

Features

- 20 mm² Quadrant PIN detector
- High sensitivity
- Small gap
- Low dark current

Description

Low dark current circular active area quadrant PIN photodiode with 4 x 4.9 mm² active area. Metal can type hermetic TO8S package with clear glass window.

Application

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

RoHS

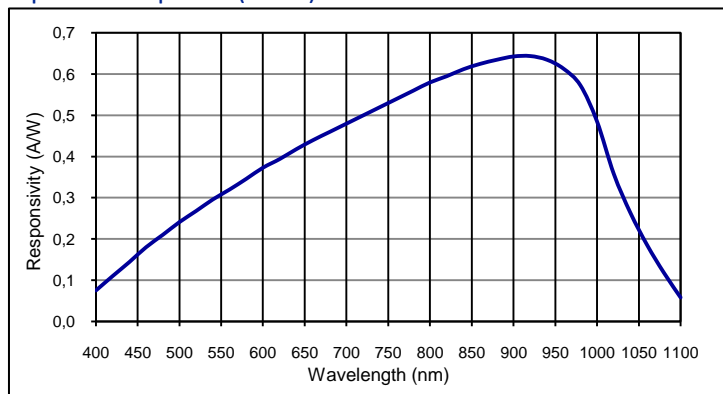
2002/95/EC



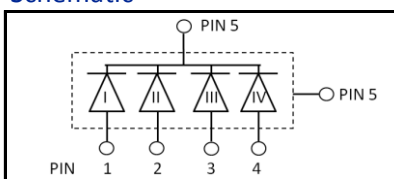
Absolute maximum ratings

| Symbol | Parameter | Min | Max | Unit |
|-------------------|---------------------|-----|-----|------|
| T _{STG} | Storage temp | -55 | 125 | °C |
| T _{OP} | Operating temp | -40 | 100 | °C |
| V _{max} | Max reverse voltage | | 20 | V |
| I _{PEAK} | 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 5050(total) | | | μm |
| | Active area | per element | 4.9 | | | mm ² |
| | Gap | between elements | 34 | | | μm |
| I _D | Dark current | V _R = 10 V; per element | | 1.0 | | nA |
| C | Capacitance | V _R = 0 V; per element | | 50 | | pF |
| | | V _R = 10 V; per element | | 10 | | pF |
| | Responsivity | λ = 632 nm | | 0.4 | | A/W |
| | | λ = 900 nm | | 0.64 | | A/W |
| t _R | Rise time | V _R = 0 V; λ = 850 nm; R _L = 50 Ω | | 2000 | | ns |
| | | V _R = 10 V; λ = 850 nm; R _L = 50 Ω | | 20 | | ns |
| | | V _R = 80 V; λ = 850 nm; R _L = 50 Ω | | 10 | | ns |
| | Shunt Resistance | V _R = 5 mV; per element | | 100 | | MΩ |
| | N.E.P. | V _R = 5 V; λ = 900 nm; per element | | 2.8 E-14 | | W/√Hz |
| V _{BR} | Breakdown voltage | I _R = 2 μA | 20 | 50 | | V |

European, International Sales:

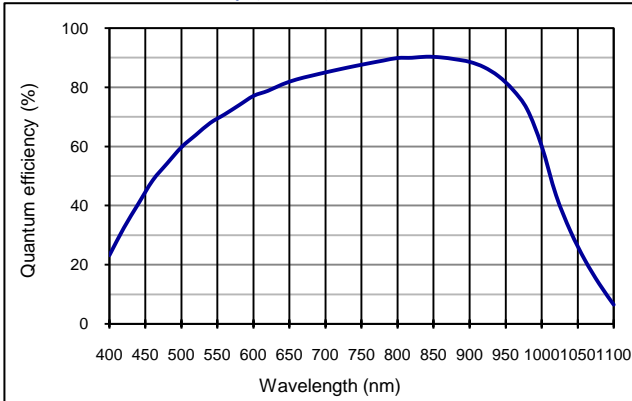
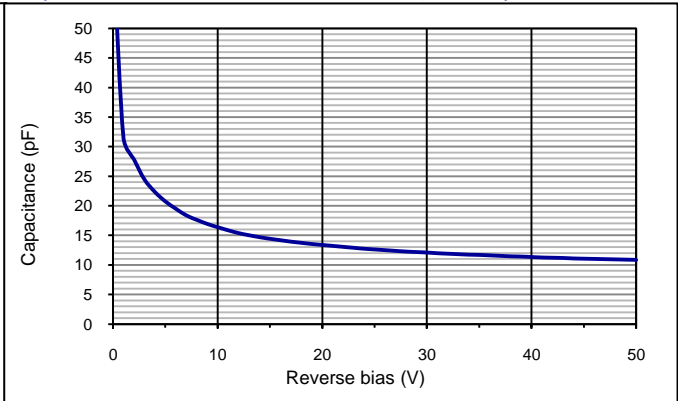
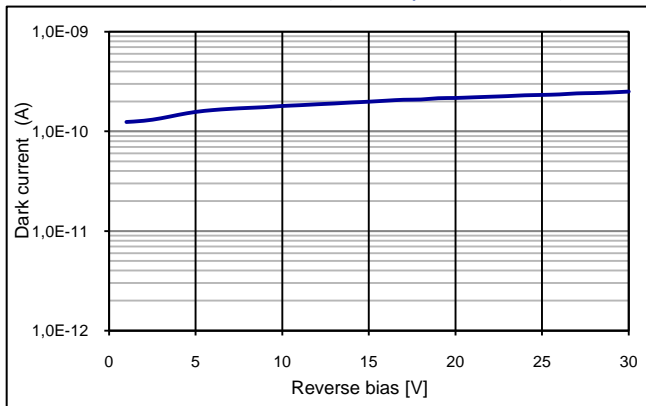


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Quantum efficiency (23 °C)

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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