PHOTONECT

Epoxy Free Connection for the Future of Photonics

Photonect aims to truly integrate photonic devices for a better-connected world.

We provide low-loss fiber-attach technology for optical packaging of integrated photonic devices. Our novel fiber-attach technology is a 1 sec process and provides <0.5dB total coupling loss per facet. Chips packaged with Photonect's technology are solder reflow and cryo compatible and avoid the use of adhesives for packaging.

Services

Patented Mode Converter Design Services

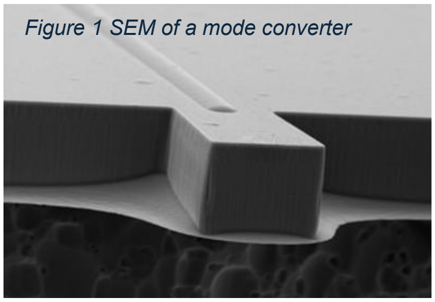


Figure 1 SEM of a mode converter

Using optimized oxide mode converter designs, Photonect can decrease the insertion-loss at the fiber-chip interface beyond current industry standards. It can be integrated into the foundry process with Tower Semi as well as AIM Photonics.

Technical specs for mode converter

- Coupling loss of < 0.6dB for as shown in figure 2.
- +/-2.5µm misalignment tolerance of 1dB
- Fusion time 1 sec vs 10 mins
- Compatible with FAUs, PM fiber, SMF 28 and others
- Foundry compatible

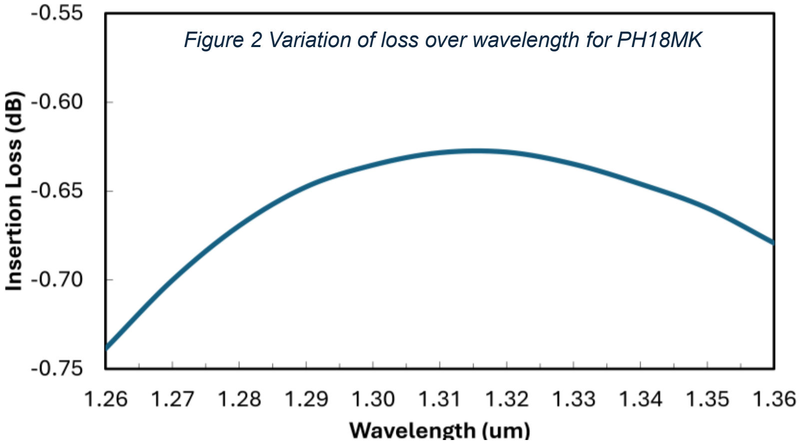
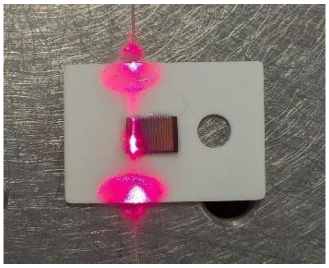
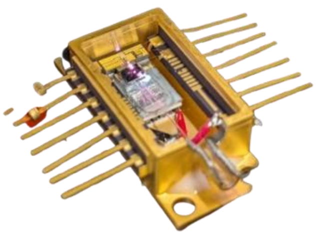


Figure 2 Variation of loss over wavelength for PH18MK

Fiber To Chip Attach Fusion Services

- Single fiber to chip attach fusion
- FAU and ribbon fiber to chip attach fusion
- Custom fiber attach solutions





Benefits Of Photonect's Technology

- With >10X faster production speed, our patented laser fusion technology takes 1 second to make a fiber to chip fusion bond.
- Insertion losses of < 0.6dB brings 4X higher coupling efficiency
- Photonect helps reduce the manufacturing costs by up to 50%

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<u>Products</u>

PIX-Attach Machine

PIX Attach is the first of a kind fiber to chip attach splicing machine designed to enable fast, and scalable fiber-to-chip attachments without the use of epoxy. It delivers mechanically robust, and repeatable optical connections, making it well-suited for both R&D and early manufacturing environments.

Benefits:

High-throughput, scalable production, enabling up to 60 units per hour to support both pilot lines and volume manufacturing. PIX Attach machine can also be adjusted to retrofit into existing active and passive alignment machinery.

PIX Attach comes in two models, with and without alignment stages.

Technical Specs for PIX-Attach

- Glass to glass fusion bond
- +/- 0.2dB of packaging loss
- <1sec attach time
- Back reflections -30dB
- Epoxy free
- Stable from -196C to 220C

Pricing

At Photonect, we offer a transparent and scalable pricing model tailored to your project needs we charge:

Fiber Attach Services	Engineering Fee + Per Attach Fee
Mode Converter Design*	Engineering Fee + IP Fee
PIX-Attach Machine	Launching in March 2026

*Our custom mode converter design optimizes coupling efficiency. While it is not mandatory to use our mode converter design services, this enhancement is highly recommended for achieving the best performance and alignment and is available at an additional cost.