THORLABS

Fiber Coupled Photodetector

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

SpecificationsValueDetectorInGaAs PinWavelength Range750 - 1650 nmPeak Response Typ, SM0.95 A/W @ 1550 nmPeak Response Typ, MM0.525 A/W @ 850 nmOptical Return Loss, SM-30 dB @ 1310 nmOptical Return Loss MM-16 dB @ 850 nmMax Optical Input PowerCW1.0 mW50/50 Duty Cycle2.5 mW pkPeak Powera20 mW pkSensitivity10.7 Gb/s, 1310 and 1550 nm, SM-20 dBm12.5 Gb/s, 1310 and 1550 nm, SM-116 dBmTransimpedance Gain (V/A)460 into 50 ΩDC Offset0.0 VRise/Fall Time<50 psBandwidth, TypicalDC - 9.5 GHzDigital Capability12.5 Gbs10.7 Gb/s, 1310 and 1550 nm, SM-20 dBmConnectionsInput Fiber62.5 µm AultimodePower Supply Input12.VDC @ 150 mA MaxPower Supply Input Jack2.1 mmPhysical PropertiesHousingBlack Anodized AluminumSize3.0" x 2.38" x 1.1"Operating Temp0 to 40 °CStorage Temp0 to 50 °C		
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Size 3.0" x 2.38" x 1.1" Operating Temp 0 to 40 °C		
Operating Temp 0 to 40 °C	Housing	
	0.20	
Storage Temp 0 to 50 °C		
	Storage Temp	0 to 50 °C

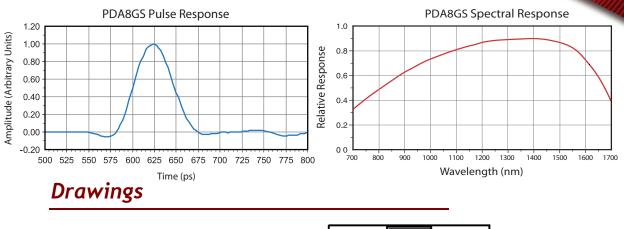
a. Do not hold peak optical power input for longer than a 60 ms burst

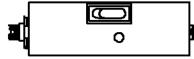
b. Scaled from SM sensitivity

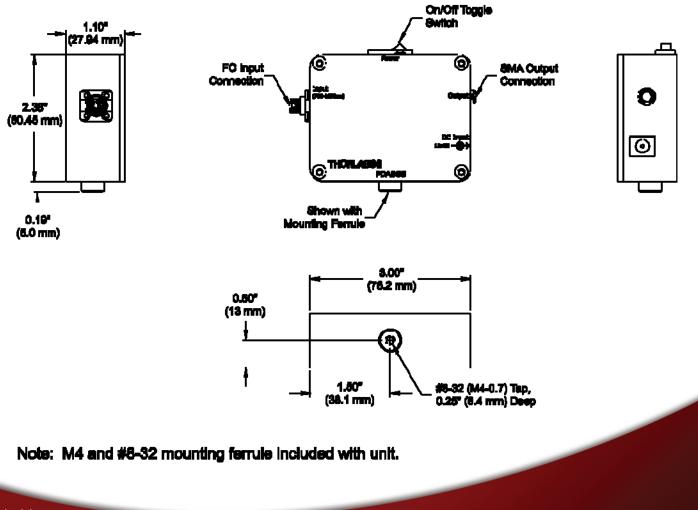
June 26, 2015 8719-S01, Rev F

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Specifications Continued







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

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

The output is DC coupled. It is not recommended to terminate with an impedance greater than $1K\Omega$, for best bandwidth terminate with 50 Ω . Using the PDA8GS requires standard ESD procedures when using. Recommend using ground straps when handing. 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	SMA to SMA Cables
CA2806	CA2906
CA2812	CA2912
CA2818	CA2918
CA2824	CA2924
CA2836 (Usable but not recommended)	CA2936 (Usable but not recommended)
CA2848 (Usable but not recommended)	CA2948 (Usable but not recommended)

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