
Features

- APD with 0.5 mm² active area
- Slow multiplication curve
- QE > 80% @ 750 nm-910 nm
- Fast rise time, low noise
- Optimum gain: 50-60

Description

Circular active area APD chip with NIR enhanced sensitivity. Metal can type hermetic isolated TO52 package with clear glass or 905 nm bandpass filter window.

Application

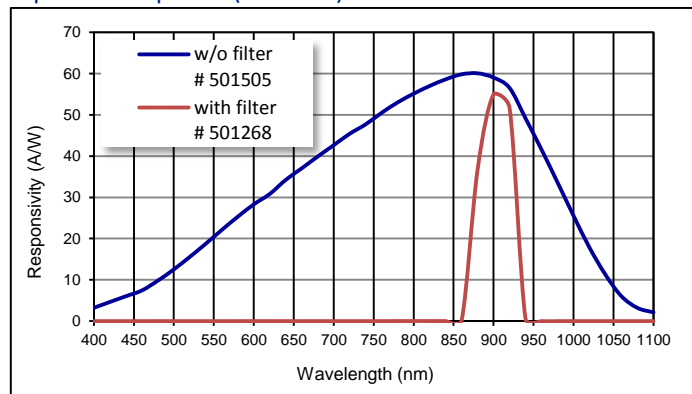
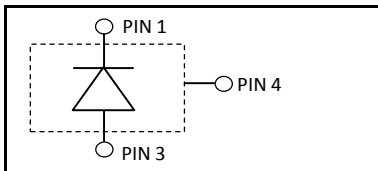
- Laser range finder
- High speed photometry
- High speed optical communications
- Medical equipment

RoHS

2002/95/EC


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 _{PO} = 1 nA)	200		
I _{PEAK}	Peak DC current		0.25	mA

Spectral response (M = 100)

Schematic

Electro-optical characteristics @ 23 °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		2.0	6.0	nA
C	Capacitance	M = 100		2.0		pF
	Responsivity	# 501505; M = 100; λ = 905 nm	52	58	60	A/W
		# 501268; M = 100; λ = 905 nm	42	55		A/W
t _R	Rise time	M = 100; λ = 905 nm; R _L = 50 Ω		0.9		ns
	Cut-off frequency	-3dB		0.5		GHz
V _{BR}	Breakdown voltage	I _R = 2 µA, V _{BR} - binning available*	160	200	240	V
	Temperature coefficient	Change of V _{BR} with temperature	1.25		1.55	V/K
	Excess noise factor	M = 100		2.5		
	Excess noise index	M = 100		0.2		

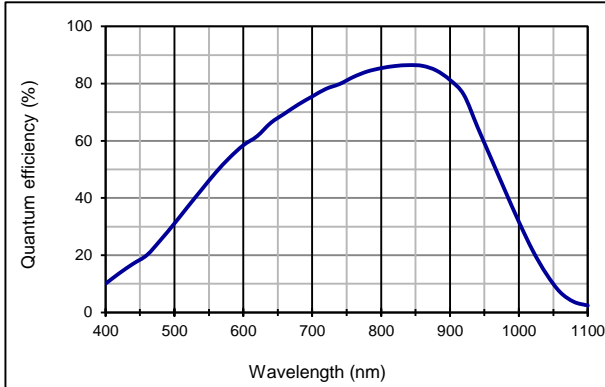
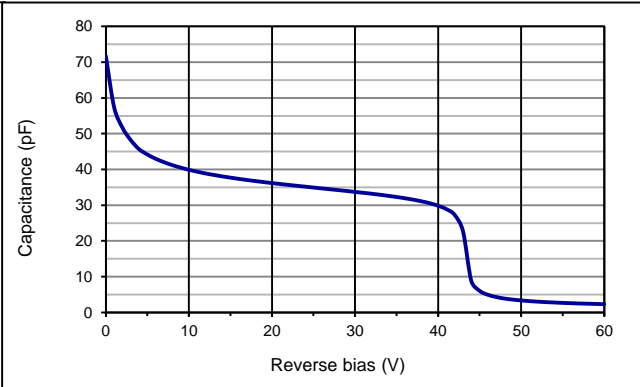
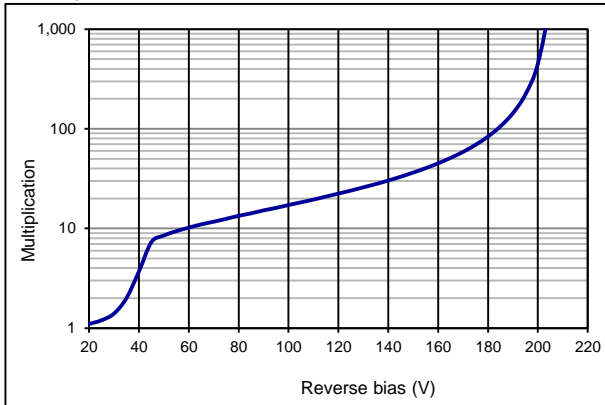
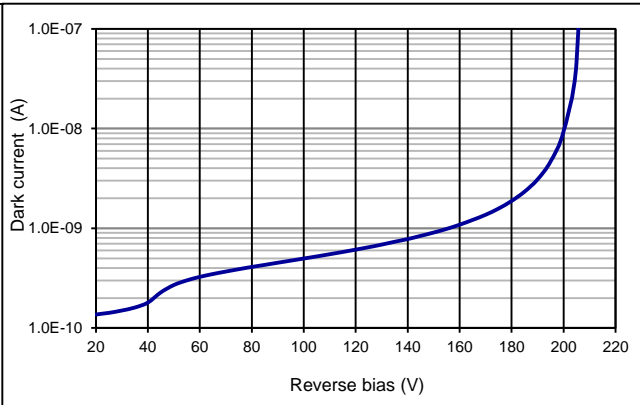
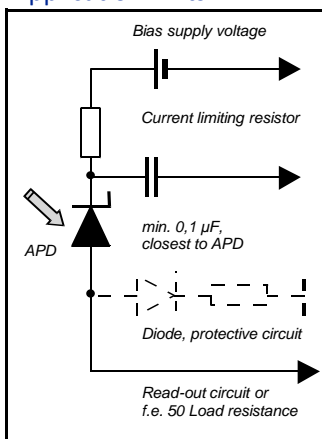
*	V _{BR} -binning 160 V-200 V	without filter: # 50150501	with filter: # 50126801
	V _{BR} -binning 200 V-240 V	without filter: # 50150502	with filter: # 50116802

