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AD230-9 TO

Description

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

Features

- APD with 0.04 mm² active area
- Slow multiplication curve
- QE > 80% @ 750 nm-910 nm
- Fast rise time, low noise
- Optimum gain: 50-60

Applications

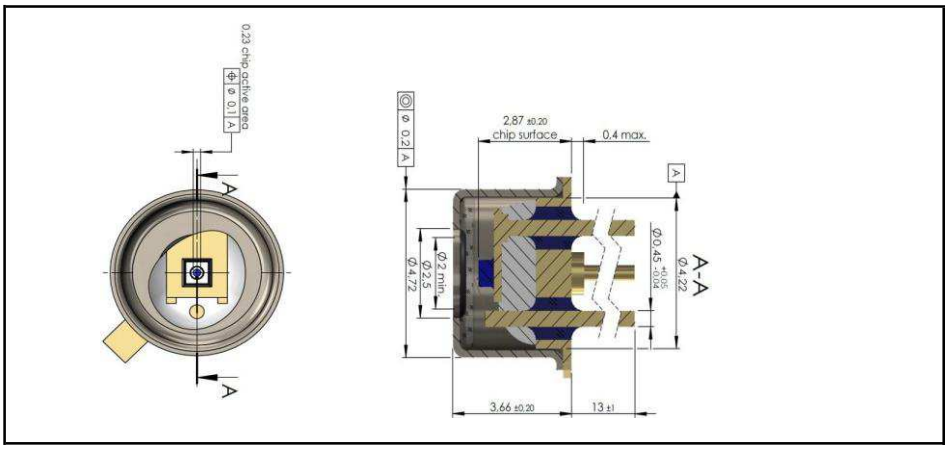
- Laser range finder
- High speed photometry
- High speed optical communications
- Medical equipment
- LIDAR

RoHS

2011/65/EU

2015/863/EU

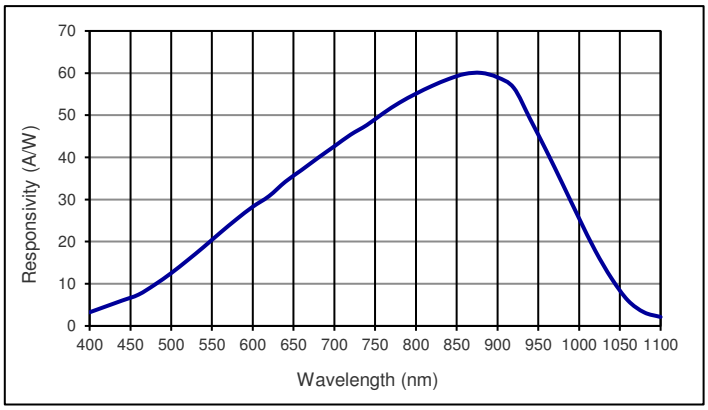
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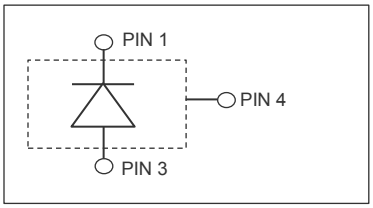
Absolute maximum rating

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-55	125	°C
T_{OP}	Operating temp	-40	100	°C
M_{max}	Gain (I_{P0} = 1 nA)	200		
I_{PEAK}	Peak DC current		0.25	mA

Spectral response (M = 100)



