

Features

- ϕ 4 mm total active area
- Segmented in 4 quadrants
- High QE for $\lambda = 850-1064$ nm
- Low slope multiplication curve

Description

Segmented quadrant avalanche photodiode with enhanced IR responsivity in hermetic TO type metal can.

Application

- Pulsed 1064 nm laser detection
- Light source positioning
- Laser alignment

RoHS

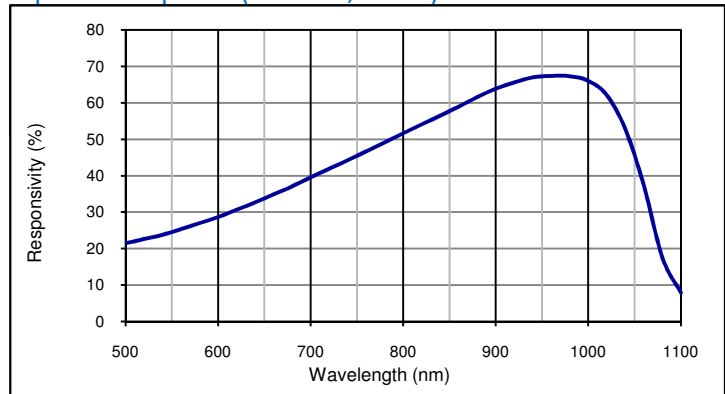
2002/95/EC



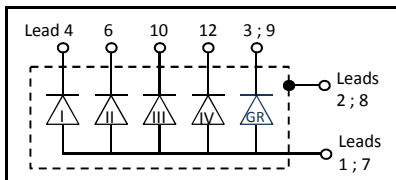
Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-55	125	$^{\circ}C$
T_{OP}	Operating temp	-15	60	$^{\circ}C$
M_{max}	Gain ($I_{PO} = 1$ nA)	1000		
I_{PEAK}	Peak DC current		0.25	mA

Spectral response (M = 100; 22 $^{\circ}C$)



Schematic



Electro-optical characteristics @ 22 $^{\circ}C$

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	No of elements			4		
	Active area	segmented in 4 quadrants		ϕ 4000		μm
	Gap			110		μm
I_D	Dark current	M = 100; $\lambda = 905$ nm, per segment		7	75	nA
C	Capacitance	M = 100, per segment		4		pF
	Responsivity	M = 100; $\lambda = 1064$ nm		36		A/W
t_R	Rise time	M = 100; $\lambda = 905$ nm; $R_L = 50 \Omega$		5		ns
V_{BR}	Breakdown voltage	$I_R = 2 \mu A$	220	300	600	V
	Temperature coefficient			3.3		V/K
	Photo current uniformity	M = 50		± 5		%
	Dark current uniformity	M = 50		± 5		%
	N.E.P.	M = 100; $\lambda = 1064$ nm		$1.5 E-13$		W/ \sqrt{Hz}
	Noise current	M = 100; $\lambda = 1064$ nm		5.5		pA/ \sqrt{Hz}

European, International Sales:



International AG

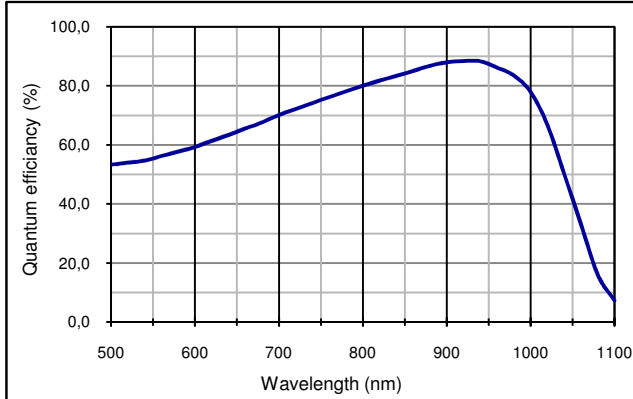
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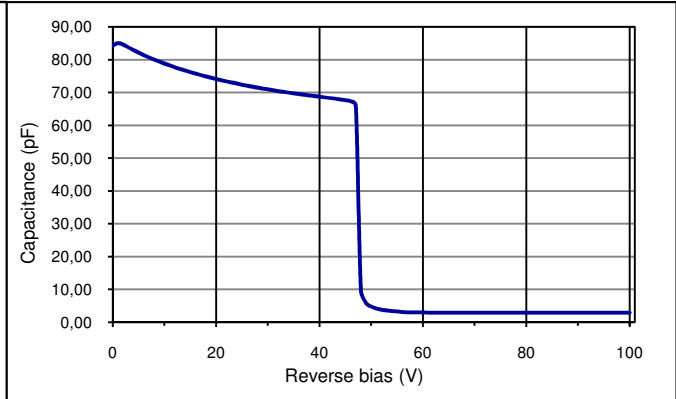


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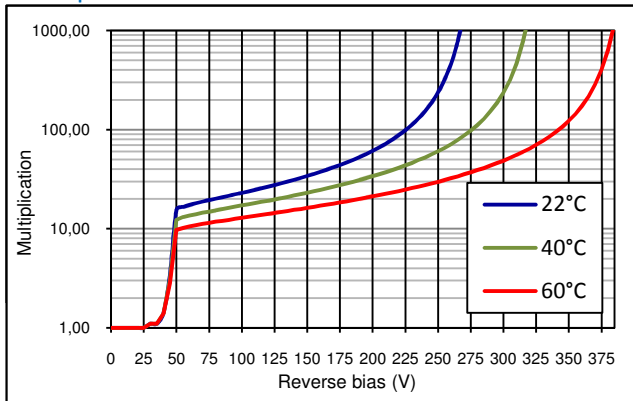
Quantum efficiency (22 °C)



