320-1100nm Silicon Amplified Photodetector (DC-200kHz)

Product Description

The PDAM20A6B4G-InGaAS photodetector is a fixed-gain photodetector with a rated bandwidth, used to detect optical signals. The optical signal is input from the photoelectric sensor sensing surface and output in the form of voltage through the BNC. This product can measure optical signals in the wavelength range of 800nm to 1700nm. For specific performance parameter data, please refer to the appendix table. The photodetector housing has a mounting hole with a British 1/4"-20 thread, which can be easily installed and fixed. The housing also comes with two different sizes of threaded rings, which are suitable for industrial applications and scientific research applications respectively, and can be easily adapted to external optical components such as filters, attenuators, lenses, FC fiber adapters, etc. The product includes a plastic dust cover. For specific installation, please refer to Chapter 3. Each photodetector is equipped with a DC linear power supply with an output of ±9V. The input rated voltage of the DC power supply is 220VAC/50HZ.

Part Number

PDAM36A5B6G-SI

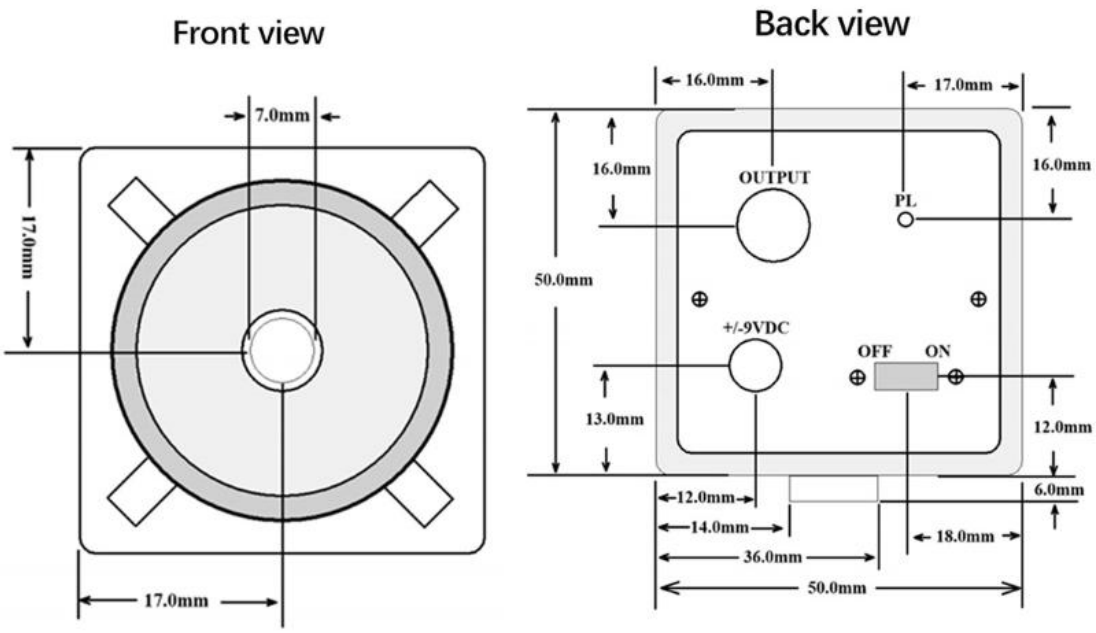
Product features

Low noise, less than ±lmV、 Small overshoot, overshoot voltage less than 2.5%、Gain stability: gain error less than 1%、Dark bias voltage output noise: less than lmV (rms)

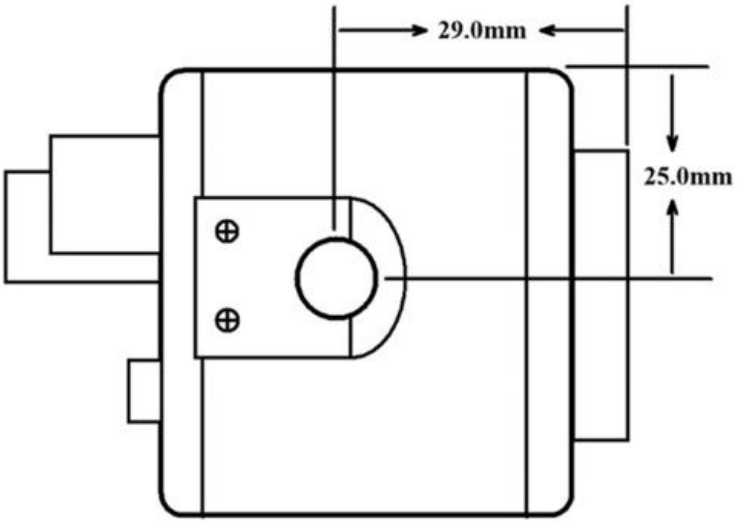
Application area

Display panel inspection、 LED lighting flicker analysis、 Toy lamp flicker frequency and power measurement、 Gas analysis

