

### Features

- 8 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 NTC.

### Application

- LiDAR range finder
- LiDAR ACC
- Laser scanner

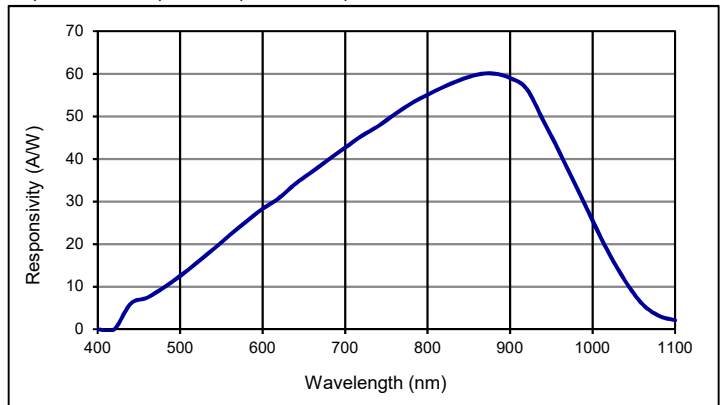
### RoHS

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 ( $I_{P0} = 1$ nA)	200		
$I_{PEAK}$	Peak DC current		0.25	mA

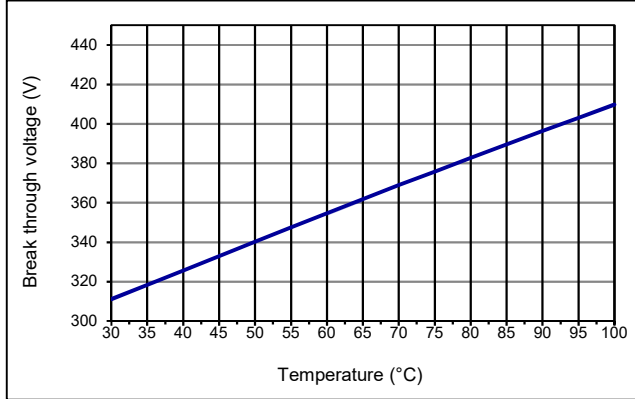
### Spectral response (M = 100)



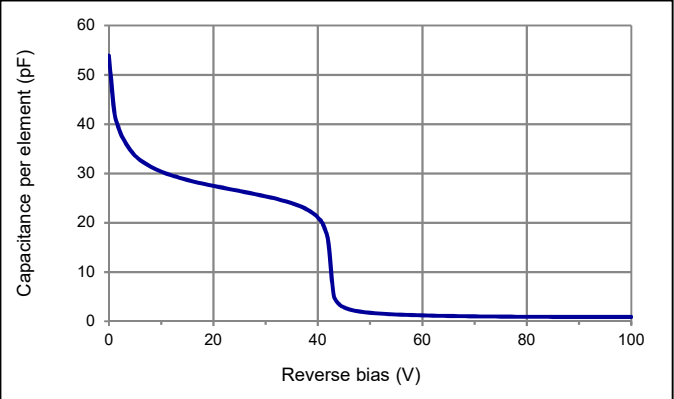
### Electro-optical characteristics @ 23°C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	No of elements			8		
	Active area			1000 x 405		$\mu\text{m}$
	Gap; Pitch			95 ; 500		$\mu\text{m}$
$I_D$	Dark current	$M = 50$ ; $\lambda = 880$ nm, per element		2.0	10	nA
$C$	Capacitance	$M = 50$ , per element, $f = 100$ kHz		1.0		pF
	Responsivity	$M = 100$ ; $\lambda = 905$ nm	52	58		A/W
$t_R$	Rise time	$M = 100$ ; $\lambda = 905$ nm; $R_L = 50 \Omega$		2		ns
$V_{BR}$	Breakdown voltage	$I_R = 2 \mu\text{A}$	160	200	240	V
	Temperature coefficient			1.45		V/K
	Cross talk	$\lambda = 905$ nm		50		dB
	Photo current uniformity	$M = 50$		$\pm 5$	$\pm 20$	%
	Dark current uniformity	$M = 50$		$\pm 5$	$\pm 20$	%
	Resistance of NTC	$T = 25 \text{ }^\circ\text{C}$		10		k $\Omega$
	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

