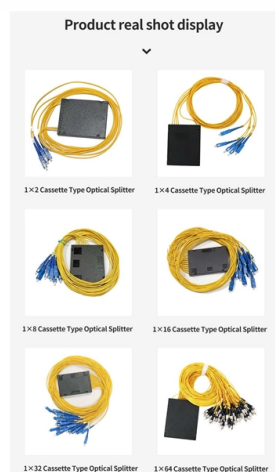


High-speed optical module substrate



Overview

High-performance ceramic substrates for optical communication modules. Excellent thermal conductivity, signal integrity, and precision for photonics and high-speed data transmission. Depending on different application roles and packaging design requirements, they can be adapted in size. Core solution: High-performance aluminum nitride ceramic heat dissipation substrate Aluminum nitride (AlN) ceramics have a typical thermal conductivity of 170–230 W/m·K. Ceramic substrates for optical communication modules are critical components used in high-speed photonic and. During laser and high-power modulator operation, AlN substrates efficiently transfer heat away from the chip junction to downstream heat sinks or module housings. *4 DLL : Direct Laser & Lamination / DLL is registered trademarks of SHINKO ELECTRIC. With the widespread adoption of 800G optical modules and the gradual deployment of 1.

Article Content

AlN Ceramic Substrates: The Key to Stable, High-Speed Optical

Innovacera is dedicated to providing stable, reliable, and customizable aluminum nitride ceramic substrate solutions for the optical communication industry, helping customers develop future

High-Performance Ceramic Substrates for Optical Communication

Enhance your optical communication systems with our high-performance Ceramic Substrates, specifically designed for optical communication modules. Our substrates offer exceptional thermal

AlN Ceramic Substrates: Enabling Stable Performance

Innovacera is committed to delivering stable, reliable, and customizable AlN ceramic substrate solutions for the optical communications

Substrate for Co-Packaged Optics

Features Substrate with optical waveguides for high-density optical transmission based on SHINKO organic substrate technologies SHINKO Optical Polymer Waveguide supports single-mode

AT&S Empowers High-Speed Optical Module PCB

Together with globally renowned optical module manufacturers, find out how AT&S is empowering high-speed Optical Module PCB manufacturing to

Why Aluminum Nitride (AlN) Substrates Are Critical for 800G and 1.6T ...

Traditional substrates such as alumina and FR-4 have performance limitations, making aluminum nitride (AlN) ceramics, with its balanced comprehensive performance, a core material

Optical Module PCB: The Ultimate Guide to Design, Fabrication, and ...

Why Optical Module PCBs Are a Unique Engineering Challenge? Unlike conventional PCBs, those designed for optical modules operate at the intersection of extreme electrical performance, stringent

AlN Ceramic Substrate Heat Sink Heat Spreader for Optical Module

This high-performance Aluminum Nitride (AlN) ceramic substrate is designed for advanced high-frequency and high-speed electronic systems. It serves as both a ceramic substrate and thermal

Custom Optical PCB Manufacturing | High-Speed

What is Optical PCB? Optical PCB is a high-precision substrate integrating optical fibers and electronic components, designed for high-speed optical signal

What is TEC for optical modules?

Lasers in optical modules are highly sensitive to temperature; temperature fluctuations can easily cause problems such as wavelength shift, power instability, and signal degradation. Therefore, mid-to-high

NVIDIA Optical Interconnect 2026, \$500M Ayar Labs Round

NVIDIA Optical Interconnect Investment, \$4 B for Lumentum & Coherent, and 1.6 T AI Module Demand (2021 to 2026) Download PDF

2026 ECTC REVISED Technical Tipsheet with images

The maximum aggregated transmission capacity of the demonstrated AOP substrate is estimated to be 6.4Tbps per substrate. These results demonstrate the feasibility of an optical-first packaging concept

Co-packaged Optical Modules: Market Growth & Forecast to 2034

Co-packaged Optical (CPO) Modules market projected for robust expansion. Demand from data centers and 5G communication fuels 9.3% CAGR to 2034. Access market data.

Co-Packaged Optics (CPO) Market Size to Hit USD 1,055.11 Million

The global co-packaged optics (CPO) market size is evaluated at USD 95.04 million in 2025 and is predicted to hit around USD 1,055.11 million by 2034, growing at a CAGR of 30.66%.

Zhongji Innolight Q1 profit surges 262% on strong AI-driven demand

Chinese optical module manufacturer Zhongji Innolight (300308.SZ) saw its first-quarter net profit increase 262.3% from the prior year, as surging demand for artificial intelligence

Smallest Thinnest Power Modules for Data Center Optical Modules

Since in high-capacity data centers, multiple copper-fiber connections are required, multiple numbers of optical modules are used. Each optical module is exposed to a high volume of data packets and

ST2026(21)02(March)Cover1

InP substrates are forecast supporting to grow at more than 18% high-speed optical CAGR through 2031, interconnects, driven by AI data centers, compound materials

China squeezes InP supplies, jolting US-Taiwan optics chain

China's export controls on the key semiconductor material indium phosphide (InP), imposed since February 2025, are threatening global AI data-center buildouts and squeezing the

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

