
**Features**

- $\phi$  4 mm total active area
- Segmented in 4 quadrants
- Slow multiplication curve
- QE > 80% @ 750 nm-910 nm
- Fast rise time, very low noise

**Description**

Segmented quadrant avalanche photodiode with enhanced NIR responsivity in hermetic TO type metal can. Very low dark current due to guard ring diode.

**Application**

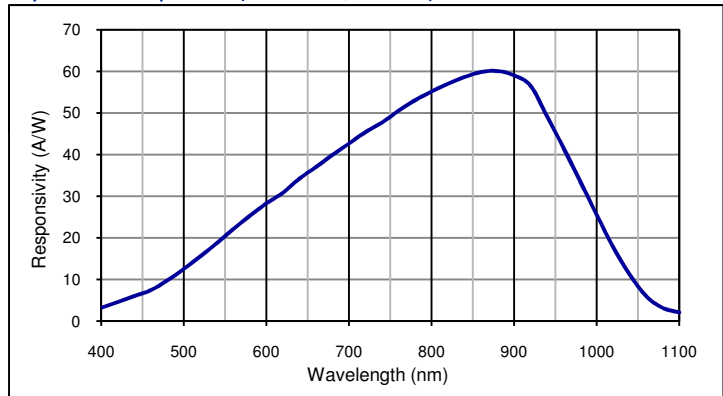
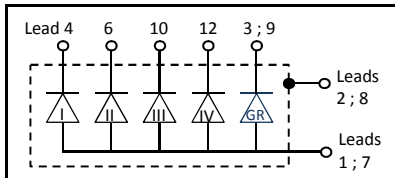
- Pulsed 905nm laser detection
- Light source positioning
- Laser alignment

**RoHS**

2002/95/EC


**Absolute maximum ratings**

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

**Spectral response (M = 100; 23  $^{\circ}C$ )**

**Schematic**

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

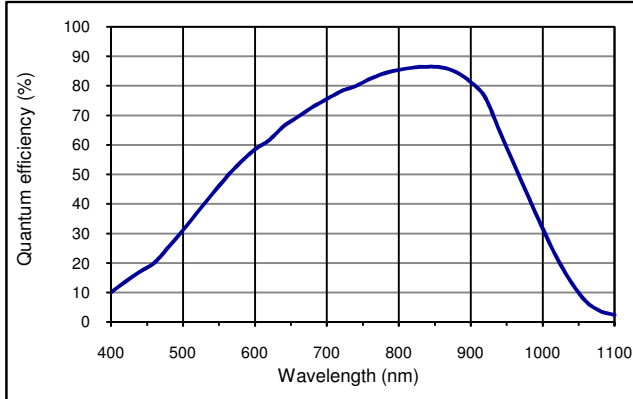
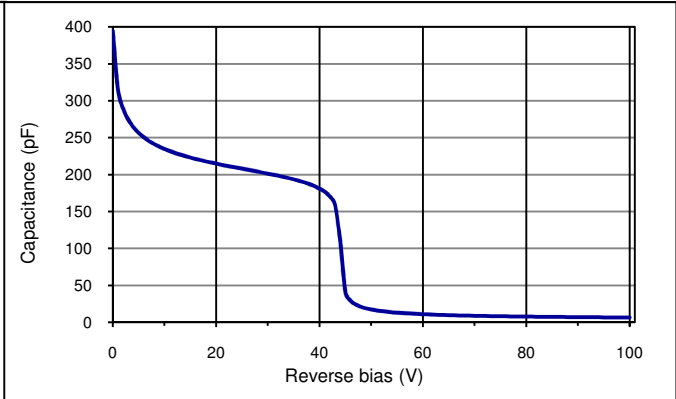
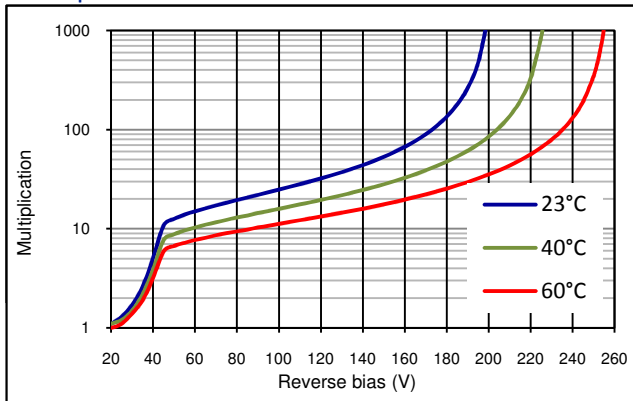
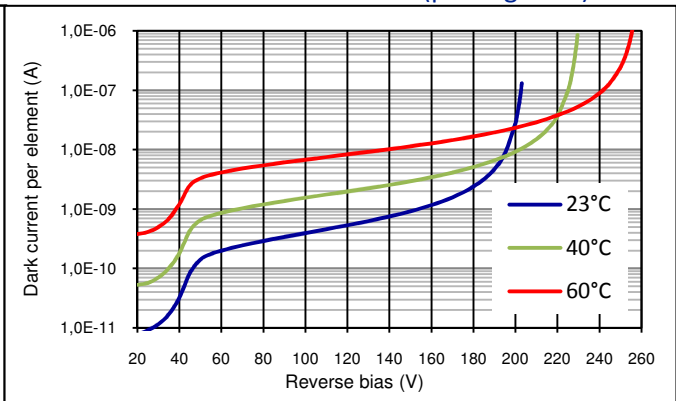
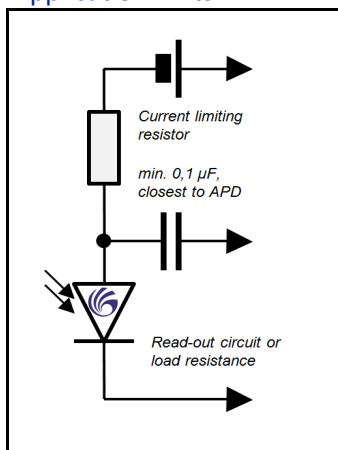
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	No of elements			4		
	Active area	segmented in 4 quadrants		$\phi$ 4000		$\mu m$
	Gap			110		$\mu m$
$I_D$	Dark current	M = 100; $\lambda = 905$ nm, per segment		4		nA
C	Capacitance	M = 100, per segment		7		pF
	Responsivity	M = 100; $\lambda = 905$ nm	52	58	60	A/W
$t_R$	Rise time	M = 100; $\lambda = 905$ nm; $R_L = 50 \Omega$		2		ns
$V_{BR}$	Breakdown voltage	$I_R = 2 \mu A$	160		240	V
	Temperature coefficient	Change of $V_{BR}$ with temperature	1.25		1.55	V/K
	Excess noise factor	M = 100		2.5		
	Photo current uniformity	M = 100		$\pm 5$		%
	Dark current uniformity	M = 100		$\pm 5$		%

