

Which company s chips are used in optical modules



Overview

Optical modules incorporate power management ICs (PMICs) or low-dropout regulators (LDOs) to ensure stable and efficient power delivery to all internal subsystems.

Key Takeaways

Key companies supplying chips for optical modules include Broadcom, Marvell, Intel, Lumentum, Coherent Corp., and Accelink Technologies.

Major International Semiconductor Companies

Broadcom Inc.: A leading provider of DSP chips and switching chips used in high-speed optical modules, widely deployed in data center networking equipment and hyperscale cloud infrastructure. Marvell Technology, Inc.: Specializes in high-speed optical communication DSP chips, including PAM4 DSPs for 100G, 200G, and 400G optical modules. Intel Corporation: Focuses on silicon photonics and co-packaged optics, producing chips for optical interconnects and AI accelerators.

Analog Devices and Texas Instruments: Provide analog and mixed-signal chips, such as laser drivers and TIA (Transimpedance Amplifier) chips, essential for optical module performance.



Leading Optical Communication Component Manufacturers

Lumentum: Produces DFB lasers, EML lasers, and photodetectors, which are widely used in high-speed optical modules. **Coherent Corp. (formerly II-VI Incorporated):** Manufactures laser chips, photodetectors, and other optical communication components for modern optical systems. **Accelink Technologies:** Invests in next-generation optical modules, including 800G solutions, providing laser and detector chips for telecom and data center applications.

Notable Chinese Companies
InnoLight (Zhongji Innolight): A leading Chinese optical module manufacturer, integrating R&D, design, packaging, and testing of high-speed optical modules (100G-800G) and providing chips for 5G fronthaul and backbone networks. **Yuanjie Semiconductor and Shijia Photons:** Recognized as upstream optical chip suppliers in China, producing high-speed optical devices for modules.

AI and Emerging Optical Chip Companies

Rockley Photonics: Focuses on integrated photonics and chip-scale optical sensors for AI applications, including optical interconnects and low-power solutions for data communication. **Cisco Systems, Inc.:** Integrates AI optical chips into networking hardware for data centers and telecom solutions.

Summary

Optical modules rely on a combination of laser chips, detector chips, DSPs, and driver/amplifier chips. The major suppliers span both semiconductor giants (Broadcom, Marvell, Intel) and specialized optical component manufacturers (Lumentum, Coherent, Accelink), with significant contributions from Chinese companies like InnoLight, Yuanjie Semiconductor, and Shijia Photons. These companies collectively support high-speed optical communication for data centers, 5G networks, and AI-driven applications.

Article Content

What chips are used in optical modules? | Weyland

□□ Optical modules rely on a multi-chip cooperative system, including DSP, Driver IC, TIA, PD/APD, laser sources, and control/memory chips, working together to achieve high-speed electrical

Which chips are used in optical modules? | Weyland

Optical modules incorporate power management ICs (PMICs) or low-dropout regulators (LDOs) to ensure stable and efficient power delivery to all internal subsystems. The module also

Optical Chips: Types, Applications, and Future Trends

This comprehensive guide will explore optical chips, their types, applications, their impact on optical module performance, and the exciting future trends in optical chip technology.

NewPhotonics optical IC chips for the AI scale data center

All-Optical Photonic ICs Designed for Scale Highly integrated photonic integrated circuit chips designed for transceiver pluggable and co-packaged optics. Built for power and bandwidth efficient optical

Top 10 AI Optical Chips Companies to Watch in 2025 and Beyond

Explore the evolving AI Optical Chips market as we profile ten industry top players shaping innovation, efficiency, and competitive dynamics. Readers will discover the unique positions and strengths of

Top Opto-Semiconductor Manufacturers : Market Share

Opto-semiconductors are a type of semiconductor that works by both emitting and absorbing light. The p-n junctions in these devices are an essential

A Comprehensive Guide to Optical Chips

Leading brands include Intel, Broadcom, Marvell, MACOM, and Mellanox, each with its strengths and ideal applications. Intel's optical transceiver chips are known for their data processing

Optical Module Chip Market 2025

The optical module chip market exhibits a fragmented yet competitive structure with global technology providers, semiconductor manufacturers, and specialized optical communication companies vying for

Deep Dive: Optical Module Market

Next-generation 1.6T modules are expected to begin deliveries in Q4 2024, which will primarily be paired with Nvidia's GB200 chips (although GB200 can also work with 800G modules).

10 companies in the optical transceiver industry chain 2024

To help you choose the best partner, this article will analyze and introduce 10 companies in the optical transceiver industry chain for you.

Optical Communications Industry Chain: Critical Infrastructure in the ...

High-speed optical modules, CPO, and higher-bandwidth interconnect technologies are gaining importance. From a supply chain perspective, U.S. companies continue to dominate high

Optical Modules Market Research Report 2034

Optical Modules Market Outlook 2025-2034 The global optical modules market was valued at \$14.8 billion in 2025 and is projected to reach \$39.6 billion by 2034, advancing at a compound annual

10 companies in the optical transceiver industry chain 2024

The rapid development of AIGC has promoted the demand for 800G optical modules, and the entire industrial chain involving optical components,

Nvidia-backed optics vendor to boost wafer output by 4x to meet AI ...

The company operates eight wafer fabs across the US that produce semiconductors used in laser light sources and optical modules. These supply chains are so important to Nvidia's future

Quantum Computing Companies In 2026: The Complete List

Find 200+ quantum computing companies—hardware, software, and services—in this comprehensive 2026 directory spanning dozens of countries.

Semtech Acquires HieFo Corp. for \$34M | Industry News | May 2026 ...

Integration of HieFo into Semtech's operations is underway. HieFo's core technology centers on InP-based gain chips and distributed feedback (DFB) laser chips. Gain chips are the light-emitting

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Designed for your current needs and future ambitions, Marvell delivers the data infrastructure technology transforming tomorrow's enterprise, cloud, automotive,

Hot-Pluggable Optical Modules Market: \$15B by 2025, 12% CAGR

The Hot-Pluggable Optical Modules market is projected to reach \$15 billion by 2025, expanding at 12% CAGR. Growth is driven by cloud services, data centers, and AI infrastructure.

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