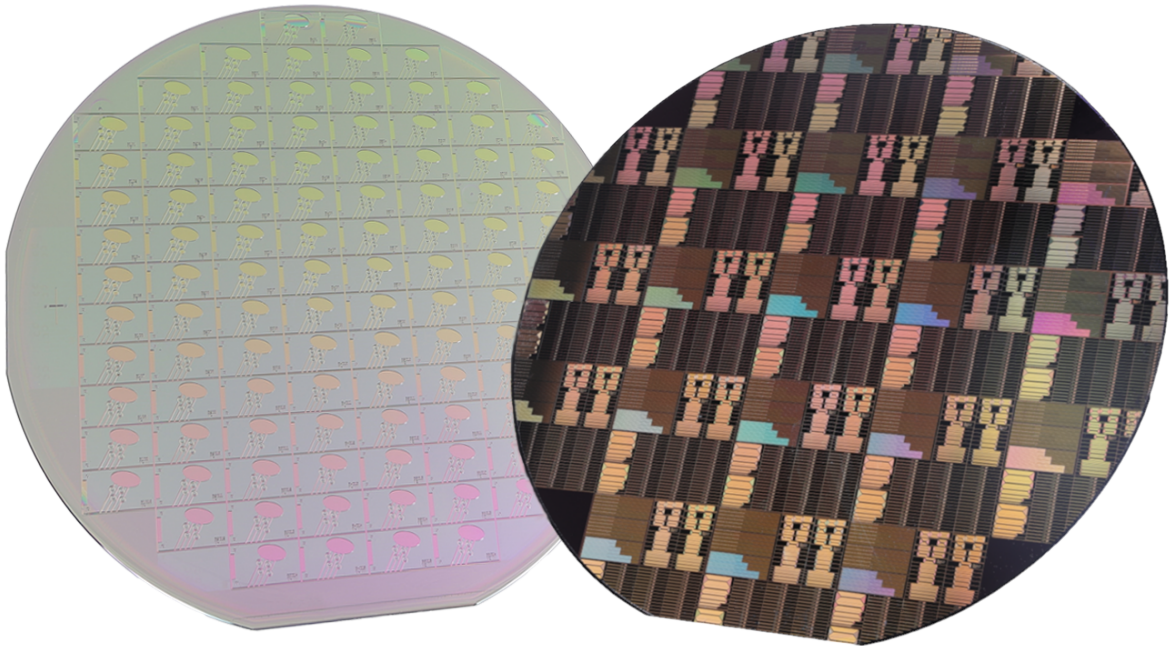


SILICON NITRIDE INTEGRATION PLATFORM



AT A GLANCE

The SiN line of Fraunhofer HHI is specifically suitable for active-passive integration. Photonic building blocks include ring resonators, MMIs, AWGs, VOAs, tunable gratings and phase shifters.

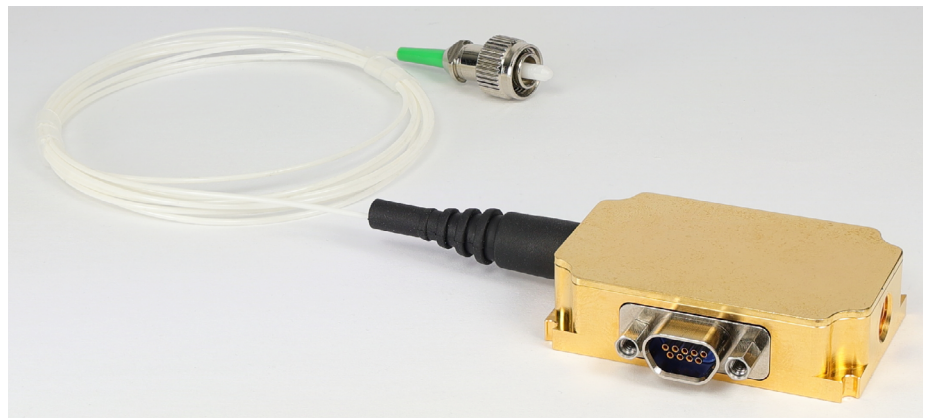


Features

- Low-loss waveguides
- Passive and thermo-optical elements
- Efficient hybrid integration of active elements (InP, GaAs, PolyBoard etc.)
- VIS to NIR wavelength range
- Different SiN thicknesses available (200 nm / 400 nm / 800 nm)

Services

- PIC design based on PDK for different wavelengths
- Customized designs
- Fabrication and hybrid integration of active and passive components



References

International R&D projects

QSNP
 Qu-Test / Qu-Pilot
 (funded by EU commission)

National R&D projects

PolyChrome Berlin
 PoLiSiQ
 optION
 (funded by BMBF)

Association

PolyPhotonics e.V.
www.polyphotonics-berlin.de



Dr. Moritz Kleinert
 Hybrid Integration and Sensing

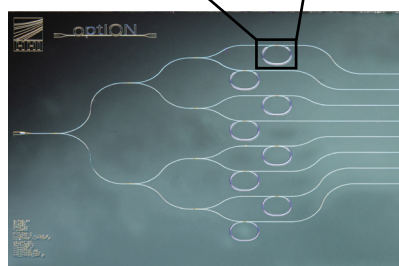
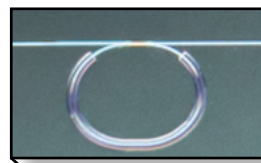
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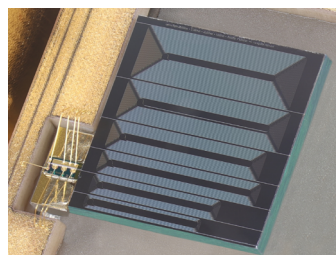
www.hhi.fraunhofer.de/pc

Applications

- Telecom / datacom
- Sensing and analytics
- Quantum technology
- Medical and life sciences



Ring resonators for sensing and analytics

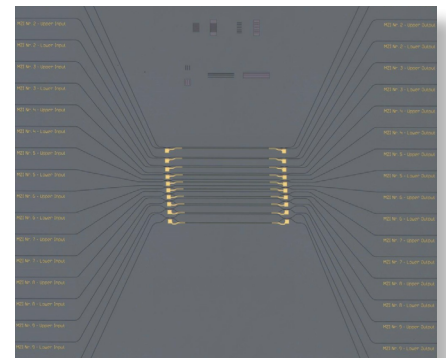


Mode locked laser (InP-SiN integration)

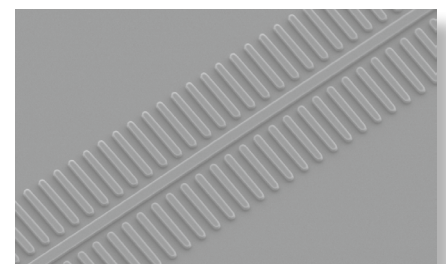
Technical Background

Low loss structures such as ring resonators, MMIs and AWGs, gratings as well as thermo-optical elements like phase shifters VOA's and tunable gratings are fabricated on wafer scale.

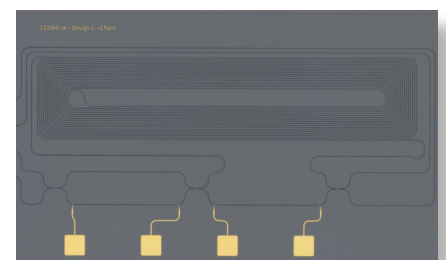
Customized designs are available.



Switches



Gratings



Delay line interferometer