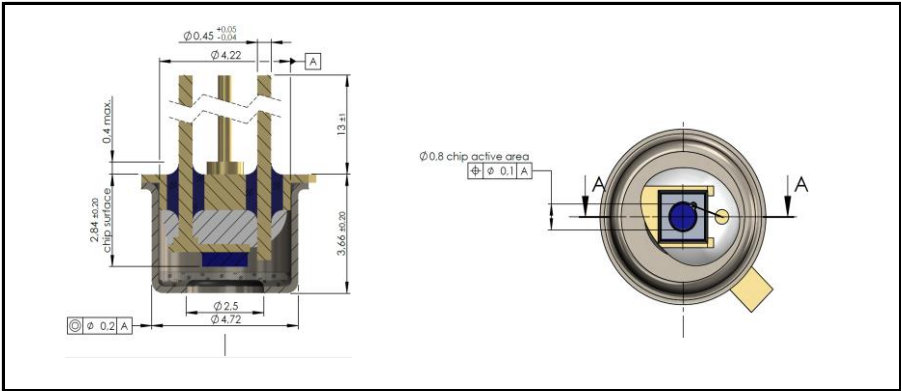
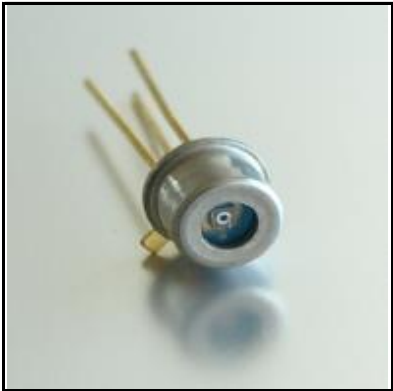




Features

- $\varnothing$ 800 μm active area
- High QE for $\lambda = 350\text{--}750\text{ nm}$
- Low noise
- Fast rise time

Description

Circular active area APD chip with blue enhanced sensitivity. Metal can type hermetic TO52 package with clear glass window.

Application

- Analytical equipment
- Scintillation
- Medical equipment
- High speed photometry

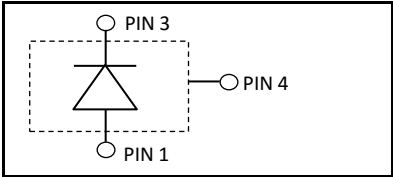
RoHS

2011/65/EU

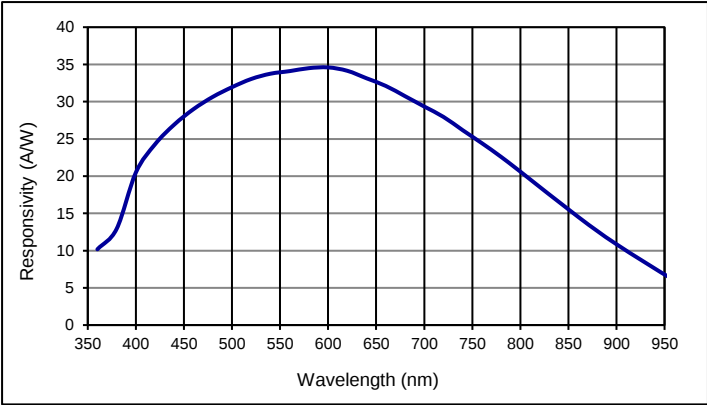
Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-55	125	$^{\circ}\text{C}$
T_{OP}	Operating temp	-40	85	$^{\circ}\text{C}$
M_{max}	Gain ($I_{\text{P0}} = 1\text{ nA}$)	200		
I_{PEAK}	Peak DC current		0.25	mA

Schematic



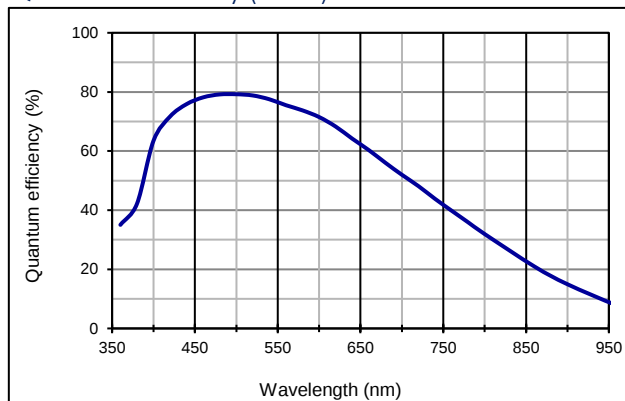
Spectral response ($M = 100$)



