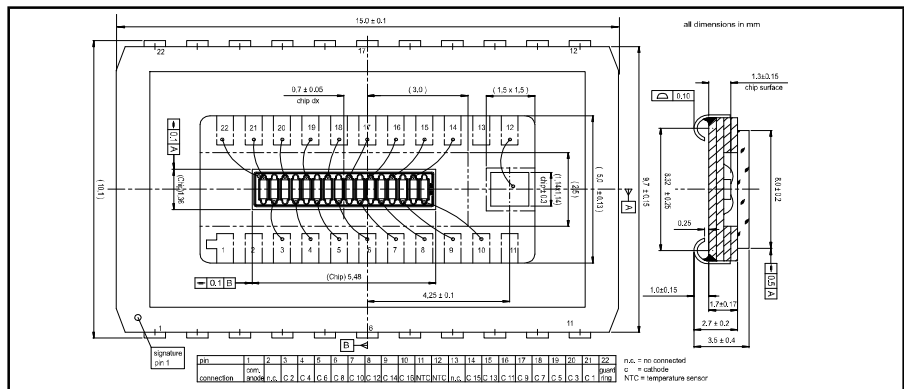
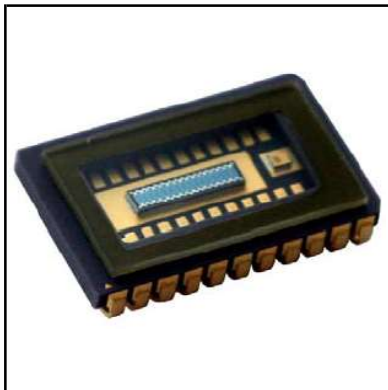




Features

- 16 element APD array with NTC
- High QE >80% for $\lambda = 760-910 \text{ nm}$
- 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

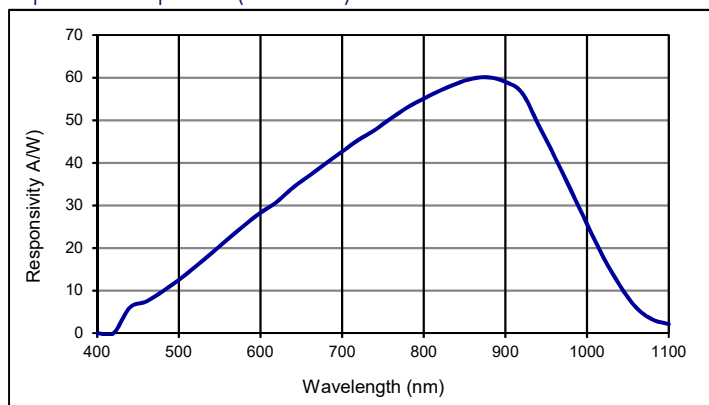
RoHS

2011/65/EU

Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-40	100	°C
T_{OP}	Operating temp	-20	70	°C
M_{max}	Gain ($I_{PO} = 1 \text{ nA}$)	200		
I_{PEAK}	Peak DC current		0.25	mA

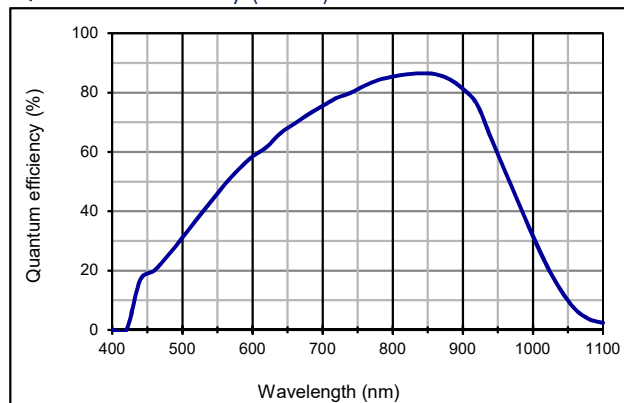
Spectral response (M = 100)



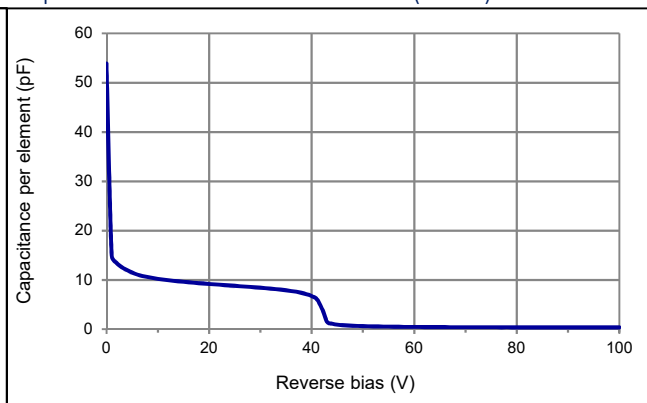
Electro-optical characteristics @ 23°C

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	$M = 50; \lambda = 880 \text{ nm}$, per element		1.0		nA
C	Capacitance	$M = 50$, per element, $f = 100 \text{ kHz}$		0.5		pF
	Responsivity	$M = 100; \lambda = 905 \text{ nm}$	55	60		A/W
t_R	Rise time	$M = 100; \lambda = 905 \text{ nm}; R_L = 50 \Omega$		2		ns
V_{BR}	Breakdown voltage	$I_R = 2 \mu\text{A}$	160		240	V
	Temperature coefficient			1.45		V/K
	Cross talk	$\lambda = 905 \text{ nm}$		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

