
**Features**

- 500 μm x 500 μm active area
- Low dark current
- Fast response time
- High speed epitaxy

**Description**

High speed epitaxy PIN photodiode with 0.25 mm<sup>2</sup> square active area. Metal can type hermetic TO52 package with clear glass window. Two TO52 types available, customization on request.

**Application**

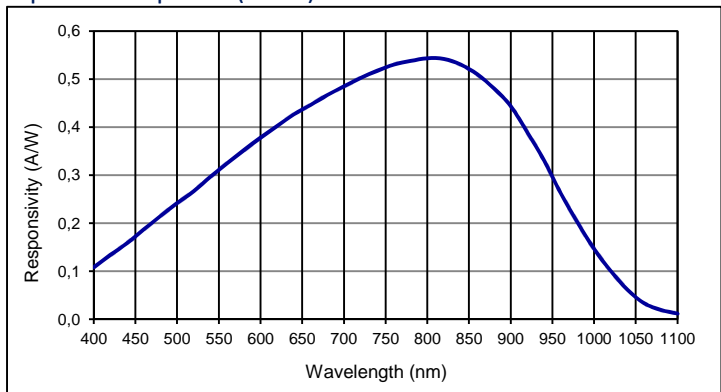
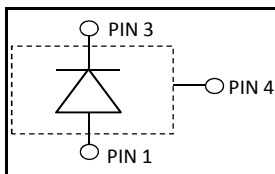
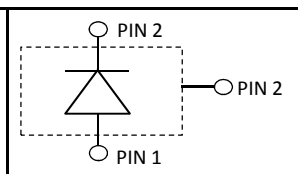
- Pulsed light detection
- High speed photometry
- High speed optical communications
- Fiber optic light monitoring

**RoHS**

2002/95/EC


**Absolute maximum ratings**

Symbol	Parameter	Min	Max	Unit
T <sub>STG</sub>	Storage temp	-55	125	°C
T <sub>OP</sub>	Operating temp	-40	100	°C
V <sub>max</sub>	Max reverse voltage		30	V
I <sub>PEAK</sub>	Peak DC current		0.25	mA

**Spectral response (23 °C)**

**Schematic 500122**

**Schematic 500119**

**Electro-optical characteristics @ 23 °C**

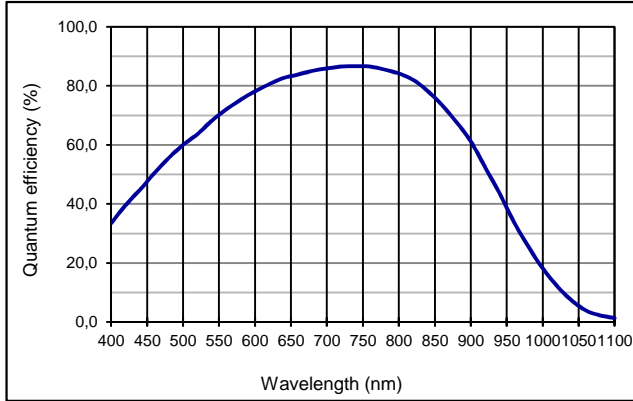
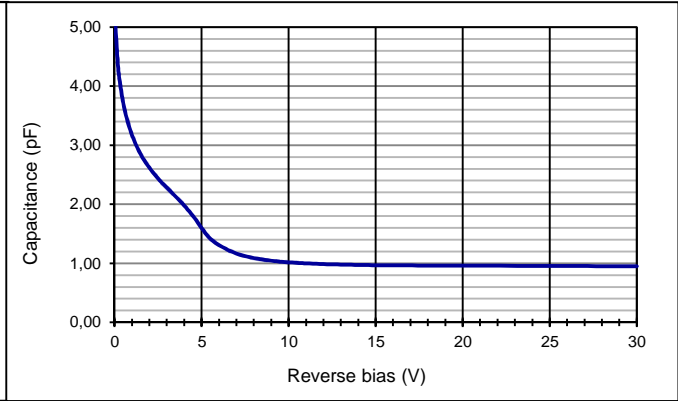
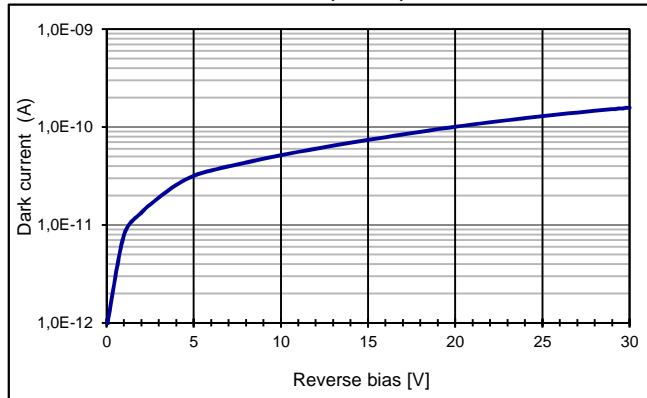
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		500 x 500			μm
	Active area		0.25			mm <sup>2</sup>
I <sub>D</sub>	Dark current	V <sub>R</sub> = 20 V		0.1	0.8	nA
C	Capacitance	V <sub>R</sub> = 0 V		6		pF
C	Capacitance	V <sub>R</sub> = 20 V		1.8		pF
	Responsivity	λ = 635 nm		0.4		A/W
	Responsivity	λ = 800 nm		0.52		A/W
t <sub>R</sub>	Rise time	V <sub>R</sub> = 20 V; λ = 850 nm; R <sub>L</sub> = 50 Ω		0.4		ns
V <sub>BR</sub>	Breakdown voltage	I <sub>R</sub> = 2 μA	30	50		V
	Shunt resistance	V <sub>R</sub> = 10 mV	100	500		MΩ
	N.E.P.	V <sub>R</sub> = 20 V; λ = 850 nm		1.1 E-14		W/√Hz