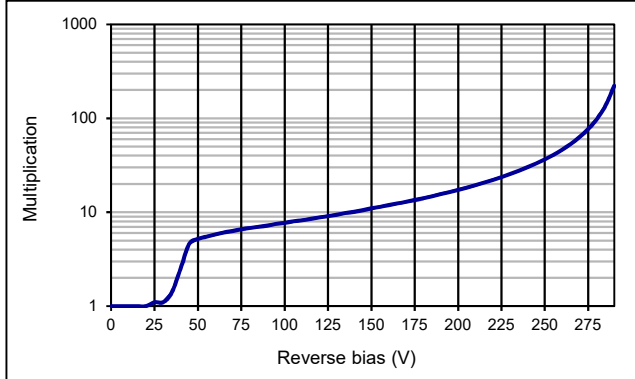
$U_{br}$  as fct of temperature (23 °C)



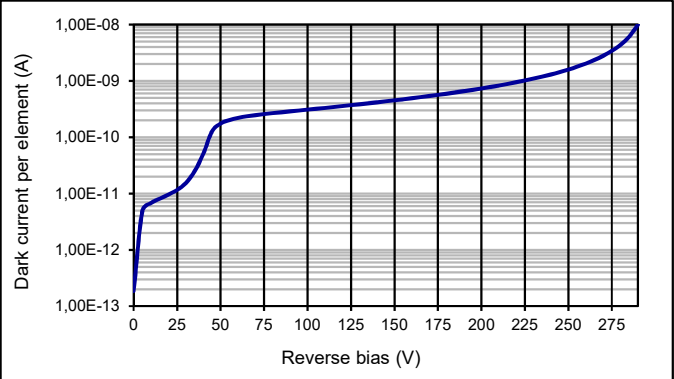
Capacitance as fct of reverse bias (23 °C)



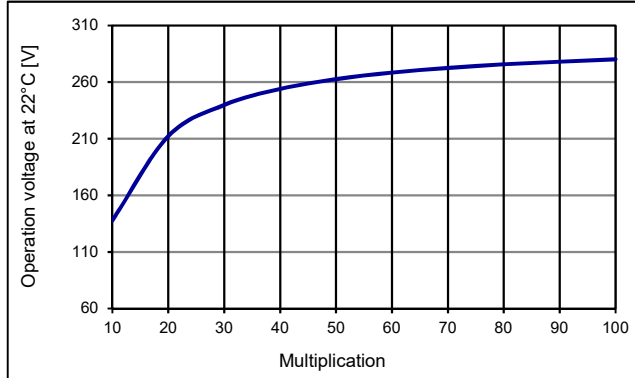
Multiplication as fct of reverse bias (23 °C)



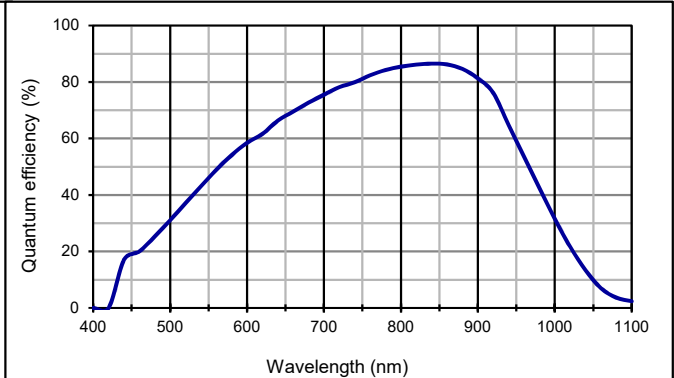
Dark current as fct of reverse bias (23 °C)



