

Article Overview

The wholesale price of co-packaged optical DMLs typically ranges from several hundred to a few thousand dollars per unit, depending on data rate, integration level, and production scale.

Market Context

Co-packaged optics (CPO), which integrate optical and electrical components into a single module, are experiencing rapid growth due to the demand for high-bandwidth, energy-efficient data transmission in hyperscale data centers and telecom networks. The global CPO market was valued at approximately \$70-95 million in 2025 and is projected to grow at a CAGR of 30-47% through 2034, driven by AI workloads, cloud expansion, and high-speed interconnect requirements (400G-6.4T+) . Directly modulated lasers (DMLs) are a key component in these systems, enabling short-reach, high-speed optical transmission with compact form factors and low power consumption. Recent technological improvements have reduced average selling prices by nearly 30% over the past three years due to manufacturing scale and yield improvements .

Factors Affecting Wholesale Pricing

- o Data Rate and Reach: Higher-speed DMLs (e.g., 400G-800G) command higher prices due to more complex design and tighter performance tolerances. Short-reach intra-datacenter modules are generally less expensive than long-reach or high-performance HPC modules .
- o Integration Level: True co-packaged optics, which integrate multiple components on a single die or package, are more costly than on-board or discrete solutions due to advanced photonic integration .
- o Supply Chain Constraints: Specialized III-V semiconductor wafers and epitaxial materials are limited, which can increase lead times and wholesale costs .
- o Volume and OEM Contracts: Direct OEM or hyperscaler supply agreements often reduce per-unit costs compared to smaller contract manufacturing orders .

Estimated Wholesale Price Range

Based on market valuations and component-level trends:

- o Low-end / short-reach DML modules: ~\$300-\$600 per unit
 - o Mid-range / 100G-400G co-packaged DMLs: ~\$600-\$1,200 per unit
 - o High-end / 800G-1.6T or fully integrated CPO DMLs: \$1,500-\$3,000+ per unit
- These estimates reflect bulk procurement or OEM-level pricing rather than retail or small-volume purchases. Prices are expected to gradually decrease as manufacturing scale increases and photonic integration matures .

Conclusion

Wholesale price for co-packaged optical DML

While exact wholesale prices vary by supplier, data rate, and integration complexity, co-packaged optical DMLs generally fall within the hundreds to low thousands of dollars per unit. Market growth, technological advances, and supply chain factors will continue to influence pricing trends, particularly for high-speed, energy-efficient modules used in hyperscale and AI-driven data centers.

Interactive field guide to the co-packaged optics (CPO) supply chain: InP laser, hybrid bond, silicon photonics chiplet, switch ASIC.

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

The Global Co-Packaged Optics Market 2027-2037 is a comprehensive market and technology assessment of co-packaged optics

Co-packaged Optics Market 2026-2034 Analysis: Trends, Competitor Dynamics, and Growth Opportunities
Co-packaged Optics

According to our latest research, the global Co-Packaged Optics (CPO) market size reached USD 1.12 billion in 2024, and is

Worldwide Co-Packaged Optics Market 2026 Global Co-Packaged Optics Market Size, Share & Industry Analysis, By

This section will explore the evolution of the market from copper to co-packaged copper and from digital signal

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

The global Co-Packaged Optics (CPO) market stands at the precipice of a transformative decade, driven by the

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Co-packaged optics involve integrating SERDES and optical interface electronics onto a package, potentially further integrating them

Leading photonics companies are exploring in-package optical I/O technology to enable communication

Wholesale price for co-packaged optical DML

between

Co-Packaged Optics industry insights on factors that are driving the growth of the Co-Packaged Optics Market and

The co-packaged optics market was valued at \$1.8 billion in 2025 and is projected to reach \$12.4 billion by 2034, growing at a CAGR

The co-packaged optics market size was valued at USD 122.1 million in 2025 and is projected to reach USD 2.80

Co-Packaged Optics (CPO) has long promised to transform datacenter connectivity, but it has taken a long time for the

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