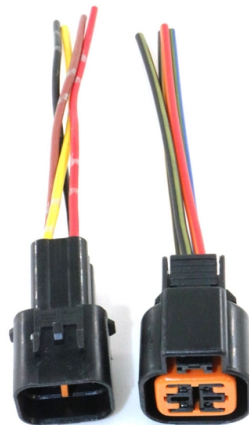


Principle of 10G Multimode Optical Module



Article Overview

A 10G multimode optical module transmits 10Gbps data over multimode fiber using an 850 nm VCSEL laser, optimized for short-reach high-speed connections.

Working Principle

A 10G multimode optical module, commonly referred to as a 10GBASE-SR SFP+ transceiver, operates by converting electrical signals from network devices into optical signals for transmission over multimode fiber (MMF). It uses a Vertical-Cavity Surface-Emitting Laser (VCSEL) that emits light at a wavelength of 850 nm, which is ideal for short-distance, high-speed communication due to low dispersion in multimode fibers. The optical signal is transmitted through a duplex LC connector, which provides separate paths for transmitting and receiving data. The module is hot-pluggable, meaning it can be inserted or removed from a switch or server without powering down the device. The SFP+ form factor defines the module's physical size, electrical interface, and compatibility with 10-Gigabit Ethernet, but the optical characteristics depend on the specific module type, in this case, multimode short-reach (SR), .

Fiber Compatibility and Transmission Distance

10G multimode modules are typically used with OM3 or OM4 multimode fibers. OM3 fiber supports distances up to 300 meters, while OM4 fiber can extend the reach to 400 meters, depending on fiber quality and network design. These modules are opt...

Article Content

Jan 14, 2026

Introduction And Application Of SFP-10G-SR And SFP-10G-LR

The optical signal emitted by a multimode module has a large divergence angle, while the core diameter of SMF is

Nov 17, 2025

10GBASE-LRM SFP Module Guide: Specs, Distance & Use Cases

In this guide, you will learn what a 10GBASE-LRM SFP module is, how it works, its key technical specifications, and when it makes

Jul 31, 2025

Single Mode vs Multimode Fiber, What is The Difference?

Learn the key differences between single mode vs multimode fiber cables and choose the right one for your fiber optic

May 23, 2026

What Is an Optical Module and Its FAQs (V200)

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals,

Sep 05, 2025

Comprehensive Guide to FS 10G BiDi SFP Modules

10G BiDi SFP+ modules utilize a unique optical mechanism that enables full-duplex data transmission over a single

Apr 10, 2026

UniFi 10G Multi-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 400 m using multi-mode fiber with a duplex LC UPC connector.

Mar 31, 2026

Was ist der Unterschied zwischen 10G SFP+ Multimode SR und

Wir erklären die Hauptunterschiede zwischen den 10G-SFP+-SR vs. 10G-SFP+-LR Modulen bezüglich der

Aug 19, 2025

What is a 10G SFP+ SR multimode transceiver?

An optical transceiver is a networking device capable of sending and receiving data simultaneously. In the context of

Jan 16, 2026

10G multi-mode optical Transceiver SFP-10G-SR Introduction

The 10G multi-mode optical transceiver SFP-10G-SR is an ideal choice for transmitting data using multi-mode optical fiber. This

Apr 14, 2026

Introduction of 10G SFP+ Optical Modules

10G SFP+ Optical Module is a type of SFP+ transceiver that supports 10 Gigabit per second (10Gbps) data rates and

Oct 31, 2025

10GB SFP Module Guide: Types, Specs, and How to Choose

Learn everything about 10GB SFP modules, including types, specifications, compatibility, and how to choose the right 10G SFP+

Nov 21, 2025

Singlemode vs Multimode Fiber Optic Cable

We breakdown the differences between single mode and multimode fiber optic cable, covering aspects like physical

Aug 26, 2025

10G Optical Module Guide: Compare LRM, SR, LR, ER, ZR for the

As 10G Ethernet continues to be widely deployed in data centers, enterprise networks, and telecom infrastructures,

Dec 27, 2025

SR Cisco Explained: SFP+ 10G Multimode Optics Guide

Understand SR Cisco SFP+ modules for 10G multimode fiber links, including specifications, transmission distance, compatibility, and

Feb 27, 2026

Exploring 10G Loopback Modules: Principles and Mechanics

Form factors and types: Loopback modules can come in various form factors compatible with different fiber optic

Jul 26, 2026

10 Gbit/s SFP+ Optical Module

You can use different levels of 10 Gbit/s SFP+ optical modules only with 10 GE interfaces. The wavelength of these

Mar 08, 2026

10G Optical Module Selection Guide: LRM,SR,LR,ER,ZR

The 10G SFP+ dual-fiber optical module is a small pluggable optical transceiver that adopts a dual-fiber bidirectional

Nov 08, 2025

10G Multimode SFP vs. Single Mode: Comparative Performance

Compare 10G Multimode SFP and single mode optics in terms of distance, cost, latency, fiber types, and enterprise deployment

Dec 23, 2025

How to Choose a 10G SFP+ Optical Module

How to Choose the Right Walsun 10G SFP+ Optical Module When selecting the appropriate Walsun 10G SFP+

Dec 07, 2025

Features and Applications of the 100G QSFP28 Multimode Modules

The operational principle of these modules underscores their efficacy in optimizing network performance while ensuring

Dec 06, 2025

Working principle of 10 Gigabit multimode optical module

The 10G multi-mode optical transceiver SFP-10G-SR is an ideal choice for transmitting data using multi-mode optical fiber. This

Nov 03, 2025

Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source,

Dec 31, 2025

What Is the SFP-10G-LRM (10GBASE-LRM Multi-Mode) Transceiver?

The SFP-10G-LRM optical transceiver —short for 10 Gigabit Ethernet, Multi-Mode —is designed for 10 Gbps

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.greatpremiersolutions.co.za>

Email: sales@greatpremiersolutions.co.za

Phone: +27 82 914 3675

Address: Unit 5, Silicon Heights, 22 Electron Avenue, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

