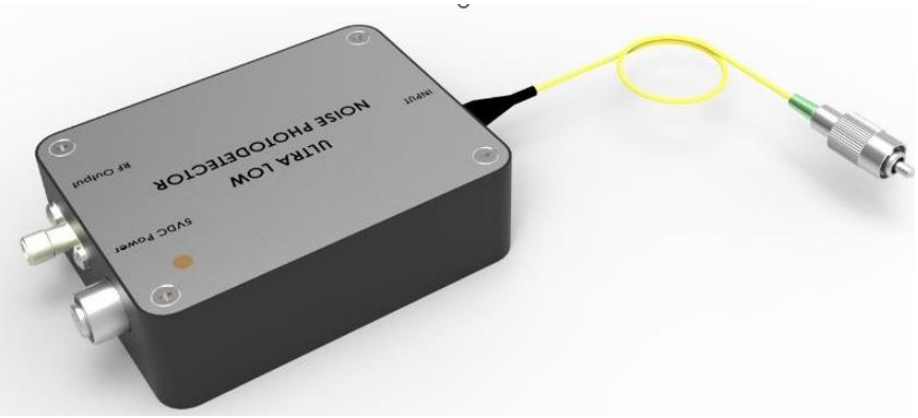
InGaAs ultra-low noise unit detector 5G



Product Description

The ultra-low noise photodetector module integrates an ultra-low noise analog PIN photodetector, a low-noise broadband transimpedance amplifier, and an ultra-low noise isolated single power supply. The output signal is unaffected by external power supply sources. This module is particularly outstanding in terms of background noise control, with its background noise being approximately one-third of that of conventional modules under the same parameters, effectively meeting customers' needs for smaller signal detection and higher signal-to-noise ratio.

Product features

Ultra-low noise、 High gain、 High bandwidth、 Compact structure、 Built-in low-noise isolated power supply

Part Number

MP-UPD-M-I-5000-F/S-A

Application area

Fiber optic sensing、 Fiber optic communication、 Laser ranging、 Spectral measurement、 Nanosecond level optical pulse detection

Core parameters

Wavelength	Bandwidth
800-1700nm	5GHz

General Parameters

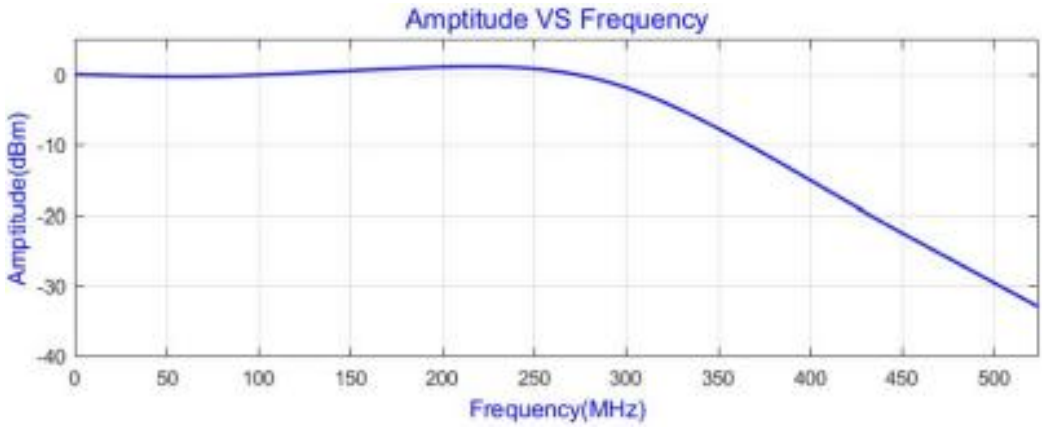
Parameters

Detector Type	InGaAs													
Wavelength	800~1700													nm
Bandwidth	100M	200M	300M	400M	500M	600M	800M	1G	1.2G	1.5G	2G	2.5G	5G	Hz

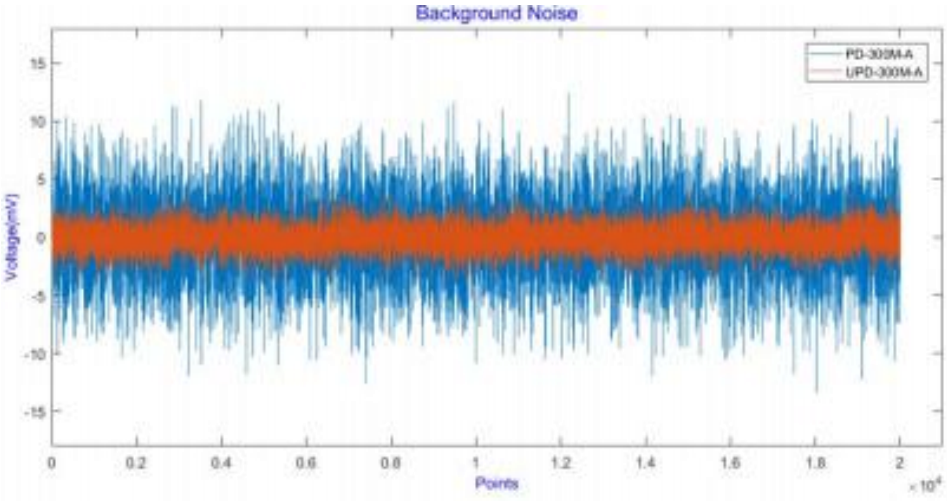
Detector Responsivity	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	A/W @1550nm
Transimpedance Gain	30K	30K	30K	20K	15K	15K	30K	30K	30K	30K	30K	30K	6K	V/W
Saturation Optical Power	140	140	140	420	280	280	140	140	140	420	140	140	700	μW
NEP	2.2	2.2	2.2	2.7	3.1	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	pW/Sqrt(Hz)
Output Impedance	50	50	50	50	50	50	50	50	50	50	50	50	50	Ω
Output Coupling	DC/AC	DC/AC	DC/AC	DC/AC	DC	DC	AC	AC	AC	AC	AC	AC	AC	
Power Supply Voltage	5	5	5	5	5	12	12	12	12	12	12	12	12	V
Power Supply Curren	0.5 (max)	0.5 (max)	0.5 (max)	0.5 (max)	0.5 (max)	0.5 (max)	0.5(m	0.5(m	0.5 (max)	0.5(m	0.5(m	0.5 (max	0.3	A

t							ax)	ax)		ax)	ax)	)		
Optical Input	FC/APC（Free space option available）												FC/APC	
RF Output	SMA												SMA	
Dimensions	65*50*20						65*50*25						80*90*25	mm

Test Result



300MHz ultra-low noise unit detector



Comparison of the Ultra-Low Noise Unit Detector with Conventional Unit Detector in Terms of Background Noise