European, International Sales:

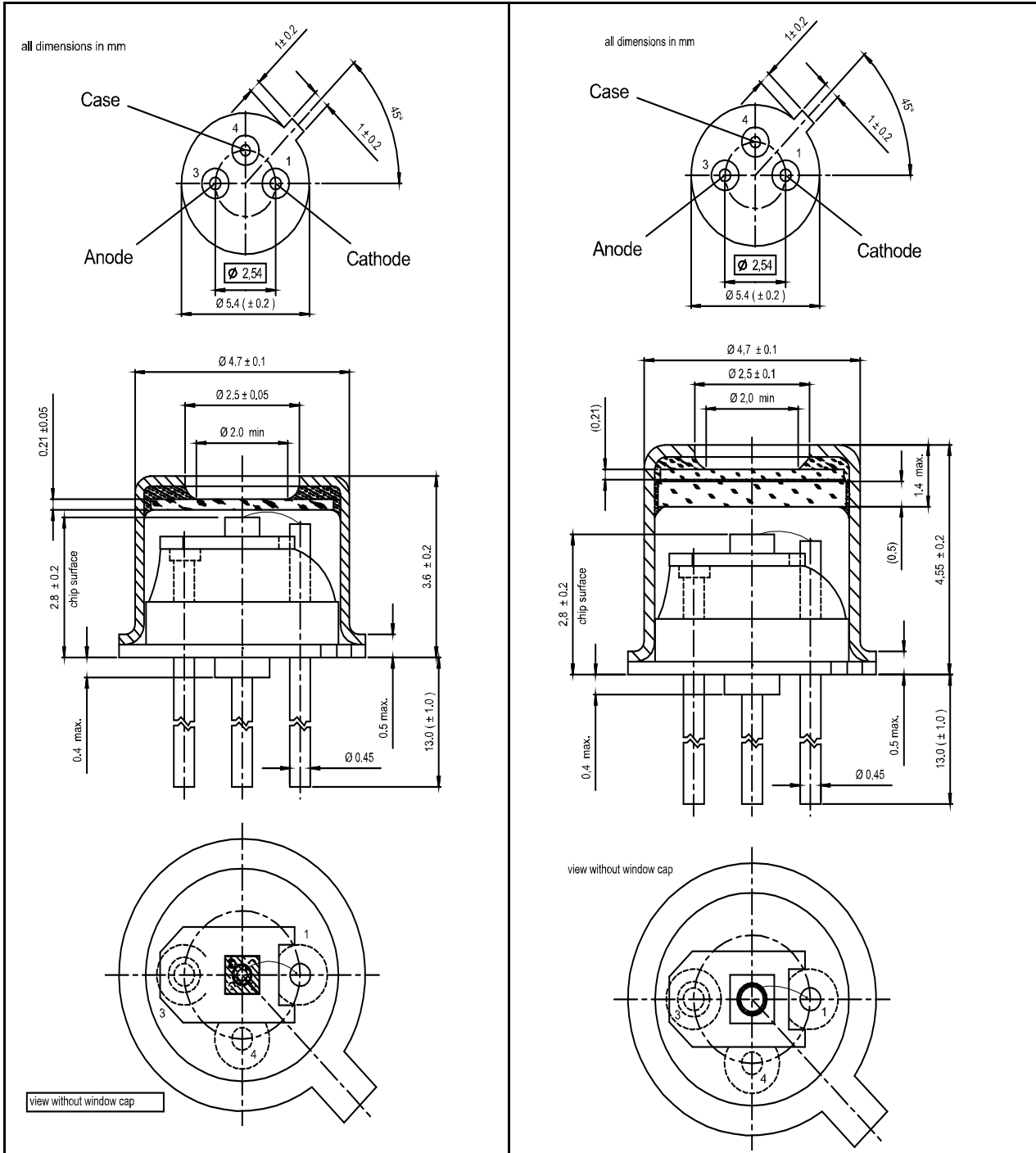

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Quantum efficiency (23 °C)

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 - IC 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: 50-60

Order # 501505, Package: TO52S1
Order # 501268, Package: TO52S1F2

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.

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