Bias Detector Series PD1500/PD2100

1 Module Introduction and Product Features

Detectors of this series are directly interchangeable with Thorlabs' battery-equipped products and perform no worse than Thorlabs' similar products in all aspects. In addition to detectors with existing specifications, customization services are also available. Various parameters of the detector (such as supply voltage, bandwidth, etc.) can be adjusted according to customer requirements to meet specific application needs.

This series is specifically designed for laser measurement systems. It has no gain amplification, comes with a built-in battery, and serves as a cost-effective detector product for high-power laser laboratories.

2 Usage Instructions

2.1 Appearance and Interface Description

The appearance of the module is shown in the figure below:

Figure 2-1 Appearance diagram of the detector module

2.2 Electrical Description

Output Interface: SMA (female connector)

Output Impedance: 50 ohms

Spectral Response Range: 800nm-1700nm; 350nm-1000nm (corresponding to PD1500 and PD2100 respectively)

Detector Responsivity: >0.95A/W @1550nm

Warning: Do not exceed the saturation optical power (Saturation Power) for the optical input amplitude.

3 Performance Parameters

Test Parameters of Bias Detectors (PD1500/2100 Series)

Model	**PD1500**	PD2100
Wavelength Range	900nm-1700nm	320nm-1000nm
3dB Cut-off Bandwidth	5GHz	1GHz
Saturation Optical Power	5mW	5mW
Rise time(10%~90%)	<80ps	<400ps
Typical Max. Responsivity	>0.9A/W @1550nm	>0.4A/W @760nm
Maxim Output	1V@50ohm	5V@50ohm
Incident Power (Max)	10mW	10mW
Detector Material/Type	InGaAs/PIN	Si/PIN
Detector Diameter	75μm	400μm
Operating Temperature	-40℃~85℃	-40℃~85℃
Optical Input	FC/APC or Flat Window	Flat Window
Electrical Output	SMA(DC Couple)	SMA(DC Couple)
Power Supply Requirement	A23, +12VDC	A23, +12VDC

Figure 3-1 Summary of Electrical Performance

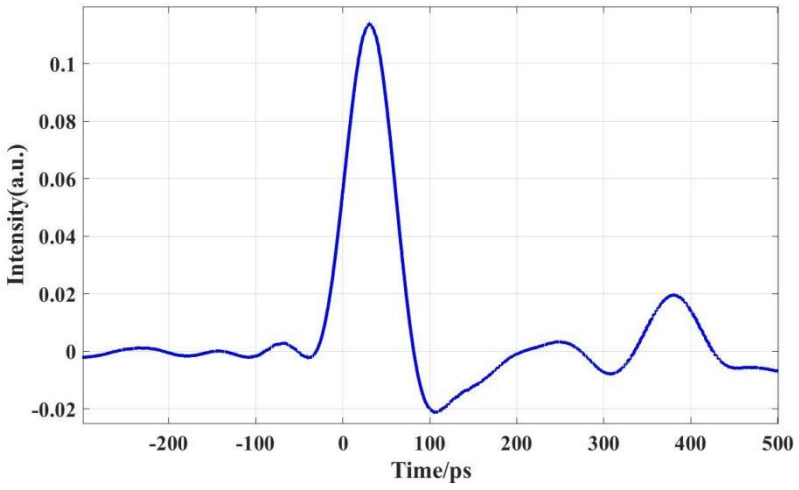

Figure 3-2 PD1500 Pulse Response Curve

Figure 3-3 PD2100 Pulse Response Curve

4、PD1500&PD2100 Detector mechanical drawing

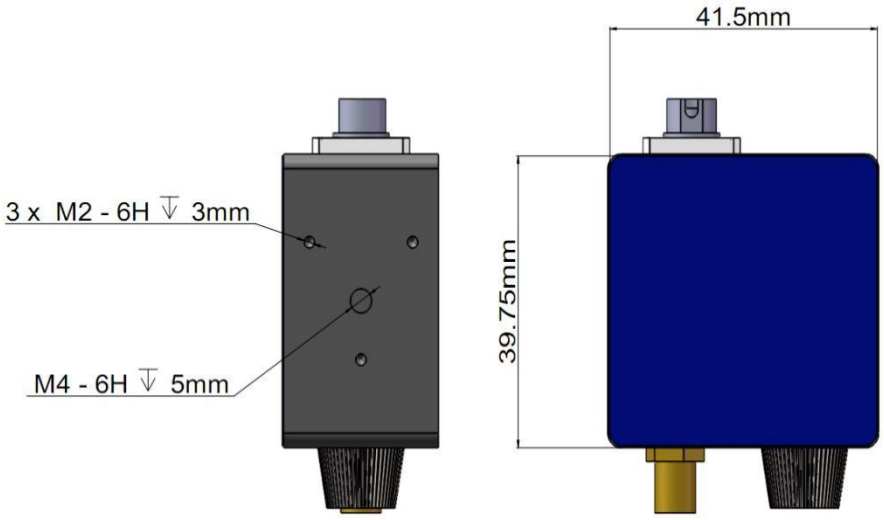

Figure 4-1 Mechanical dimension diagram of the bias detector module