Dimensional Drawing



Bottom moumting hole diagram



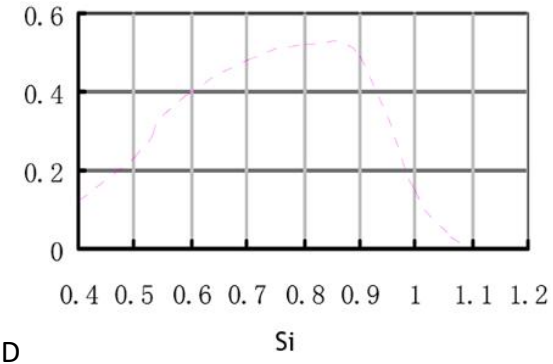
Parameters

General parameter:

PN#	PDAM005B-Si	PDAM36A5B6G-SI	PDAM20A6B4G-InGa As
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
			800 nm - 1700 nm (Optional Extended 2600nm)
Wavelength	400 nm - 1100 nm	320 nm - 1100 nm	
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 -	6uW @960nm (Hi-Z)	660 uW@ 1550nm (Hi
	Z)		-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 edge/falling edge (10%-90%)	65 ns	1.7 us	68ns
Output voltage			
Hi-Z	0- SV (Hi-Z)	0-6V (Hi-Z)	0-6V (Hi-Z)
500	0 • 2.5V (50ohm)	0 • 25V (50ohm)	0 • 25V (50ohm)
Gain multiple			
Hi-Z	67.5 kV/A	1.68 MV/A	10 kV/A
500	33.8 kV/A	0.84 MV/A	5kV/A
Gain accuracy (typ)	± 1%	± 1%	± 1%
Other parameters			
	Toggle switch	Toggle switch	Toggle switch
Output interface	BNC	BNC	BNC
Dimensions	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

Silicon-based photodetector, with amplifier, fixed gain, model reference										
				Gain						
PN#	Wavelength	Bandwidth	Rising time	Hi-Z load	50Ωload	RMS Noise	NEP	Sensing area	Operating temperature	Power supply
PDA12A8B4G-VIS	400 - 1100 nm	DC -140MHz	2.5 nS	1* 104 V/ A	5* 103 kV/A	850μV .typ	2* 10-11 W /√HZ	1.2mm* 1.2 mm	10-50 ℃	Included(±9V）
PDA12A7B4G-VIS	400 - 1100 nm	DC-50 MH z	7 nS	5* 104 V/ A	2.5* 104 k V/A	800μV .typ	6.3* 10-12 W/√HZ	1.2mm* 1.2 mm	10-50 ℃	Included (±9V）
PDA25A6B4G-VIS	400 -1100nm	DC -5MHz	68 nS	1* 105 V/ A	5* 104 V/A	700μV .typ	5.3* 10-12 W/√HZ	2.5mm*2.5mm	10-50 ℃	Included (±9V）
PDA36A5B6G-VIS	320 - 1100 nm	DC-200 KHZ	1.7 μS	1.68* 106 V/A	8.4* 105 V/A	1mV . typ	2.2* 10-12 W/√HZ	3.6mm*3.6mm	10-50 ℃	Included (±9V）
PDA25A4B8G-VIS	400 - 1100 nm	DC- 20KHZ	18 μS	1* 108 V/ A	—	1.5mV .typ	1.8* 10-13 W/√HZ	2.5mm*2.5mm	10-50 ℃	Included (±9V）