Operation voltage as fct of multiplication (23 °C)

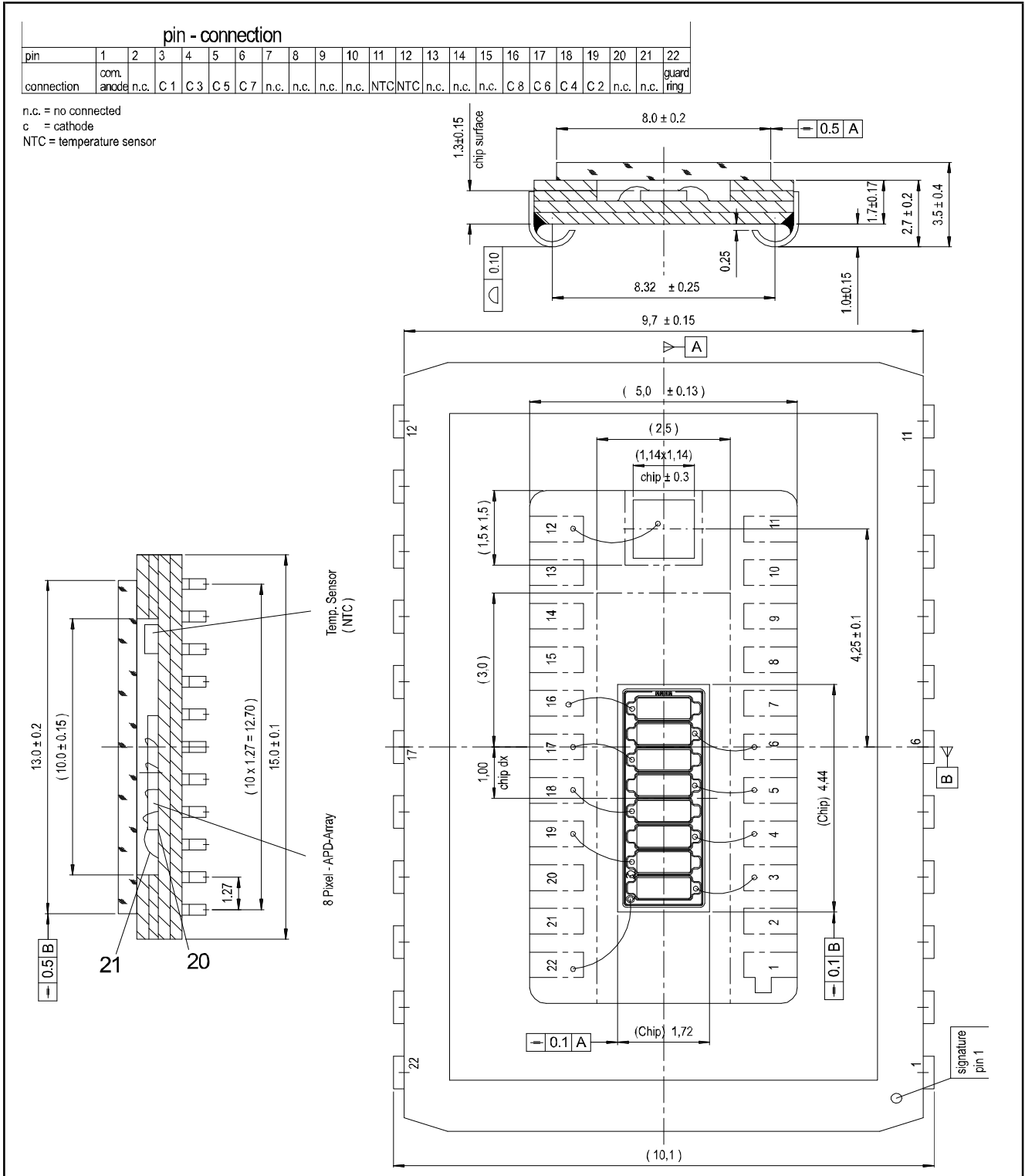


Quantum efficiency (23 °C)

