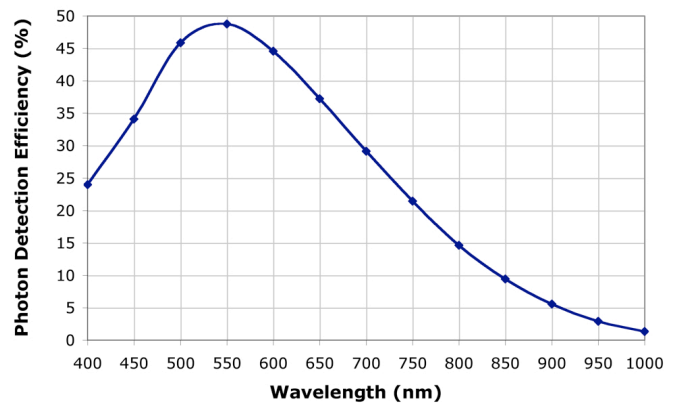
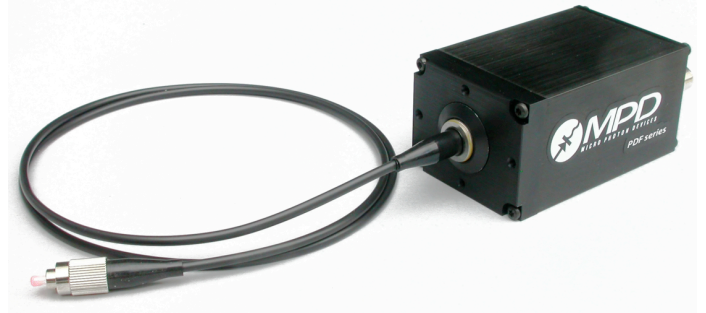


Applications

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

Features

- Available fibers: single-mode, 62.5 μ m multimode graded index
- High coupling efficiency: > 80%
- Timing resolution < 50ps FWHM
- Detection efficiency 49% @ 550nm
- TE cooling not required (optional)
- Low power consumption
- Easy to use



Product Information

The PDF series photon counting detector modules are all solid-state instruments. The sensor (MPD-SPAD) has a photon detection efficiency of 49% at 550nm and generates a TTL output pulse per detected photon. With fast-timing option (additional circuit board installed) the PDF module provides better than 50ps FWHM photon timing resolution. The fiber optic is coupled directly to the sensor without the use of any optics. In this way a coupling efficiency as high as 100% and no less than 80% has been achieved independently of the wavelength.

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.

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:

Micro Photon Devices
Via Stradivari 4, I-39100 Bolzano
Italy

Email : sales@micro-photon-devices.com

Web : www.micro-photon-devices.com

Tel : +39-0471-051212

Specifications @ 25°C and 5V overvoltage

	Min	Typ	Max	Units
Photon Detection Efficiency @ 400nm @ 550nm @ 650nm	21 45 34	24 49 37		%
Single Photon Timing Resolution TTL Counting Output NIM Timing Output (additional internal circuit board required)		35	250 50	ps (FWHM)
Coupling Efficiency	80			%
After-pulsing probability	0.1		3	%
Dead Time		77		ns
Supply Voltage	unregulated DC, any value 5V ~ 12V			
TTL Output pulse rise and fall times Output pulse duration Gating input Supply input connector	< 2ns on 10pF load 20ns typical 5V CMOS control (0V gates detector off) Standard 3.5mm supply socket			

PDF 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!

Grade Fiber Type	Dark Counts (c/s) TE Cooled			Dark Counts (c/s) @ 25°C
	A	B	C	A
Single mode SM600	< 25			< 250
Single mode SMF-28	< 25			< 250
Multimode graded index 62.5µm core	< 600	< 300	< 150	< 20k

