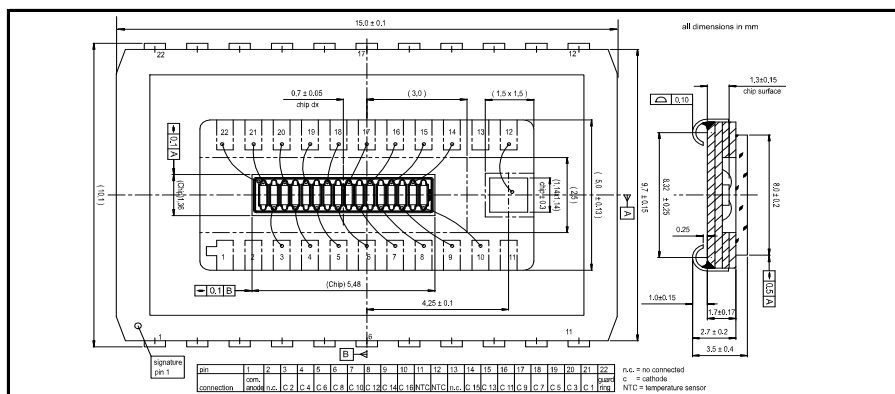
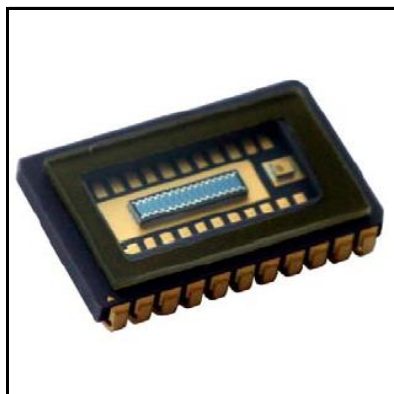




Features

- 16 element APD array with NTC
- High QE >80% for $\lambda = 760-910$ nm
- High speed, low noise
- High uniformity, low cross talk

Description

Matrix APD array for NIR detection.
Hermetic ceramic SMD package with
soldered glass lid and temperature
control device (NTC).

Application

- LIDAR range finder
- Lidar ACC
- Laser scanner

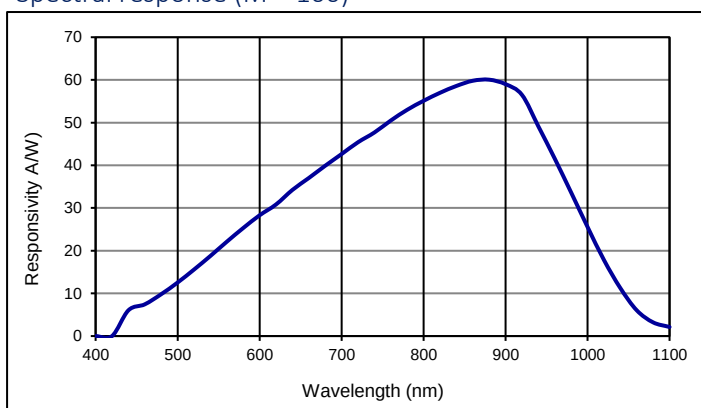
RoHS

2011/65/EU

Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-60	100	°C
T_{OP}	Operating temp	-20	70	°C
M_{max}	Gain ($I_{PD} = 1$ nA)	200		
I_{PEAK}	Peak DC current		0.25	mA

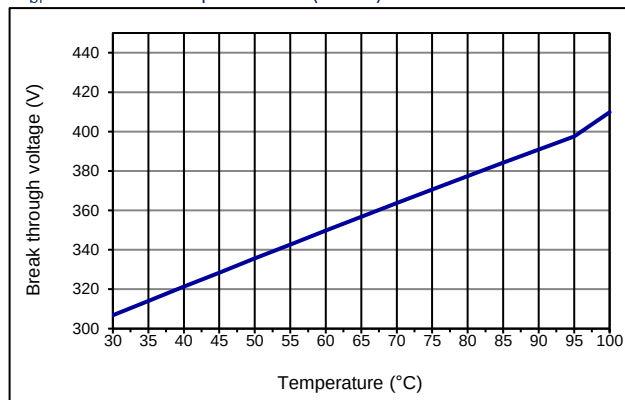
Spectral response (M = 100)



