Upstream of computing power optical modules

Overview

Upstream players provide core optical and electrical components, including optical materials, laser chips, photodetectors, high-speed signal processing chips (DSP/SerDes/Driver), and integrated components such as silicon photonics PICs and optical engines. Gallium arsenide (GaAs) prices have increased significantly since Q2 2026, driven by surging AI data center demand for optical modules and constrained gallium supply. They are not merely "upgrades to network cables," but core components supporting the operation of global digital. These compact modules are the high-speed, high-bandwidth lifelines connecting the massive compute and storage resources AI demands. Understanding their role is key to building efficient, scalable AI systems. "Implementation Opinions Deeply Implementing the Data West Calculation' Project Accelerating the Construction of Nationally Integrated Power Network.

Article Content

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How AI Revolutionizes the Optical Module Industry

Powered by the dual engines of AI and cloud computing, the optical module industry is evolving from a support role into strategic infrastructure. Whether it''s 800G/1.6T modules for core ...

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Optical modules handle the conversion between electrical and optical signals, directly determining data transmission efficiency. Their importance continues to grow in the AI era.

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TradingKey - Since the second quarter of 2026, prices across the Gallium Arsenide (GaAs) industry chain, from substrates to foundries, have undergone comprehensive upward ...

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Optical Modules and PCBs: Driving High-Speed Data Transmission in ...

In this blog, we''ll explore the background, technological advancements, and composition of optical modules, followed by a deep dive into optical module PCB essentials.

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