

Active Optical Module QSFP-DD



AI Overview

QSFP-DD Active Optical Modules (AOMs) enable high-speed, low-power, and reliable optical interconnections for 200G, 400G, and beyond in data centers and enterprise networks. Overview QSFP-DD (Quad Small Form-Factor Pluggable Double Density) is a next-generation optical module standard designed to support high-speed data rates up to 400G and 800G, with emerging support for 1600G. Active Optical Modules (AOMs) in this form factor convert electrical signals into optical signals and back, enabling longer reach and higher reliability compared to passive copper solutions. They are widely used in data centers, cloud networks, and high-performance computing environments where high bandwidth and low latency are critical.

Key Features

- Eight-lane electrical interface:** QSFP-DD modules feature an additional row of contacts compared to standard QSFP, allowing 8 lanes of high-speed data transmission.
- High-density design:** The compact form factor supports optimized port density, enabling more connections per switch or router without increasing space.
- Backward compatibility:** QSFP-DD modules are compatible with existing QSFP and QSFP28 ports, providing flexibility for network upgrades.
- Standards compliance:** QSFP-DD AOMs adhere to IEEE 802.3cd, OIF-CEI-04.0, and QSFP-DD MSA specifications, ensuring interoperability across vendors.
- Power and thermal efficiency:** Designed for low power consumption and effective heat dissipation, supporting high-speed operation without exceeding system thermal limits.

Applications

- Data center interconnects:** High-speed links between servers, switches, and storage systems.
- Cloud and hyperscale networks:** Supporting AI/ML workloads and massive data traffic.
- Routed Optical Networking (RON):** Integration with routers for simplified optical network architectures, including coherent DWDM solutions.
- Short- and medium-reach connections:** Active optical cables (AOCs) provide reliable connectivity over distances typically up to 100 meters or more, depending on the module type

Article Content

Optical Modules Market Research Report 2034

The QSFP (Quad Small Form-factor Pluggable) form factor family, encompassing QSFP+, QSFP28, QSFP56, and QSFP-DD variants, was the dominant form

400G QSFP-DD Active Optical Cable Datasheet | FS

400G QSFP-DD to 400G QSFP-DD Active Optical Cable enables low-power, high-reliability and high-speed interconnections over very thin copper cables without using any optical components.

800G Client Optics in the Data Center

A new generation of double-density optical module form factors, QSFP-DD and OSFP, were developed to support the eight-lane switch interface. These form factors will also support DAC or active

Active Optics Cable Assemblies | TE Connectivity

Our Active Optical Cable assembly portfolio provides greater cable flexibility and longer reach, as compared to passive copper and emerging active copper (ACC/AEC) solutions.

QSFP-DD Product Family » Acacia

Quad Small Form-factor Pluggable Double Density (QSFP-DD) solution that fits into high-density switch and router client ports for optical interconnect links

FS Transceivers | Premium Optical Transceivers

Product Portfolio Comprehensive Optical Transceiver Solutions From SFP modules to 800G QSFP-DD, we deliver high-performance fiber optic transceivers for

Arista Optics Modules and Cables

To accommodate an increasing spectrum of applications, Arista offers a wide choice of OSFP, QSFP-DD, QSFP, SFP, SFP-DD and DSFP transceivers and cables that comply with industry standards,

400G QSFP-DD Cable and Transceiver Modules Data Sheet

400G QSFPDD active optical cables (Figure 10) are designed for use in 400 Gigabit Ethernet links over OM4 multimode fibers, and contain eight multi-mode fibers (MMF) optic transceivers per end, each

Approved Networks

Details 100GBASE-LR4 QSFP28 SMF 1295-1309nm 10km DDM Transceiver Details
400G QSFP-DD Active Optical Cable (AOC) Details 800G OSFP Open Finned

QSFP-DD Linear Pluggable Optics (LPO)

Amphenol's QSFP-DD Linear Pluggable Optical (LPO) Transceiver delivers low-latency, high-bandwidth PCIe[®] Gen 5.0 over optical link, enabling

400G Optical Modules Explained: SR4 Vs. DR4 Vs.

Key differences between SR4, DR4, FR4, and LR4 400G optical modules. Expert advice from Asterfusion engineers to optimize your data center

Cisco 400G QSFP-DD Cable and Transceiver Modules Data Sheet

The Cisco[®] family of QSFP-DD modules provide the industry's highest bandwidth density while leveraging the backward compatibility to lower-speed QSFP pluggable modules and cables.

HPC Optics | SFP, SFP+, XFP, QSFP, QSFP28, QSFP

HPC Optics is a leading supplier of fiber optic transceivers and active optical cables (AOC). Our transceivers are ideal for high-performance computing networks in

400G QSFP-DD Active Optical Cable 400G QSFP-DD Active Optical

er longer distances in modern data centers and enterprise networks. Featuring QSFP-DD connectors on both ends, it supports data rates of 400 Gbps through eight 50 Gbps lanes,

Compatible 400GBASE-DR4++ QSFP-DD PAM4 1310nm 10km DOM

Please send me the Compatible 400GBASE-DR4++ QSFP-DD PAM4 1310nm 10km DOM MTP/MPO-12 APC SMF, 4x100G-DR Transceiver Module datatsheet.

400G QSFP-DD Active Optical Cable

400G QSFP-DD Active Optical Cable FEATURES Eight-channel full duplex active optical cable Up to 53.125 Gbps data rate per channel by PAM 4 modulation Low power consumption: < 8 W per cable

FN-TRAN-QSFPDD-DR4+ Fortinet Compatible 400GBASE-XDR4 QSFP-DD

Please send me the FN-TRAN-QSFPDD-DR4+ Fortinet Compatible 400GBASE-XDR4 QSFP-DD PAM4 1310nm 2km DOM MPO-12/APC SMF Optical Transceiver Module datatsheet.

Data Center Optical Transceiver Market Size, Share, Trends

QSFP-DD and OSFP form factors are displacing older QSFP28 modules as the industry standard for 400G and above deployments. Co-Packaged Optics (CPO) represents the most disruptive near-term

Hilink Optics QSFP QSFPDD OSFP 10G SFP

If you have any questions about Hilink Optics CWDM DWDM QSFP QSFPDD OSFP 10G SFP transceivers, we will give the professional solutions to you.

QSFP-DD TRANSCEIVERS for 400G and 800G

Active Optical Cables (AOC): Incorporate real transceivers with fiber optics, providing longer-distance connectivity while remaining lightweight and flexible.

QSFP-DD Transceiver: What Drives 11.47% CAGR Growth?

The QSFP-DD Optical Transceiver market is projected to reach \$11.14 billion by 2025, driven by government incentives and strategic partnerships. Analyze 11.47% CAGR growth, key

Contact Us

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