

Application of High-Speed Optical Interconnect Interface Module



Overview

Our solutions enable reliable, high-speed data transmission with symbol rates from 10 Gbaud to 150 Gbaud, supporting a wide range of applications—from metro, regional, and long-haul telecom networks to data centers and enterprise systems. To address this, Macom and NVIDIA first proposed Linear-drive Pluggable Optics (LPO) in 2022. In the LPO architecture: The transmitter uses. As a leader in optical interconnect technology, we deliver high-performance laser drivers, optical modulator drivers, and transimpedance amplifiers (TIAs) for telecom and datacom applications. Design of Integrated Circuits for Optical Communications, B. Heck, John Wiley & Sons, 2009. High-Speed Digital. As AI and high-performance computing continue to accelerate, data centers are rapidly moving toward higher-speed optical interconnects. This article explains how this new 1. These are the pluggable optical modules that convert electrical signals to optical signals and back again.

Article Content

Nov 27, 2025

Optical interconnection networks for high-performance systems

The optical interface of the transmitter chip includes MRR modulators that use carrier dispersion for high-speed modulation. The

Jan 10, 2026

1.6T Transceivers Explained: Advantages, Types & FS Solution

Explore the evolution of 1.6T optical transceivers, including their working principles, key technologies, module types,

Oct 27, 2025

Optical Interconnects Finally Seeing the Light in Silicon Photonics ...

Additionally, it can be tuned to optimize transmissions over 90° bends. Hence, high-density opto-electronic integrated circuits with

Dec 16, 2025

Optical Interconnect for Hyperscale Data Center with AI / ML ...

These solutions involve leveraging optical I/O technologies to provide high-performance interconnect solutions for large-scale data

Aug 29, 2025

Optical Interconnects | Springer Nature Link

For off-chip applications, comparing power and bandwidth, beyond a critical length, power optimized optical

Jun 22, 2026

High-Speed Pluggable I/O

Connectors High-Speed Pluggable I/O Today's networking and data center professionals face rapidly escalating bandwidth

Apr 03, 2026

High-Speed Pluggable Optics with Silicon Photonics

The insatiable demand for data in modern computing applications has driven network architects to seek out optical interconnect

Feb 01, 2026

Optical interconnects for extreme scale computing systems

Large-scale high performance computing is permeating nearly every corner of modern applications spanning from

Aug 15, 2025

TSMC's Silicon Photonics Architecture: Why Couplers and Optical

Driven by the demands of AI and high-performance computing (HPC), data center interconnects are reaching the limits

Apr 16, 2026

The evolution of AI interconnects

For more than eight years, Marvell has delivered silicon photonics technology for successive generations of data

Dec 08, 2025

Optical interconnect research program

This approach leverages compact optics and advanced assembly technologies such as hybrid bonding. It creates interfaces of many

Sep 18, 2025

Products

Eliminates the complex traffic engineering required to overcome impairments in optical fiber infrastructure with a more

May 24, 2026

Optical interconnect research program

Electronic IC design knowledge, both front-end and back-end, including high-speed wireline data converters. To cover both

Mar 05, 2026

3D integrated silicon photonics transmitters for 224 Gbaud optical ...

The characteristics of the representative silicon photonics transmitter for high-speed optical interconnect are

Jul 05, 2026

High Speed Optical Interconnect Technologies for AI/ML Applications

Abstract: This paper introduces VCSEL-based ultra-compact optical transceivers under development in the NICT

Dec 07, 2025

High-Performance Optical Interconnect for AI Computing Centers

Solution overview-Network architecture with DC as the core China Telecom has developed the world's first end-to-end high

Oct 15, 2025

Intel Demonstrates First Fully Integrated Optical I/O Chiplet

Intel Corporation's Integrated Photonics Solutions (IPS) Group has demonstrated the industry's first fully integrated

Feb 25, 2026

Optical Interconnects for AI Computing Applications

Cloud computing has driven the development of optical interconnects in the past decade and AI has becomes a new growth engine.

Mar 10, 2026

The Future of Chip Connectivity: UCle and Optical I/O FAQs Explained

The UCle (Universal Chiplet Interconnect Express) 2.0 specification was released in August 2024. This is critical for

Oct 06, 2025

Optical Interconnect

In this introductory chapter we introduce current state of the art applications, workloads and architectures drawing from DC,

Dec 17, 2025

Intel Demonstrates First Fully Integrated Optical I/O Chiplet

Intel's optical compute interconnect chiplet is expected to revolutionize high-speed data processing for AI infrastructure.

Apr 19, 2026

ECEN721: Optical Interconnects Circuits and Systems Spring 2026

Efficient cost-effective optical integration approaches are necessary for optical interconnects to realize their potential for improved

May 02, 2026

Optical Interconnect | Renesas

Our solutions enable reliable, high-speed data transmission with symbol rates from 10 Gbaud to 150 Gbaud, supporting a wide range

Jul 25, 2026

Optical interconnects: Fundamentals

Optical interconnects technology is introduced as the successor to electrical interconnects in order to address current and

Contact Us

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