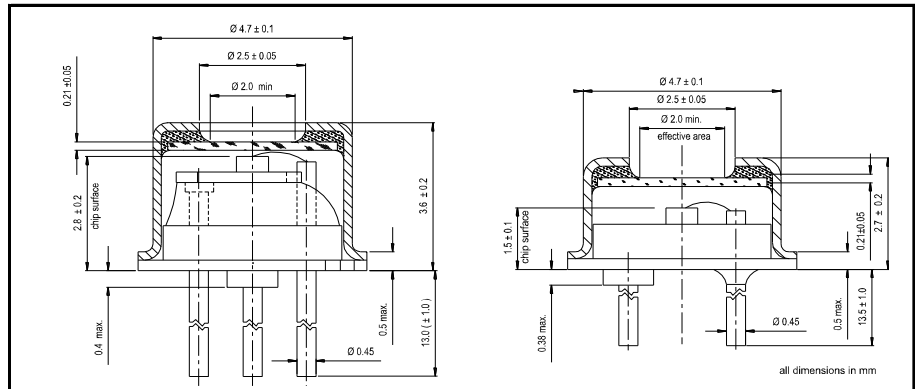
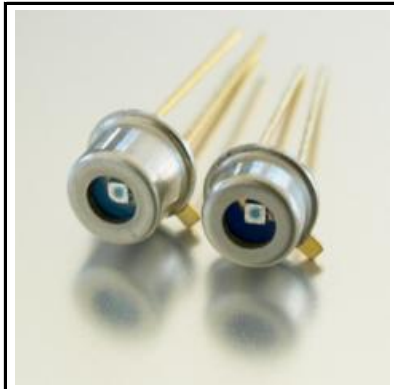


First Sensor PIN Photo Diode Data Sheet

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

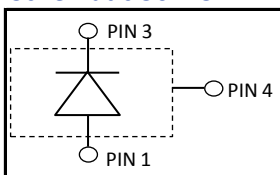
2002/95/EC



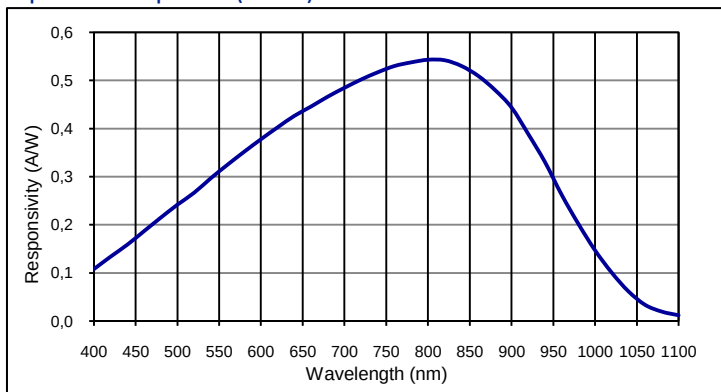
Absolute maximum ratings

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

Schematic 501257



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



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		M Ω
	N.E.P.	$V_R = 20\text{ V}; \lambda = 850\text{ nm}$		1.5 E-14		W/ $\sqrt{\text{Hz}}$

European, International Sales:

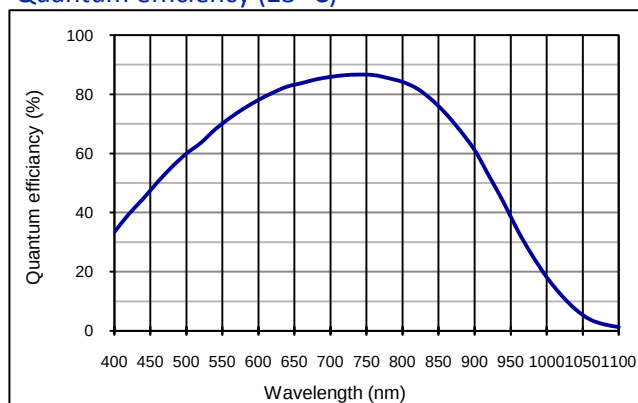
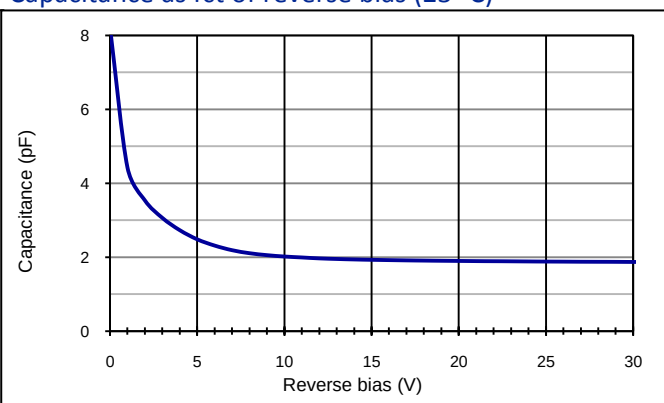
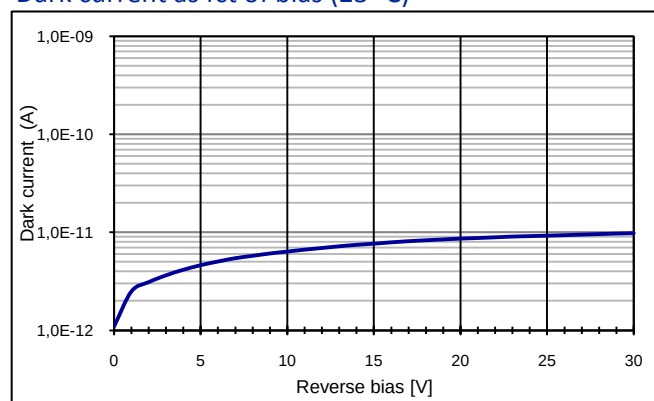


