



1.25 Gbps High Speed InGaAs Photodetector



Table of contents

Introduction..... 4

Pin outs..... 4

Absolute Maximum Ratings..... 5

Precautions..... 5

Calibration Data..... 6

Disposal Information for India..... 6

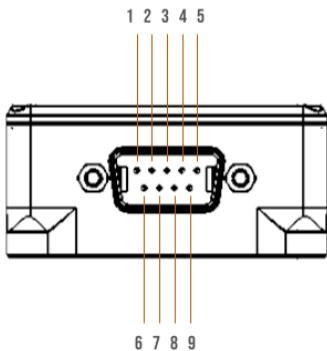
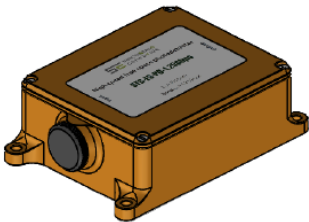
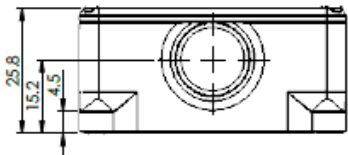
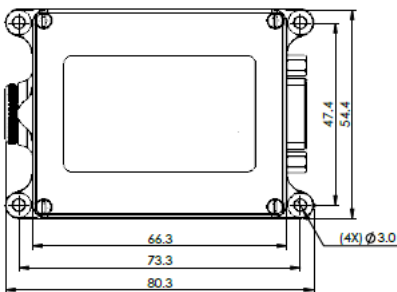
Safety and Toxicity Aspects..... 6

Declaration of Conformance..... 7

Warranty Summary..... 7

Model: STC-FS-PD-1.25Gbps

The 1.25Gbps InGaAs photodetector module is a pre-assembled, high-speed photodetector designed for utilization with free-space optical systems over the spectral range of 1100 - 1650 nm capable of detecting and converting optical signals to electrical signals with a high data rate. These photodetectors play a crucial role in wireless optical communication systems where a direct line-of-sight connection is established between a transmitter and a receiver without the need of physical cables. The design and specifications of the photodetector are tailored to meet the demands of free-space communication, ensuring optimal performance and data integrity in challenging atmospheric conditions.



Pin No.	Description
1	Ground
2	NC
3	D _{OUT}
4	D _{OUT}
5	V _{CC}
6	NC
7	NC
8	NC
9	NC

Features:

- InGaAs Photodetector with Transimpedance Amplifier
- High Bandwidth Range
- Single +3.3V to +5V Power Supply
- Spectral Range 1100 nm to 1650 nm
- Differential Output

Applications:

- High-Speed Optical Communications
- Optical Wireless Networks
- Free Space Optical Communication (FSOC)
- Laser Ranging & LiDAR Systems
- Fiber Optic Communication
- Medical Imaging

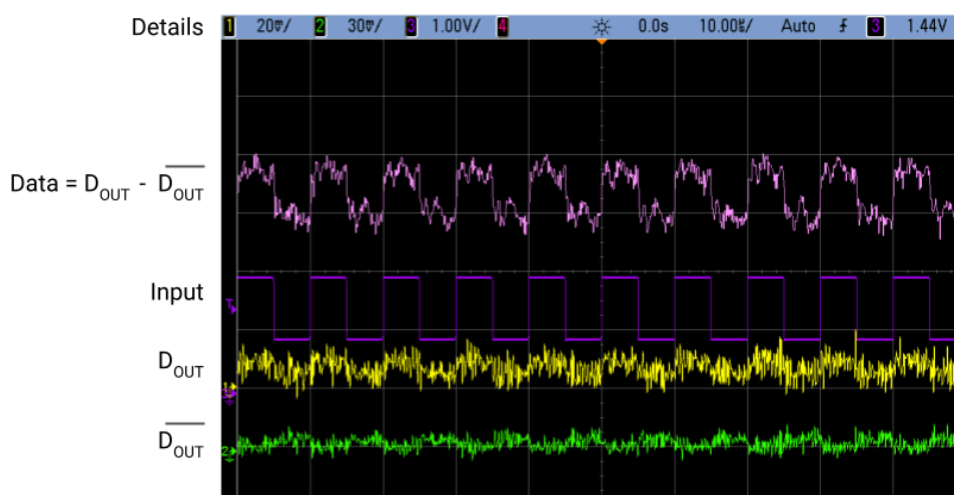
Absolute Maximum Ratings (Tested at $T=25^{\circ}\text{C}$)