Spectral sensitivity



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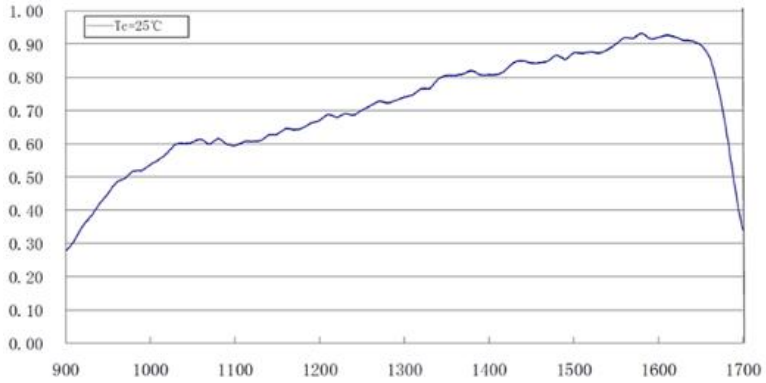
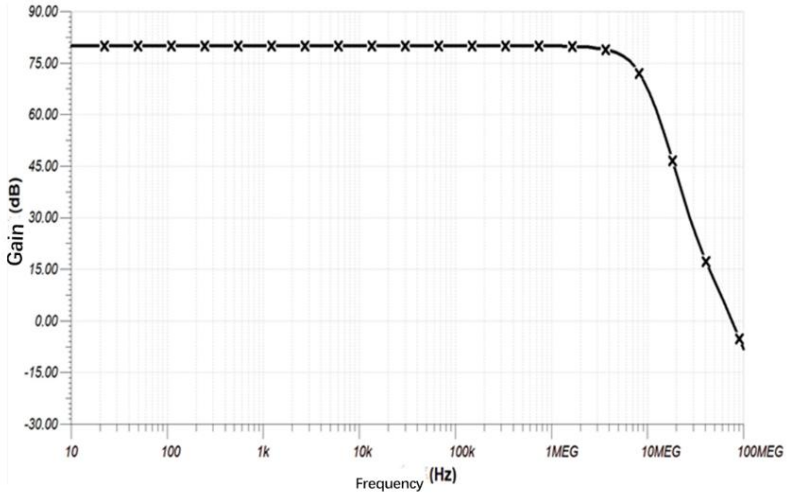
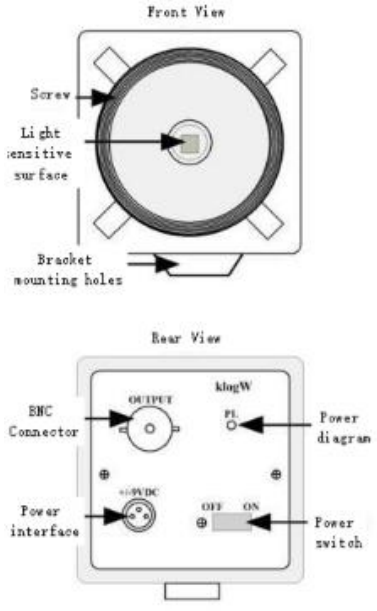


InGaAS

AC transfer characteristics



Appearance and installation



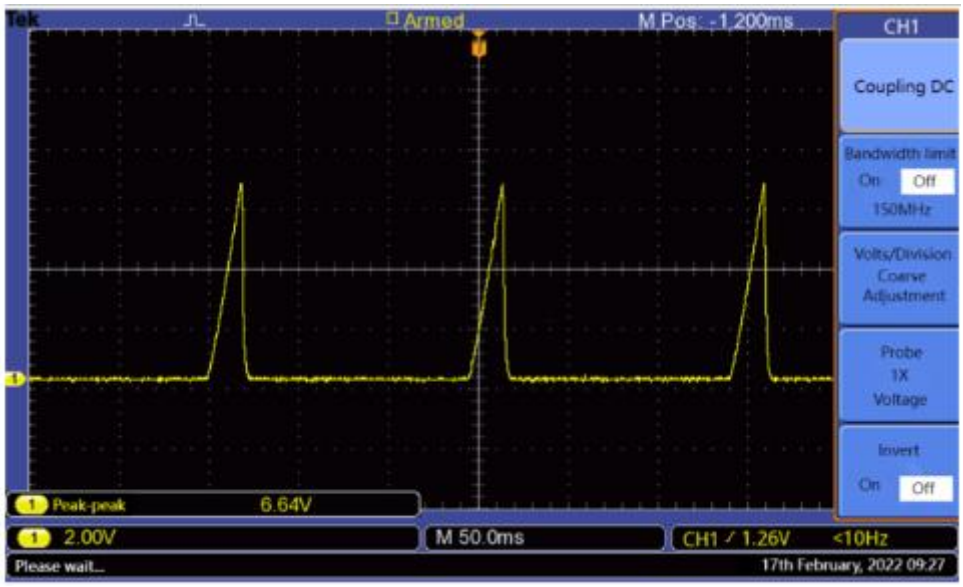
Test Cases：

Test light source：

PN： PL-DFB-9672.4-B-A81-PA

SN： DO3431e-q2-Bo2-A19

Test conditions ：25℃ 、Laser current sweep 15-23mA ，The detector output is as follows:



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