

Price of core circuit board for optical module



AI Overview

The price of a core circuit board for an optical module typically ranges from \$10 to \$200 per unit, depending on size, material, precision, and production volume. Factors Affecting Price

Material and Substrate: Optical module PCBs often use high-performance materials such as Rogers, Panasonic M6, alumina, or aluminum nitride for thermal stability and signal integrity. Hybrid designs combining metal and ceramic substrates can further increase cost due to enhanced thermal management and mechanical strength.

Board Complexity: High-density interconnect (HDI) boards, blind or buried vias, and sub-micron mechanical tolerances increase fabrication difficulty and cost. Boards for high-speed optical modules must handle extreme data rates and thermal loads, which also adds to the price.

Size and Layer Count: Smaller boards (3–5 cm²) may cost less per unit but require precise assembly, while multilayer boards with 6–48 layers or more are more expensive.

Production Volume: Prototype or small-batch orders are more expensive per unit, while large-scale production reduces cost.

PCBShopper and Multi-CB provide online calculators to estimate prices based on quantity, layers, and specifications.

Lead Time and Customization: Express fabrication or highly customized designs increase cost.

Optical module PCBs often require precise alignment for optoelectronic components, which can further raise the price.

Typical Price Ranges

Prototype or small-batch HDI optical PCBs: \$10–\$50 per board for 1–10 units

Medium-volume production (50–500 units): \$50–\$120 per board, depending on complexity and material

High-performance or specialized boards (e.g., multi-layer, hybrid substrates, extreme precision): \$120–\$200+ per board

How to Obtain Accurate Pricing

Use Online PCB Calculators: Multi-CB and PCBShopper allow you to input board dimensions, layers, material, an...

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The document will delve into practical considerations such as cost optimization, lead time management, the specific requirements of various industry applications, and the value of collaborative engineering

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Characteristics and Applications of Optical Module PCB

Overview of Optical Module PCB Technology An optical module PCB is a specialized circuit board designed to enable the conversion and transmission

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Analyzing the Future of Optical Module PCB Board: Key Trends to 2034

The booming Optical Module PCB Board market is projected to reach \$12.125 billion by 2033, driven by 5G, cloud computing, and high-bandwidth applications. Explore market trends, key

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Optical Module PCB Board Market

The Optical Module PCB Board Market was valued at USD 1.25 Billion in 2025 and is projected to reach USD 2.60 Billion by 2032, growing at a CAGR of 11.0%.

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Optical Module HDI PCB

Optical module is composed of optoelectronic devices, functional circuits and optical interfaces. Optoelectronic devices include two parts: transmitting and receiving.

A Comprehensive Guide to Optical Module PCB

An optical module PCB (Printed Circuit Board) is a board that is used in optical modules for communication purposes. Optical modules are used in applications

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optical module pcb

Optical module PCB composition: mainly includes four key parts: PCBA (Printed Circuit Board Assembly), TOSA (Optical Transmitter Submodule),

PC Board Price Guide: Cost Factors, Quotes & Where

Compare PC board prices by type, layers, and quantity. Learn how PCB costs are calculated, where to buy custom or standard boards, and how to

Global Optical Module PCB Board Market Research Report 2025

Global Optical Module PCB Board Market: Market Segmentation Analysis The research report includes specific segments by region (country), manufacturers, Type, and Application. Market

High-Speed Fibre-Optical Module PCB | 400G

Fibre-Optical Module PCBs, also known as Fiber Optic Boards, are specialized printed circuit boards (PCBs) designed for use in fiber optic communication

Contact Us

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