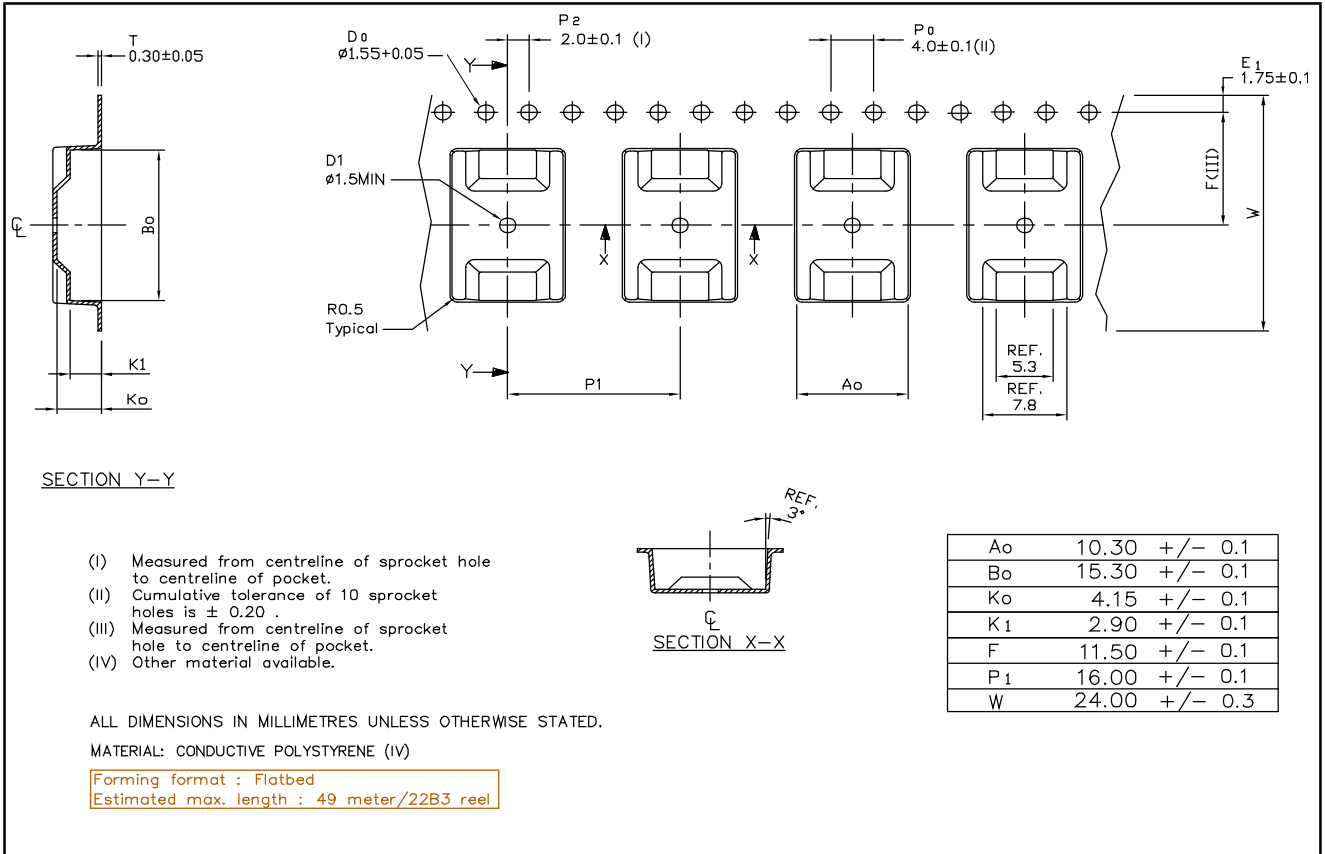


Handling: Please refer to document "Instructions for handling and processing".  
Please consider ESD protection while handling.

Technical Drawing, Package: SMD 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.