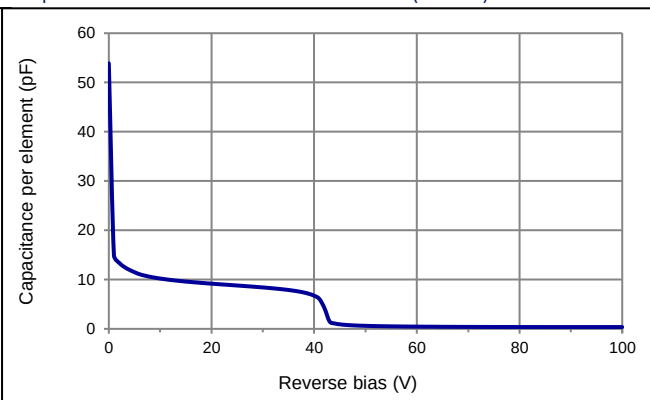
Electro-optical characteristics @ 23°C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	No of elements			16		
	Active area			648 x 208		μm
	Gap; Pitch			112 ; 320		μm
I_D	Dark current	$M = 50$; $\lambda = 880$ nm, per element		1.0		nA
C	Capacitance	$M = 50$, per element		0.5		pF
	Responsivity	$M = 100$; $\lambda = 905$ nm	55	60		A/W
t_R	Rise time	$M = 100$; $\lambda = 905$ nm; $R_L = 50 \Omega$		2		ns
V_{BR}	Breakdown voltage	$I_R = 2 \mu\text{A}$	100	300	400	V
	Temperature coefficient			1.45		V/K
	Cross talk	$\lambda = 905$ nm		50		dB
	Photo current uniformity	$M = 50$		± 5	± 20	%
	Dark current uniformity	$M = 50$		± 5	± 20	%
	Resistance of NTC	$T = 25 \text{ }^\circ\text{C}$		10		k Ω
	Alpha value of NTC	$T = 25 \text{ }^\circ\text{C}$		-4.39		%/ $^\circ\text{C}$
	Beta value 25/85 of NTC	$T = 25 \text{ }^\circ\text{C}$		3976		K

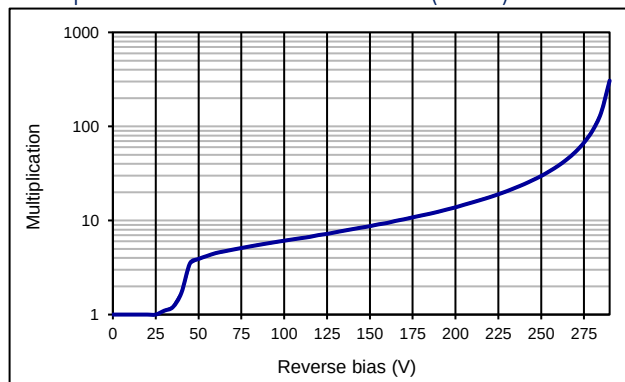
U_{br} as fct of temperature (23 °C)



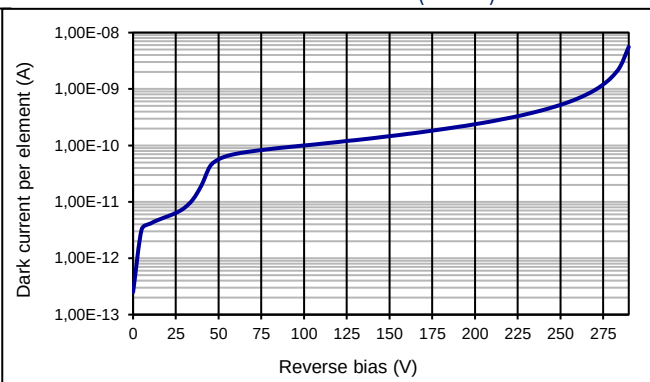
Capacitance as fct of reverse bias (23 °C)



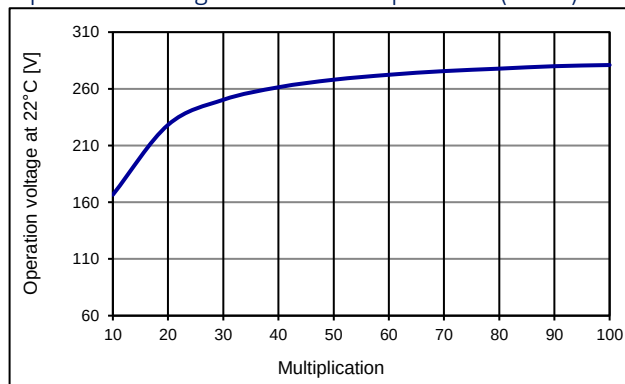
Multiplication as fct of reverse bias (23 °C)



