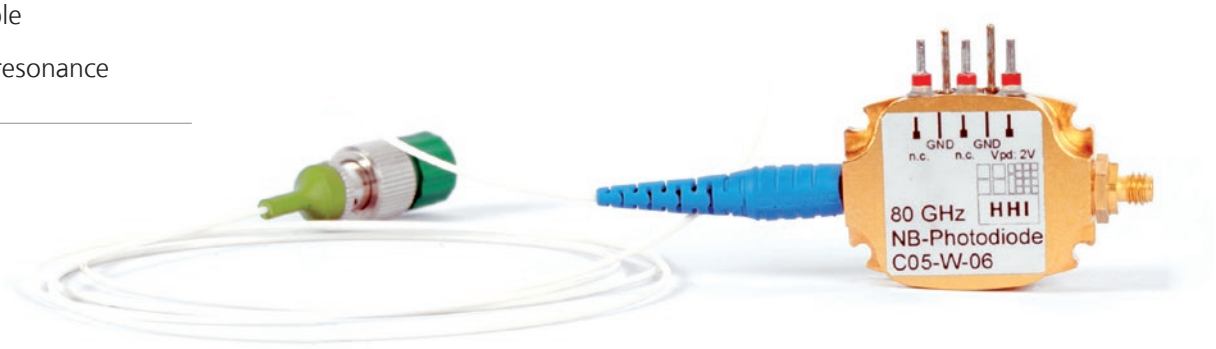
Fraunhofer
Heinrich Hertz Institute

NARROWBAND PHOTODETECTOR

AT A GLANCE

- Electrically resonant o/e conversion
- High-power capable
- 50 Ω-matched at resonance



Features

- O/E conversion up to 1 A/W
- Resonant frequencies up to 100 GHz
- C-Band operation

Applications

- Clock recovery in the high Gbit/s data range
- O/E conversion in mm-wave cellular radio applications
- High power mm-wave generation by photonic means
- Antenna feeding
- Measurement applications

REFERENCES

Alcatel-Lucent
(Deutschland AG)

Fraunhofer
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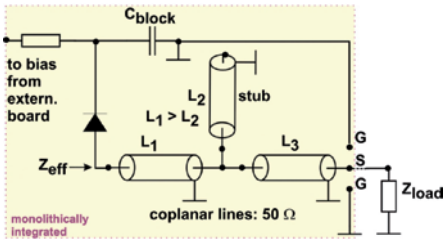
Specifications

O/E conversion at frequencies	around 40/60/80/85/90/100 GHz
Internal resonant noiseless gain	7 dB
High conversion efficiency	up to 1 A/W
High power linear behaviour	up to + 14 dBm
Wavelength range	1480 – 1620 nm

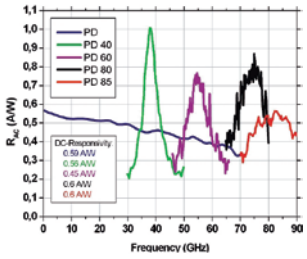
Miscellaneous Features

Operating bias	2V typical (1 .. 5 V for resonance tuning)
Optical input	FC/PC (or customer specific)
RF output	1 or 1.85 mm female (Agilent)
Max. optical input	+18 dBm

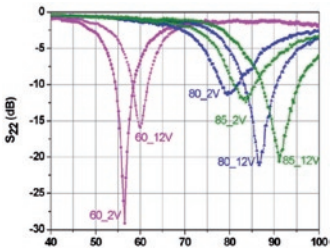
Integration Scheme



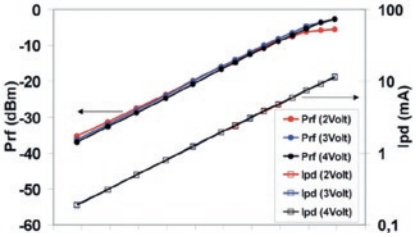
Bandwidth Behaviour



Tuneability by Bias



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.

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