

Current Status of Supply and Demand Gap in Optical Modules



Overview

Key drivers: Meta, Microsoft AI, Amazon Web Services (AWS), and Google are deploying at scale — Meta alone plans to order 12M units. 6T modules: Still in early stages (2025 demand: 180K units), constrained by 200G EML chip supply and NVIDIA GPU delays. 400G modules: A diagram of hardware components within an NVIDIA photonics co-packaged optics switch system showing optical sub-assemblies and switch ASIC. com The AI infrastructure boom has created its next supply chain crisis. Having already driven shortages in GPUs, high-bandwidth memory, and advanced. Networking optics are mission-critical components in advancing AI and data center infrastructure build-outs. To move the massive amounts of data required for AI training and inferencing, hyperscalers and other data center operators need increased access to optical transceivers capable of rates of. Supply chain issues with optical transceivers threaten to stall the development of AI-era networks, according to a new McKinsey report. 6 Tbps data center. □□ Optical Module Industry: Why 800G Supply Can't Meet Demand The optical module market is experiencing unprecedented growth, driven by AI and cloud expansion, yet significant supply bottlenecks persist — especially for 800G products. Telecommunication networks (wireless and wired) are the second-largest application, contributing 28% of market revenue in 2022.

Article Content

AI Data Center Optical Component Shortage: Nvidia's \$4B Laser

Having already driven shortages in GPUs, high-bandwidth memory, and advanced packaging substrates, the relentless buildout of AI data centers has now produced a severe crunch

Data center networking optics supply shortages | McKinsey

Networking optics are mission critical to advance AI and data center infrastructure and are facing imminent supply shortages.

2025 Optical Module Market Share and Demand Report

Overview of the optical communication module market demand and supply chain, and production capacity in various regions in 2025

Optical supply shortfall threatens next-gen networking, McKinsey warns

Supply chain issues with optical transceivers threaten to stall the development of AI-era networks, according to a new McKinsey report.

Optical Module Supply Can't Meet 800G Demand

□□ Optical Module Industry: Why 800G Supply Can't Meet Demand The optical module market is experiencing unprecedented growth, driven by AI and cloud expansion, yet significant supply...

AI data centers trigger global optical component shortage, 30% supply ...

Global optical component shortage hits 30% undersupply as AI data centers in North America and Asia overwhelm manufacturers. Lead times stretch to quarters through 2027.

AI Data Centers Ignite a Laser Shortage Wave; Nvidia's Strategic

Optical module manufacturers and CSPs are now actively searching for secondary suppliers and alternative designs, changing the competitive landscape within the laser industry.

Powering the Next Data Race: How 800G & 1.6T Optical Modules Are ...

The following tables and analysis are derived from SemiVision's latest Optical Communication Industry Report, providing a comprehensive view of key supply chain dynamics,

Optical Module Package Market 2025

While demand for optical modules continues to grow, manufacturers face significant production challenges that constrain market growth. The assembly and testing of high-speed optical modules

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Optical Modules Market Size, Growth Trends & Forecast

The Optical Modules Market encompasses the design, manufacturing, and deployment of compact, high-performance devices that facilitate the transmission and reception of optical signals

Report: In 2029, 800G Optical Modules Will Occupy

The report "Optical Networking: Capturing the Next Wave of Value" predicts that by 2027, the production capacity of 800Gbps optical transceivers will be 40% to

Optical Module Chip Market 2025

The optical module chip market faces significant headwinds from global supply chain disruptions. The highly specialized semiconductor manufacturing process for optical components creates bottlenecks,

Deep Dive: Optical Module Market

In addition, while demand for 800G and 1.6T modules is substantial, the supply of EML and VCSEL, key laser types for more conventional modules, is currently insufficient to fully meet the

Optical Transceiver Market Size, Share, Trends | Forecast

There is a limited demand for transceivers in regions with limited fiber optic infrastructure, constraining market growth in such areas. Moreover, supply chain disruptions are another major

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