Schematic

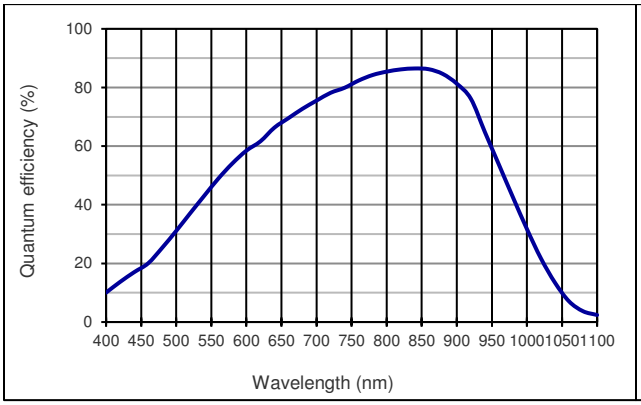


Electro-optical characteristics @ 23°C

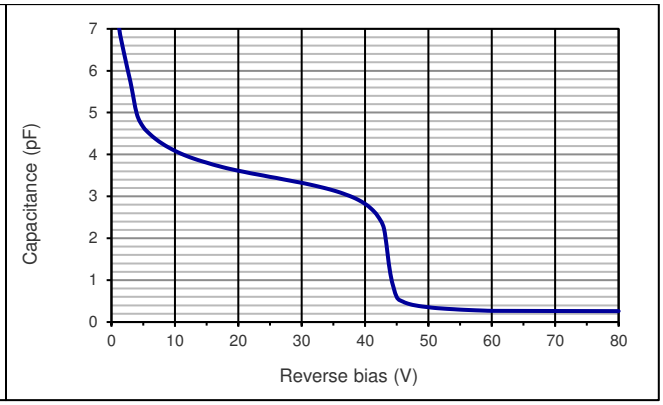
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 230			µm
	Active area		0.04			mm²
I_D	Dark current	M = 100		0.5	1	nA
C	Capacitance	M = 100; f = 100 kHz		0.3		pF
	Responsivity	M = 100; λ = 905 nm	52	58		A/W
t_R	Rise time	M = 100; λ = 905 nm; R_L = 50 Ω		0.5		ns
	Cut-off frequency	-3dB		0.6		GHz
V_{BR}	Breakdown voltage*	I_R = 2 µA	160		200	V
	Temperature coefficient	Change of V_{BR} with temperature	1.25	1.45	1.55	V/K
	Excess noise factor	M = 100; calculated		2.5		
	Excess noise index	M = 100; calculated		0.2		

* ±2V measuring tolerance on upper and lower limits

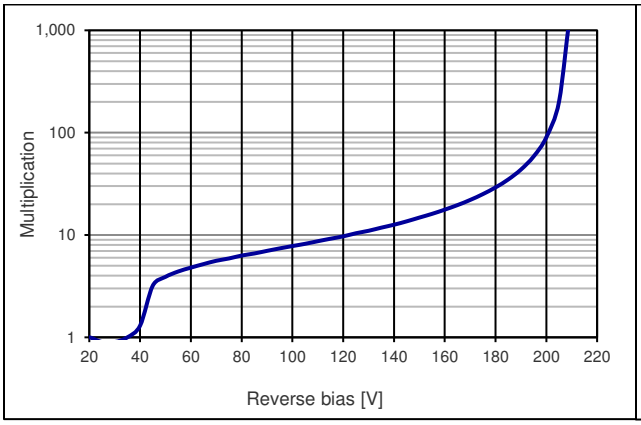
Quantum efficiency (23 °C)



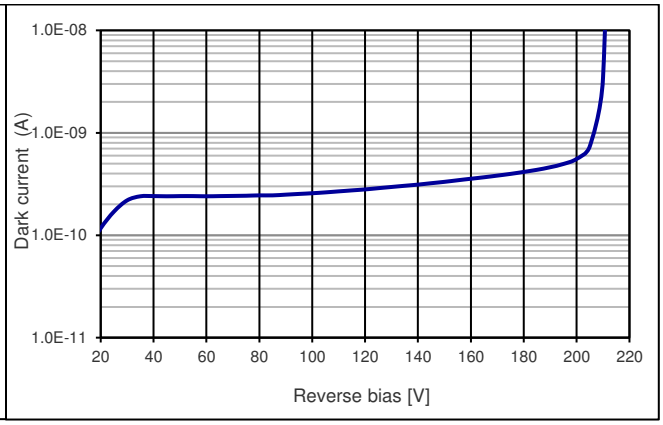
Capacitance as fct of reverse bias (23 °C)



