

High Sensitivity Fast PIN Photodetector Series FPD510



The high sensitivity PIN Photodetector FPD510 is optimized for highest signal-to-noise ratio when detecting low level optical beat signals at frequencies up to 250 MHz. The unit is recommended in particular for applications in metrology when beat signals of weak power have to be detected in a highly efficient way. Models for both the visible and the near infrared regime are available.

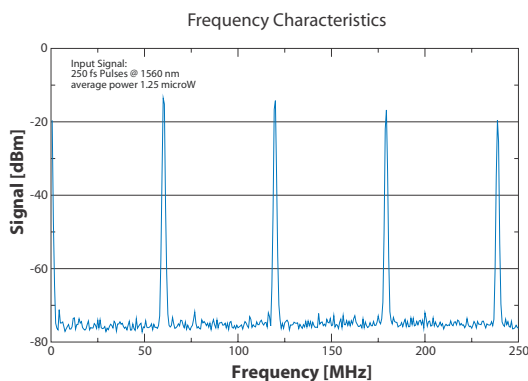
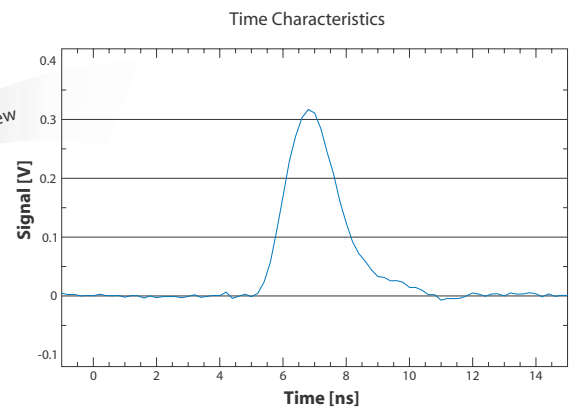
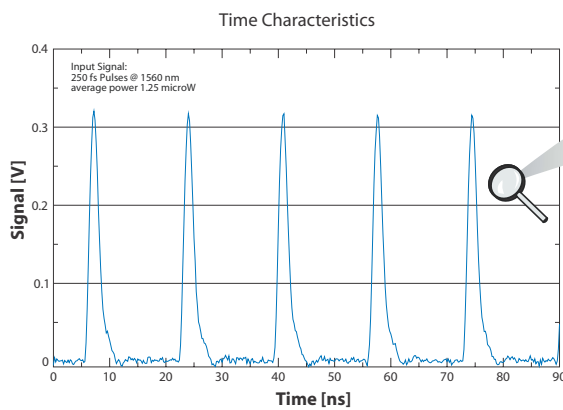
Features

- High signal-to-noise ratio
- Flat spectral response (less than 3dB up to 200 MHz)
- OEM package with FC/APC pigtail (SMF28) or free space module
- Available for visible and near infrared spectral range

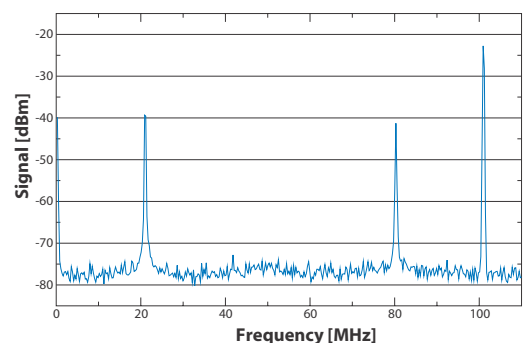
Applications

- Efficient detection of optical beat signals at frequencies up to 250 MHz
- Detection of fiber coupled or freespace low light level signals
- OEM integration

FPD510: Pulse response of a femtosecond pulse train at 1560 nm



Example Application: Offset Beat of Self-referenced Frequency Comb



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TECHNICAL SPECIFICATIONS			
	FPD510	FPD510-F	FPD510-FV
Optical Input	Fiber *	Freespace	Freespace
Supply Voltage	+8 to +20 V	+8 to +20 V	+8 to +20 V
Current Consumption	50 mA	50 mA	50 mA
Max. Incident Power	10 mW	10 mW	10 mW
Operating Temperature	10-40 °C	10-40 °C	10-40 °C
Spectral Range **	850-1650 nm	850-1650 nm	400-1000 nm
Detector Diameter	-/-	0.3 mm	0.4 mm
Frequency Range	0-250 MHz	0-250 MHz	0-250 MHz
3dB Bandwidth	0-200 MHz	0-200 MHz	0-200 MHz
Rise Time	2 ns	2 ns	2 ns
Gain ***	4 x 10 ⁴ V/W	4 x 10 ⁴ V/W	4 x 10 ⁴ V/W
Dark State Noise Level	-120 dBm	-120 dBm	-120 dBm
NEP (calculated)	3 pW/√Hz	3.2 pW/√Hz	6 pW/√Hz
Output Connector	SMA	SMA	SMA
Output Impedance	50 T	50 T	50 T
Device Dimensions	60x50x27 mm	60x50x27 mm	60x50x27 mm
Output Coupling	DC	DC	DC

* SMF28 pigtail with FC/APC

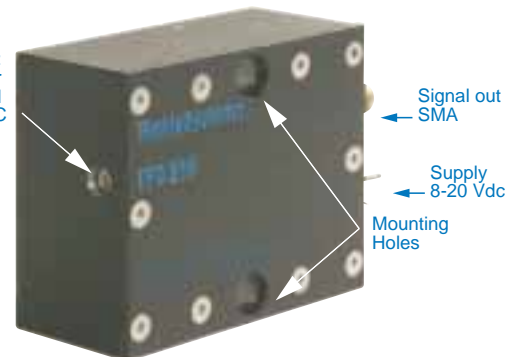
** other spectral ranges available on request

*** at 200 MHz, 1500 nm

Mechanical Outline

The FPD510 detectors feature ultrafast fiber coupled and freespace photoreceivers with an integrated low noise transimpedance amplifier all in one compact housing. The bandwidth of the DC-coupled device is 200 MHz. Due to its compact housing OEM integration can be easily achieved.

Optical Input:
Freespace or
SMF28 Pigtail
with FC/APC



ORDERING INFORMATION

FPD510	Fiber-coupled High Sensitivity PIN Photodiode FPD510 with Integrated RF-amplifier, Wavelength Range 850-1650 nm;	EUR 1,190
FPD510-F	Freespace High Sensitivity PIN Photodiode FPD510-F with Integrated RF-amplifier, Wavelength Range 850-1650 nm;	EUR 1,190
FPD510-FV	Freespace High Sensitivity PIN Photodiode FPD510-FV with Integrated RF-amplifier, Wavelength Range 400-1000 nm;	EUR 1,190

For custom modifications and OEM quantities please call for pricing.

Prices and Specifications are subject to change without notice.

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