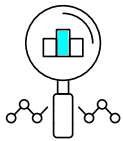


SingularTM
Photonics

Company overview

Singular Photonics, a company with deep roots from the world leading University of Edinburgh CMOS Sensors and Systems group, are bringing to market the next generation of sensors based on single photon avalanche diodes (SPADs). These sensors can detect and time single photons (light quanta) enabling simultaneous capture of depth and temporal dimensions generating 4D images.

Why choose us



Deep industry experience

Our founding team have over 60 years combined industry and academic expertise in the design of SPAD sensors.



Innovation

We are committed to providing innovative solutions that will help create a better tomorrow for everyone.



Integration

Our solutions are designed to seamlessly integrate into your solution.

Overview



Andarta Sensor

- 2D Array

Why SPAD arrays?

- CMOS integration
- Low DCR
- Single Photon Sensitive
- Room Temperature Operation

Applications

- FLIM
- Diffuse Correlation Spectroscopy
- Raman Spectroscopy

Modes

- Single Photon Counting

Software & Firmware

- Universal API
- Integration with LabView, Matlab, Python and other languages

Andarta

Technical Specifications



Andarta Sensor

Detector Type	CMOS SPAD
Technology	65 nm / 40 nm (BSI Stacked)
Sensor Dimension	5 mm x 5 mm
Peak Detection Efficiency	47% @ 785 nm (see plot below)
Fill Factor	100% (with micro lenses)
Dark Count Rate	810 cps Excess bias = 2.5V @ 60 Degree C
Dead Time	4.3 ns
Pixel Array/Macro Pixels	512 x 512 / 128 x 128
Pixel Pitch	10.17 μ m



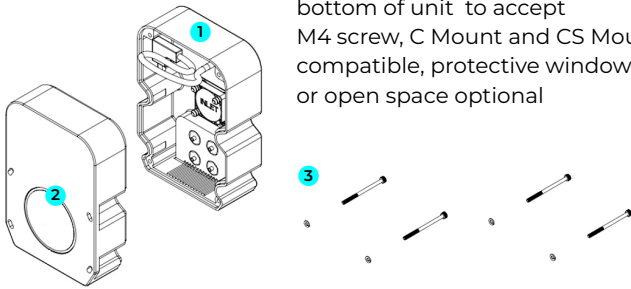
Timing

Timing Function	Gated
Timing Jitter	119 ps
Time Resolution	30 ps (minimum)
Time Gating	Yes
On-chip Delay Generator	Yes

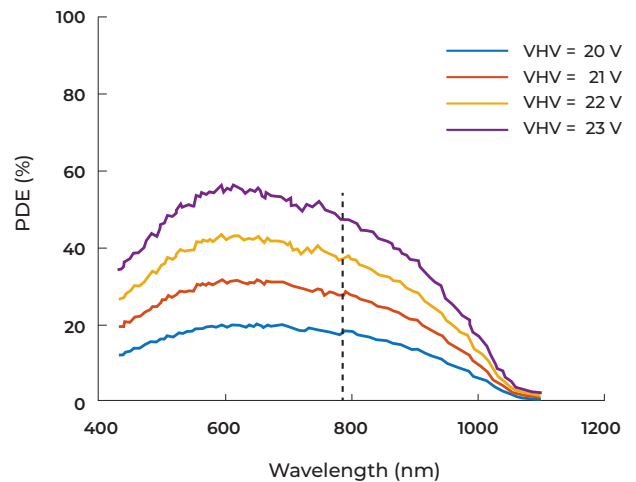


Dimensions and Mounting

- 1. Camera Unit:** 102 mm x 145 mm x 85.25 mm
- 2. Optical Window:** 20 mm diameter
- 3. Mounting Type:** 4x through holes to accept M4 screws and 1x threaded hole on bottom of unit to accept M4 screw, C Mount and CS Mount compatible, protective window or open space optional



Photon Detection Efficiency



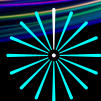
Data Handling

Data Compression:	Yes
Data Rate:	400 Mbps (At 25MHz IO rate)
DCS Frame Rate:	40 fps
Ensemble DCS Rate:	27,000 fps



Interfaces

Power:	12 V AC / DC brick provided
Data Connection:	USB-C
Synchronisation:	4 x TTL / NIM compatible Factory configured



Singular™
Photonics

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www.singularphotonics.com

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We recognise the importance of our **PEOPLE**

We strive for **EXCELLENCE**

We operate with **INTEGRITY**

We deliver **RESULTS**