

Price list for silicon photonics EDFA for data center interconnects



AI Overview

Silicon photonics modules for data center interconnects typically range from several hundred to several thousand dollars per transceiver, depending on speed, integration, and volume. Cost Factors The price of silicon photonics technology is influenced by several key factors: Data Rate and Bandwidth: Transceivers supporting 100G, 400G, or 800G speeds have higher costs due to more complex modulators, photodetectors, and wavelength-division multiplexing components. Integration Type: Co-packaged optics (CPO) that integrate optical engines directly with switch ASICs or processors are more expensive than standard pluggable modules because of tighter thermal management and packaging requirements. Volume and Manufacturing: Silicon photonics leverages CMOS fabrication, but initial design and prototyping costs are high. Large-scale production reduces per-unit cost, but lead times can extend to months. Component Complexity: Active PICs with modulators and photodetectors cost more than passive chips with only waveguides and splitters. Lasers, often hybrid-integrated, are a significant cost contributor. Supplier and Region: Major suppliers like Intel, Cisco, MACOM, Lumentum, and GlobalFoundries offer different pricing based on service, support, and regional market dynamics. North America and China dominate production and adoption, affecting pricing trends. Estimated Price Ranges While exact prices vary by supplier and contract, industry sources suggest approximate ranges: 100G transceivers: \$300-\$800 per module 400G transceivers: \$1,000-\$2,500 per module 800G transceivers and co-packaged optics: \$3,000-\$6,000 per module, depending on integration and volume These prices reflect high-performance, AI-focused data center interconnects, where energy efficiency and low latency are critical. Silicon photonics modules can reduce power consumption by up to 60% co...

Article Content

Silicon Photonics Technology For Next-Gen Data

Silicon photonics technology advances data center interconnects with co-packaged optics, offering improved signal integrity, speed, bandwidth density,

Silicon Photonics Market by Product Type, Component, End-use

Silicon Photonics Market by Product Type, Component, End-use - Global Forecast 2026-2032 - The Silicon Photonics Market was valued at USD 2.43 billion in 2025 and is projected to grow

OSFP Optical Transceiver: \$10.4B Market, 15% CAGR Forecast

OSFP Optical Transceiver market projected at \$10.4B with 15% CAGR, driven by Cloud, Data Center, and AI. Analyze key growth catalysts and segment performance.

Optical Interconnect in AI Data Centers Market

The U.S. remains a core growth hub for optical interconnects as enterprises and hyperscalers pursue high-bandwidth, low-latency AI and HPC workloads. Providers are integrating

Top Silicon Photonics Stocks 2026: Breaking the

Watchlist of silicon photonics stocks: Co-packaged optics replacing electrical I/O to slash latency and power consumption in AI data centers.

Credo's \$750 Million DustPhotonics Deal Aims to Transform AI...

Credo is set to acquire DustPhotonics in a \$750 million cash and stock deal, bringing advanced silicon photonic technology in-house. This move positions Credo for significant growth in

Intel® Silicon Photonics

Next-generation process technology for disruptive cost structure, size, and integration. Maturity – Our field-proven Intel® Silicon Photonics platform has already shipped more than 8 million PICs with over

Pluggables, Power, and Geopolitics: Mapping the 800G

Pluggables, Power, and Geopolitics: Mapping the 800G and 1.6T Optical Transceiver Battle How AI Demand Is Reshaping Market Share, Supply

Worldwide Rack Mount AAWG Modules Market 2026 – PW Consulting

North America favored 96-channel configurations for data center interconnect applications. However, raw material price volatility for silica-on-silicon substrates and the complexity of achieving low

Development trends in silicon photonics for data centers

An explosive increase in volume of global network and data center traffic requires an interconnection scheme with low cost, high energy efficiency, and high bandwidth capacity. The

Silicon Photonics and Photonic Integrated Circuits 2025

This report categorizes the photonic integrated circuit industry, including silicon photonics. It outlines key market players, emerging materials (such as TFLN,

