

Future Demand for CPO Optical Modules



Overview

According to IDTechEx, the Co-Packaged Optics (CPO) market is projected to exceed US\$20 billion by 2036, growing at a robust CAGR of 37% from 2026 to 2036. CPO network switches are expected to dominate revenue generation, driven by each switch potentially incorporating up to 100 Co-Packaged Optics (CPO) modules. CPO is an advanced optical interconnect architecture that integrates optical components—such as photonic integrated circuits (PICs) and lasers—directly alongside switching ASICs or processors within the same package. This approach significantly reduces electrical I/O distance. That playbook is no longer holding for today's AI systems. As AI clusters push beyond 100 Tb/s per node, the gap between what silicon can generate and what traditional copper interconnects can deliver is widening fast. It reviews recent advances in CPO technology, tracks emerging packaging approaches, assesses the strategies of leading companies, and provides long term market. Co-Packaged Optics (CPO) Market (By Component: Optical engines/transceivers, Photonic integrated circuits, Lasers, Modulators, Electrical ICs / SerDes, Optical fibers and waveguides, Connectors and interfaces, Thermal management solutions, Packaging substrates and interposers, Testing and alignment. Co-packaged optics (CPO) is a disruptive approach to increasing the interconnecting bandwidth density and energy efficiency by dramatically shortening the electrical link length through advanced packaging and co-optimization of electronics and photonics. Realizing these benefits will also require a fundamental transformation in the way computing and switching assets are.

Article Content

Samsung Electronics 1Q26 Conference Call Q&A Key Takeaways (1)

Beyond silicon photonics devices, Samsung is also developing advanced-node processes, 3D packaging, and CPO technologies. Mass production for optical communication

Co-packaged optics (CPO): status, challenges, and solutions

To meet the demands from the next-generation chip-scale optical networks, future optical power sources must aim to work with minimal lasers and power consumption while meeting the device and layout

Co-Packaged Optics Module (CPO) Market 2026

The Co-Packaged Optics Module (CPO) market is poised for significant growth driven by increasing demand for high-speed data transmission and the proliferation of data centers.

Where co-packaged optics (CPO) technology stands in

Find out CPO's 2025 scorecard and what lies ahead for this optical interconnect technology in 2026 and beyond.

AI drives demand for optical transceivers, LPO, CPO –

The Figure below presents LightCounting's forecast for sales of optical transceivers, LPO and CPO for scale-out and scale-up networks used in

Co-Packaged Optics: Market and Technology Update

This report dives deeper into CPO for insight on the technology and applications, the benefits and issues, its impact on pluggable optics, and Signal AI's predictions for CPO's future.

Co-Packaged Optics (CPO) Market Size to Hit USD

The global co-packaged optics (CPO) market size is evaluated at USD 95.04 million in 2025 and is predicted to hit around USD 1,055.11 million by

Co-Packaged Optics (CPO) Market Size to Hit USD

Emerging applications in quantum computing, scientific research, and smart city infrastructure are expected to drive the future demand for co

OFC 2026 Special: Arista Leads XPO Launch as Three

The Triple Threat: Standardizing the Future of AI Interconnects The simultaneous release of these MSAs targets three core directions in ultra-scale

Co-Packaged Optics (CPO) Market Trends 2026: AI Data Center

Explore the future of co-packaged optics (CPO) in AI data centers. Learn how silicon photonics, optical I/O, and high-speed optical interconnect technologies are shaping next-generation

Optical Interconnect Technology Analysis: LPO, NPO,

Exploring optical interconnects for AI data centers: LPO for low-power, short-distance links, NPO for high-density, near-package connections,

Co-Packaged Optics (CPO)Co-Packaged Optics (CPO)

IDTechEx's "Co-Packaged Optics (CPO) 2026-2036" explores technical innovations and packaging trends, analyzing the value chain. It evaluates industry players and forecasts CPO's impact on AI

Optics Transceiver Module Market 2025

Several leading cloud providers have already initiated pilot deployments of CPO-based systems, signaling strong future demand potential for this advanced packaging solution.

Five Key Trends of Co-Packaged Optics (CPO) in 2026

Meeting market expectations and building confidence in co-packaged optics will require more than performance demonstrations. CPO adoption depends on proving robust, multi-vendor

Optical Module Stocks Surge Over 6% as 1.6T Era Begins

Driven by accelerating AI infrastructure demand, key optical module stocks like InnoLight and Eoptolink surged after a Huatai Securities report confirmed 1.6T modules have entered

Co-packaged Optics: Powering the Next Wave of AI Data Center

AI's insatiable appetite for bandwidth and the physical limitations of copper are driving demand for CPO. Network bandwidth doubles every two to three years, and the reach of copper

TSMC Targets 2H26 COUPE on Substrate; NVIDIA Could Eye

As demand for high-speed transmission in AI data centers surges, TSMC is further advancing its co-packaged optics (CPO) roadmap. According to Commercial Times, TSMC recently

Lumentum's quarterly revenue grows 65% year-on-year to \$665.5m

Diluted earnings per share is expected to increase to \$2.15-2.35. Cloud transceivers, OCS and CPO to drive future growth "We previously identified three primary catalysts for

Partnering With Lumentum and Coherent, Can Nvidia's

Nvidia is investing \$4 billion in optical technology manufacturers Lumentum and Coherent to secure its supply chain for next-generation AI data

OFC 2026 Outlook: AI Data Center Optical Interconnect Trends from ...

Over the coming days, we will be publishing a series of Optical Connection updates to help readers quickly understand the most important developments—from photonic integration to data

Co-Packaged Optics (CPO) Market Size to Hit USD 1,055.11 Million

Emerging applications in quantum computing, scientific research, and smart city infrastructure are expected to drive the future demand for co-packaged optics. The growing

Co-Packaged Optics Module (CPO) Trends and Forecasts:

The Co-Packaged Optics (CPO) module market is projected for substantial growth, driven by escalating demands for enhanced bandwidth and reduced latency in data centers and high

Optical Module Chip Market 2025

Exploding Demand for High-Speed Data Transmission Fuels Optical Module Chip Adoption The insatiable global appetite for faster data speeds is propelling the optical module chip market forward.

The Rise of Co-Packaged Optics: A Deep Dive into

A CPO optical module integrates optical and electronic components to boost data center speed, efficiency, and bandwidth while reducing power use.

Lumentum Orders Booked Through 2028: Can Optical

Optical communications are emerging as the next AI computing infrastructure frontier, driven by data interconnection bottlenecks. Lumentum's order book is full through 2028, reflecting

Nvidia's \$4B Photonics Venture: What You Need to Know

Nvidia is investing \$2 billion in each optical component supplier; these investments constitute joint R& D along with purchase commitment and future

Sample Pages

CPO for Switches: Assessment of the potential 25% efficiency gains in high-performance network switches through CPO integration. Challenges and Solutions: Critical review of obstacles to CPO

Silicon photonics and co-packaged optics at the heart

While linear-drive pluggable modules remain competitive, CPO is expected to offer unmatched customization and scalability, with large-scale

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