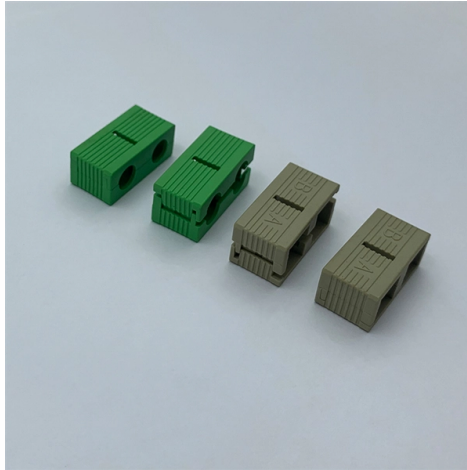


Denmark Silicon Photonics Technology

Low Loss Warranty



AI Overview

SiPhotonIC in Denmark offers advanced silicon photonic integrated circuits (PICs) with ultra-low loss performance, leveraging Silicon-on-Insulator (SOI), Silicon Nitride (SiN), and Thin-Film Lithium Niobate (TFLN) platforms. Overview of SiPhotonIC Founded in 2018 as a spin-out from the Technical University of Denmark, SiPhotonIC specializes in rapid prototyping of fully customized silicon PICs for both classical and quantum photonics applications. Their services include single-die fabrication up to wafer-scale production, with a strong emphasis on speed, precision, and flexibility. The company operates in a 1,350 m² ISO 9001-certified cleanroom, equipped with advanced lithography, deposition, and etching tools, ensuring high-quality fabrication. Low-Loss Silicon Photonics Recent advances in silicon nitride (Si₃N₄) PICs have enabled ultra-low propagation losses, reaching as low as 1.4 dB/m, which is over 100 times lower than traditional silicon photonic chips. This is achieved through the photonic Damascene process, allowing tightly confining waveguides suitable for high-power, visible-to-mid-IR applications. Such low-loss PICs are critical for applications in spectroscopy, photonic computing, frequency metrology, and microcomb generation. These developments make SiPhotonIC a leading provider of high-performance, low-loss photonic circuits in Denmark. Material Platforms and Customization SiPhotonIC supports multiple material platforms: Silicon-on-Insulator (SOI) for standard silicon photonics Silicon Nitride (SiN) and SiN-on-Si for ultra-low loss and high-power applications Thin-Film Lithium Niobate (TFLN) for electro-optic modulation and nonlinear photonics They also offer fully customized integration stacks and pilot lines tailored to specific design requirements, enabling researchers and companies to prototype complex PICs efficiently. Warranty and Reliability Considerations While th...

Article Content

Low-loss silicon nitride photonic ICs for single-photon applications

Abstract: Low-loss photonic integrated circuits (PICs) are the key elements in future quantum technologies, nonlinear photonics and neural networks. The low-loss photonic circuits technology

Roadmapping the next generation of silicon photonics

Silicon photonics has developed into a mainstream technology driven by advances in optical communications. The current generation has led to a proliferation of integrated photonic

Anneal-free ultra-low loss silicon nitride integrated photonics

Ultra-low loss silicon nitride photonic integrated circuits¹ (PICs) have the potential to reduce the size, weight, and cost, and improve the reliability of a wide range of applications spanning the visible to

Grant for researcher in the field of integrated photonics

Propose a novel type of quantum chips based on bound states in the continuum (BIC), which does not require the etching step during the chip fabrication processing, leading to low loss

Etch Rate Dependence of Optical Loss in Silicon Photonics

Quantum photonic integrated circuits are emerging as a prominent research area due to their potential in quantum communications and quantum computing. In these systems, minimizing

Integrated Photonic Circuits Demonstrate Ultralow Loss

Silicon is favored as a material for integrated photonic chips due to its abundance and optical properties, though the material has an optical loss orders of magnitude higher than that of

Top startups in Photonics in Denmark (Jan, 2026)

They have developed a chip technology that enables low cost, low power and small size optical interconnect solutions intended for the computer, storage and communications industry. After

Low-loss optical waveguides made with a high-loss material

Here, we report HCG waveguides fabricated with standard silicon photonics technology using a design that minimizes the spatial overlap of the propagating modes with the grating material.