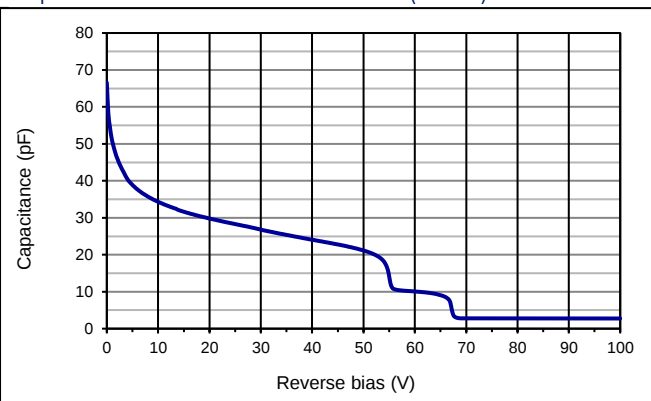
Electro-optical characteristics @ 23 $^{\circ}\text{C}$

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 800			μm
	Active area		0.5			mm^2
I_{D}	Dark current	$M = 100$		1.0	5.0	nA
C	Capacitance	$M = 100$		2.8		pF
	Responsivity	$M = 100$; $\lambda = 410\text{ nm}$		22		A/W
	Responsivity	$M = 100$; $\lambda = 500\text{ nm}$		32		A/W
t_{R}	Rise time	$M = 100$; $\lambda = 410\text{ nm}$; $R_{\text{L}} = 50\ \Omega$		1		ns
	Cut-off frequency	-3dB		350		MHz
V_{BR}	Breakdown voltage	$I_{\text{R}} = 2\ \mu\text{A}$	160		200	V
	Temperature coefficient	Change of V_{BR} with temperature		0.88		V/K
	Excess noise factor	$M = 100$		2.0		
	Excess noise index	$M = 100$		0.15		

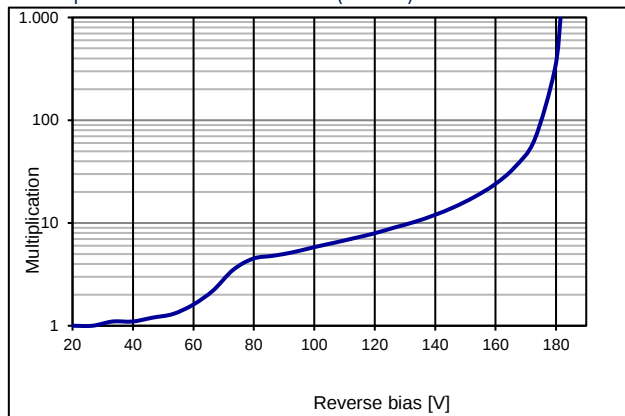
Quantum efficiency (23 °C)



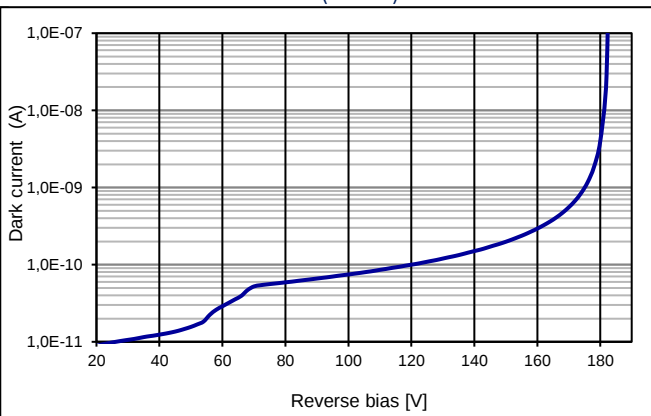
Capacitance as fct of reverse bias (23 °C)



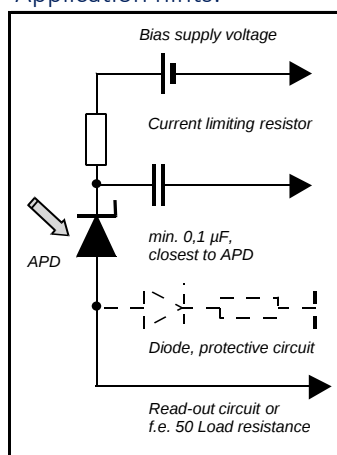
Multiplication as fct of bias (23 °C)