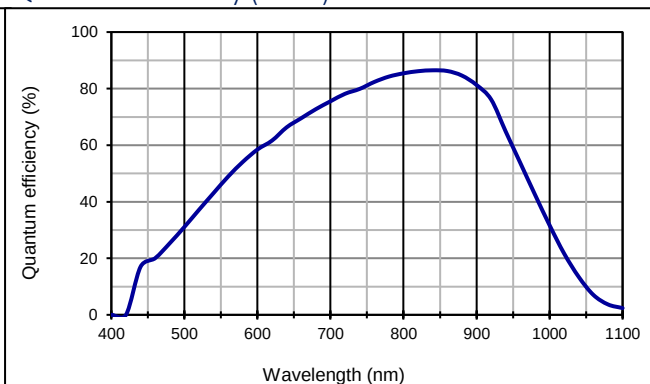
Dark current as fct of reverse bias (23 °C)



Operation voltage as fct of multiplication (23 °C)

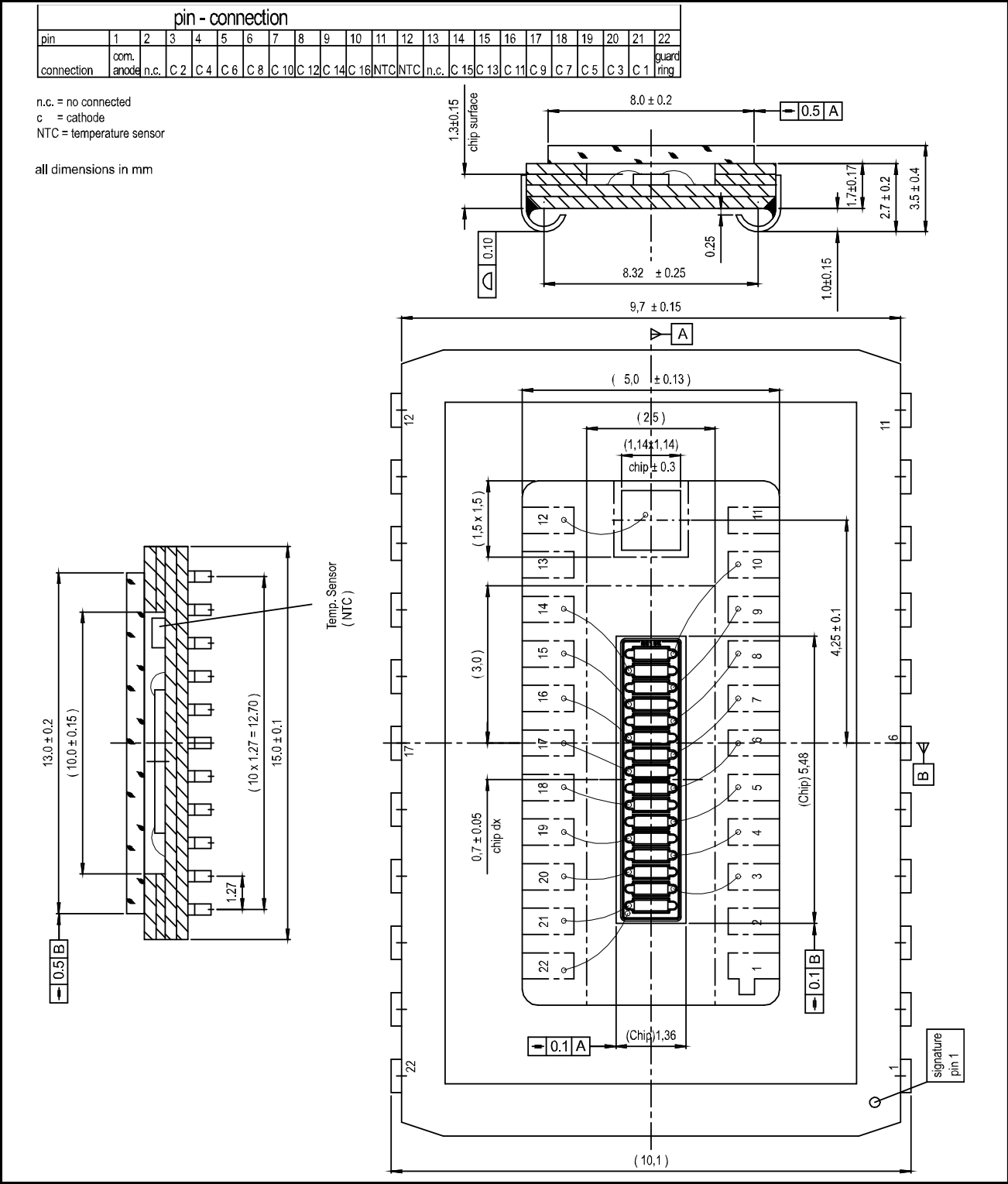


Quantum efficiency (23 °C)

