

Spot network security equipment QSFP-DD



Article Overview

QSFP-DD (Quad Small Form-Factor Pluggable Double Density) is a high-speed optical transceiver standard that doubles lane density to deliver up to 400G and 800G connectivity for modern data centers and high-performance networks.

Overview of QSFP-DD

QSFP-DD is an evolution of the QSFP family, designed to double the electrical lane count from 4 to 8, enabling aggregate data rates of 400 Gb/s using 8×50 Gb/s PAM4 lanes, with a clear path to 800 Gb/s using 8×100 Gb/s signaling. The form factor maintains backward compatibility with QSFP28 and QSFP56 modules, allowing seamless upgrades without replacing existing infrastructure. Its compact design supports high port density, making it ideal for data centers, AI clusters, 5G networks, and cloud computing environments.

Key Features

- **High Bandwidth Density:** QSFP-DD modules provide up to 400G per port, with breakout options to multiple 100G or 200G links.
- **Eight-Lane Electrical Interface:** Supports 28 Gbps NRZ, 56 Gbps PAM4, and 112 Gbps PAM4 signaling, depending on the module.
- **Hot-Pluggable:** Modules can be inserted or removed without powering down the system, ensuring minimal downtime.
- **Thermal and Signal Integrity:** QSFP-DD cages feature proprietary heat sinks to ha...

Article Content

Dec 03, 2025

What is QSFP-DD Transceiver: A Beginner Guide (2022)

If you're looking for a QSFP-DD transceiver, Optcore is a great place to start your search. We offer a wide selection of

Jul 27, 2026

QSFP-DD Transceiver Guide 2026: Complete 400G/800G Deployment

Master QSFP-DD transceiver deployment for 400G/800G networks. Compare module types (SR8/DR4/FR4/LR4),

Dec 31, 2025

SFP vs QSFP: Key Differences Explained

SFP vs QSFP module differences explained. Learn about compatibility, speeds, and use cases for network setups.

Nov 21, 2025

Differences Between QSFP-DD and QSFP, QSFP28, QSFP56,

Explore the technical differences, performance characteristics, and practical deployment strategies of QSFP-DD

Jan 07, 2026

QSFP Versus QSFP-DD Here Are the Key Differences

As part of our reference series, before we get into a new set of content, we wanted to quickly show the difference

Oct 19, 2025

The Ultimate Reference Table for SFP & QSFP Optical Transceiver ...

The definitive guide to SFP, QSFP, and QSFP-DD standards for 2025. Compare 400G/800G optics, understand

Oct 09, 2025

How to Achieve Interconnection Between OSFP and QSFP-DD Ports?

This article outlines key OSFP and QSFP-DD differences and offers four practical interconnection solutions to support

Aug 10, 2025

SFP vs. SFP+ vs. QSFP: Key Differences

Discover the world of SFP, SFP+, and QSFP transceiver modules and find out which one fits your networking

Aug 27, 2025

Understanding QSFP Cables: A Comprehensive Guide to 40G

Explore our comprehensive guide to QSFP cables for 40G direct attach options. From passive/active DAC to copper

Jul 12, 2026

Understanding SFP, SFP+, QSFP and Beyond: Choosing the Right ...

Discover the differences between SFP, SFP+, and QSFP transceivers, and learn how to select the best solution for your network.

Mar 10, 2026

QSFP-DD Hardware

21 DD1600) connector and cage system. QSFP-DD MSA family of modules and cages remain fully backward 22 compatible with the

Dec 28, 2025

QSFP-DDVSQSFP+/QSFP28/QSFP56/OSFP:What Are the Differences?

QSFP-DD is thus the transceiver of choice for 400G data center interconnections, while the latter modules serve

Nov 10, 2025

An Overview on QSFP-DD (Double Density QSFP)

An Overview on QSFP-DD (Double Density QSFP) With the rapid growth of data center and 5G development,

Jun 20, 2026

QSFP-DD Hardware Spec MSA

QSFP DOUBLE DENSITY 8X PLUGGABLE TRANSCEIVER Rev 4.0 September 18, 2018

Abstract: This specification defines: the

Sep 07, 2025

Ultimate QSFP Transceiver Guide: Types (40G/100G) & Compatibility

Confused by QSFP types? Decode the differences between QSFP+, QSFP28 (100G), and QSFP-DD. Learn how to select the right

Jun 27, 2026

QSFP-DD Optical Transceivers for High-Speed Connections

QSFP-DD ports incorporate a riding heatsink that can be sized independently of the optical module, added on top of the module, or

Mar 21, 2026

QSFP-DD vs QSFP28: Unraveling the Key Differences in Optical

Discover the key differences between QSFP-DD and QSFP28 optical modules in our comprehensive guide. Learn

May 09, 2026

QSFP-DD Connector System

QSFP-DD Interconnect System's 8-lane electrical interface transmits 28G NRZ, 56G PAM-4 and 112G PAM-4, up to 200, 400 or 800

Sep 25, 2025

Cisco QSFP-DD800 Transceiver Modules Data Sheet

Product overview The Cisco QSFP-DD800 modules introduce 8x100G and 2x400GGBASE Quad Small Form-Factor Pluggable

Feb 18, 2026

QSFP-DD Optical Transceivers Unlocking Faster Connections

QSFP-DD Optical Transceivers deliver up to 800Gbps speeds, offering high bandwidth, energy efficiency, and

May 19, 2026

Cisco 400G QSFP-DD Cable and Transceiver Modules

It provides a QSFP-DD-to-QSFP-DD copper direct-attach solution. QDD-400-CuxM cables are suitable for very short links and offer a

Jul 27, 2026

QSFP-DD Hardware

August 7, 2020 Abstract: This specification defines: the electrical and optical connectors, electrical signals and power supplies,

Sep 24, 2025

400G QSFP-DD Cable and Transceiver Modules Data Sheet | FS

Product overview The FS® 400GBASE Quad Small Form-Factor Pluggable Double Density (QSFP-DD) portfolio offers customers a

Jan 27, 2026

SFP, QSFP, QSFP-DD, OSFP Active Optical Cable Assemblies

SFP, QSFP, QSFP-DD, OSFP ACTIVE OPTICAL CABLE ASSEMBLIES Our active optical cable assembly portfolio provides

Mar 26, 2026

Comprehensive Guide to QSFP – MapYourTech

Service providers are deploying coherent QSFP-DD modules directly in routers, eliminating separate transponder

Contact Us

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