Roadmap on optical communications

First, we discuss O-band amplifiers because the short-reach data center optical interconnects operating in the O-band will require optical

Erbium-doped Fiber Amplifiers

Erbium-doped fiber amplifiers (EDFAs) are the most important fiber amplifiers for long-range optical fiber communications, efficiently amplifying signals in the 1.5

Silicon Photonics Transceivers: 400G & 800G Data Center Guide

Silicon Photonics transceivers explained in depth. Learn how SiPh compares to traditional optics for 400G and 800G data centers in performance, power, cost, and scalability.

800G Silicon Photonics vs. EML: 2026 Cost Analysis & Buying Guide

However, AI-scale data centers have changed the cost equation. A decisive trend has emerged: Silicon Photonics (SiPh) is rapidly overtaking EML, projected to capture 60-70% of the

Data Centers Are Already Silicon Photonics' Killer Application

IDTechEx's analysis covers the number of AI accelerators shipped, shipments of PIC transceivers by data rate, and the average forecasted cost per transceiver, allowing for a

Silicon Photonics for AI Data Centers Market 2026

This market research report provides a comprehensive analysis of the Silicon Photonics for AI Data Centers Market, covering the forecast period 2026–2034. It offers detailed insights into market

Sivers & GlobalFoundries Advance AI Data Center Optical Solutions

"GlobalFoundries continues to see strong momentum for silicon photonics solutions as AI data center architectures evolve toward higher bandwidth density and improved power efficiency,"

800G Silicon Photonics Guide: Costs, Power & AI Applications | 2026 ...

In recent years, the explosive growth of artificial intelligence and cloud computing has driven a surge in demand for high-speed interconnects in data centers. 800G optical modules have entered the stage

Silicon Photonics For Data Centers Market Research

One of the primary challenges is the complexity and cost of integrating silicon photonics technology into existing data center infrastructure. The transition from

Cb Pulsed EDFA Market 2026-2034

These technical gains enable data-center interconnects to adopt compact modules, accelerating the adoption curve of the C-band Pulsed EDFA Market across edge-computing sites.

Silicon photonics

Silicon photonics (SiPho) technology leverages silicon-based materials to develop photonic circuits, which use light to transmit data. Silicon photonics is a highly promising technology for faster and

Price List for 40G EDFA for Data Center Interconnection

Erbium-doped Fiber Amplifiers – Buying Guide & Supplier List | RP 54 suppliers for erbium-doped fiber amplifiers (EDFA) are listed in the RP Photonics Buyer's Guide, out of which 8 present their product

Tower Semiconductor Partners with NVIDIA on 1.6T Silicon Photonics

On February 5, 2026, Tower Semiconductor announced a collaboration with NVIDIA to scale AI infrastructure using its advanced silicon photonics platform for 1.6-terabit data center optical modules ...

Data Center Photonics Market Outlook 2026-2034

Data center operators are targeting a 30 % reduction in power consumption per bit transferred. Photonic components, such as silicon photonics transceivers, consume up to 70 % less

NVIDIA/Mellanox MMS4A00-XM/MMS4C10-XM (980

It supports both EML and Silicon Photonics (SiPh) technologies. Powered by Broadcom's 3nm DSP (Sian3: BCM83628), it delivers 500m transmission,

Silicon Photonics Market Size, Share and Trends

The silicon photonics market share has been growing strongly as demands for high-bandwidth, low-latency and energy-efficient data communication increase. It is

5 Best Photonics Stocks to Buy for 2026 | Investing

Photonics market growth is accelerating toward an \$839 billion valuation. AI data center expansion is the primary stock-price catalyst. Copper

Can Silicon Photonics Fuel GlobalFoundries' Next Growth Wave in

The company expects silicon photonics revenues to roughly double in 2026 compared with 2025, supported by rising adoption of optical interconnects in AI infrastructure.

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