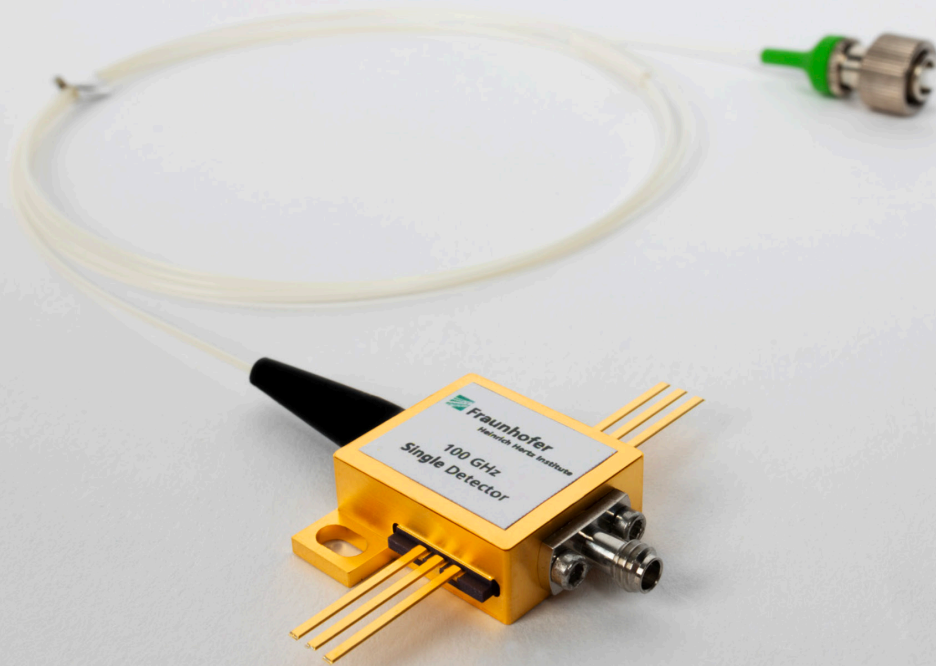


# 100 GHz PHOTODETECTOR MODULE



## AT A GLANCE

high-speed photodetector module for > 1 T/bs PAM datacom, telecom and microwave photonics applications



### Features

- up to 100 GHz 3 dB-bandwidth
- detection of 128 GBaud amplitude modulated signals
- operation in O-band and C+L-band
- integrated bias network
- low bias operation
- 1 mm RF connector

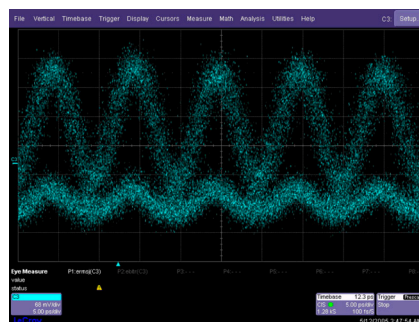
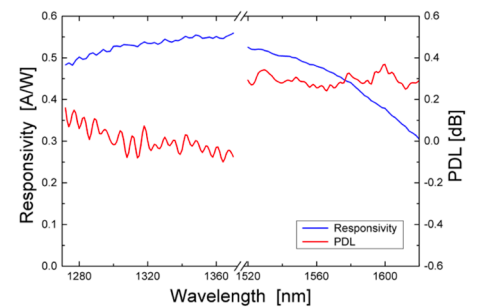
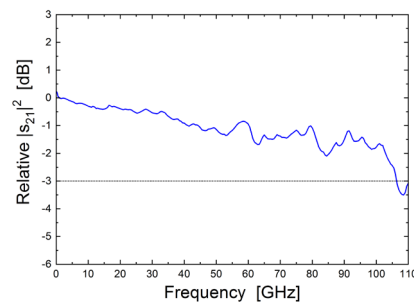
### Applications

- datacommunication
- telecommunication
- test- & measurement systems
- microwave photonics

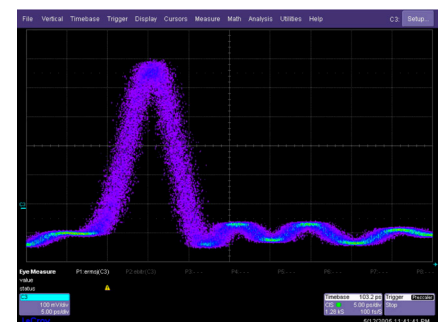
### Technical Background

High-speed photodetector modules are of interest for the development of next-generation optical communication links in datacom and telecom. Since these R&D links are always a step ahead in terms of symbol rates, photodetector modules with a RF bandwidth beyond state-of-the-art are needed at the receiver side. Furthermore, the high-speed performance of the photodetector modules makes them applicable to microwave photonics.

The photodetector chips inside the modules are based on mature InP technology and are fabricated at the wafer process line of Fraunhofer HHI, offering Telcordia and space-qualified processes. The chips are packaged at Fraunhofer HHI facilities.



107 GB/s PRBS sequence



2.4 ps FWHM input pulse



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### Technical Specifications

- 3 dB-bandwidth: up to 100 GHz
- C+L-band option  
 wavelength: 1480 nm - 1620 nm  
 responsivity: 0.5 A/W @ 1550 nm
- O-band & C+L-band option  
 wavelength: 1270 nm - 1620 nm  
 responsivity: 0.45 A/W @ 1550 nm  
 0.5 A/W @ 1310 nm
- PDL: < 0.5 dB
- optical input power: up to +15 dBm
- dark current: < 100 nA @ 3 V
- bias voltage: +2 V
- 1 mm female RF connector
- RF output matched to 50 Ω
- optical input: FC/APC SMF fibre