# InGaAs Ultra-Low Noise Balance Photodetector




## Description:

The UBD series ultra-low noise balance detector 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 conditions of other parameters. Under the same bandwidth and gain conditions, its background noise is about one third of the MBD series module. Because of this, its sensitivity is higher and its signal to noise ratio is higher.

## Features:

- Low Noise
- High Bandwidth
- High Transimpedance Gain
- Compact Structure
- Built-in low noise isolation
- Power supply

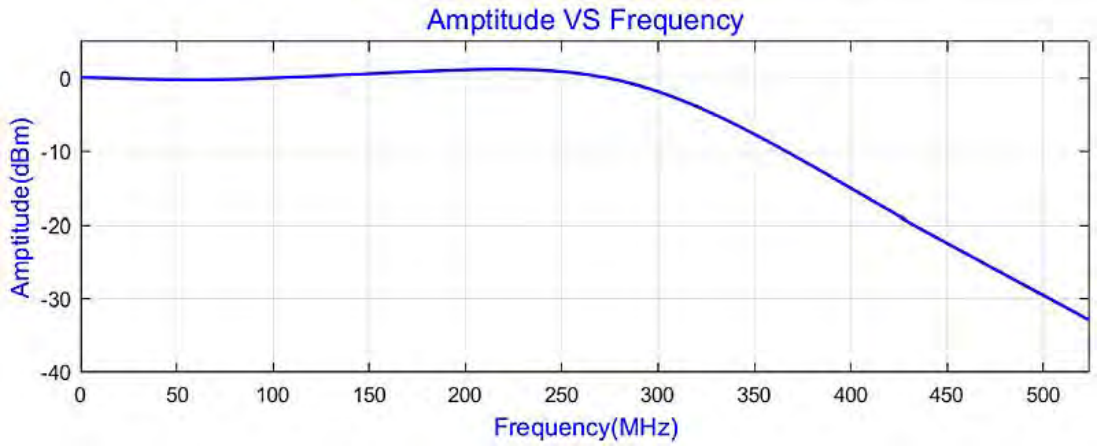
## Application:

- Optical Fiber Sensing
- Doppler Wind Lidar
- OCT
- Laser Ranging
- Spectrometry

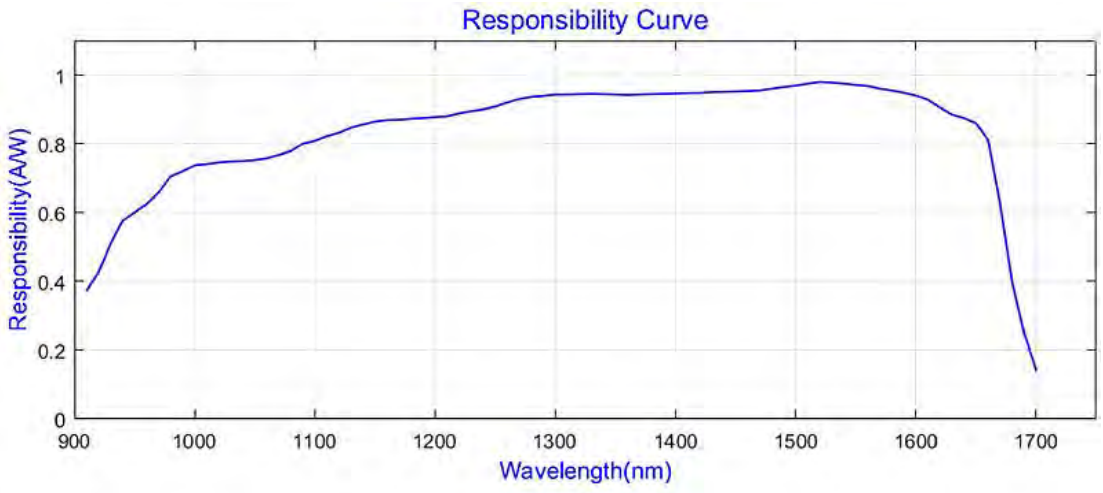
## Specifications:

| Product Model | 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 Model | 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 |
| Saturated 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) |
| CMRR | >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(or Free Space) | | | | | | | | | | | |
| Radio Frequency Output | SMA | | | | | | | | | | | |
| Shape Size | 65*70*25 | | | | | 80*90*25 | | | | | | A |

## Test Result:




Bandwidth curve of 300MHz Ultra-Low Noise Photodetector




Detector Responsivity Curve