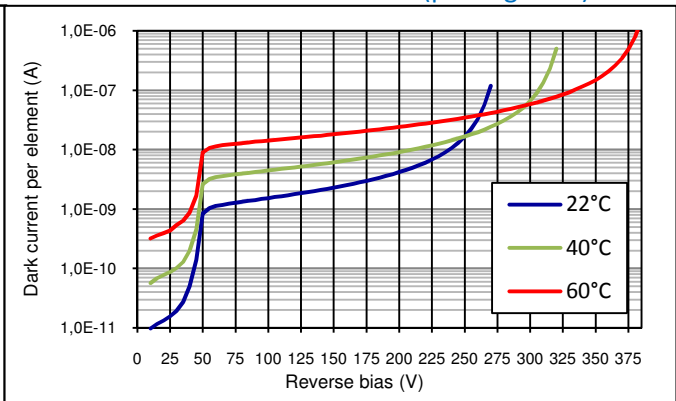
Capacitance as fct of reverse bias (22°C, per segment)



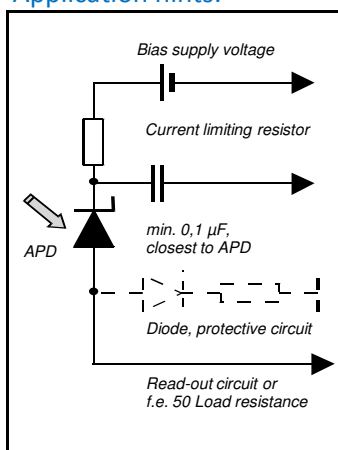
Multiplication as fct of reverse bias



Dark current as fct of reverse bias (per segment)



Application hints:

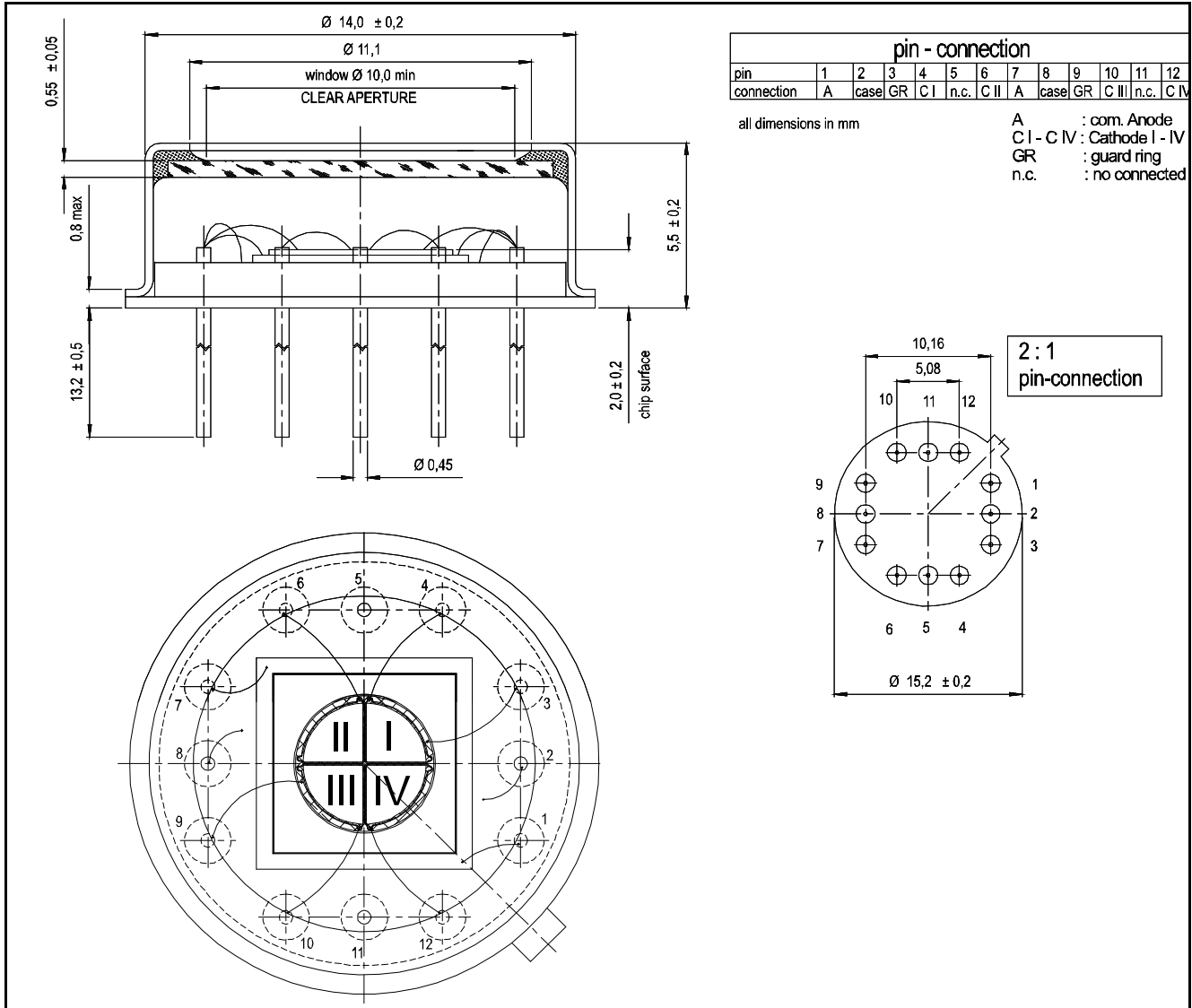


- Current should be limited by a protecting resistor or current limiting - IC inside the power supply
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please consider basic ESD protection while handling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

European, International Sales:

USA:

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.

European, International Sales:



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