

320-1000nm Silicon-based Amplified Photodetector, Photodetector Size $\Phi 9.8\text{mm}$



● Product Description

IdealPhotonics' silicon-based amplified photodetector covers a wavelength range from 190nm to 1100nm. It features 8 adjustable gain levels, enabling quantitative photoconversion with a wide dynamic range. It is suitable for various optoelectronic development scenarios, delivering excellent performance at a high cost-performance ratio. The device is widely used in UV and visible light measurements, with full technical support provided.

● Part Number

PDSAA3D98

● Product features

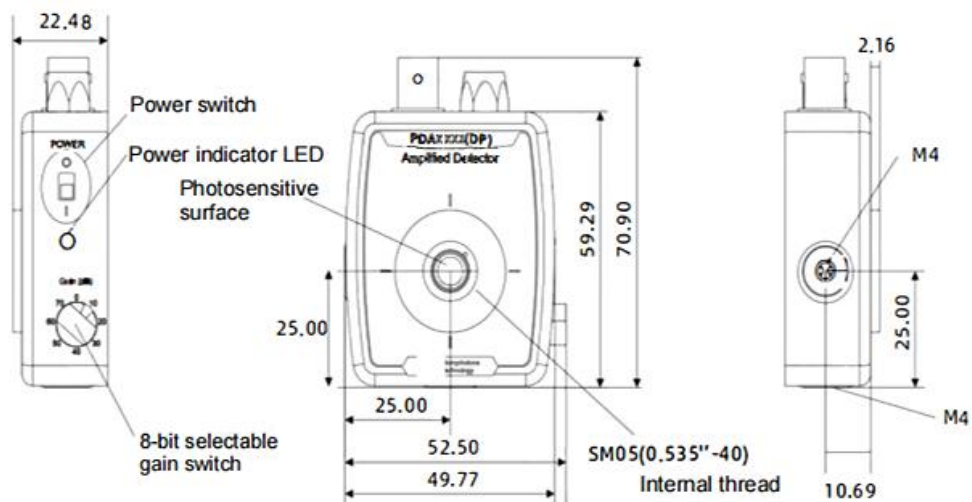
Wavelength range of 190nm to 1100nm, ideal for UV and visible light measurements 、 Amplified detector with 8 adjustable gain levels for quantitative photoconversion 、 Wide dynamic range, suitable for diverse optoelectronic applications 、 Excellent performance, cost-effective, with comprehensive technical support、 Customization options available

● Application area

UV and visible light measurements

Dimensional Drawing

Dimension



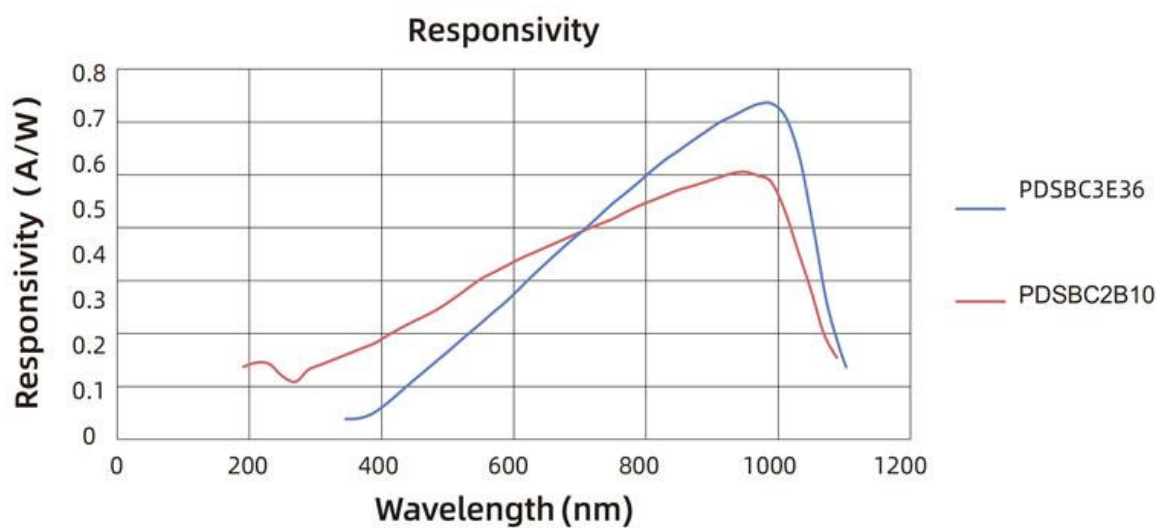
Main Parameters

Parameters	Value				
Wavelength Range	350-1100nm	190-1100n m	320-1100n m	190-1100nm	
Active 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: 0V∼5V				
Gain Adjustment Method	Rotary switch adjustment: 0∼70dB, 10dB per step, 8 steps. Bandwidth inversely proportional to gain.				
Sensitive Surface Depth	0.13" (3.3 mm)				
Detector Weight	0.10kg				
Operating Temperature	10-40℃				
Storage Temperature	-20-70℃				
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/Hz1/2	2.12~69.7p W/Hz1/2	2.67~71.7p W/Hz1/2	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	Slide Switch With LED Indicator	BNC Female Socket	8-Step Rotary Knob	M4 X 2	SM1 X 1 SM0.5 X 1

8-Stage Quantitative Adjustable Gain Parameters:

0dB		10dB		20dB		30dB	
Gain (Hi-Z)	$1.51 \times 103V/A$	Gain (Hi-Z)	$4.75 \times 103V/A$	Gain (Hi-Z)	$1.5 \times 104V/A$	Gain (Hi-Z)	$4.75 \times 104 V/A$
Gain (50 Ω)	$0.75 \times 103V/A$	Gain (50 Ω)	$2.38 \times 103V/A$	Gain (50 Ω)	$0.75 \times 104V/A$	Gain (50 Ω)	$2.38 \times 104 V/A$
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)	$1.51 \times 105V/A$	Gain (Hi-Z)	$4.75 \times 105V/A$	Gain (Hi-Z)	$1.5 \times 106V/A$	Gain (Hi-Z)	$4.75 \times 106 V/A$
Gain (50 Ω)	$0.75 \times 105V/A$	Gain (50 Ω)	$2.38 \times 105V/A$	Gain (50 Ω)	$0.75 \times 106V/A$	Gain (50 Ω)	$2.38 \times 106 V/A$
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	$\pm 8mV(Typ.)$, $\pm 12mV(Max)$						

SI Response Curve:



Attachment 1: Optional Configuration Table

Silicon-Based Amplified Photodetector	Optional Configuration				
Product Name	Material	Type	Features	Wavelength Range Photodetector Size	Reserved Optional Configurations
PD:"Photodetector"	S: Si Silicon	A: Amplified	A: Adjustable Gain	1A36: 190-1100nm , 3.6 × 3.6 mm	
				1A98: 190-1100nm, Φ9.8mm	
				3D98: 320-1100nm, Φ9.8mm	
				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, Active area $3.6 \times 3.6\text{mm}$, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 12MHz
PDSAA1A98	A80153414	190-1100nm Silicon-Based Amplified Photodetector, Active area $\Phi 9.8\text{mm}$, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 11MHz
PDSAA3D98	A80153415	320-1100nm Silicon-Based Amplified Photodetector, Active area $\Phi 9.8\text{mm}$, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 11MHz
PDSAA3E36	A80153416	350-1100nm Silicon-Based Amplified Photodetector, Active area $3.6 \times 3.6\text{mm}$, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 12MHz