10 Gigabit modules and Gigabit multimode fiber optic cables



Overview

This data sheet describes the benefits, specifications, and ordering information for the Cisco 10GBASE SFP+ Modules Data Sheet.

Key Takeaways

10 Gigabit Ethernet over multimode fiber is commonly implemented using 10GBASE-SR SFP+ modules, supporting distances up to 300m on OM3 and 400m on OM4 fiber. Overview of 10G Multimode Fiber Modules10GBASE-SR (Short Range) SFP+ modules are designed for high-speed, short-distance connectivity within data centers, enterprise wiring closets, and server-to-switch links. These modules operate at an 850nm wavelength and are optimized for multimode fiber (MMF) networks, providing reliable 10Gbps performance over short distances.

The most widely used example is the Cisco SFP-10G-SR, which features a duplex LC optical interface and a hot-swappable design for easy installation without powering down equipment.

Fiber Types and Distance Limitations

The performance of 10G multimode fiber links depends on the fiber type: OM3 fiber: Supports up to 300 meters at 10Gbps. OM4 fiber: Supports up to 400 meters, offering extended reach for larger data center deployments. These distances make multimode fiber ideal for top-of-rack, leaf-spine architectures, and short-distance switch interconnects.

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Module Features and Compatibility

Key features of 10G SFP+ multimode modules include: Compact SFP+ form factor for high port density. Hot-swappable capability for minimal downtime. Digital optical monitoring for diagnostics and link health.

Interoperability with other 10GBASE interfaces like XENPAK, X2, and XFP. Multi-rate support up to 11. 3Gbps in some modules, maintaining backward compatibility with lower-speed devices.

It is important to ensure that the switch ports support SFP+ modules; SFP+ optics cannot operate at 10G on standard 1G SFP ports.

Practical Deployment Considerations

Cable quality and installation: Proper termination and low-loss fiber are critical to achieve maximum distance and performance. Port density and scalability: SFP+ modules allow dense 10G connections in racks without consuming excessive space. Power consumption: Most 10GBASE-SR modules consume less than 800mW, making them energy-efficient for large-scale deployments.

Use cases: Ideal for intra-data center links, server-to-switch connections, and short-range switch-to-switch interconnects. By combining OM3 or OM4 multimode fiber with 10G SFP+ modules, organizations can build scalable, high-bandwidth networks that meet the performance requirements of modern enterprise and cloud data centers.

Article Content

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

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10-Gigabit Multimode Cables OM3

Amphenol OM3 50-Micron (50/125) Laser Optimized Multimode fiber optic patch cables combine scalable 10-Gig performance and backwards compatibility with legacy equipment.

10 Gigabit SFP+ Fiber Optic Transceivers | High-Speed & Reliable

Upgrade your network with 10G SFP+ transceivers, offering multimode or singlemode fiber. Reliable, cost-effective solutions for high-speed, long-distance links.

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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

Fiber Optic Cable: Single & Multimode Cables By The

The OM3 50/125 multimode fiber optic cable is designed for high-performance networks, offering enhanced bandwidth to support 10-Gigabit Ethernet and other

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for

SFP Optical Transceiver | SFP Optical Module | Perle

Multimode and single-mode fiber Gigabit Ethernet, Fast Ethernet, Fiber channel, ATM/SONET, SDH Hot-pluggable with durable metal enclosure Can be installed in any Cisco or MSA SFF-8472

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StarTech Dell EMC SFP-10G-USR Compatible SFP+ Module

StarTech Dell EMC SFP-10G-USR Compatible SFP+ Module - 10GBASE-SR - 10GbE Multimode Fiber MMF Optic Transceiver - 10GE Gigabit Ethernet SFP+ - LC 150m - 850nm - DDM

An introduction to SFP ports on a Gigabit switch

SFP modules support single and multimode fiber optic cables and Cat5, Cat6, Cat6a and Cat7 twisted-pair copper. SFP modules designed for fiber support a variety of wavelengths and

How Far Can Multimode Fiber Optic Cables Transmit?

Fiber optic technology is the backbone of modern high-speed communication networks, enabling the transmission of data over vast distances

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StarTech 10 Pack Cisco GLC-SX-MM Compatible SFP Module (10

StarTech 10 Pack Cisco GLC-SX-MM Compatible SFP Module (10 Pack) - 1000BASE-SX - 1GbE Multimode Fiber MMF Optic Transceiver - 1GE Gigabit Ethernet SFP - LC 550m - 850nm - DDM

Gigabit Ethernet

Gigabit Ethernet was the next iteration, increasing the speed to 1000 Mbit/s. The initial standard for Gigabit Ethernet was produced by the IEEE in June 1998 as

Mpo fiber optic patch cables: your data transfer powerhouse for the 10 ...

What''s more, this fiber patch cable is also qsfp optical module compatible, which means you can choose different optical modules based on your actual needs, enabling a more flexible and

Data Center Transceivers & Cables

Arista''s transceivers and cables offer customers a wide variety of connectivity options over copper or fiber for data center and HPC environments.

Can you run 10gb over multimode fiber□

Yes, it is possible to run 10gb over multimode fiber using 10Gbps transceivers and appropriate fiber optic cables. However, the maximum distance over which 10gb can be run over

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