

PDA8GS



Description

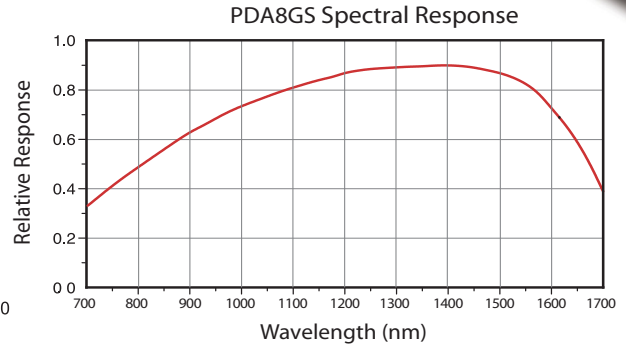
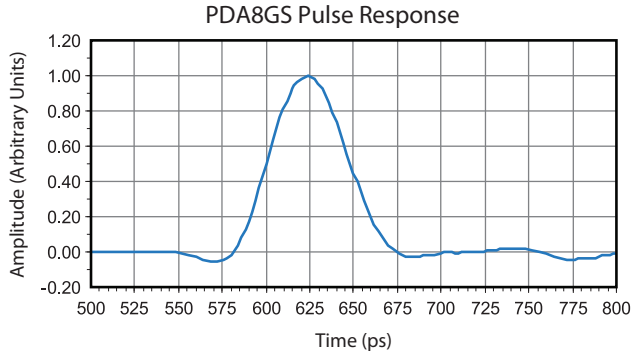
The 9.5 GHz PDA8GS is a ready-to-use, high-speed amplified photodetector. The unit features an FC input connector and SMA output connector. The detector is shipped with a 12 VDC, 750 mA power adapter and two mounting ferrules, M4-0.7 and #8-32, for compatibility with standard optical equipment mounting hardware.

Specifications

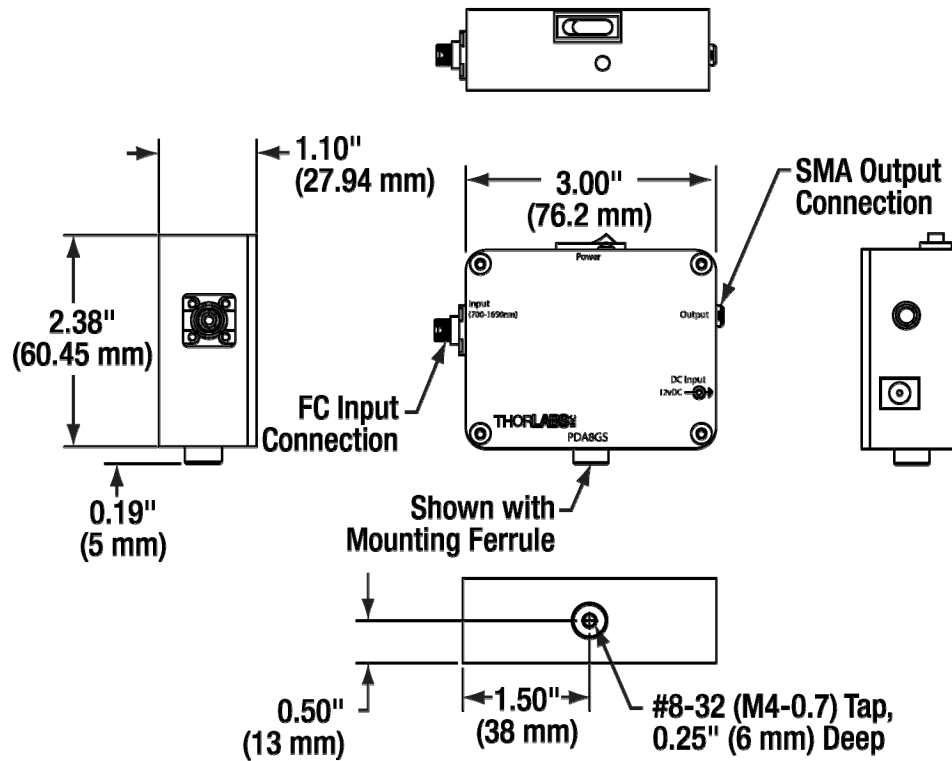
Specifications	Value
Detector	InGaAs Pin
Wavelength Range	750 - 1650 nm
Peak Response Typ, SM	0.95 A/W @ 1550 nm
Peak Response Typ, MM	0.525 A/W @ 850 nm
Optical Return Loss, SM	-30 dB @ 1310 nm
Optical Return Loss MM	-16 dB @ 850 nm
Max Optical Input Power	
CW	1.0 mW
50/50 Duty Cycle	2.5 mW pk
Peak Power ^a	20 mW pk
Sensitivity	
10.7 Gb/s, 1310 and 1550 nm, SM	-20 dBm
12.5 Gb/s, 1310 and 1550 nm, SM	-19 dBm
10.7 Gb/s, 850 nm, MM ^b	-16 dBm
Transimpedance Gain (V/A)	460 into 50 Ω
DC Offset	0.0 V
Rise/Fall Time	<50 ps
Bandwidth, Typical	DC - 9.5 GHz
Digital Capability	12.5 Gb/s
10.7 Gb/s, 1310 and 1550 nm, SM	-20 dBm
Connections	
Input	FC Bulkhead Fiber Connector
Output, 700 mV (Max)	SMA - 50 Ω
Input Fiber	62.5 μm Multimode
Power Supply Input	12 VDC @ 150 mA Max
Power Supply Input Jack	2.1 mm
Physical Properties	
Housing	Black Anodized Aluminum
Size	3.0" x 2.38" x 1.1"
Operating Temp	0 to 40 °C
Storage Temp	0 to 50 °C

- a. Do not hold peak optical power input for longer than a 60 ms burst.
- b. Scaled from SM Sensitivity

Graphs



Drawing



Operating Instructions

After installation of the AC power adapter, the unit is turned on using the ON/OFF toggle switch on the top. A green LED indicates the power status. The optical input is coupled through an FC/PC bulkhead connector and a multimode fiber to the detector/amplifier.

Caution: it is best practice to have the detector unit on before switching on the optical input to avoid possible damage to the detector module.

The SMA output voltage is a function of the power level of the incident light, the photodiode wavelength responsivity, the transimpedance gain of the amplifier and the output termination, given by eq. 1 below.

$$V_{out} = P_{optical} \cdot \lambda_{Resp} \cdot 460 \quad \text{Eq. 1}$$

The output is DC coupled. It is not recommended to terminate with an impedance greater than 1K Ω , for best bandwidth terminate with 50 Ω . Using the PDA8GS requires standard ESD procedures when using. Recommend using ground straps when handling. **Caution: Cables can hold a charge, always terminate the cable end before connecting and disconnecting from the PDA8GS. Avoid long cables whenever possible to reduce charge and maximize bandwidth.**

Compatible Cables

SMA Adapters

T4285

T4291

T4289

SMA to BMC Cables

CA2806

CA2812

CA2818

CA2824

CA2836 (Usable but not recommended)

CA2848 (Usable but not recommended)

SMA to SMA Cables

CA2906

CA2912

CA2918

CA2924

CA2936 (Usable but not recommended)

CA2948 (Usable but not recommended)