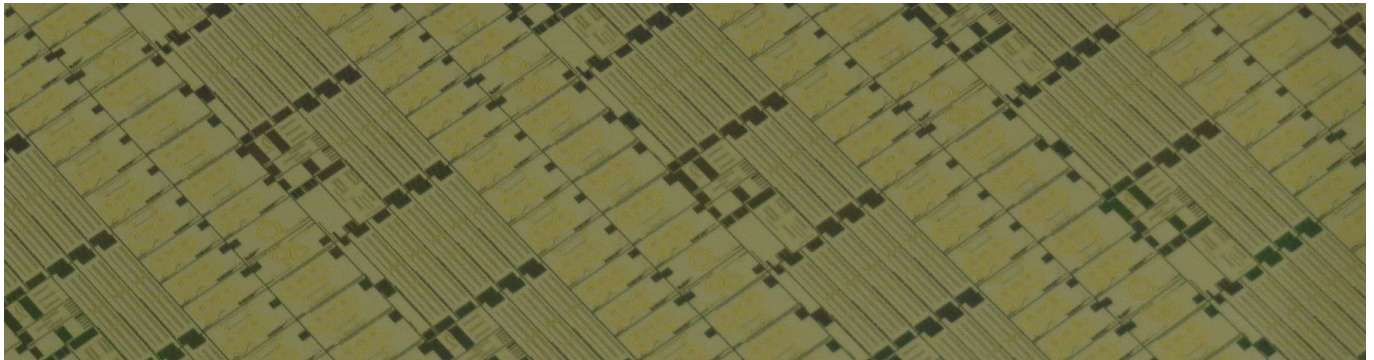


Silicon Nitride Photonics Fabrication Run

Your silicon nitride photonics designs fabricated on the copper-free silicon nitride platform behind our own products.



Research groups and development teams that need a chip beyond our catalogue get the same substrate, the same **photonic Damascene process** developed at EPFL and licensed to Deeplight, and the same building blocks we use ourselves: **copper-free silicon wafers**, thick Si_3N_4 resonators, monolithic Sc doped-AlN piezo actuators and micro-heaters. A device that works in a Deeplight run is already a Deeplight device, one step from a product or from partner manufacturing.

Deeplight is not a general-purpose PIC foundry and may decline designs outside this scope.

UNIQUE FEATURES

- ✦ **Ultra-low power soliton generation**
low threshold powers enable compact, energy-efficient microcomb sources.
- ✦ **Deterministic soliton frequency comb**
simple laser tuning achieves reliable single-soliton states without complex feedback or auxiliary lasers.
- ✦ **Shared-reticle and dedicated runs available**
flexible options from academic R&D prototyping through to dedicated wafer runs for proprietary designs.

FACTS

- ✦ **Ultra-low loss ($< 5 \text{ dB/m}$)**
Enabled by our proprietary Photonic Damascene process, delivering the high-Q micro-resonators required for stable soliton generation.
- ✦ **Ultra-low thermal absorption**
Proprietary copper-free silicon wafers eliminate parasitic heating, improving soliton stability.
- ✦ **Thick Si_3N_4 films ($> 800 \text{ nm}$)**
High anomalous dispersion and strong Kerr nonlinearity for broadband comb initiation.
- ✦ **Design support included**
Dispersion and coupling design, DRC-verified layout and tested resonator and actuator building blocks, from the engineers who design our own microcomb modules and lasers.

Ready to start your fabrication run?

Our photonics experts will help you turn your concept into reality.

info@deeplight.ai | [Deeplight.ai](https://deeplight.ai)



Fabrication Run Options

Choose the run type that fits your project stage and development goals.

Shared-reticle device run		Dedicated wafer run
Best For	First devices and design iterations: research groups and development teams building soliton microcombs, Kerr combs, linear and nonlinear waveguides	Your own variants on your own wafer: pilot quantities and proprietary designs
Cost Model	Shared wafer cost across multiple users	Dedicated wafer pricing
Design Flexibility	Standard reticle allocation	Full reticle customization
Turnaround	Scheduled run calendar	Priority scheduling available
Si ₃ N ₄ Thickness & Wafer Size	200 nm & 900 nm, 4 inch	Custom thickness available, 4 inch
Add-ons	Micro-heaters, Piezo actuators, DRC check	Micro-heaters, Piezo actuators, DRC, packaging support

Upcoming Scheduled Run Calendar

Secure your slot in our next shared-reticle device run

Run	Design Submission Deadline	Status
Shared-reticle device run 2026-Q4	1 November 2026	Open - Accepting designs
Shared-reticle device run 2027-Q2	1 April 2027	Open - Accepting designs

Dedicated wafer runs are available year-round with priority scheduling.

Typical Devices

Deeplight fabrication runs are built for these device classes:

- ✓ Soliton microcomb resonators

✓ Kerr combs

✓ Kerr OPOs
- ✓ Nonlinear waveguides

✓ Linear waveguides

✓ Frequency-agile laser cavities

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