

190-1100nm Silicon-Based Amplified Photodetector, Photodetector Size $\Phi 9.8\text{mm}$



● Product Description

IdealPhotonics' silicon-based amplified photodetector covers a wavelength range of 190nm to 1100nm. It features 8 adjustable gain levels, enabling quantitative photoconversion with a wide dynamic range, suitable for various optoelectronic development scenarios. With excellent performance and high cost-effectiveness, it provides comprehensive technical support and is commonly used in ultraviolet and visible light measurements.

● Part Number

PDSAA1A98

● Product features

Wavelength range from 190nm to 1100nm, commonly used in ultraviolet and

visible light measurements. 、 Amplified photodetector with 8 adjustable gain levels for quantitative photoconversion. 、 Wide dynamic range, suitable for various optoelectronic development scenarios. 、 Excellent performance and high cost-effectiveness, with comprehensive technical support. 、 Custom non-standard services available.

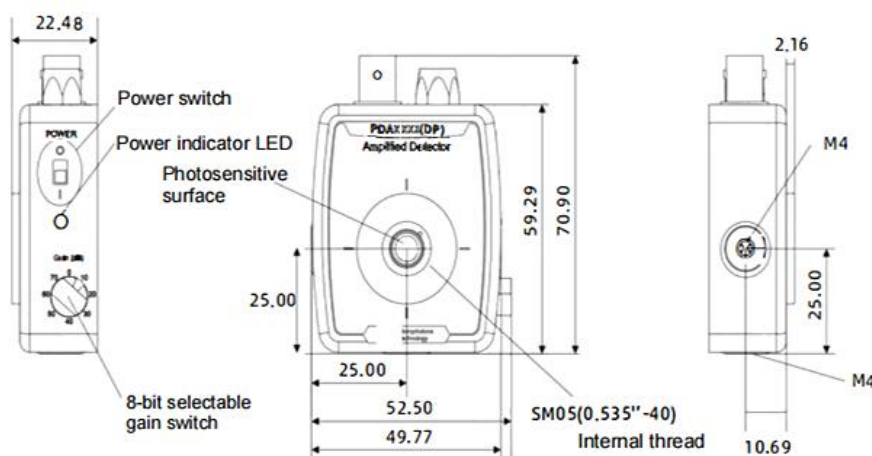
● Application area

Ultraviolet and visible light measurements.

Parameters

Dimensional Drawing

Dimension



General Parameters

Parameter	Value			
Wavelength Range	350-1100nm	190-1100n m	320-1100n m	190-1100nm
Sensitive Area	3.6mm×3.6mm		Φ9.8mm	
Response Time Constant	10ns	0.5us	35ns	3us
Bandwidth Range	DC ~12MHz		DC ~11MHz	

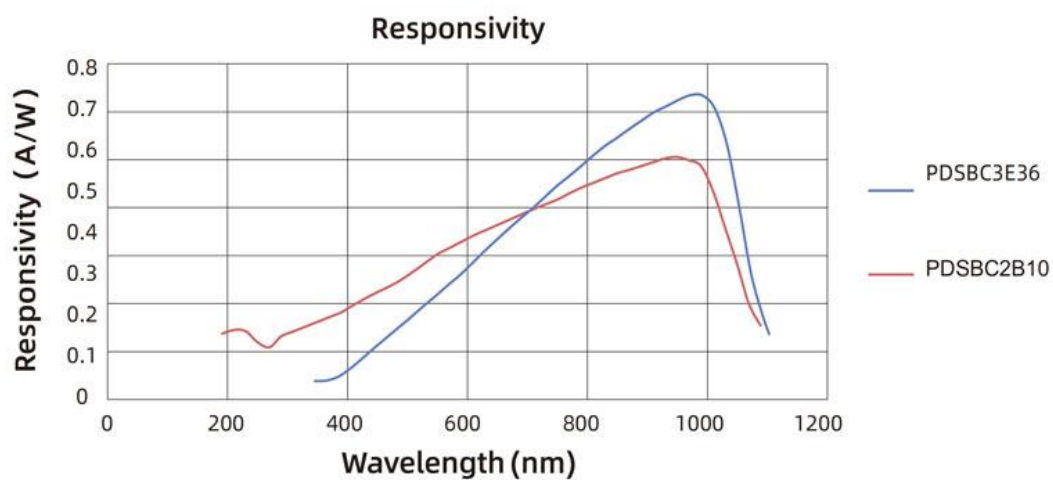
Gain Range	Hi-Z Load: 0.51kV/A ~ 4.75MV/A; 50 Ω Load: 0.75kV/A ~ 2.38MV/A				
Signal Amplitude	Hi-Z Load: 0 ~ 10V; 50 Ω Load: 0 ~ 5V				
Gain Adjustment	Rotatable dial adjustment: 0~70dB, 10dB per step, 8 steps. Bandwidth inversely proportional to gain.				
Sensitive Depth	0.13" (3.3 mm)				
Detector Weight	0.10kg				
Operating Temperature	10-40°C				
Storage Temperature	-20-70°C				
Dimensions	2.79" X 2.07" X 0.89" (70.9 mm X 52.5 mm X 22.5 mm)				
NEP	3.25~75.7 pW/H z1/2	2.12~69.7p W/H z1/2	2.67~71.7p W/H z1/2	1.33~45.1pW/H z1/2	
Power Supply Interface	Power Switch	Signal Interface	Gain Adjustment	Mounting Interface	Optical Interface
LUMBERG RSMV 3 FE MALE	SlideSwitch with LED Indicator	BNC Female	8-step rotary knob	M4 X 2	SM1 X 1 SM0.5 X 1