(PDF) A Complete Si Photonics Platform Embedding Ultra-Low Loss ...

Abstract and Figures We report ultra-low propagation losses in silicon sub-micrometric waveguides on a 200 nm CMOS compatible photonics platform.

Towards fibre-like loss for photonic integration from violet to near ...

Germano-silicate used as a building material for integrated photonics circuits substantially reduces optical losses, approaching levels comparable to those in optical fibres.

Top 78 Photonics Companies in Denmark (2026) | ensun

SiPhotonIC specializes in silicon photonics, offering rapid prototyping of affordable and customized silicon photonic integrated circuits (PICs) for both classical and quantum applications.

Engineering Low-Loss Silicon Quantum Photonics in the Mid-Infrared

Quantum silicon photonics must overcome considerable loss engineering challenges before it can scale to the millions of physical qubits required for fault tolerant quantum computation . The first such

Deta Developing next generation photonic integrated circuits Silicon ...

Figure 2: The photonic damascene process as developed by Kippenberg, enables to overcome the large silicon nitride deposition stress, and manufacture ultra low loss integrated photonic circuits based on

Tower Semiconductor and Anello Photonics Collaborate for New Low-Loss ...

Tower Semiconductor, the leading foundry of high-value analog semiconductor solutions, and Anello Photonics, the developer of the Silicon Photonic Optical Gyroscope (SiPhOGTM),

Top 75 Silicon Photonics Companies in Denmark (2026) | ensun

SiPhotonIC, established in 2018, specializes in the rapid prototyping of affordable and fully-customized silicon photonic integrated circuits (PICs), employing advanced technology developed by the

COMPANY | Siphotonic

At SiPhotonIC, we are passionate about accelerating the development of photonic integrated circuits. Founded by researchers, for researchers, SiPhotonIC was

Top startups in Semiconductors in Denmark (Dec, 2025)

Developer of photonic quantum chip technology delivering single photons on demand. The company focuses on advancing quantum technology through its product offerings.

A Complete Si Photonics Platform Embedding Ultra-Low Loss

We report ultra-low propagation losses in silicon sub-micrometric waveguides on a 200 nm CMOS compatible photonics platform. We show median losses in C-band (O-band) as low as

Supporting quantum technologies with an ultralow-loss silicon photonics ...

We present a review of our recent progress in upgrading an unconventional silicon photonics platform toward this goal, including ultralow propagation losses, low-fiber coupling losses, integration of

Siphotonic | Rapid Prototyping of Silicon Photonic ICs

Mature photonic technology platforms, supported by ready-to-use Process Design Kits (PDKs) that allow designers to start their IC development immediately. High-precision manufacturing with continuous

Integrated photonic chips for sensing & data | VTT Research

Our integrated photonics solutions combine optical components and functions onto a single chip, enabling small footprint, high performance and low loss.

Low loss germanium-on-silicon waveguides for integrated mid-infrared ...

Low loss Ge-on-Si waveguides are demonstrated in the 8 – 14 μm atmospheric transmission window, a technology that will enable detection and sensing of unique molecular

Integrated silicon photonic MEMS | Microsystems & Nanoengineering

Microelectromechanical systems (MEMS) technology can enhance silicon photonics with building blocks that are compact, low-loss, broadband, fast and require very low power consumption.

Progress in Passive Silicon Photonic Devices: A Review

Silicon photonics has emerged as a critical enabling technology for a diverse range of applications, from high-speed data communication and computing to advanced sensing and quantum

Low-loss amorphous silicon-on-insulator technology for photonic ...

We report the fabrication of low-loss amorphous silicon photonic wires deposited by plasma enhanced chemical vapor deposition. Single mode photonic wi

Silicon Photonics Optical Interconnects | DustPhotonics

Provider of end-to-end silicon photonics solutions, now part of Credo, addressing the rapidly growing needs of hyperscale data players.

Low-Temperature Sputtered Ultralow-Loss Silicon Nitride for

Low-Temperature Sputtered Ultralow-Loss Silicon Nitride for Integrated Photonics

Abstract: We demonstrate ultralow-loss, high-thickness silicon nitride waveguides and microresonators based on

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