

# BALANCED PHOTODETECTOR

## AT A GLANCE

- Very high bandwidth
- 50  $\Omega$ -matched
- High-power capable



## Features

- Pig-tailed module (2xSMF)
- Low bias operation (2V)
- Bandwidth 65 GHz
- Up to + 18dBm input power

## Applications

- Advanced modulation formats like DPSK, QPSK, ...
- 90°-hybrid frontends
- Heterodyne detection
- Balanced detection
- Enhanced receiver sensitivity

## REFERENCES

u<sup>2</sup>t Photonics AG

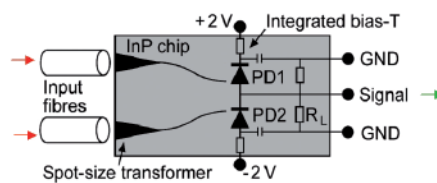
### Miscellaneous Features

Operating bias	$\pm 2V$ typical
Optical input	FC/PC (or customer specific)
RF output	1 or 1.85 mm female (Agilent)
Max. optical input	+18 dBm

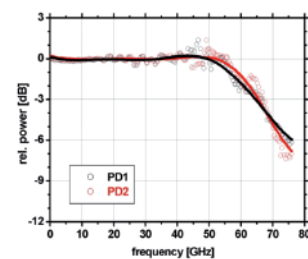
### Specifications

Bandwidth	up to 75 GHz
Responsivity	0.5 A/W
Polarisation dependent loss	< 0.5 dB
Dark current	< 5 nA
Output	matched to 50 Ohm
High power linear behaviour	up to + 14 dBm
Wavelength range	1480 – 1620 nm

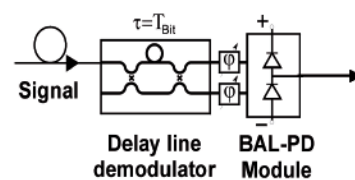
### Integration Scheme



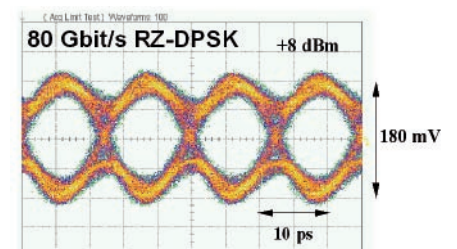
### Bandwidth Behaviour



### DPSK Receiver Setup



### High-Power Behaviour



The photodetector modules are lab samples and should not be used on any life critical application without prior written permission from the supplier. Specifications are subject to change without notice due to further product improvements.

## The Fraunhofer HHI

One of the prime research and development foci of the Fraunhofer Heinrich Hertz Institute lies in photonic networks, components and systems and their application in fields such as digital media.

## Contact

Dr.-Ing. Heinz-Gunter Bach  
Photonic Components  
Fraunhofer Heinrich Hertz Institute  
Einsteinufer 37 | 10587 Berlin | Germany  
Tel +49 30 31002-503  
heinz-gunter.bach@hhi.fraunhofer.de