8-Step Quantitative Adjustable Gain Parameters

0dB		10dB		20dB		30dB	
Gain (Hi-Z)	1.51 × 103V/ A	Gain (Hi-Z)	4.75× 103V/ A	Gain (Hi-Z)	1.5 × 104V/ A	Gain (Hi-Z)	4.75× 104 V/ A
Gain (50 Ω)	0.75 × 103V/ A	Gain (50 Ω)	2.38× 103V/ A	Gain (50 Ω)	0.75 × 104V/ A	Gain (50 Ω)	2.38× 104 V/ A
Bandwidth (BW)	12MHz	Bandwidth (BW)	1.6MHz	Bandwidth (BW)	1MHz	Bandwidth (BW)	260kHz
Noise (RMS)	258uV	Noise (RMS)	192uV	Noise (RMS)	207uV	Noise (RMS)	211uV
40dB		50dB		60dB		70dB	

Gain (Hi-Z)	$1.51 \times 105\text{V/A}$	Gain (Hi-Z)	$4.75 \times 105\text{V/A}$	Gain (Hi-Z)	$1.5 \times 106\text{V/A}$	Gain (Hi-Z)	$4.75 \times 106\text{V/A}$
	A		/A		A		V/A
Gain (50 Ω)	$0.75 \times 105\text{V/A}$	Gain (50 Ω)	$2.38 \times 105\text{V/A}$	Gain (50 Ω)	$0.75 \times 106\text{V/A}$	Gain (50 Ω)	$2.38 \times 106\text{V/A}$
Bandwidth (BW)	90MHz	Bandwidth (BW)	28MHz	Bandwidth (BW)	9kHz	Bandwidth (BW)	3kHz
Noise (RMS)	214uV	Noise (RMS)	234uV	Noise (RMS)	277uV	Noise (RMS)	388uV
Signal Offset	$\pm 8\text{mV(Typ.)}$, $\pm 12\text{mV(Max)}$						

SI Response Curve:



Attachment 1: Optional Configuration Table

Silicon-based Amplified Photodetector	Optional Configuration				
Product Name	Material	Type	Features	Wavelength Range Sensitive Area Size	Optional Configuration

PD:"Photodetector"	S: Si Silicon-based	A: Amplifying Type	A: Adjustable Gain	1A36: 190-1100nm , 3.6 × 3.6 mm	
				1A98: 190-1100nm, Φ 9.8mm	
				3D98: 320-1100nm, Φ 9.8mm	
				3E36: 350-1100nm , 3.6 × 3.6 mm	

Attachment 2: Model and Part Number Correspondence Table

Model	Part Number	Specs
PDSAA1A36	A80153413	190-1100nm Silicon-based Amplified Photodetector, Sensitive Area: 3.6 × 3.6mm, 0-70dB Adjustable Gain in 8 Steps, Bandwidth: DC ~ 12MHz
PDSAA1A98	A80153414	190-1100nm Silicon-based Amplified Photodetector, Sensitive Area: Φ 9.8mm, 0-70dB Adjustable Gain in 8 Steps, Bandwidth: DC ~ 11MHz
PDSAA3D98	A80153415	320-1100nm Silicon-based Amplified Photodetector, Sensitive Area: Φ 9.8mm, 0-70dB Adjustable Gain in 8 Steps, Bandwidth: DC ~ 11MHz
PDSAA3E36	A80153416	350-1100nm Silicon-based Amplified Photodetector, Sensitive Area: 3.6 × 3.6mm, 0-70dB Adjustable Gain in 8 Steps, Bandwidth: DC ~ 12MHz