# **Optical Chiplet / Co-Packaged Optics**

-Under development -

### **Features**

- Small, Optical Chiplet\* assembly with highly efficient connection between optical devices and Fiber Array
- Co-Packaged Optics (CPO) assembly with Optical Chiplet, and optical communication between xPU (CPU, GPU, etc.) packages
  - \*Optical Chiplet: An optoelectronic device that integrates a photonic integrated circuit (PIC) and an electronic integrated circuit (EIC) used in high-density packaging technology.

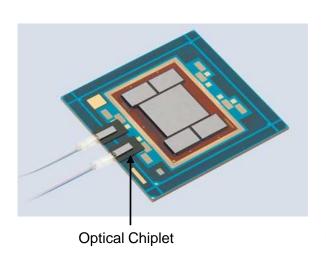
## **Technologies**

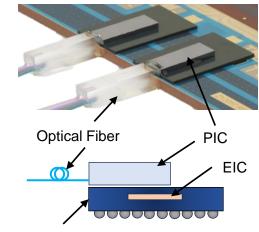
For optoelectronic convergence, SHINKO is developing optical assembly and optical wiring technologies in addition to our core technologies in semiconductor package substrates and IC assembly.

|                   | Board to Package  | Package to Package  |
|-------------------|---|---------------------|
| Use Case          | On Semiconductor Package  |                     |
|                   | Network Switch  | Server              |
| Structure         | Switch ASIC Optical Chiplet (Optical Engine)                        | CPU Optical Chiplet |
| Core Technologies | ◆Assembly ◆Active Alignment ◆Thin and High-density Wiring Substrate |                     |

## Structure

Optical interface (photoelectric conversion device) placed at the edge of the semiconductor package





Package Embedded EIC

**Optical Chiplet Structure** 

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