InGaAs Ultra-low Noise Balanced Detector

1.5G

Product Description

The UBD series ultra-low noise balanced detector module are upgraded products based on the previous MBD series. Compared to the original MBD series, the background noise is significantly reduced under the same conditions. With the same bandwidth and gain, the background noise of the UBD series is approximately one-third of that of the MBD series modules, resulting in higher sensitivity and better signal-to-noise ratio.

Product features

Ultra-low noise、High Gain、High bandwidth、Compact structure、Built-in low-noise isolation power supply

Part Number

MP-UBD-M-I-1500-F/S-A

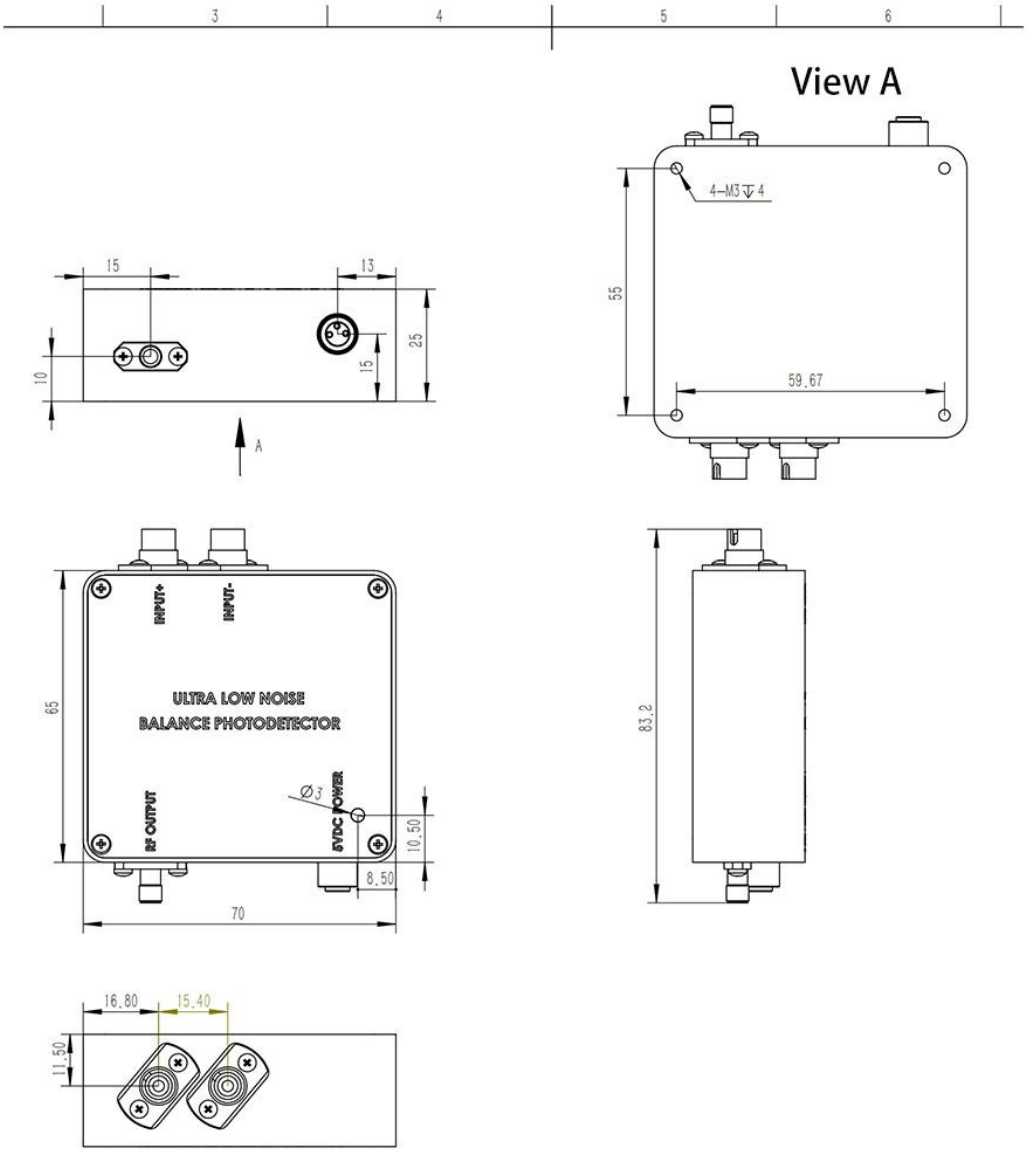
Application area

Distributed fiber optic sensing、 Laser wind radar、 Optical coherence tomography、 Spectral measurement、 Pulsed light detection

