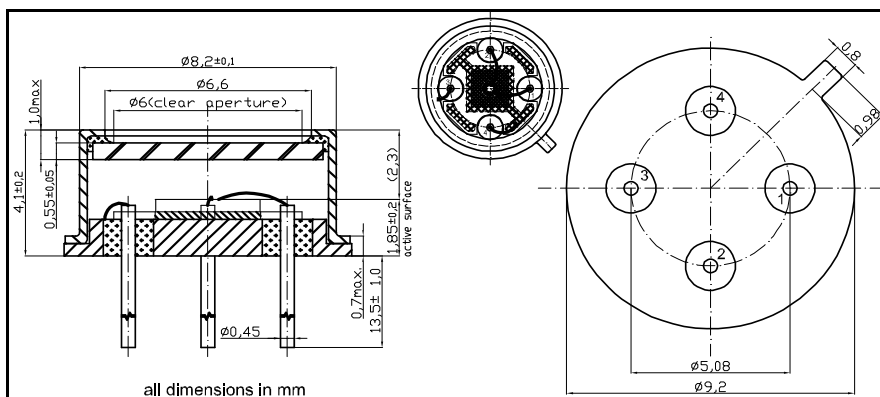
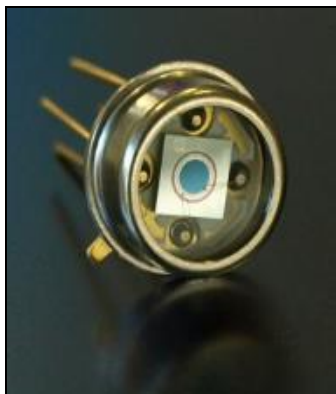




Features

- Ø 1500 µm active area
- High QE for λ = 850-1064 nm
- Low noise
- Low slope multiplication curve

Description

Circular active area APD chip with IR enhanced sensitivity. Very low dark current due to guard ring diode. Metal can type hermetic TO5i package with clear glass window.

Application

- Pulsed 1064 nm laser detection
- Laser range finding
- Fluorescence detection

RoHS

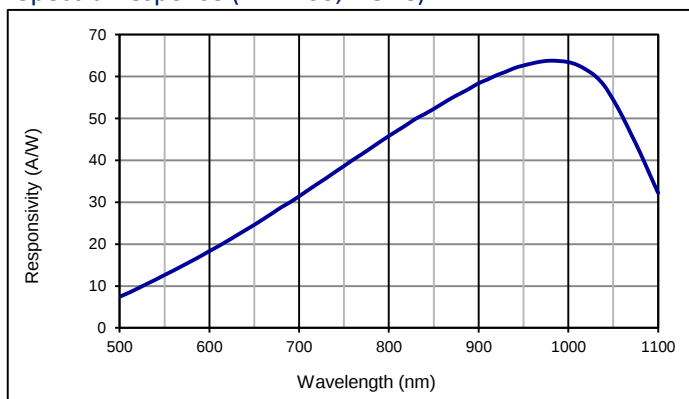
2011/65/EU



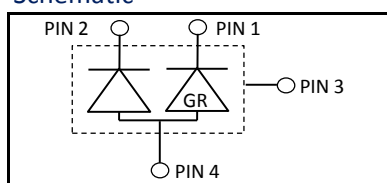
Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T _{STG}	Storage temp	-55	125	°C
T _{OP}	Operating temp	-40*	100	°C
M _{max}	Gain (I _{PD} = 1 nA)	1000		
I _{PEAK}	Peak DC current		0.25	mA

Spectral response (M = 100; 23 °C)



Schematic



Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area			Ø 1500		µm
	Active area			1.77		mm²
I _D	Dark current	M = 100		7	90	nA
C	Capacitance	M = 100		3		pF
	Responsivity	M = 100; λ = 905 nm		59		A/W
	Responsivity	M = 100; λ = 1064 nm		49		A/W
t _R	Rise time	M = 100; λ = 1064 nm; R _L = 50 Ω		5		ns
t _R	Cut-off frequency	-3dB		70		MHz
V _{BR}	Breakdown voltage	I _R = 2 µA	220	300	600	V
	Temperature coefficient			3.3		V/K
FOV	Field of view			± 50		°

* please note that depending on operation voltage APD operation at temperatures below -15°C may require sophisticated control circuit.