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Quantum efficiency (23 °C)

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)

European, International Sales:

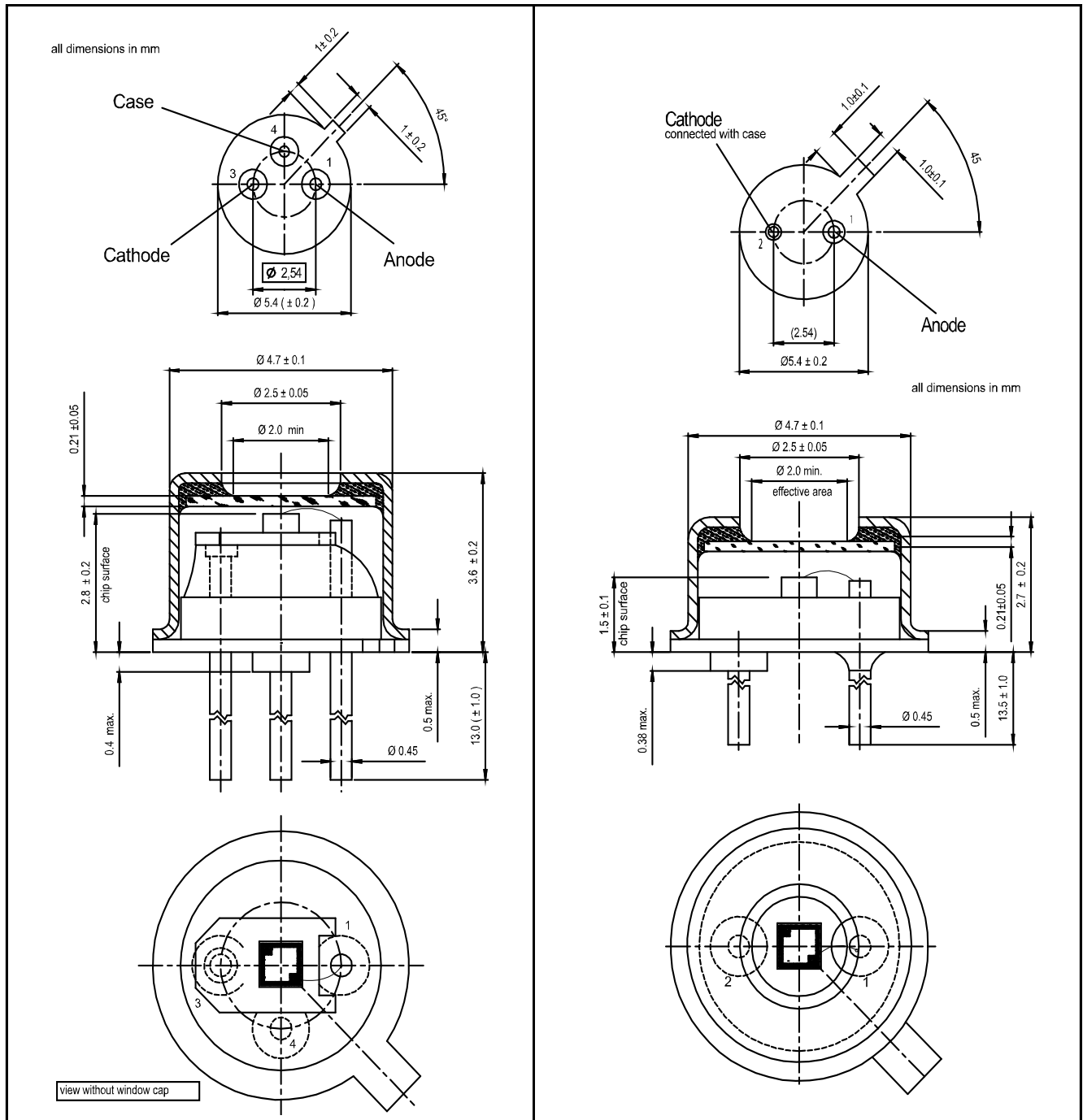


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Technical Drawing, Package: TO52
TO52S1 #501257
TO52S3 t.b.d.


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

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