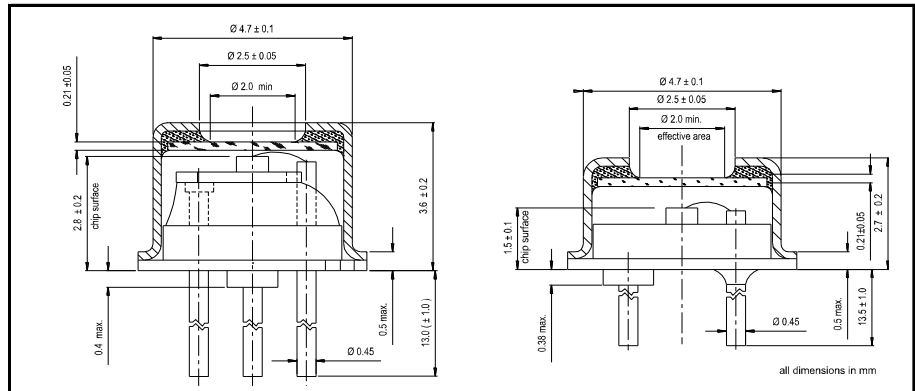


First Sensor PIN Photo Diode Data Sheet

Part Description PC0.55-5 TO

Order # 501257

Version 28-11-11



Features

- 840 μm diameter active area
- Low dark current
- Fast response time
- High speed epitaxy

Description

High speed epitaxy PIN photodiode with 0.55 mm^2 circular active area. Metal can type hermetic TO52 package with clear glass window. Two TO52 types available, customization on request.

Application

- Pulsed light detection
- High speed photometry
- High speed optical communications
- Fiber optic light monitoring

RoHS

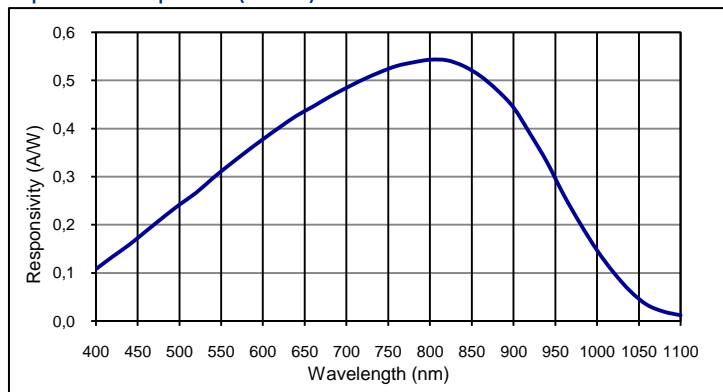
2002/95/EC



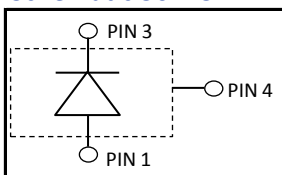
Absolute maximum ratings

| Symbol | Parameter | Min | Max | Unit |
|------------|---------------------|-----|-----|--------------------|
| T_{STG} | Storage temp | -55 | 125 | $^{\circ}\text{C}$ |
| T_{OP} | Operating temp | -40 | 100 | $^{\circ}\text{C}$ |
| V_{max} | Max reverse voltage | | 40 | V |
| I_{PEAK} | Peak DC current | | 10 | mA |