Parameter	Min	Typ	Max	Units
Input Optical Power	---	---	3	dBm
Operating voltage	3.3	---	5	V
Supply Current	---	25	50	mA
Storage temperature	-30	---	+120	$^{\circ}\text{C}$
Operating temperature	-30	---	+80	$^{\circ}\text{C}$
Operating Wavelength	1100	---	1650	nm
Responsivity	1800	2500	---	V/W
Transimpedance	---	2800	---	Ω
Low Frequency Cutoff	---	45	---	kHz
Differential Output Voltage	180	250	420	mVp-p
Active Area Diameter	---	75	---	μm

Precautions:

1. Do not power on the module before the output is properly connected.
2. Keep the shutter of the module closed when not in use.
3. Do not try to tamper the outside casing of the photodiode module. For any help, kindly contact us or send it back to the source for repair.
4. Refer to the datasheet for crucial details like voltage, current and recommended operating conditions.
5. Apply the specified voltage and current to the photodiode module, ensuring the power supply remains stable and within the prescribed range as indicated in the datasheet.
6. Illuminate the photodiode module with a light source matching its sensitivity and wavelength range.
7. Handle the module with care, avoiding static electricity and physical damage. Ensure secure mounting and thermal management.
8. Use appropriate instruments for monitoring the photodiode module's output signal, aligning with the datasheet specifications.
9. Adhere to safety guidelines when working with electrical components and light sources, taking necessary precautions to protect against potential hazards.

Calibration Data



Disposal Information for India



The symbol indicates that this product should not be disposed of with household waste. When you decide to dispose of this product, do so in accordance with local environmental laws and guidelines.



The internal components of this instrument are sensitive to Electrostatic Discharge (ESD). Ensure the discharge of personnel and equipment by taking necessary precautions before establishing any electrical connections with the unit. Damages resulting from Electrostatic Discharge (ESD) are not covered under warranty.

Safety and Toxicity Aspects

The toxicology of InGaAs has not been fully investigated. The dust is an irritant to skin, eyes and lungs. The environment, health and safety aspects of Indium Gallium Arsenide sources (such as Trimethylgallium, Trimethylindium and Arsine) and industrial hygiene monitoring studies of standard MOVPE sources have been reported recently in a review:

Environment, health and safety issues for sources used in MOVPE growth of compound semiconductors; D V Shenai-Khatkhate, R Goyette, R L DiCarlo and G Dripps, Journal of Crystal Growth, vol. 1-4, pp. 816-821 (2004); doi:doi:10.1016/j.jcrysgro.2004.09.007

USER MANUAL

Declaration of Conformance

This product complies with Reduction of Hazardous Substances (RoHS) requirements specified in E-Waste (Management) Rules, 2016.

Syncthread's One-Year Limited Warranty Summary

Syncthread warrants the included hardware product and accessories (if applicable) against defects in materials and workmanship for one year from the date of original purchase. Syncthread does not warrant against normal wear and tear, nor damage caused by accident or abuse. To obtain service, call Syncthread at +91 7387 333 297 or email at support@syncthread.in.

Available service options are dependent on the country in which service is requested and may be restricted to the original country of sale. Call charges and shipping charges may apply, depending on the location. Subject to the full terms and detailed information on obtaining service under warranty, if you submit a valid claim under this warranty, Syncthread will either repair, replace, or refund your hardware device at its own discretion. Warranty benefits are in addition to rights provided under local consumer laws. You may be required to furnish proof of purchase details when making a claim under this warranty.

©2024 Syncthread Computing Pvt. Ltd. All rights reserved. Syncthread Computing, The Syncthread Computing logo, and 1.25 Gbps High Speed InGaAs Photodetector are trademarks of Syncthread Computing registered in India.
HSN Code - 9013