How much do those mobile optical modules cost

Overview

Discover 100G QSFP28 module pricing. Learn key cost factors, considerations, and real examples to make informed purchasing decisions for your network.

Key Takeaways

The cost of mobile optical modules varies widely, from as low as $5 for basic 1G SFPs to over $1,900 for high-end 800G modules, depending on speed, form factor, vendor, and reach.

Typical Price Ranges1

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P Modules: Generic or third-party modules can cost $5–$25, while OEM-branded modules (Cisco, HPE, Juniper) range from $60–$120+ depending on specifications and temperature tolerance. 10G SFP+ Modules: Compatible modules often sell for tens of dollars, whereas OEM or long-reach modules can cost hundreds of dollars. 100G QSFP28 Modules: Prices are influenced by engineering, BOM, production, and overhead costs, with typical market prices ranging from $200–$600+ depending on reach and vendor.

400G Modules: Costs can swing hundreds to thousands of dollars per unit, depending on form factor (QSFP-DD, OSFP), optical reach, and component quality. 800G Modules: High-performance modules for AI or hyperscale data centers range from $700–$1,900, with volume pricing for 1,000+ units lowering costs to $1,000–$1,400 for standard DR8 modules.

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Factors Affecting Cost

Vendor Tier: OEM modules command a 30–50% premium over third-party compatible modules. Form Factor and Compatibility: QSFP-DD, OSFP, and LPO designs have different tooling and thermal requirements, affecting price. Optical Reach and Technology: Long-reach, extended temperature, or DSP-enabled modules cost more due to complex optics and testing.

Volume Discounts: Large orders can reduce per-unit cost by 10–30%. Engineering and Production Costs: Design verification, reliability testing, BOM, and assembly contribute significantly to final pricing. Market Dynamics: Supply constraints, early-generation products, and custom specifications can increase prices by 20–60%.

Summary

The cost of mobile optical modules is highly variable and depends on speed, form factor, vendor, reach, and production scale. For low-speed enterprise links, modules can be very affordable, while high-speed modules for data centers or AI workloads can reach thousands of dollars per unit. Buyers should consider total cost of ownership, including compatibility, warranty, and operational requirements, when selecting modules.

Article Content

800G Optical Module Cost Analysis | TCO Optimization Guide

Complete guide to 800G optical module costs and TCO optimization for AI data centers. Includes pricing analysis, cost comparison, vendor strategies, and ROI calculations for informed

Optical Transceiver Pricing: Cost Ranges by Speed and Type

This article compares typical cost ranges across speeds and transceiver types, explains why prices vary, and gives practical guidance for choosing the right optics for a given budget and performance

Cost of optical module electronic chips | Weyland

In low-speed optical modules, their cost share is relatively low. However, in 400G, 800G, and future 1.6T optical modules, electronic chips can account for 20%–40% or more of total cost,

Cost structure of optical module chips | Weyland

The overall cost of an optical module chip depends on material choices, design complexity, manufacturing processes, packaging, testing, and integration, all of which play a role in the final

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100G QSFP28 Module Cost: Pricing Guide & Factors | Vitex

Discover 100G QSFP28 module pricing. Learn key cost factors, considerations, and real examples to make informed purchasing decisions for your network.

Deep Dive: Optical Module Market

Single-mode modules often use EML (Electro-absorption Modulated Lasers) as the lasers, which are better suited for longer-distance transmission but come with a higher cost.

200G/400G/800G Optical Transceiver Modules | FiberMall

200G/400G/800G optical module features up to 40km transmission distances using QSFP56/QSFP-DD footprints for data center interconnect applications - FiberMall

Optical Module Procurement Guide

Shifts in pricing for optical modules will continue to be the result of technology advancements and changing market needs. The shift to higher-speed technologies (e.g., 100G or

Why is There Such a Huge Variability in SFP+ Module Prices?

Component quality, compatibility, performance specifications, brand reputation, etc. both are reasons making SFP+ module prices vary widely. Being aware of these factors can help you

Optical Transceiver Modules Prices & Specifications

Optical Transceiver Modules/SFP, also called fiber optic transceiver or optical transceiver, is a typically hot-pluggable device used in high-bandwidth data communications applications.

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

EE Times Europe

Global Insights into the Co-Packaged Optics Technology Platform The value of optics and ASIC co-packaging for data centers could reach US$2B in

Mobile Optical Pluggables Alliance (MOPA)

In mobile transport networks, optical pluggable modules can be used in RUs or packet nodes that are located outdoors, which requires a wide operating temperature range.

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Optical Transceiver Modules Market Size and Growth Report, 2035

OPTICAL TRANSCEIVER MODULES MARKET OVERVIEW The global Optical Transceiver Modules Market size estimated at USD 9512.61 million in 2026 and is projected to reach

Cost of optical module electronic chips | Weyland

The cost share of electronic chips varies significantly depending on the data rate of the optical module. For traditional 10G and 25G optical modules, the structure is relatively simple, and

Mobile Optical Pluggables Alliance (MOPA)

This together with innovative and high bandwidth consuming applications drive transport network capacity growth, resulting in an urgent and significant need for high-capacity and cost

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.

Optical Modules Future-Proof Strategies: Market Trends 2026-2034

The optical modules market is booming, projected to reach $27.4 billion by 2033 with an 8% CAGR. This comprehensive analysis explores market size, drivers, trends, restraints, and key

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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