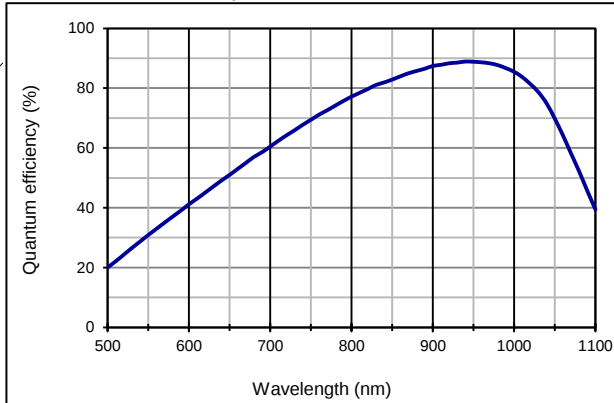
European, International Sales:

First Sensor AG
Peter-Behrens-Strasse 15
12459 Berlin
Germany
T +49 30 6399 2399
F +49 30 639923-752
sales.opto@first-sensor.com

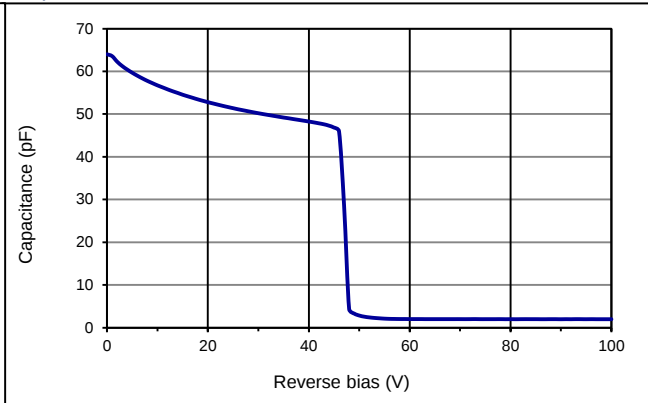
USA:

First Sensor Inc.
5700 Corsa Avenue #105
Westlake Village
CA 91362 USA
T +1 818 706 3400
F +1 818 889 7053
sales.us@first-sensor.com

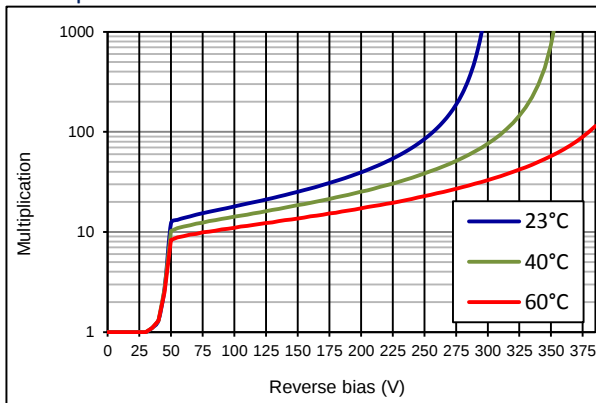
Quantum efficiency (23 °C)



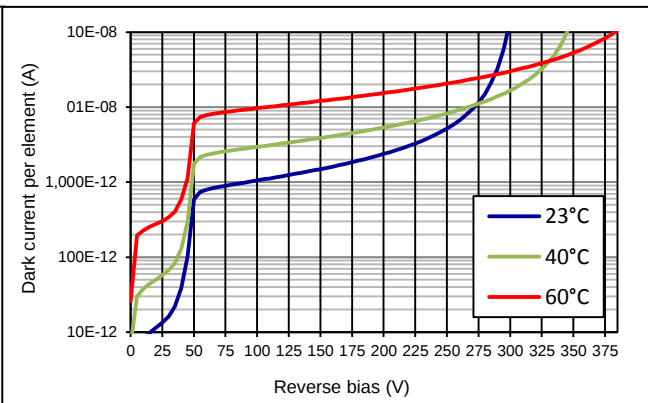
Capacitance as fct of reverse bias (23 °C)



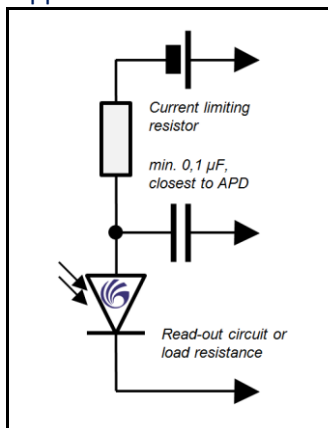
Multiplication as fct of reverse bias



Dark current as fct of reverse bias



Application hints:



- Current should be limited by a protecting resistor or current limiting - IC inside the power supply
- Guard ring should be connected to ground
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please consider basic ESD protection while handling
- Use low noise read-out - IC
- For further questions please refer to document "Instructions for handling and processing" and application notes for APDs and APD-Arrays

Package dimension:

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

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

European, International Sales:

First Sensor AG
Peter-Behrens-Strasse 15
12459 Berlin
Germany
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F +49 30 639923-752
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USA:

First Sensor Inc.
5700 Corsa Avenue #105
Westlake Village
CA 91362 USA
T +1 818 706 3400
F +1 818 889 7053
sales.us@first-sensor.com

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