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



Schematic 501257



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

| Symbol | Characteristic | Test Condition | Min | Typ | Max | Unit |
|----------|-------------------|--|--------------|----------|-----|-----------------------------|
| | Active area | | diameter 840 | | | μm |
| | Active area | | 0.55 | | | mm^2 |
| I_D | Dark current | $V_R = 20\text{ V}$ | | 0.2 | | nA |
| C | Capacitance | $V_R = 0\text{ V}$ | | 10 | | pF |
| C | Capacitance | $V_R = 20\text{ V}$ | | 2 | | pF |
| | Responsivity | $\lambda = 635\text{ nm}$ | | 0.4 | | A/W |
| | Responsivity | $\lambda = 800\text{ nm}$ | | 0.52 | | A/W |
| t_R | Rise time | $V_R = 20\text{ V}; \lambda = 850\text{ nm}; R_L = 50\ \Omega$ | | 1 | | ns |
| V_{BR} | Breakdown voltage | $I_R = 2\ \mu\text{A}$ | 40 | 50 | | V |
| | Shunt resistance | $V_R = 10\text{ mV}$ | | 500 | | $\text{M}\Omega$ |
| | N.E.P. | $V_R = 20\text{ V}; \lambda = 850\text{ nm}$ | | 1.5 E-14 | | $\text{W}/\sqrt{\text{Hz}}$ |

European, International Sales:

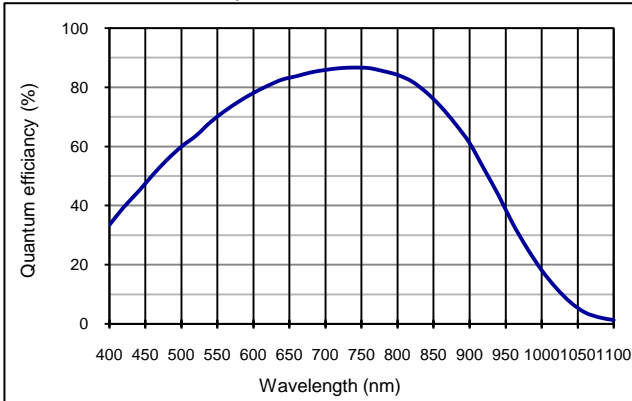
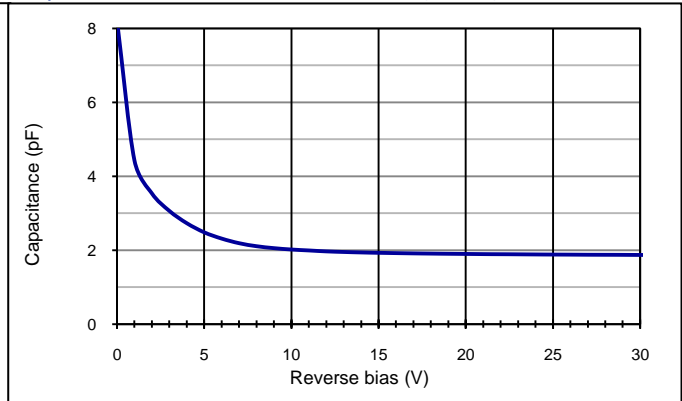
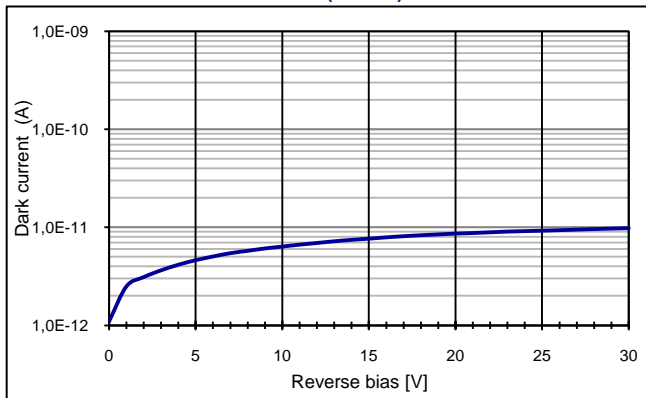


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Quantum efficiency (23 °C)

Capacitance as fct of reverse bias (23 °C)

Dark current as fct of bias (23 °C)

Application hints:

Please refer to document "Instructions for handling and processing"

Package dimension:

