
Features

- Quadrant detector
- Low dark current
- Fast rise time, low capacitance
- High QE at 1064 nm
- Including heater and temperature sensor

Description

Circular active area quadrant PIN detector with 14 mm diameter and 70 μm gaps, optimized for 1064 nm. Metal can type hermetic, isolated TO package with ceramic heater and flat clear glass window.

Application

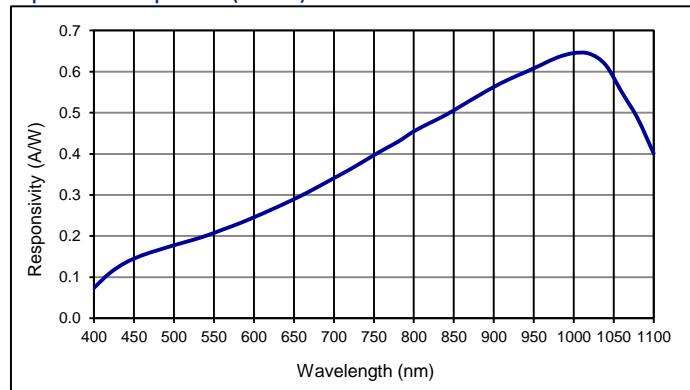
- 1064 nm laser detection
- High speed photometry
- NIR pulsed light sensor
- Laser guidance

RoHS

2002/95/EC


Absolute maximum ratings

| Symbol | Parameter | Min | Max | Unit |
|-------------------|-------------------|-----|-----|--------------------|
| T_{STG} | Storage temp | -55 | 125 | $^{\circ}\text{C}$ |
| T_{OP} | Operating temp | -40 | 85 | $^{\circ}\text{C}$ |
| V_{OP} | Operating voltage | | 250 | V |
| I_{PEAK} | Peak DC current | | 10 | mA |
| p | Outside pressure | | 5 | bar |

Spectral response (23 $^{\circ}\text{C}$)

