
Features

- APD with 19.6 mm² active area
- 5000 μm diameter active area
- High gain at low bias voltage
- Fast rise time, low capacitance
- Optimum gain: 50-60

Description

Circular active area APD chip with 5000 μm diameter. Metal can type hermetic TO8 package with clear glass window.

Application

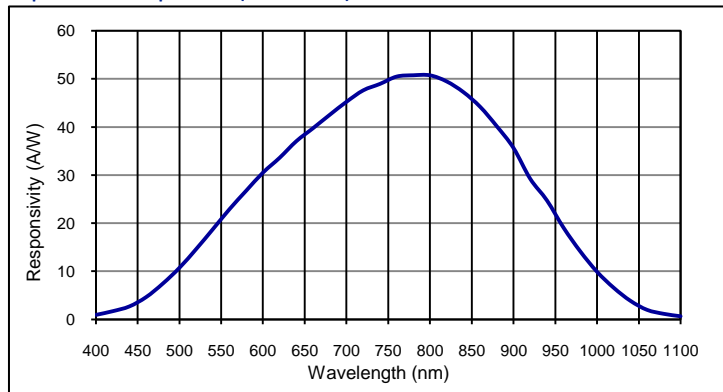
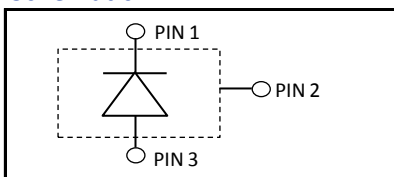
- Laser range finder
- High speed photometry
- High speed optical communications
- Medical equipment

RoHS

2002/95/EC


Absolute maximum ratings

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

Spectral response ($M = 100$)

Schematic

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

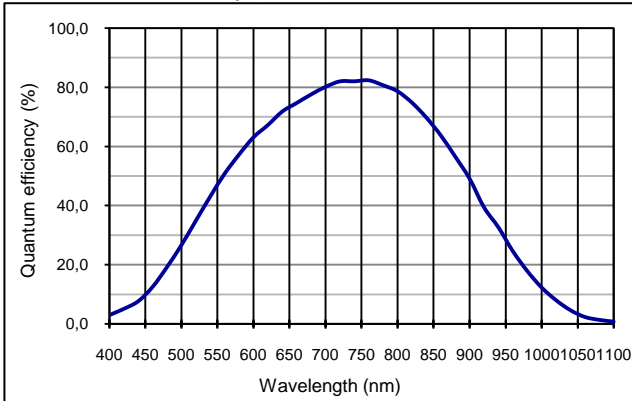
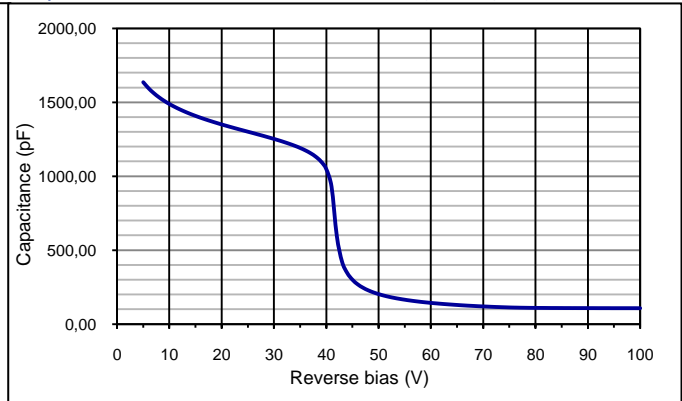
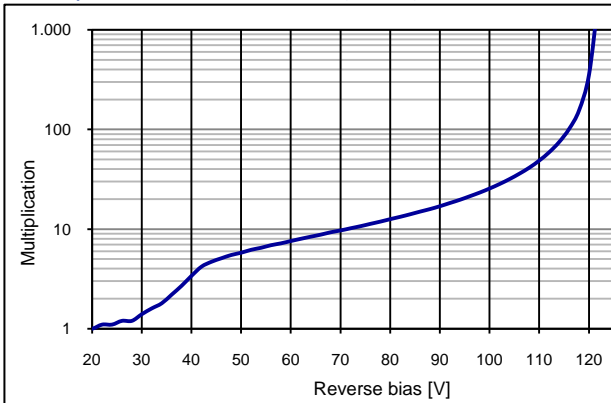
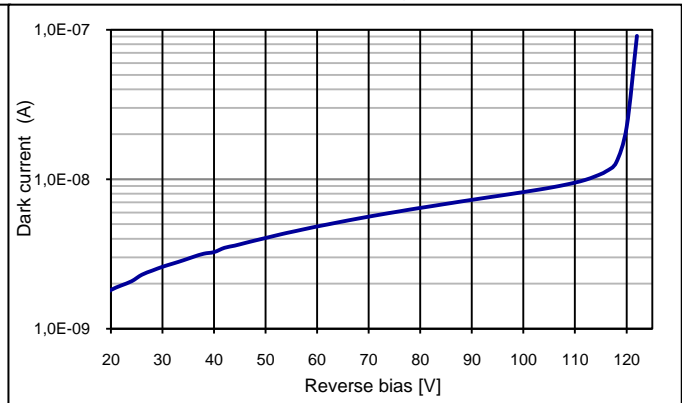
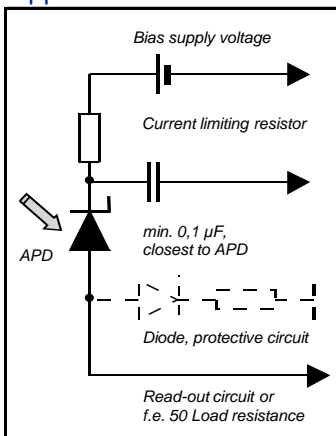
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 5000			μm
	Active area		19.6			mm ²
I_D	Dark current	$M = 100$		60		nA
C	Capacitance	$M = 100$		120		pF
	Responsivity	$M = 100$; $\lambda = 800 \text{ nm}$	45	50		A/W
t_R	Rise time	$M = 100$; $\lambda = 905 \text{ nm}$; $R_L = 50 \Omega$		3		ns
	Cut-off frequency	-3dB		0.12		GHz
V_{BR}	Breakdown voltage	$I_R = 2 \mu\text{A}$, V_{BR} - binning available	80		200	V
	Temperature coefficient	Change of V_{BR} with temperature		0.45		V/K
	Excess noise factor	$M = 100$		2.2		
	Excess noise index	$M = 100$		0.2		

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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

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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