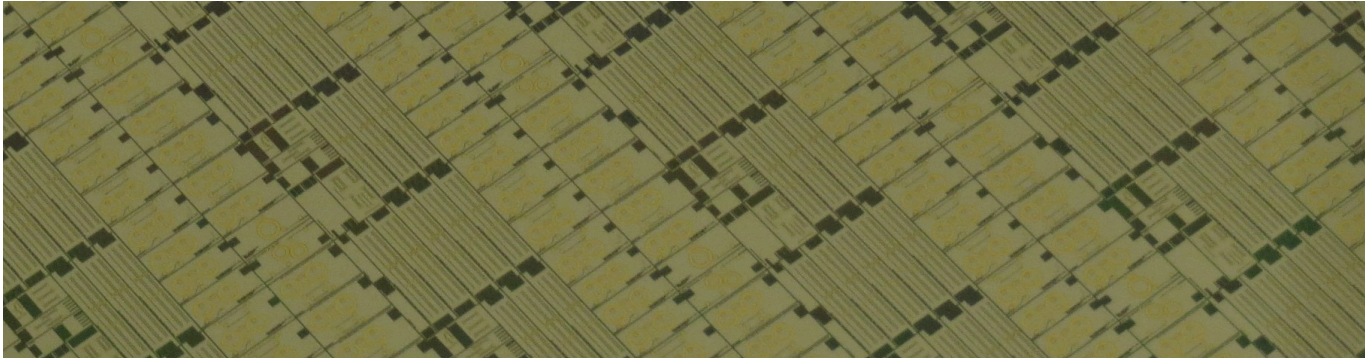


Shared and Custom Microcomb Silicon Nitride Wafer Runs

Built on patented copper-free silicon wafer and Photonic Damascene silicon nitride Photonic Integrated Circuit (PIC) fabrication – enabling reliable soliton generation



Conventional silicon nitride platforms are constrained by thermal drift and unpredictable soliton formation.

Deeplight addresses this problem: we engineered the substrate and process to eliminate the physics problem at its source. Our patented **copper-free wafers** and **Photonic Damascene process** deliver ultra-low loss and ultra-low thermal absorption – enabling **deterministic soliton generation** with simple laser tuning.

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.
- ✦ **Custom and shared runs available**
flexible options from academic R&D prototyping through to volume production.

FACTS

- ✦ **Ultra-low loss (< 5 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 Si₃N₄ films (> 800 nm)**
High anomalous dispersion and strong Kerr nonlinearity for broadband comb initiation.
- ✦ **Full design support included**
DRC checks and micro-heater integration provided as part of every run.

Ready to start your microcomb wafer run?

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

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

Available Run Options

Choose the run type that fits your project stage and budget

	Shared MPW Run	Custom Wafer Run
Best For	R&D prototyping, academic research, proof-of-concept	Volume production, proprietary designs, full-wafer control
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
Si₃N₄ Thickness	> 800 nm (standard)	Custom thickness available
Add-ons	Micro-heaters, DRC check	Micro-heaters, DRC, packaging support

Upcoming Scheduled Run Calendar

Secure your slot in our next shared wafer run

Run	Design Submission Deadline	Status
Shared Run 2026-Q2	1 April 2026	Open – Accepting designs
Shared Run 2026-Q4	1 September 2026	Upcoming – Pre-registration open

Custom wafer runs can be scheduled year-round with priority timing.

Target Applications

DeepLight microcomb wafer runs serve a broad range of photonic applications:

- ✓ Optical frequency synthesis
- ✓ Coherent optical communications
- ✓ Precision metrology & spectroscopy
- ✓ LiDAR & ranging systems
- ✓ Microwave photonics & RF generation
- ✓ Quantum information processing

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