Dark current as fct of bias (23 °C)



Application hints:

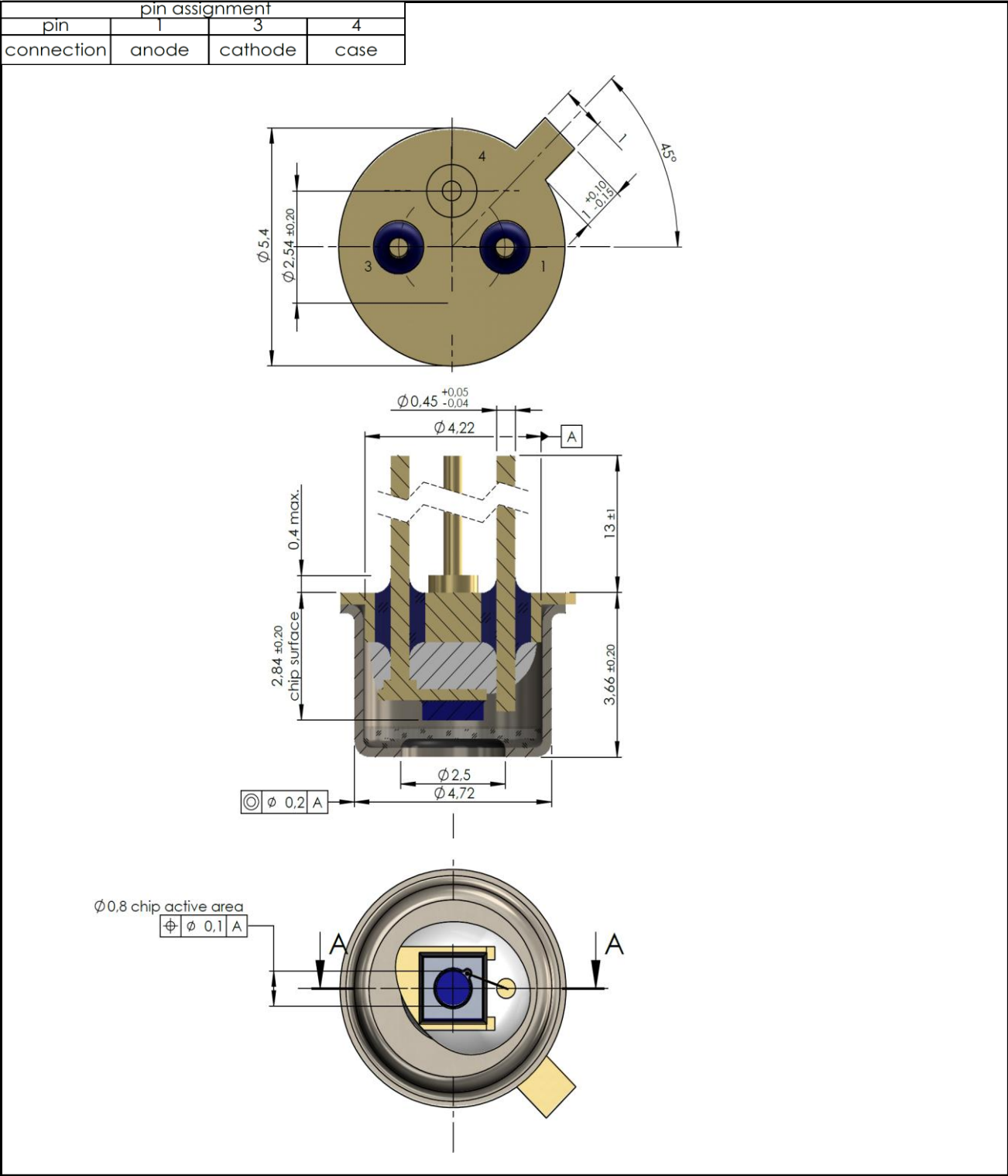


- Current should be limited by a protecting resistor or current limiting inside the power supply
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please consider basic ESD protection while handling
- Use low noise read-out - IC
- For further questions please refer to document "Instructions for handling and processing"
- Optimum gain: 50-80

Package dimension:

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

Technical Drawing, Package: TO52



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