

What is a 10 Gigabit single-mode optical module



AI Overview

A 10 Gigabit single-mode optical module enables high-speed, long-distance data transmission over single-mode fiber, supporting enterprise, data center, and telecom networks.

Core Function A 10 Gigabit single-mode optical module, typically using the SFP+ interface, is designed to transmit 10Gbps data streams over single-mode fiber (SMF). It converts electrical signals from network devices into optical signals for long-distance transmission and then back into electrical signals at the receiving end, ensuring high-speed connectivity across extended distances. These modules are hot-pluggable, allowing easy installation and replacement without shutting down network equipment.

Key Advantages

- High Speed:** Supports 10Gbps transmission, meeting the demands of big data, AI computing, high-definition video, and multi-device environments without lag.
- Long Transmission Distance:** Single-mode fiber allows stable signal transmission over tens of kilometers, with some modules reaching up to 40 km using 1550nm wavelength lasers.
- Compatibility and Flexibility:** SFP+ packaging ensures interoperability with most mainstream switches and network devices, supporting backward compatibility with gigabit speeds.
- Energy Efficiency and Reliability:** Many modules are designed for low power consumption and stable operation under varying environmental conditions, including industrial-grade models for extreme temperatures.

Applications

- Enterprise and Data Centers:** Interconnect servers, storage devices, and switches to improve data interaction efficiency and support high-speed computing.
- Telecom and 5G Networks:** Connect base stations, edge computing nodes, and metro networks, providing reliable backhaul and low-latency communication.
- AI and Big Data:** Facilitate high-speed data transfer between GPU clusters, AI servers, and analytics platforms for real-time processing.
- Long-Dist...**

Article Content

Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LC

An SFP+ 10G single-mode module is a hot-pluggable optical transceiver that converts electrical signals from a switch or router into optical signals suitable for single-mode fiber transmission.

Cisco 40GBASE QSFP Modules Data Sheet

The Cisco 40GBASE-LR4 QSFP module supports link lengths of up to 10 kilometers over a standard pair of G.652 single-mode fiber with duplex LC connectors. The 40 Gigabit Ethernet

H3CSFP-XG-LX-SM1310-S 10G SFP+ Multi-mode Optical Module

SFP+ optical module is a new generation of 10 Gigabit optical modules. Compliant with the ANSI T11 protocol, it supports 10 Gigabit Ethernet (10GbE) applications. The SFP+ module is approximately

How to choose the right optical module

For users, choosing the right optical module for their applications can be a major challenge. This article will provide readers with valuable references and suggestions from multiple

10G BiDi SFP+ TX1550nm/RX1490nm 70KM LC Optical Transceiver

Product Description□10G BiDi SFP+ 1490nm/1550nm 70KM LC Optical Transceiver
This high-performance bidirectional SFP+ transceiver delivers 10Gbps connectivity over 70km single-mode

2X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE

2X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE-LX-SM1310 20KM
Dual Fiber 1.25G for H3C Brand Melitt Ny På lager

SFP-10G-ER Explained: Powering 40km 10Gbps

In the relentless pursuit of higher bandwidth and extended reach for network infrastructure, the SFP-10G-ER optical module remains a cornerstone

10G SFP+ Single-Mode Optical Module: The Reliable Choice For

In this context, 10 Gigabit single-mode optical modules, capable of handling both high speeds and long distances, become a reliable choice. Today, we'll discuss in simple terms why they

Transceiver CBO SFP-10G-BX-U 10G 1310 nm | AiO.lv

Short description CBO SFP-10G-BX-U is a 10G fiber optic SFP+ transceiver operating at 1310 nm. Designed for use in SFP+ compatible switches and routers, it enables high-speed single-mode links

Optic Modules Datasheet

datasheet is intended to guide the user through the various options available when choosing an optic module for a given platform depending on the architecture. The following table lists the different

Cisco SFP and SFP+ Transceiver Module Installation

This installation note provides the installation instructions for the Cisco small form-factor pluggable (SFP) and SFP+ transceiver modules. These

SFP Modules: Types, Selection Guide & Applications

An SFP module is a compact, hot-swappable optical transceiver designed to facilitate data transmission between network devices such as switches, routers, servers, and media converters.

10GE SFP+ Optical Modules

Single-fiber bidirectional (BIDI) optical modules must be used in pairs. For example, SFP-10G-BXU1 must be used with SFP-10G-BXD1.

Differences Between Optical Modules SFP, SFP+, CFP, XFP, QSFP?

Originally designed to replace single-channel SFPs with high-density optical modules, the QSFP is only 30% larger than a standard SFP module. The device supports rates from 100Mbps to

What is Optical Transceiver: A Beginner Guide (2024)

What is an Optical Transceiver? An optical transceiver, also known as a fiber optic transceiver or optical module, is a small packaged device that

Gigabit Ethernet

1000BASE-T-capable network interface card made by Intel, which connects to a computer via PCI-X There are five physical layer standards for Gigabit Ethernet

HTF DWDM equipment,OTN Solution,QSFP28 OSFP

HTFuture offers industry-leading fiber optic products and WDM system solutions with global recognition for excellence and innovation.

HPE Aruba Networking 3810M/2930M 4-Port 100M/1G/10G SFP+ MACsec Module

This converter is a cost effective solution to convert a USB 3.1 port into a 10/100/1000Base-T Ethernet port - Supports 10/100/1000 Mbit/s auto-sensing capability - Supports USB 3.0 - Type C Connector -

UniFi 10G Single-Mode Optical Module

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

What is an Optical Transceiver? - VCELINK

What are Optical Transceivers? The optical transceiver, also simply known as an optical module or fiber optic transceiver, is an integration of a

h3c sfp optical module with warranty online manufacture

H3C Gigabit Optical Modules Product Overview Adopting advanced technologies, H3C Gigabit Optical Modules feature low power consumption, hot-swap capability and wide compatibility.

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for data centers, enterprise wiring closets, Internet Service

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco® 10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise wiring closet, and service provider transport applications.

10G Bidirectional Single-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 10 km using single-mode fiber with a simplex LC UPC connector.

Contact Us

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