Core parameters

Wavelength	Bandwidth	Responsivity
800-1700nm	1.5GHz	0.95A/W

• Dimension Drawing



• General Parameters

Parameter

Detect or type	**InGaAs**	

Wavelength	800~1700											nm
Bandwidth	100M	200M	300M	400M	500M	800M	1G	1.2G	1.5G	2G	2.5G	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	A/W@1550nm
Transimpedance gain	30K	30K	30K	20K	10K	30K	30K	30K	30K	30K	30K	V/W
Maximum input optical power	140	140	140	210	420	140	140	140	140	140	140	μW
NEP	2.5	2.5	2.5	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	pW/Sqrt(Hz)
Common	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	dB

mode rejection ratio												
Output impedance	50	50	50	50	50	50	50	50	50	50	50	Ω
Output coupling mode	DC/AC	DC/AC	DC/AC	DC/AC	DC	AC	AC	AC	AC	AC	AC	
Supply voltage	5	5	5	5	5	12	12	12	12	12	12	V
Supply current	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	A
Optical input	FC/APC（Free space optional）											
RF output	SMA											
Dimen	80*90*25											mm

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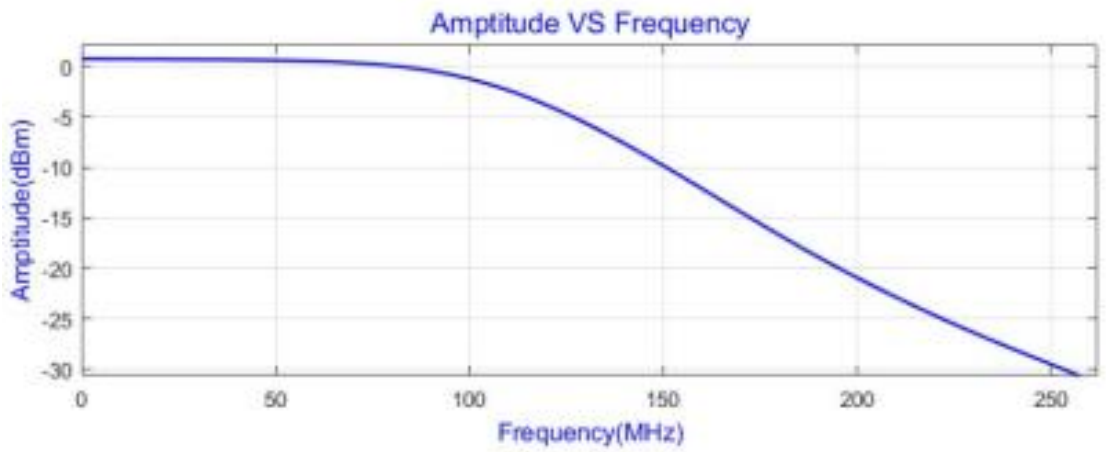
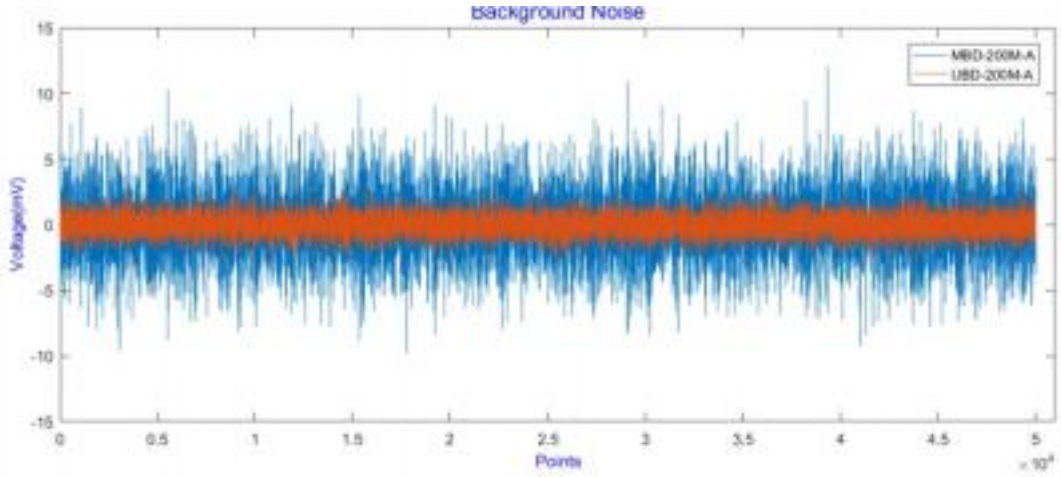
Test result



300 MHz bandwidth response curve



Comparison of the baseline noise between ultra-low noise balanced detectors and conventional balanced detectors