Electro-optical characteristics @ 23 $^{\circ}\text{C}$

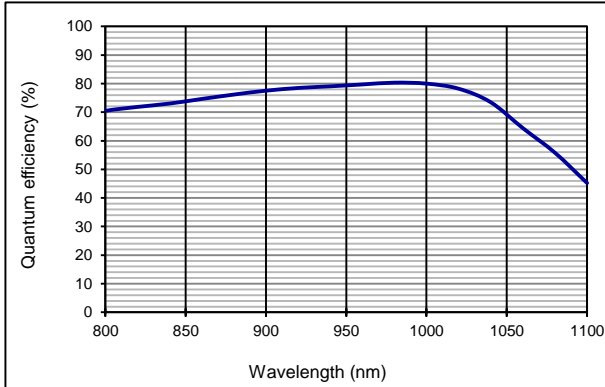
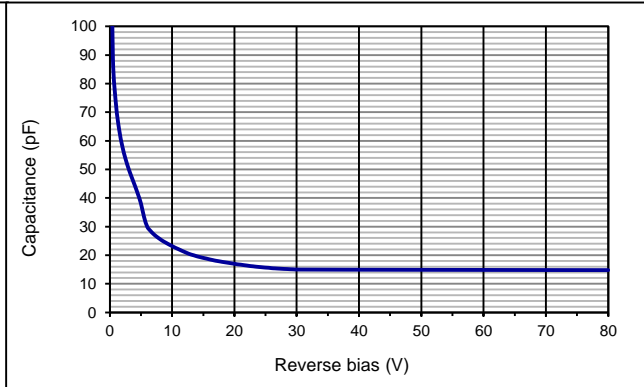
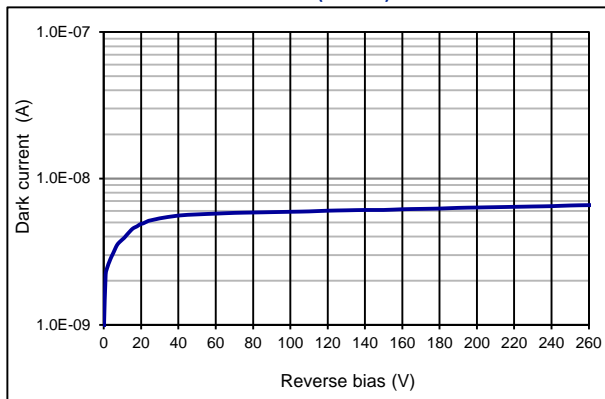
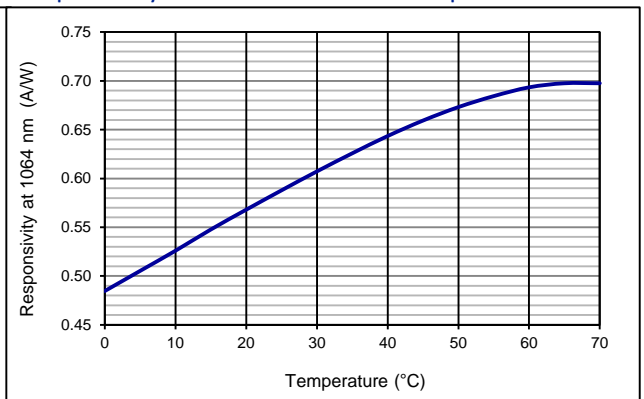
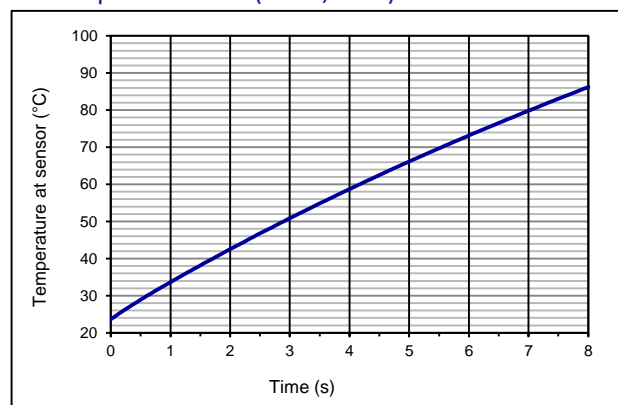
| Symbol | Characteristic | Test Condition | Min | Typ | Max | Unit |
|-----------------|-------------------------|---|------|----------|-------|-----------------------|
| | Active area | diameter | | 14 | | mm |
| | | per element, number of elements: 4 quadrants | | 38.5 | | mm^2 |
| | Gap | between elements | | 70 | | μm |
| I_{D} | Dark current | $V_{\text{R}} = 150 \text{ V}$, per element | | 10 | 30 | nA |
| C | Capacitance | $V_{\text{R}} = 150 \text{ V}$, per element | | 14 | 20 | pF |
| | Responsivity | $V_{\text{R}} = 150 \text{ V}$; $\lambda = 1064 \text{ nm}$; $R_{\text{L}} = 50 \Omega$ | 0.42 | 0.48 | 0.65 | A/W |
| t_{R} | Rise time | $V_{\text{R}} = 180 \text{ V}$; $\lambda = 1064 \text{ nm}$; $R_{\text{L}} = 50 \Omega$ | | 12 | | ns |
| | | 180 V; 1064 nm; TIA terminated ($R_{\text{L}} = 1 \Omega$) | | 6 | | ns |
| V_{BR} | Breakdown voltage | $I_{\text{R}} = 2 \mu\text{A}$ | 250 | | | V |
| | Temperature coefficient | Change of I_{PH} with temperature | | 1.07 | | %/K |
| | Cross talk | $V_{\text{R}} = 150 \text{ V}$; $\lambda = 1064 \text{ nm}$; $R_{\text{L}} = 50 \Omega$ | | 2 | | % |
| | Heating time | 23 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$ with 21V power supply | 5 | 6 | 7 | s |
| | Heater resistance | 23 $^{\circ}\text{C}$ | 36 | 40 | 44 | Ω |
| | Temp. sensor resistance | PTC, TK = 3500 \pm 200 ppm/K | 9950 | 10000 | 10050 | Ω |
| | N.E.P. | $V_{\text{R}} = 150 \text{ V}$, $\lambda = 1064 \text{ nm}$ | | 1.2E-13 | | W/ $\sqrt{\text{Hz}}$ |
| FOV | Field of view | | | ± 75 | | $^{\circ}$ |

