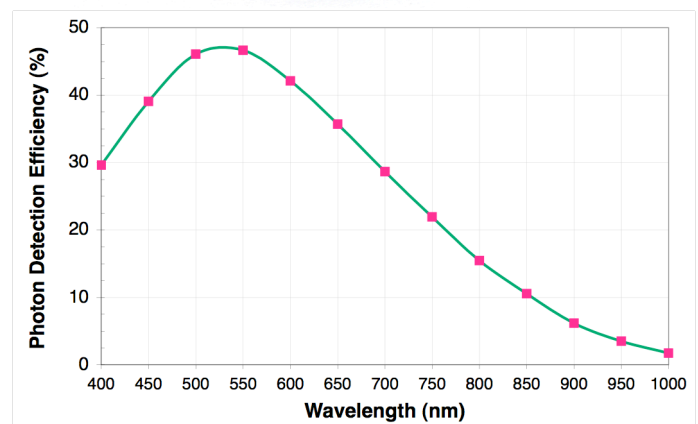
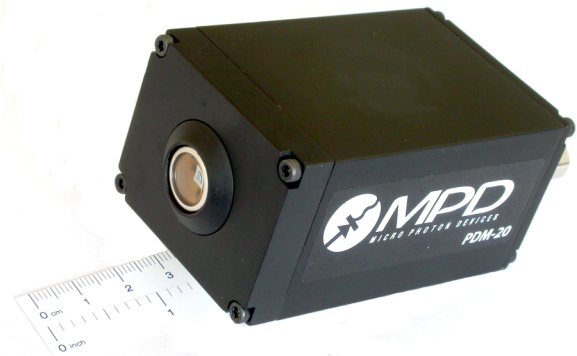


## Applications

- Fluorescence detection
- Single molecule detection
- Adaptive Optics
- Quantum Cryptography
- LIDAR
- Educational detector for photon counting application

## Features

- Robust and low cost
- TE cooling not required (optional)
- Detection efficiency 48% @ 550nm
- Timing resolution < 50ps FWHM
- Low power consumption
- Easy to use



## Product Information

The photon counting detector modules of the PDM series are all solid-state and low priced instruments. They have photon detection efficiency of 48% at 550nm and generate a TTL output pulse per detected photon. With fast-timing option (additional circuit card installed) they provide better than 50ps FWHM photon timing resolution.

The excellent photon detection efficiency and superior timing resolution is obtained through the use of epitaxial silicon Single Photon Avalanche Diodes (SPAD) and patented integrated Active Quenching Circuits (iAQC), specifically designed and optimized for photon counting applications. Low-noise SPADs and low-power iAQCs make these modules ideal for portable equipment and all applications requiring low power consumption.

In addition to the PDM series modules, MPD makes available to customers also special products devised for satisfying specific needs,

such as: modules for use with other custom avalanche photodiodes (e.g. III-V semiconductor devices for IR photon detection); modules with multiple iAQCs for SPAD detector arrays or quad-cell detectors; and others. A technical contact is available for discussing with the customer how to solve the problem with MPD technology.

## Ordering Information

For more information please contact:

### MPD

Email: [info@micro-photon-devices.com](mailto:info@micro-photon-devices.com)  
 Web: [www.micro-photon-devices.com](http://www.micro-photon-devices.com)  
 Tel: +39-0471-051212  
 Fax: +39-0471-501524

### OEC

(North America)  
 Email: [sales@optoelectronics.com](mailto:sales@optoelectronics.com)  
 Web: [www.optoelectronics.com](http://www.optoelectronics.com)  
 Tel: +1-514-694-0336  
 Fax: +1-514-694-8535



**Specifications @ 25°C and 5V overvoltage**

	Min	Typ	Max	Units
<b>Photon Detection Efficiency</b> @ 400nm @ 550nm @ 650nm		27 48 35		%
<b>Single Photon Timing Resolution</b> TTL Counting Output NIM Timing Output (additional internal circuit board required)			250 50	ps (FWHM)
<b>After-pulsing probability</b>	0.1	0.5	1.5	%
<b>Dead Time</b>		65		ns
<b>Supply Voltage</b>	unregulated DC, any value 5V ~ 12V			
<b>Output pulse rise and fall times</b> <b>Output pulse duration</b> <b>Gating input</b> <b>Supply input connector</b>	< 2ns on 10pF load 20ns typical TTL control (low level gates detector off) Standard 3.5mm supply socket			

*PDM Modules are available in **different grades** depending on dark counts specifications. Very low dark counts modules can be selected in order to meet customer requirements!*

Active Area Diameter	TE Cooled	Dark Counts (c/s)		
		A	B	C
20µm		< 250		
20µm	✓	< 25		
50µm		< 5k		
50µm	✓	< 250	< 100	< 50
100µm		< 20k		
100µm	✓	< 1k	< 500	< 250

