

Why are PCB prices rising along with optical module prices



AI Overview

The surge in optical module and PCB prices is driven by explosive AI demand, technological upgrades, supply bottlenecks, and rising raw material costs.

Optical Module Price Drivers

1. **Exploding AI Demand and Data Center Expansion** The rapid growth of AI computing has significantly increased demand for high-speed optical modules, particularly 800G and 1.6T modules. Cloud vendors and data centers are expanding infrastructure, leading to a short supply of these advanced modules.
2. **Technological Upgrades** Optical modules are evolving from 400G to 800G, 1.6T, and even 3.2T. Higher-speed modules require upgraded PCBs with more layers, higher-grade materials, and advanced manufacturing processes. This increases the unit price independently of shipment volume, with 800G modules costing 50%-100% more than 400G modules.
3. **Supply Bottlenecks and Capacity Constraints** High-end production capacity is limited, and orders are often scheduled months in advance. Advanced packaging technologies like CoWoS are concentrated among a few manufacturers, restricting output and creating short-term scarcity.
4. **Raw Material Costs and R&D Investment** Key materials such as high-speed optical chips and indium phosphide substrates have seen sharp price increases, with 2-inch InP substrates rising by 50%. Leading manufacturers also invest heavily in R&D, which adds to production costs and strengthens pricing power.

PCB Price Drivers

1. **AI Infrastructure Demand** The surge in AI server and data center construction has driven unprecedented demand for high-end PCBs, particularly Copper Clad Laminates (CCL). This has pushed the global PCB market past \$100 billion, with raw material prices rising 20%-40% in early 2026.
2. **Technological Upgrades and Unit Value Growth** As optical modules upgrade to higher speeds, the internal PCBs require more complex...

Article Content

AI demand is tightening optical supplies and lifting prices

AI datacenter buildouts are tightening optical supplies and lifting prices across lasers, substrates, fibers, and connectors—broad supply-chain pressure.

RB_Tree/Dictionary.txt at main ·

Contribute to Mahmoud5704/RB_Tree development by creating an account on GitHub.

gpt4_vocab_list/o200k_base_vocab_list.txt at main

Vocabulary list of GPT-4o (o200k_base) and GPT-4/GPT-3.5 (cl100k_base) tokenizers. Special tokens are excluded. - kaïsugi/gpt4_vocab_list

PCB Cost Analysis Series 8: Why Are PCB Prices

This article will provide an in-depth analysis of the core logic behind this price surge and the future risks involved, from the perspectives of both

Why Are PCB Concept Stocks Surging? Morgan Stanley Report

Morgan Stanley forecasts that the global AI optical module PCB market will grow more than fivefold over the next three years, with an annual compound growth rate of 83%. Kingboard

PCB Price Shock: Why AI Infrastructure Is Repricing Circuit Boards

The current PCB price surge is not just another cost pass-through from metals or freight. It is a market signal that AI infrastructure has reached the physical layer of electronics manufacturing.

2026 Price Trends of Key Materials in the Networking Industry

In 2026, material prices related to the networking industry have shown clear structural changes. Price pressure is mainly concentrated in several key categories, including memory,

Industry News — PCB & Electronics Manufacturing

Latest PCB industry news, hardware innovation, semiconductor trends, and electronics manufacturing updates from AtlasPCB.

Printed circuit board

Printed circuit board of a DVD player Part of a 1984 Sinclair ZX Spectrum computer board, a printed circuit board, showing the conductive traces, the through-hole

PCB Industry Price Surge: Key Insights and Market Impact Analysis

Stay informed on the latest PCB price hikes due to rising raw material costs and supply-demand dynamics affecting copper-clad laminates and substrates. Get the details for better purchasing

Conquering the Computing Era: Global Optical Module

Discover how \$300B+ cloud capex drives AI server PCB layer stacking, 1.6T optical modules, and supply chain shifts. Technical analysis of

Why Is AAOI Falling? A Comprehensive Analysis of the Factors

On June 9, AAOI plunged over 17%. This article breaks down the core reasons behind the latest correction of this leading AI optical module company from four key perspectives: earnings

Standing in the Light: A Comprehensive Guide to the Optical Module

"Standing in the Light: Understanding the Optical Module and CPO Industry Chain"

This article analyzes the critical role of optical communication technology, specifically optical modules and

The Breakthrough Path for the Optical Communications ...

Rising raw material prices are being passed on from the cost side to business operations, and optical module manufacturers are facing the dual challenges of squeezed profits and supply...

PC makers report surging prices across different

Tech Industry PC makers report surging prices across different components — increasing costs are going beyond memory chip and processors,

Credo Stock: Optics Ramp, Margin Upside And Bullish Charts Point

Credo (CRDO) optics ramp targets \$600M by FY27; 3nm capacity may cap upside. DustPhotonics boosts margins toward 70%+. See more here.

PCB Raw Material Price Surge 2026: Global Impact & How DX Circuit

PCB copper, gold, and laminate prices surged 30-60% in 2026. Learn what's driving the crisis, regional impacts across USA, EU, and Australia, and how DX Circuit's pricing strategy protects

Conflict in West Asia intensifies electronics industry cost

The West Asia conflict has disrupted critical PCB materials, adding a new layer of cost pressure on electronics makers already dealing with rising

Before the Chip Why PCB Materials Are Becoming the Real ...

Executive summary The next electronics bottleneck is moving upstream. Across the PCB supply chain, the strongest public signals in 2025 and 2026 are no longer just about chips; they are

Asia's Next 10x Tech Winners: AI Rails, Optical Bottlenecks, and the ...

- Asia's high-growth tech appeal strengthens as AI infrastructure AIIA-- spending expands, with supply chains in optical networking and packaging 861005-- becoming critical

Conquering the Computing Era: Global Optical Module and PCB

When Amazon's \$100 billion 2025 capex collides with OpenAI's "Stargate," an AI-driven hardware revolution is reshaping the electronics supply chain—where optical modules and PCBs

Scaling the Memory Wall: The Rise and Roadmap of HBM

Allegedly, they paid Hanwha a higher price for the tools. This set off a firestorm at Hanmi who, understandably, were upset to see a competitor winning

What Is CPO? 800G, 1.6T, and Taiwan's Optical

The optical-module market is pushing from 800G toward 1.6T, which is what makes optical-communications and silicon-photonics stocks such a hot

Light-emitting diode

In a light-emitting diode, the recombination of electrons and electron holes in a semiconductor produces light (infrared, visible or UV), a process called

Why Are PCB Concept Stocks Surging? Morgan Stanley Report

As the foundational carrier for signal transmission between GPUs, switches, and optical modules in AI hardware systems, changes in PCB demand and pricing directly reflect the pace of AI

KB raises prices again — is PCB entering a structural ...

May 27, 2026-- KB CCL: +10% PP: +20% This round of price increases marks KB Laminates' fourth adjustment within the year, with cumulative increases exceeding 40%. Previously, KB ...

Unveiling the Truth Behind PCB Price Hikes: Key Drivers and Future

This blog post delves into the key factors driving the rise in PCB (Printed Circuit Board) costs, from raw material price fluctuations to technological advancements and global supply chain challenges.

Semiconductor Supply Chain Disrupted | The Silicon

Semiconductor supply chain disruptions deepened as the Iran war pushed PCB prices up 40% in April alone. The Silicon Review reports on the

PCB & Electronic Components Prices Continue to Rise

Over the past few months, we have seen continuous price increases across several key areas: ☐☐ Copper prices remain at historically high levels, directly impacting PCB manufacturing costs.

Contact Us

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