

## InGaAs Amplifier Photodetector 800-1700nm (5MHz)



### Product Description:

PDA M 20A6B4G-INGaAS photodetector is a rated bandwidth, fixed gain photodetector used for detecting optical signals. The optical signal is input from the photoelectric sensor surface, and the output is in the form of voltage through BNC. This product can measure the optical signal in the wavelength range of 800nm to 1700nm. Refer to appendix table for specific performance parameter data. The housing of the LD-PD photodetector has inch 1/4"-20 threaded mounting holes, which can be easily installed and fixed. The housing part also comes with two different sizes of threaded adapters, which are suitable for industrial and scientific research applications, it can be easily adapted to external optical components, such as filters, attenuators, lenses, FC fiber adapters, etc. This product includes a plastic dust cover. Please refer to the third chapter for specific installation. Each photodetector is equipped with a linear DC power supply with an output of 9V, and the rated input voltage of this DC power supply is 220VAC/50Hz.

### General Parameters:

- Spectral Response: 800-1700nm
- Material: InGaAs
- Bandwidth (Hz): 5 MHz

### Product Characteristics:

- Low noise, less than  $\pm 1$  mV
- The overshoot is small, and the overshoot voltage is less than 2.5%.
- Gain stability: gain error is less than 1%
- Dark bias voltage output noise: less than 1 mV (rms)

# Kokyo

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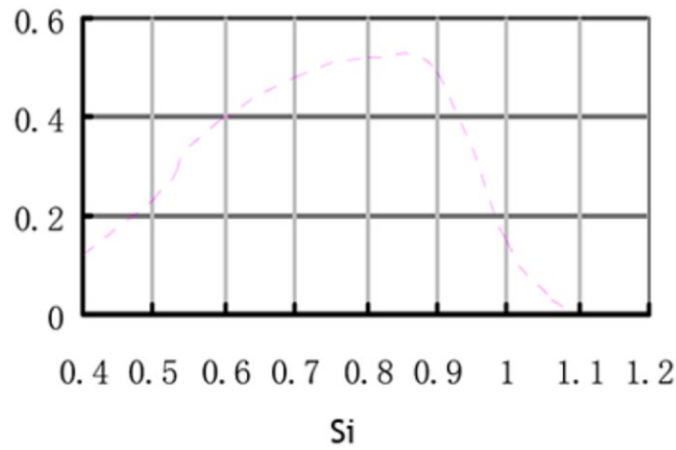
## Applications:

- Display panel detection
- Stroboscopic analysis of LED lighting
- Measurement of flicker frequency and power of toy light
- Gas analysis

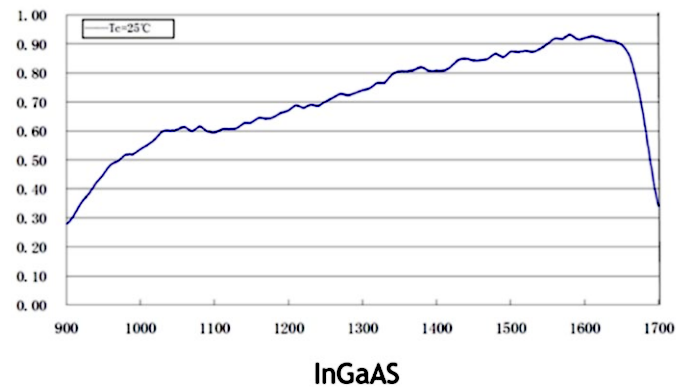
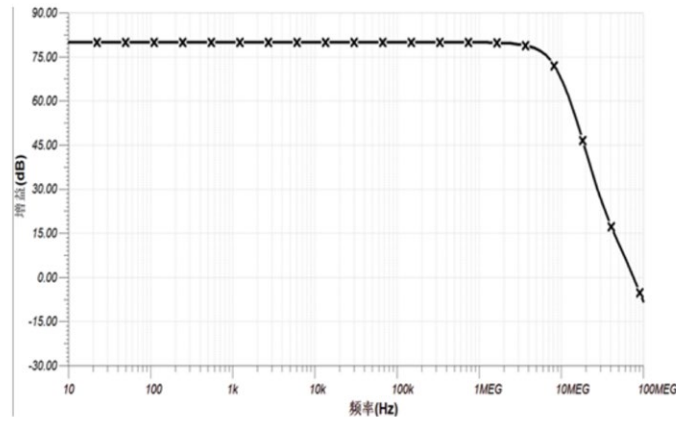
## Product Parameter:

