10 Gigabit Optical Module Model Description

Overview

Cisco 10GBASE SFP+ Modules Data SheetThe Cisco®10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for data.

Key Takeaways

A 10 Gigabit optical module is a small, pluggable transceiver that enables 10 Gigabit per second Ethernet data transmission over fiber optic cables.

Overview

A 10 Gigabit optical module is a hardware component used in networking to transmit and receive data at 10 Gbps over optical fiber. These modules are commonly implemented in the SFP+ (Small Form-factor Pluggable Plus) form factor, which is compact, hot-swappable, and compatible with switches, routers, and network interface cards (NICs) in data centers and enterprise networks. The module converts electrical signals from network devices into optical signals for fiber transmission and vice versa.

Types of 10G Optical Modules10GBASE-SR (Short Range): Uses multimode fiber (MMF), typically at 850 nm wavelength, supporting distances up to 300–400 meters depending on fiber type (OM3 or OM4) and quality. 10GBASE-LR (Long Range): Uses single-mode fiber (SMF) at 1310 nm wavelength, supporting distances up to 10 km. 10GBASE-ER (Extended Range): Designed for even longer distances, often up to 40 km over single-mode fiber.

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10GBASE-T: Uses copper cabling (CAT6A/CAT7) for short distances up to 30 meters, providing a cost-effective alternative for rack-to-rack connections. Key FeaturesHot-swappable: Can be inserted or removed without powering down the network device. Digital Diagnostic Monitoring (DDM/DOM): Provides real-time monitoring of optical power, temperature, and voltage.

Interoperability: Many modules follow industry multi-source agreements (MSAs), ensuring compatibility across different vendors. Low latency and high efficiency: Optimized for high-speed data transmission in data centers, enterprise networks, and telecom applications. Applications10 Gigabit optical modules are widely used for: Data center interconnectsEnterprise backbone networksHigh-performance computing (HPC) clustersMetro and long-haul optical networks They provide high bandwidth, low latency, and reliable connectivity, making them essential for modern high-speed networks.

Summary

In essence, a 10 Gigabit optical module is a critical component that enables 10GbE connectivity over fiber or copper, supporting various distances and network architectures. Its small form factor, flexibility, and high-speed performance make it a standard choice for modern networking infrastructure.

Article Content

Cisco 10GBASE SFP+ Modules Data Sheet

Product overview 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

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

10 Gigabit Fiber SFP+ Optical Transceiver Module

Whether you need a fast connection to your 10 GbE equipped server or NAS device, or if you simply want to connect two Gigabit switches in your data center at higher speeds to eliminate bottlenecks,

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+ transceiver for your network.

Cisco SFP-10G-AOC10M Datasheet

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

10G SFP+ Cable and Transceiver Modules Data Sheet

The FS® 10GBASE Quad Small Form-Factor Pluggable (SFP+) portfolio offers customers a wide variety of high- density and low-power 10 Gigabit Ethernet connectivity options for data center, high

10 Gbit/s SFP+ Optical Modules

10 Gbit/s SFP+ optical modules apply to 10 GE optical ports. The wavelength can be 850 nm, 1310 nm, or 1550 nm, and the transmission distance ranges from 0.5 km (0.31 mi) to 80 km (49.71 mi).

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 is an enhanced version of the standard SFP (Small Form-factor

Cisco 10GBASE X2 Modules Data Sheet

Product overview The Cisco ® 10GBASE X2 modules (Figure 1) offer customers a wide variety of 10 Gigabit Ethernet connectivity options for data

Inventory Of 10G Optical Modules

SFP+ optical modules are widely used in 10G Ethernet due to their advantages of compact size, low cost and high density, and they are currently the most common 10G optical

Support Documents and Downloads

For Broadcom software downloads, including VMware products, visit the Customer Support Portal. Use the search below to access semiconductor-related documentation and downloads (drivers, firmware,

Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet

This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit Ethernet Applications.

Cisco S-Class 10GBASE SFP+ Modules

Product Overview The Cisco® S-Class 10GBASE SFP+ modules (Figure 1) offer customers a variety of 10 Gigabit Ethernet connectivity options optimized for Enterprise and data center applications. S

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A Simple Guide to SFP-10G-SR and Its Practical Uses

When it comes to cost-effective 10 Gigabit Ethernet over short to medium distances, the SFP-10G-SR optical transceiver remains a cornerstone

10 Gigabit Fiber SFP+ Optical Transceiver Module

10 Gigabit Connectivity Intellinet Network Solutions 10GBase-LR Fiber SFP+ Optical Transceiver Module, model 507479, is the right choice when it comes to connecting two buildings at 10 GbE

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Product Overview The Cisco® 10GBASE SFP+ modules (Figure 1) offer customers a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise wiring closet, and service provider

10G SFP+ Optical Transceiver Selection Guide

The SFP+ (Small Form-factor Pluggable Plus) transceiver is a compact, hot-swappable module used for 10 Gigabit Ethernet applications. It is an enhanced version of the traditional SFP

The Ultimate 10G Optical Module Guide: Compare LRM, SR, LR, ER,

Description: Confused by 10G SFP+ modules like SR, LR, ER, ZR? This definitive guide compares 10G dual fiber optical modules by distance, fiber type, and application to help you choose the right one for

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