

Single-mode fiber optic transceiver SFP



AI Overview

Single-mode single-fiber SFP transceivers are hot-swappable optical modules that transmit and receive data over single-mode fiber for long-distance, high-speed network connections.

Overview

A single-mode SFP (Small Form-factor Pluggable) transceiver is an optical module designed to convert electrical signals into optical signals and vice versa, enabling network devices such as switches, routers, and servers to communicate over single-mode fiber (SMF) with minimal signal loss. Unlike multimode SFPs, which are limited to short distances, single-mode SFPs support long-distance transmission, typically ranging from 10 km to over 80 km, depending on the module type and optical power budget.

Key Specifications

- Fiber Type: Single-mode fiber with a small core diameter ($\sim 9/125 \mu\text{m}$)
- Wavelengths: Commonly 1310 nm or 1550 nm for long-distance transmission
- Link Distance: 10 km to 70 km or more, depending on the SFP variant (e.g., 1000BASE-LX/LH up to 10 km, 1000BASE-EX up to 40 km, 1000BASE-ZX up to 70 km)
- Data Rates: Typically 1 Gbps for standard SFPs, with higher-speed variants available
- Hot-Swappable: Can be inserted or removed without powering down the network device

Single-Fiber (Bi-Directional) Operation

Article Content

Single Mode SFP vs Multimode SFP: Exploring the Differences

Single-mode SFP (Small Form-factor Pluggable) and multimode SFP are two types of optical transceivers used in fiber optic

Singlemode SFP Transceivers Fiber Optic Transmitters, Receivers ...

Singlemode SFP Transceivers Fiber Optic Transmitters, Receivers, Transceivers are available at Mouser Electronics. Mouser offers

SFP Transceiver

Utilizing LC connectors and operating at a 1310nm wavelength, it enables high-speed data transmission over single-mode fiber for

Single-mode vs Multimode SFP: What's the Difference?

Discover the differences between single-mode and multimode SFP transceivers. Learn which one suits your network

Single Fiber SFP Transceivers

Single Fiber Bidirectional SFP transceivers use simplex single-mode fiber to double the bandwidth, data rates up to 4G and

1G SFP Modules: A Deep Dive into Specs & Types

In addition, MMF has a larger core size, allowing for better alignment of the optics when connecting the transceivers into the

The Ultimate Guide to SFP Modules (2026): Types, Speeds

Confused by SFP vs SFP+? Read the definitive 2026 guide on SFP modules. We explain Single Mode vs Multimode, DDM

Optic Modules Datasheet

4 Optic Modules Data Sheet ... SFP (form factor) = small form-factor pluggable transceiver SMF (media) = single-mode fiber-optic

SFP Transceiver Single Mode: High-Performance Solutions

An SFP (Small Form-Factor Pluggable) transceiver single mode LC module is a compact, hot-swappable device used in networking

Small Form-factor Pluggable

SFP transceivers are available with a variety of transmitter and receiver specifications, allowing users to select the appropriate

What Is a Single Fiber SFP? A Complete Guide for Beginners

Single fiber SFP is an optical transceiver that transmits and receives data over a single strand of single-mode fiber by using two

1000Base-LX SFP Module

MSA Uncoded SFP Module - 1000BASE-LX - 1GbE Single Mode Fiber (SMF) Optic Transceiver - 1GE Gigabit Ethernet SFP - LC

How Many SFP Transceiver Types Do You Know?

There are many 1G SFP types available today like copper RJ45 SFP, fiber optic SFP, and WDM SFP modules, so

Small Form-factor Pluggable

Quad Small Form-factor Pluggable (QSFP) transceivers are available with a variety of transmitter and

H!Fiber 10G Single Mode SFP+ LC Module, 10GBase-LR Fiber Transceiver ...

H!Fiber offers one-stop Datacenter solution and products, including SFP Transceivers, DAC Cables, Network Card,

Understanding Single-mode and Multi-mode SFP Optical Modules

SFP transceiver single mode utilizes a single strand of optical fiber to transmit a single mode of light, allowing for minimal signal loss

[Product Hub] Single Mode SFP Transceiver | Optcore

Single Mode SFP Module The single mode SFP module is one of the most common SFP transceiver types; sometimes, we refer to it

Singlemode transceiver modules buy online

Singlemode transceivers: These are the areas of application The increasing expansion of fiber optic networks is also driving up

1 Gigabit Singlemode SFP Fiber Optic Transceivers | Long-Distance

1 Gigabit Singlemode SFP Transceivers Our 1 Gigabit Singlemode SFP Transceivers offer high-performance, reliable connectivity for

SFP modules – transceivers for 1/2/4G fibre channel

SFP transceivers are valued for their flexibility, low power consumption and ability to support both single

What is an SFP Module? An Ultimate Guide | SFP Transceivers

When comparing Single-mode SFP vs. Multimode SFP, Single-mode SFPs are used for long-range fiber optic

Single Mode Fiber Transceivers – Fiber Savvy

Single Mode Fiber Optic Transceivers are essential components in high-speed, long-distance data transfer networks. Their ability to

What Is A Single-Fiber BiDi Transceiver?--ETU-LINK

When planning a fiber optic network, one key decision is choosing between single-fiber (BiDi) and dual-fiber optical transceivers. This

Contact Us

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