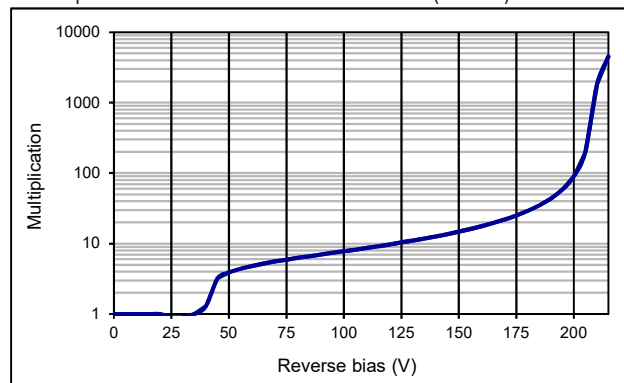
Quantum efficiency (23 °C)



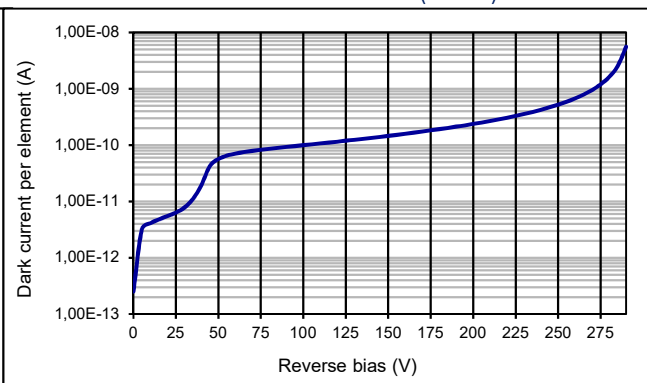
Capacitance as fct of reverse bias (23 °C)



Multiplication as fct of reverse bias (23 °C)