**European, International Sales:**


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**Quantum efficiency (23 °C)**

**Capacitance as fct of reverse bias (23 °C, per segment)**

**Multiplication as fct of reverse bias**

**Dark current as fct of reverse bias (per segment)**

**Application hints:**


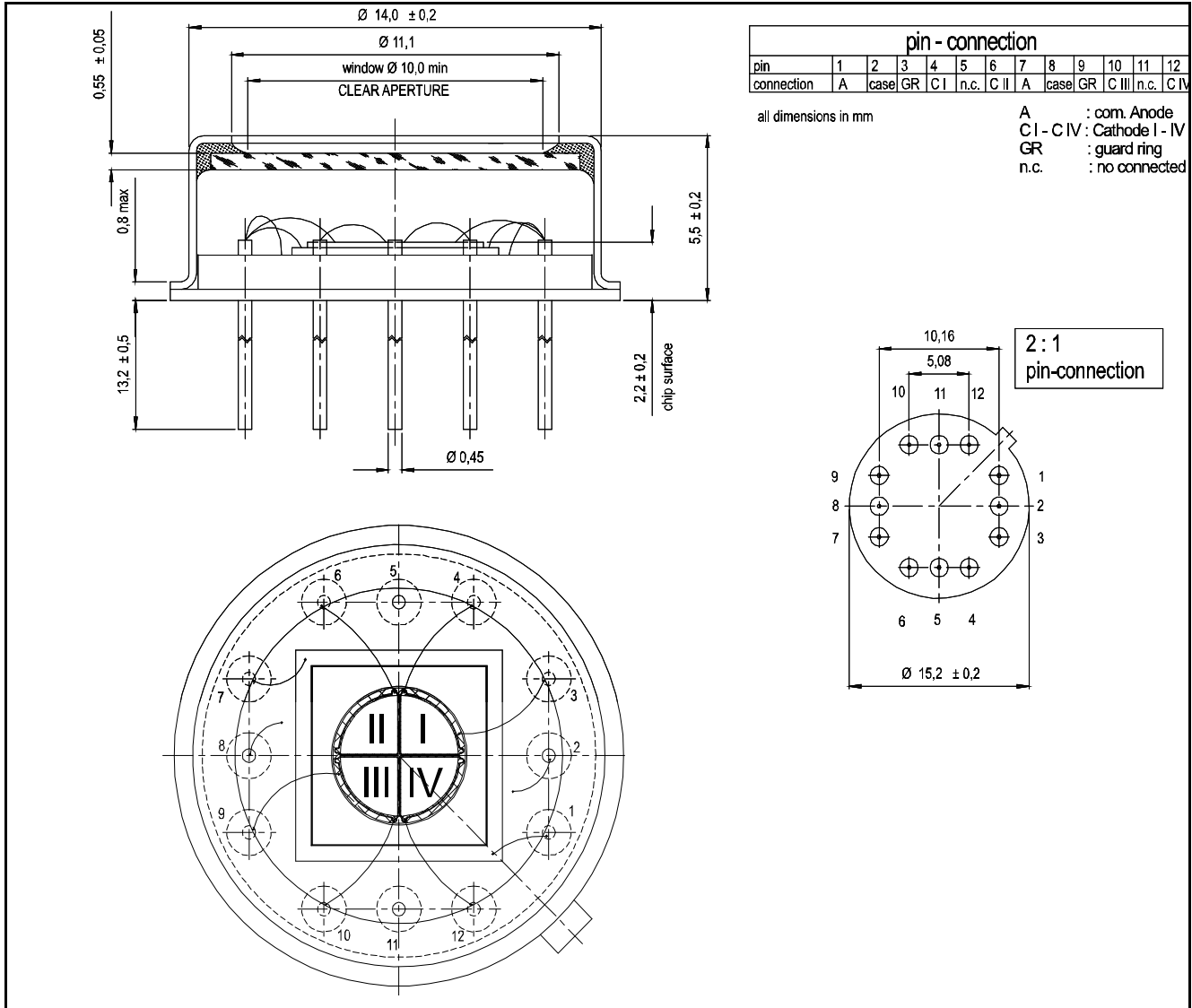
- Current should be limited by a protecting resistor or current limiting - IC inside the power supply
- Guard ring should be connected to ground
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please 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

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**Technical Drawing, Package: TO8Si**

**Package dimension**

Small quantities: Chips on 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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