InGaAs Ultra-Low Noise Balanced Detector UBD-2.5G-A

Product Description

The UBD series ultra-low noise balanced detection module is an upgraded product based on the original MBD series. Compared with the original MBD series, its background noise is significantly reduced under the same other parameters. Under the same bandwidth and gain conditions, its background noise is about one-third of the MBD series module, so it has higher sensitivity and higher signal-to-noise ratio.

Part Number

UBD-2.5G-A

Product features

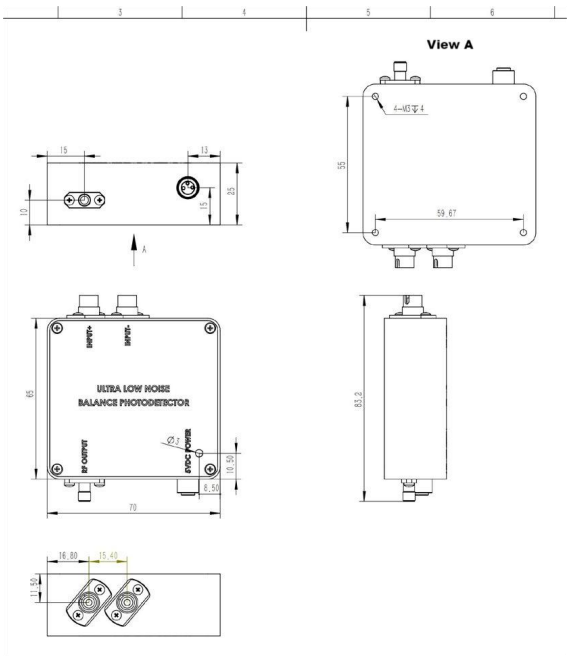
Ultra-low noise、 High gain、 High bandwidth、 Compact structure、 Built-in low-noise isolated power supply

Application area

Distributed fiber optic sensing、 Laser wind radar、 Optical coherence tomography、 Spectral measurement、 Level optical pulse detection

Parameters

Dimensional Drawing



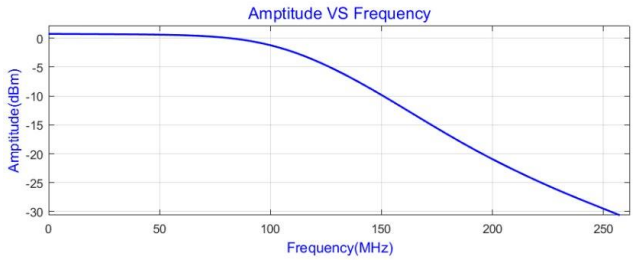
Parameters

PN#	UBD-100M-A	UBD-200M-A	UBD-300M-A	UBD-400M-A	UBD-500M-A	UBD-800M-A	UBD-1G-A	UBD-1.2G-A	UBD-1.5G-A	UBD-2G-A	UBD-2.5G-A	Unit
Detector type	InGaAs											
Wavelength	800~1700											nm
Bandwidth	100M	200M	300M	400M	500M	800M	1G	1.2G	1.5G	2G	2.5G	Hz

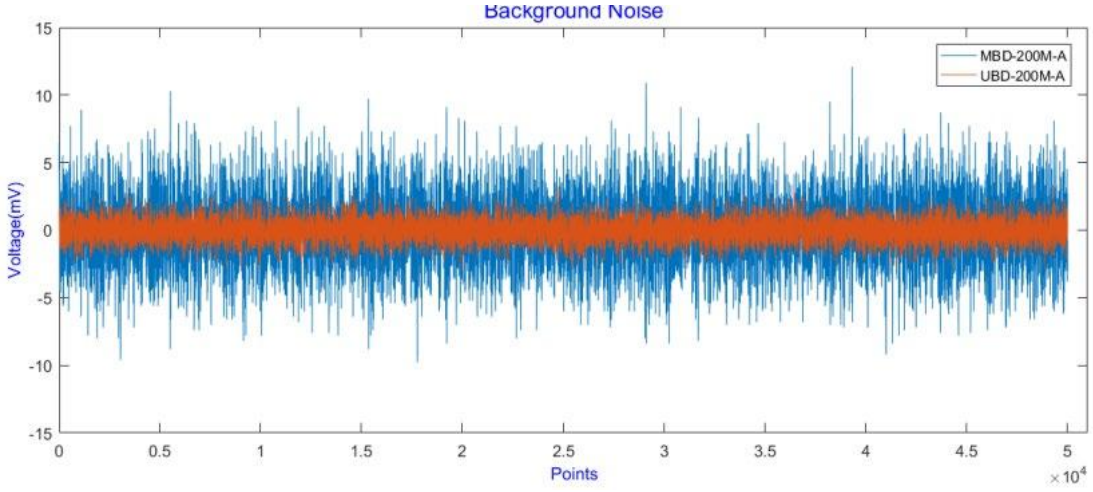
Detector responsivity	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	A/W @1550nm
Transimpedance gain	30K	30K	30K	20K	10K	30K	30K	30K	30K	30K	30K	V/W
Maximum input optical power	140	140	140	210	420	140	140	140	140	140	140	μW
NEP	2.5	2.5	2.5	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	pW/Sqrt(Hz)
Common mode rejection ratio	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	dB
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											
Dimensions	80*90*25											mm

Test results:



300MHz bandwidth corresponding curve



Comparison of noise floor between ultra-low noise balanced detector and conventional balanced detector