Multiplication as fct of bias (23 °C)



Dark current as fct of bias (23 °C)

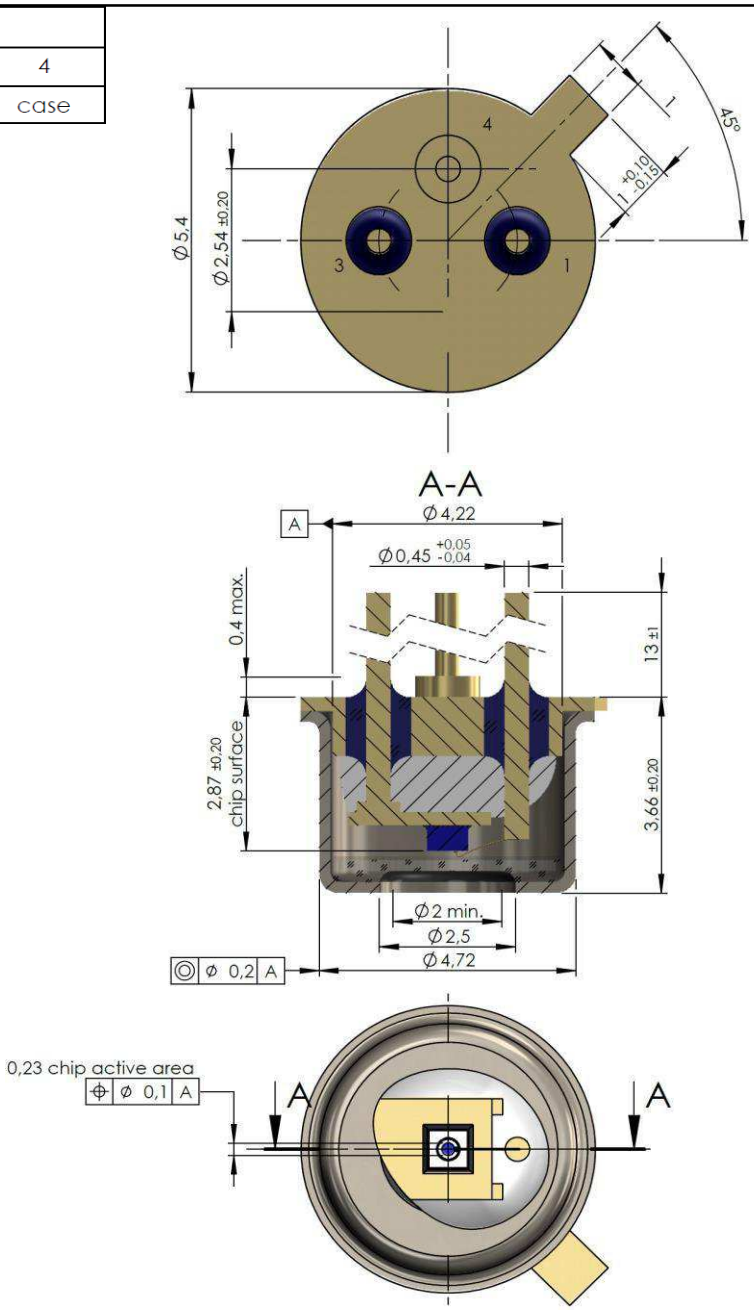


Application hints:

- Please refer to document "Application note for APDs"
- For further questions please refer to document "Instructions for handling and processing"

Technical Drawing, Package: TO52

pin assignment			
pin	1	3	4
connection	cathode	anode	case



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.

Optical inspection

Optical inspection according to failure catalogue for optical sensors FK INS 201.

Ordering Information

Description	TE Part Number	MPQ
AD230-9 TO (TO52S1gw; Ubr 160-200V)	3001345-F	1,000 pcs

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Version # 07/2022

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