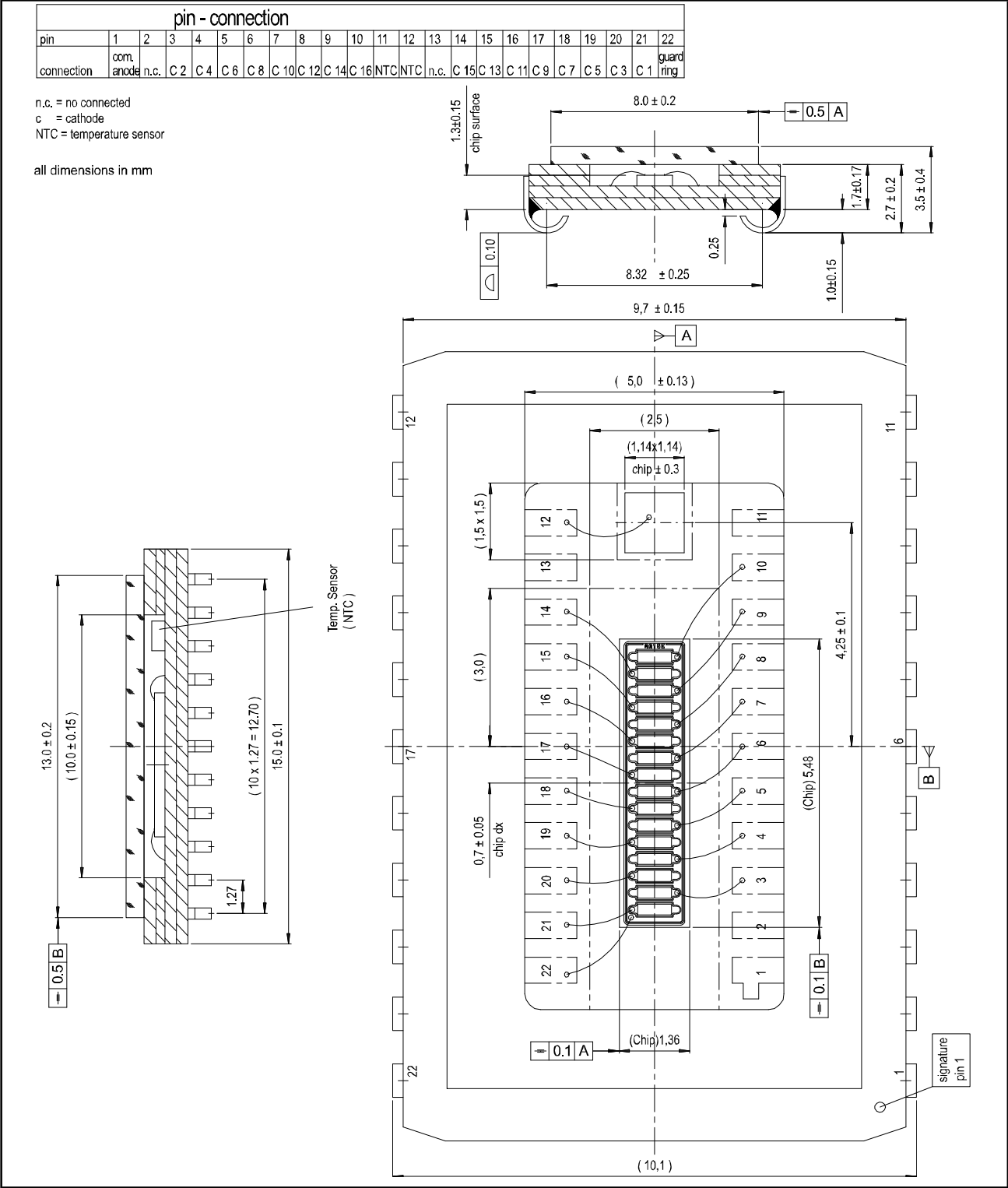


Dark current as fct of reverse bias (23 °C)

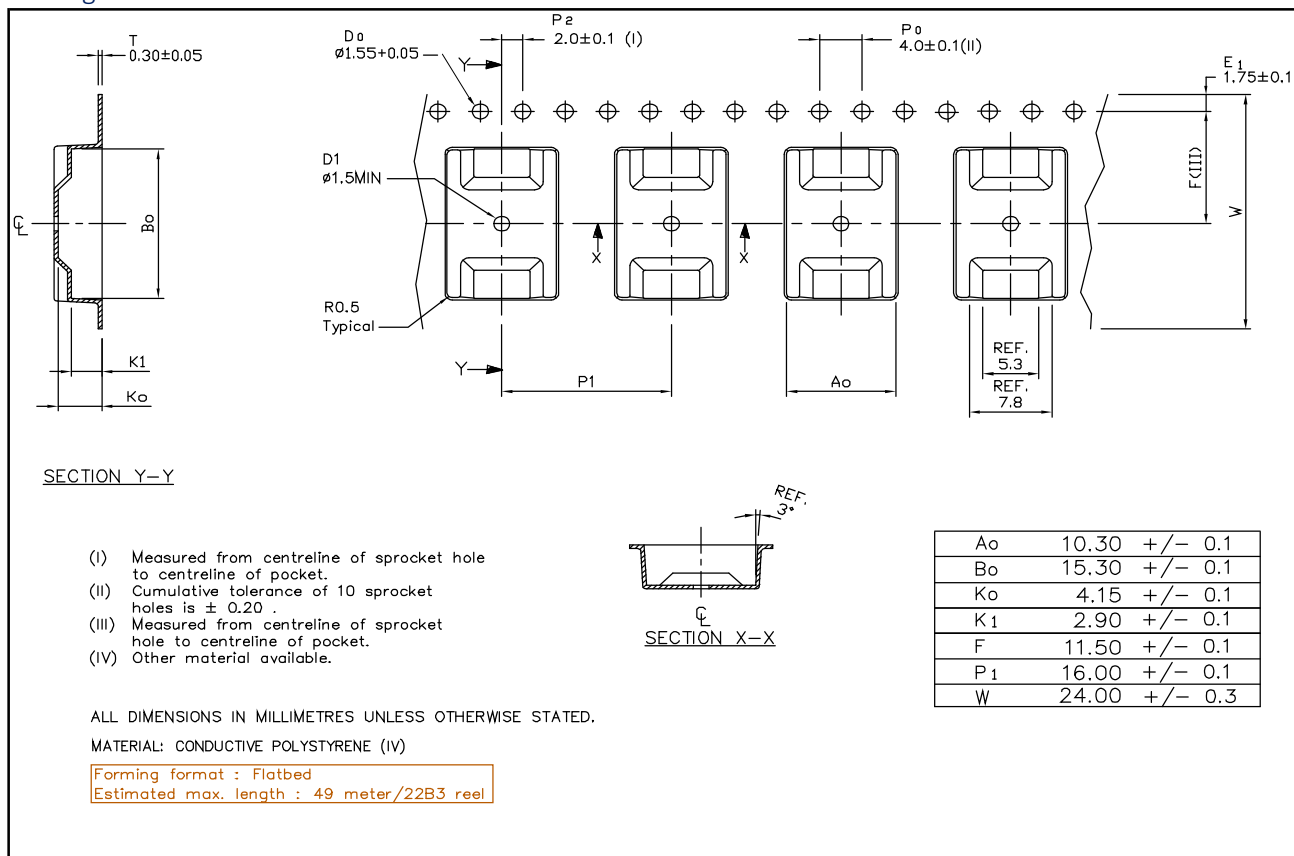


Handling: Please refer to document "Instructions for handling and processing"
Please consider ESD protection while handling.

Technical Drawing, Package: SOJ22 with soldered glass lid



Package dimension



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