PN#	PDA M 005B-Si	PDA M 36A5B6G-SI	PDA M 20A6B4G-InGaAs
Electrical Characteristics			
Input Voltage	±9VDC, 60mA	±9VDG, 100mA	±9VDC, 100mA
Probe	Silicon PIN	Silicon PIN	InGaAs PIN
Photosensitive Surface	2.65mm * 2.65mm	3.6mm * 3.6mm	Diameters@2 mm
Wavelength	400 nm - 1100 nm	320 nm - 1100 nm	800 nm - 1700 nm (Optional Extended 2600nm)
Peak Response	0.62A/W @850nm	0.6 A/W @960nm	0.9 A/W@1550nm
	43.6mV/uW @850nm	1 mV/nW @960nm	9mV/uW@1550nm
Saturated Optical Power	113pW@ 850nm (Hi-Z)	6uW @960nm (Hi-Z)	660 uW@1550nm (Hi-Z)
Bandwidth	DC - 5MHz	DC - 200kHz	DC - 5MHz
NEP	7.2 pW/4HZ1/2	2.2 pW/HZ1/2	64.5 pW/HZ1/2
Output Noise (RMS)	700 uV	1 mV. typ	1.3 mV. typ
Dark Current Bias (MAX)	±5 mV	±1 mV	±5 mV
Rising/Falling Edge (10%-90%)	65 ns	1.7 us	68ns
Output Voltage	0 - 5V (Hi-Z)	0 - 6V (Hi-Z)	0 - 6V (Hi-Z)
	0 - 2.5V (50ohm)	0 - 25V (50ohm)	0 - 25V (50ohm)
Gain Multiple	67.5 kV/A	1.68 MV/A	10 kV/A
	33.8 kV/A	0.84 MV/A	5kV/A
Gain (typ)	±1%	±1%	±1%
Other Parameters			
	Toggle switch	Toggle switch	Toggle switch
Output Interface	BNC	BNC	BNC
Measure	53*50*50mm	53*50*50mm	53*50*50mm
Weight	150g	150g	150g
Operating Temperature	10-50deg	10-50deg	10-50deg
Storage Temperature	-25°C- 70°C	-25°C- 70°C	-25°C- 70°C

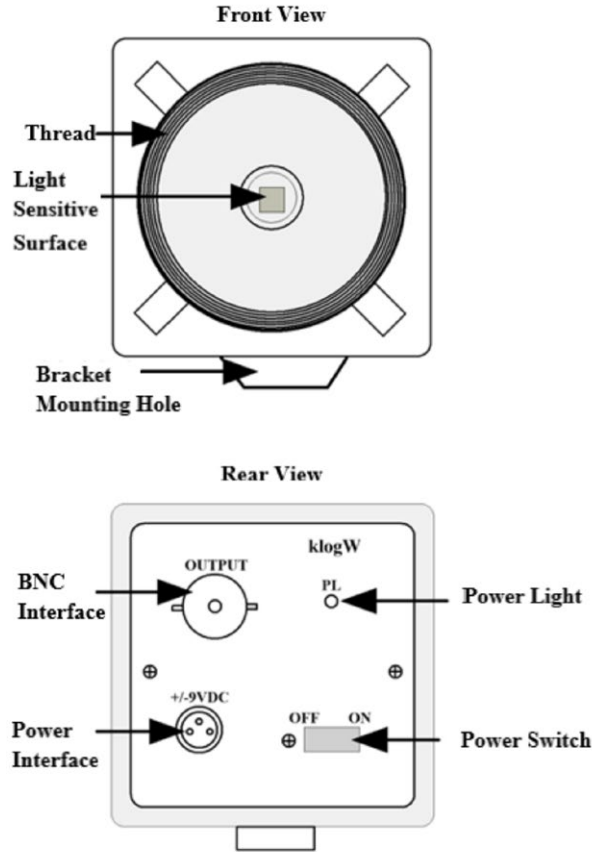
**Spectral Sensitivity**



**AC Transmission Characteristics**



### Appearance and Installation



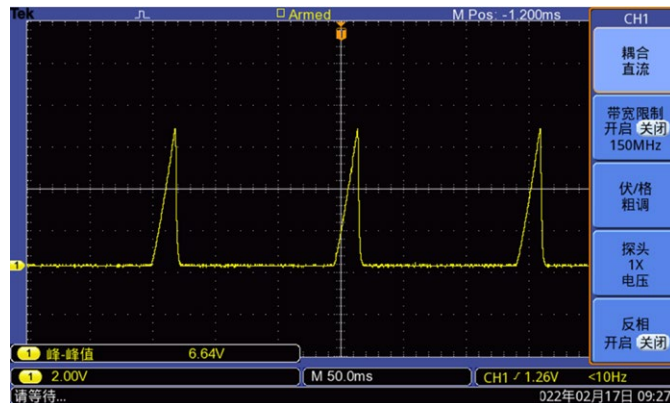
### Test Case:

Test light source:

PN: PL-DFB-9672.4-B-A81-PA

SN: DO3431e-q2-Bo2-A19

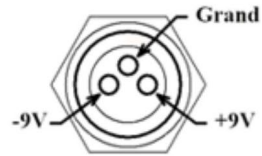
Test conditions: 25°C, laser current scanning for 15-23mA, detector output as shown in the following figure.



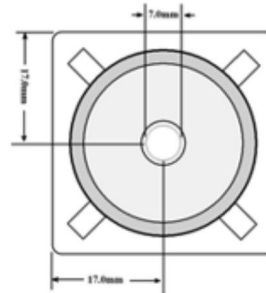
This detector has high detection accuracy at 972nm, and can also detect weak light (tens of microwatts).

## Dimensional Drawing

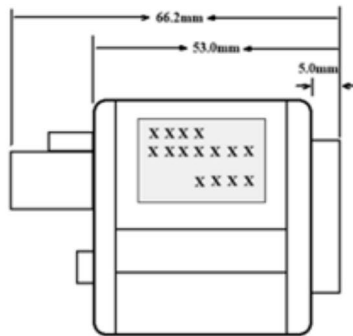
### Power Interface



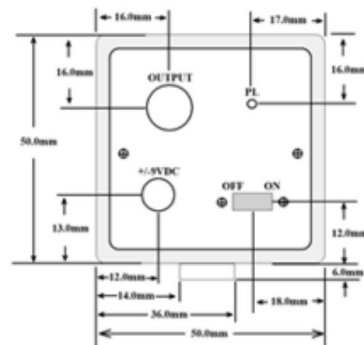
### Front View



### Lateral View



### Back View



### Bottom Mounting Hole Drawing

