145 GHz PHOTODETECTOR MODULE

Fraunhofer HHI

AT A GLANCE

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

Features

- up to 145 GHz 3 dB-bandwidth
- detection of 200 GBaud amplitude modulated signals
- operation in C- and L-band
- integrated bias network
- low bias operation
- 0.8 mm RF connector

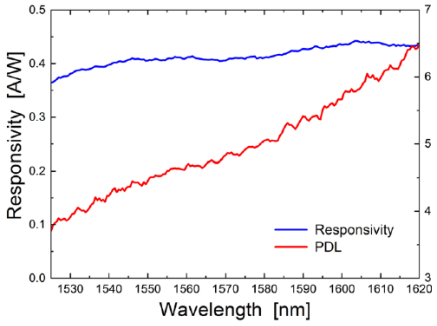
Applications

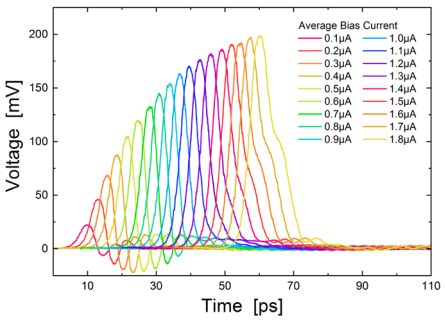
- datacommunication
- telecommunication
- test- & measurement systems
- microwave photonics

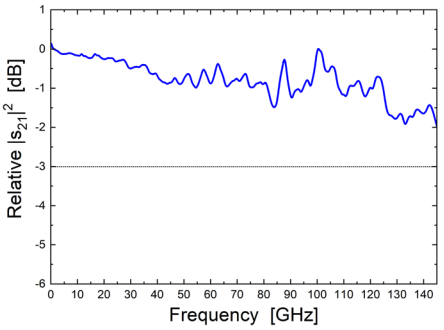
Technical Background

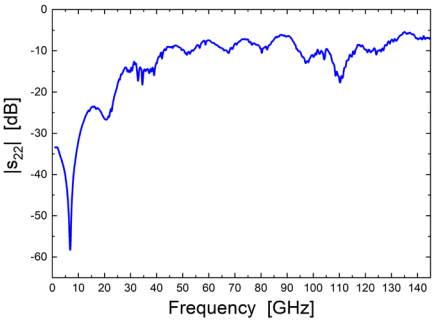
High-speed photodetector modules are of interest for the development of next-generation optical communication links in datacom and telecom. Since these R&D links are always a step ahead in terms of symbol rates, photodetector modules with a RF bandwidth beyond state-of-the-art are needed at the receiver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









Technical Specifications

- wavelength: 1480 nm - 1620 nm
- 3 dB-bandwidth: up to 145 GHz
- low dark current: < 100 nA @ 3 V
- bias voltage: +2 V
- 0.8 mm female RF connector
- RF output matched to 50 Ω
- optical input: FC/APC PM SMF fibre

Dr.-Ing. Patrick Runge
Head of InP and RF department

Phone +49 30 31002-498
patrick.runge@hhi.fraunhofer.de

Fraunhofer Heinrich Hertz Institute
Einsteinufer 37, 10587 Berlin
Germany

www.hhi.fraunhofer.de/pc