

Spanish Miniature Multi-Channel Parallel Optical Module



Overview

● Miniature swappable POB package, high density, small form factor ● Conform to GJB8120 General Specification for Semiconductor Optoelectronic Modules ● 10.3125Gbps typical transfer rate ● Multi-channel optical signal integration ● Very short distance high speed data. Samtec's FireFly™ Micro Flyover System™ embedded and rugged mid-board optical transceivers take data connection "off board" for up to 28 Gbps per lane with a path to 112 Gbps PAM4 via optical cable at greater distances, or copper for cost optimization. FireFly™ Micro Flyover System™ is the first. parallel optics products from Avago: MicroPOD™ and MiniPOD™. Comprised of separate transmitter and receiver modules, each with 12 independent lanes capable of > 10 Gbps signaling, the MicroPOD and MiniPOD. The optical module includes a chassis, a first transmitter optical subassembly (TOSA), a second transmitter optical subassembly (TOSA), a third transmitter optical subassembly (TOSA), a fourth transmitter optical subassembly (TOSA) and a MT fiber connector. The TOSA may be a TO-38 TOSA of a 10G DFB. CablesTEC's parallel optical transceivers and active optical cables (AOC) are the most powerful solution for creating 40G to 800G high-speed interconnect links in data center networks. Parallel optics are widely used in HPC data centers, including MMF series and SMF series. Among them, the former. There are two primary methods for increasing bandwidth in optical modules: Increasing the bit rate per channel, either by directly raising the baud rate or by maintaining the baud rate while adopting more advanced modulation schemes such as PAM4.

Article Content

Jun 11, 2026

Miniature real time PCR on chip with multi-channel fiber optical ...

This paper presents the design and implementation of a miniature real time PCR system consisting of a disposable reactor chip, a miniature thermal cycler, and a multi-channel fiber optical ...

May 05, 2026

Parallel Optics

A multi-fiber connector such as MTP®/MPO is used throughout the parallel optic link and interfaces into the transceiver module. There are three common forms of commercially available products for POIs.

Jan 20, 2026

Parallel Optic Modules

As the leading worldwide supplier of parallel optic products, Avago Technologies' pluggable Parallel Fiber-Optic Modules allow for easy assembly and system field upgrades to add band-width. These

Jun 05, 2026

Fully passive-alignment pluggable compact parallel

A low-cost packaging method utilizing a fully passive optical alignment and surface-mounting method is demonstrated for pluggable compact and slim

Jul 19, 2025

Parallel Optics

The characters are transmitted in a sequence over a single fiber, rather than simultaneously over two or more fibers, as in parallel transmission. A directly modulated 850nm VCSEL has been used to date

May 04, 2026

Multi-channel optical coupling between VCSEL arrays and multimode ...

We have successfully developed some new assembly techniques for the prototype ParaBIT module to provide the efficient and uniform multi-channel optical coupling between

Jul 26, 2025

Parallel Optical Transceivers & AOC - CablesTEC

CablesTEC's parallel high-speed optical modules use mature optical components and manufacturing processes, and have great low-cost advantages compared

Feb 01, 2026

Parallel Optical Transceivers & AOC - CablesTEC

Note: Parallel high-speed optical modules are transmitted through multiple parallel optical fibers, each optical fiber independently carries a single-channel optical

Feb 05, 2026

Recent Advances on Chip-to-Chip Optical Interconnect

The optical links used in these systems are typically 8- or 12-channel commercial parallel optical modules operating at data rates up to 5 Gb/s/ch over multimode fiber (MMF) ribbons [2, 3].

Oct 22, 2025

Multi-channel optical module based on PLCC packaging

This paper studies the multi-channel digital Optical module based on PLCC packaging, and designs and manufactures a small 4-channel parallel receiving and emitting module. The

Dec 07, 2025

A 36-channel parallel optical interconnect module based on ...