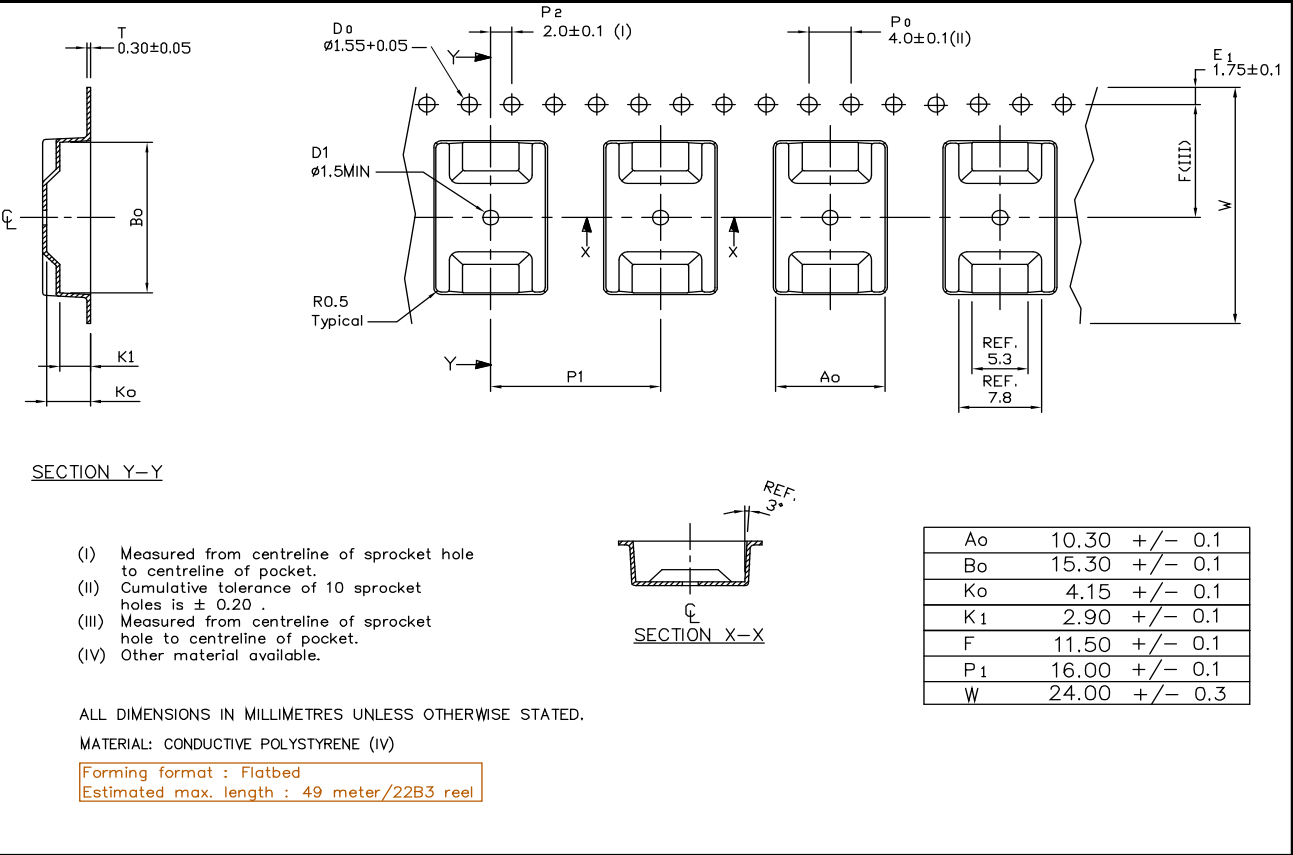


Handling: Please refer to document "Instructions for handling and processing"
Please consider ESD protection while handling.

Technical Drawing, Package: SOJ22 with soldered glass lid



Package dimension



For smaller quantities chip trays are available (16 pcs per tray)

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.