**European, International Sales:**


First Sensor AG  
 Peter-Behrens-Strasse 15  
 12459 Berlin  
 Germany  
 Phone: +49-30-6399-2399  
 Fax: +49-30-6399-23752  
 E-Mail: sales.opto@first-sensor.com

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 5700 Corsa Avenue #105  
 Westlake Village  
 CA 91362 USA  
 Phone: +1-818-706-3400  
 Fax: +1-818-889-7053  
 E-Mail: sales@pacific-sensor.com

**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:**

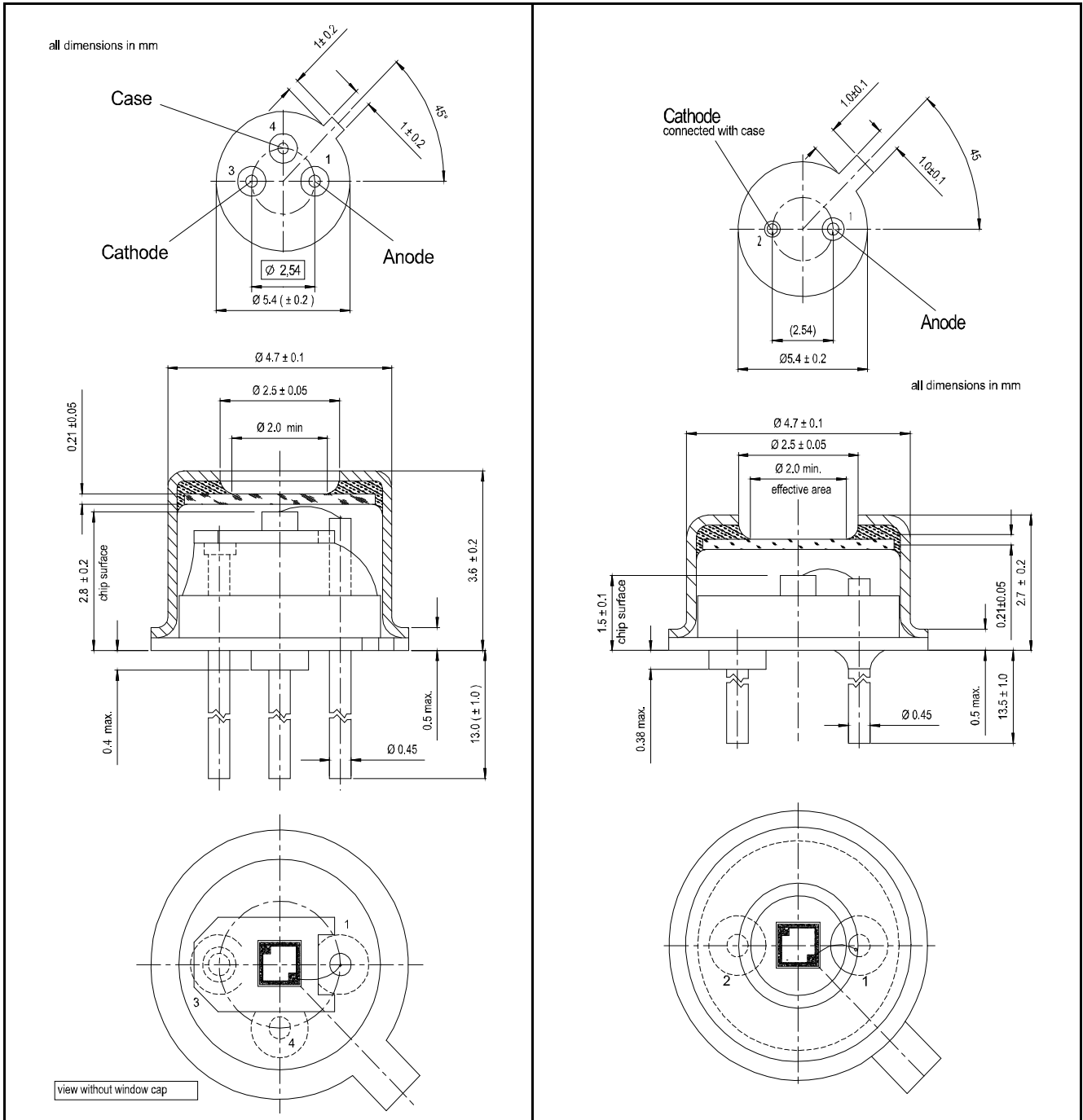
Small quantities: Foam pad, boxed (12 cm x 16.5 cm)

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**Technical Drawing, Package: TO52**
**TO52S1 #500122**
**TO52S3 #500119**


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

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