We describe the packaging and testing of a two-dimensional array parallel-optics module with 36 channels with each channel operating up to 3.3 Gb/s. This represents the first commercial module

Mar 02, 2026

100G Fiber Optic Transceivers — QSFP28

100G QSFP28-PSM4 is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP28 Transceiver for 100G Ethernet Applications. The QSFP28 full

Oct 20, 2025

Miniature Detachable Photonic Turn Connector for Optical Module

Application issues to this enhanced embedded parallel optic system exist when the optical interface into the module does not equally facilitate the system value achieved by the miniature module and high

May 18, 2026

Avago Technologies'' new parallel miniature embedded optical modules

The miniature MicroPOD™ parallel embedded optical transmitter and receiver modules achieve lane speeds of up to 12.5 Gbit per second for a combined bandwidth of up to 150 Gbps.

Dec 27, 2025

Packaging and assembly of 12-channel parallel optical transceiver ...

The fabrication process of a 12-channel parallel optical transceiver module developed in our group is presented in this paper. The module is composed of a VCSEL array, a PIN PD array, a VCSEL driver

Apr 18, 2026

Applications for Embedded Optic Modules in Data Communications

parallel optics products from Avago: MicroPOD™ and MiniPOD™. We detail the features, b. d example applications. Avago Parallel Optic Embedded Modules Avago has introduced two new

Mar 03, 2026

FireFly™ Mid-Board Optical Transceivers

As a VITA™ 57.1 FMC™, the Samtec 14 Gbps FireFly™ FMC™ Module can be used for optical data communication on any FPGA development board supporting

Aug 04, 2025

High-speed transceiver parallel optics MT subassembly

The small size and multi-channel of the MT ferrule makes it easy to use as an external optical interface in the parallel transmission.

Jul 17, 2025

LCC Series Parallel Optical Transceiver Module

The LCC series parallel optical transceiver module is designed for short-distance high-speed data communication and parallel optical interconnects, such as

Jun 09, 2026

Miniaturized fiber optic ultrasound sensor with multiplexing for ...

Abstract A miniaturized ultrasound sensor based on optical fiber is designed and realized for multichannel parallel ultrasound detection and photoacoustic imaging. The fiber optic sensor is

Jul 03, 2025

POB Series of Optical Modules

Miniature swappable POB package, high density, small form factor. Conform to GJB8120 General Specification for Semiconductor Optoelectronic Modules. 10.3125Gbps typical transfer rate. Multi

Mar 28, 2026

Compact multi-channel LED/PD array modules using new assembly ...

Compact 12-channel LED/PD (light emitting diode/photodiode) array modules using novel assembly techniques have been developed for high-speed parallel optical transmission. Optical and electronic

Oct 27, 2025

POB Series Single-Mode 4-Channel Parallel Optical

The POB series single-mode parallel optical transceiver module is designed for long-distance high-speed data communication and parallel optical interconnects in

Feb 02, 2026

SNAP12 Brochure (A4)

SNAP12 is a 12-channel pluggable parallel optical transmitter or receiver module with an MSA standard chassis mountable MPO interface. It is a self-contained, electrical to optical converter, which requires

Dec 29, 2025

Microsoft Word

We develop the mid-board miniature dual channel optical transmitter (MTx) and transceiver (MTRx) for detector front-end readout of the ATLAS Liquid Argon Calorimeter trigger

Jul 05, 2025

200Gb/s 10-channel miniature optical interconnect transmitter module ...

In our current work the development of a novel 10-channel, miniature 7mm (W)x1.8mm (L)x3mm (H), optical interconnect transmitter subassembly module is described.

Apr 27, 2026

Parallel Optics and WDM Optics in High-speed Optical Modules

The compact size and multi-channel capability of MT ferrules make them ideal for high-speed parallel optical transmission. Since different optical module types and manufacturers have

Sep 26, 2025

WO2016119115A1

A high speed optical module, and in particular, a multi-channel, single-mode, parallel transmission optical module in the field of optical communication is disclosed.

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