100 GHz PHOTODETECTOR MODULE

AT A GLANCE
high-speed photodetector module for > 1T/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

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 HHI, offering Telcordia and space-qualified processes. The chips are packaged at HHI facilities.

Applications
- datacommunication
- telecommunication
- test- & measurement systems
- microwave photonics
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 SM fibre