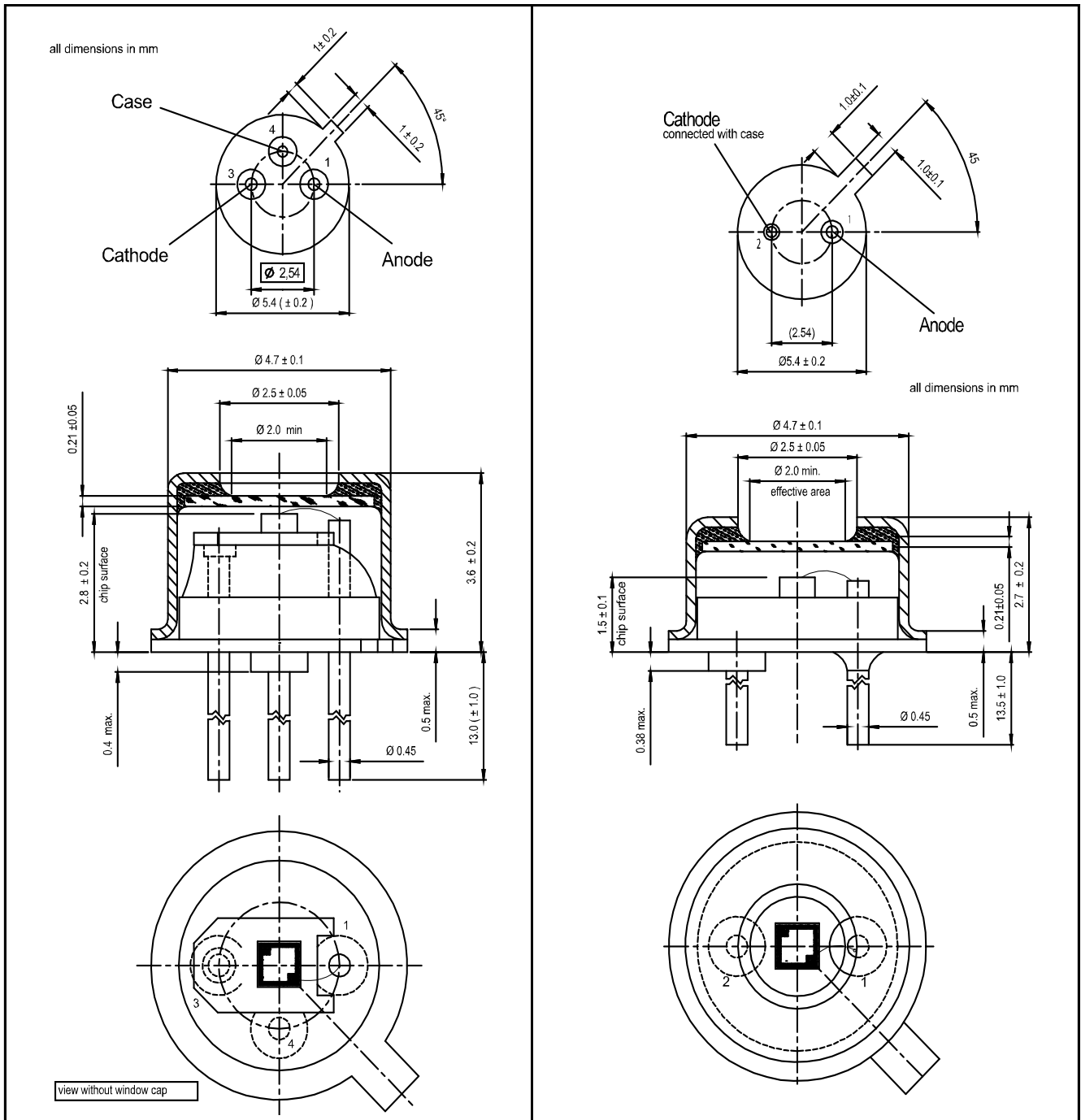
Small quantities: Foam pad, boxed (12 cm x 16.5 cm)

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Technical Drawing, Package: TO52
TO52S1 #501257
TO52S3 t.b.d.


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

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