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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

Heater performance (23 °C, 21 V)

Package dimension:

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

Source of origin:

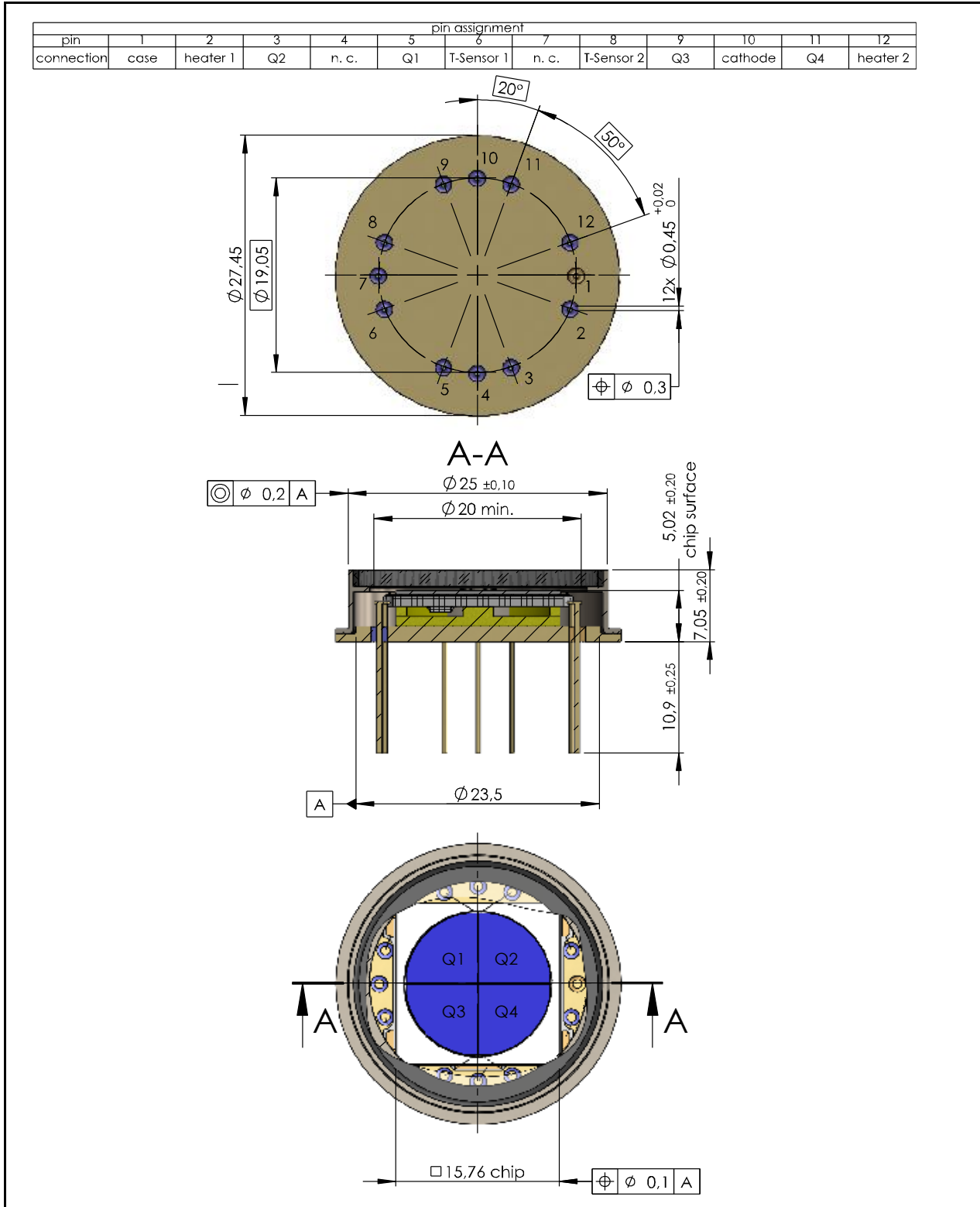
This detector and its components are manufactured in Germany.

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Technical Drawing


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

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