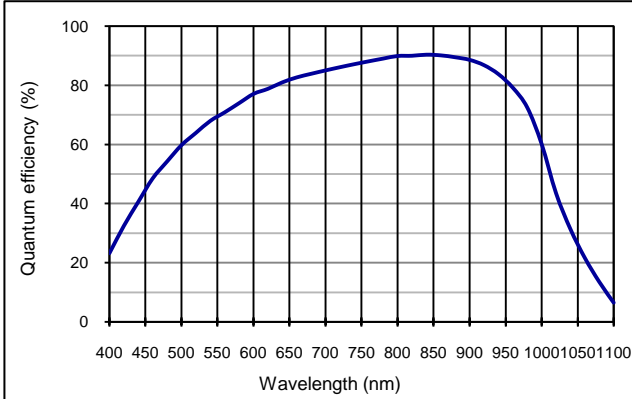
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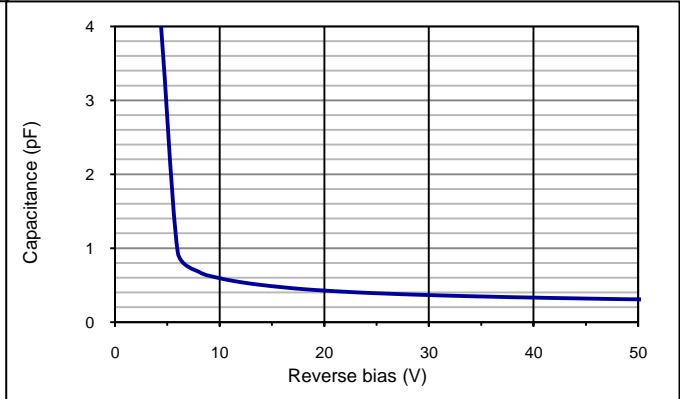
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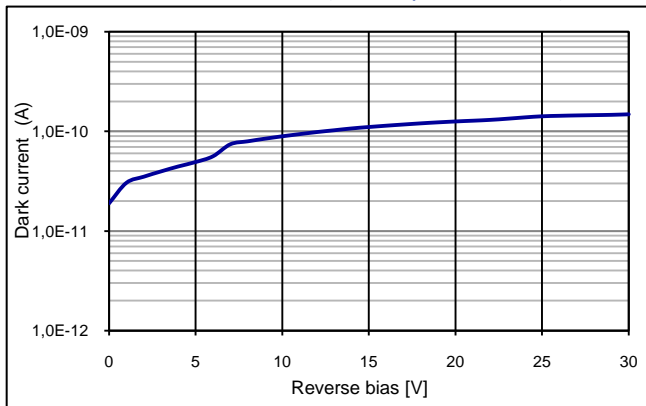
Quantum efficiency (23 °C)



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:**

- Soldering temperature max. 260 °C for 10 s. The device must be protected against solder flux vapour.
- Minimum pin length is 2 mm.
- For ESD protection standard precautionary measures are sufficient.
- For further questions please refer to document "Instructions for handling and processing".

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

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