

Korean Liquid-Cooled Switch QSFP-DD



Overview

QSFP-DD is a new module and cage/connector system similar to current QSFP, but with an additional row of contacts providing for an eight lane electrical interface. It is being developed by the QSFP-DD MSA as a key part of the industry's effort to enable high-speed solutions. 4 Tbps aggregate bandwidth in a single switch slot. QSFP-DD electrical interfaces will employ eight lanes that operate up to 25 Gbps NRZ modulation or 50 Gbps PAM4 modulation, providing. Amphenol's QSFP-DD high-speed connector family features a scalable, high-performance interconnect platform with 76 contacts on a 0.8mm pitch and a dual-mating interface. The metal plugs have many code name extensions based on the single-channel; small-form-factor plug. Supporting the continuing growth in the bandwidth demand and datacenter traffic driven by networking and AI/ML requirements, the QSFP-DD (Double Density) Interconnect System delivers 8 lanes with up to 28 Gbps NRZ or 56 Gbps-PAM4 (up to 400 Gbps aggregate) in a compact footprint that is backward. TE Connectivity's (TE) QSFP-DD (quad small form-factor pluggable double density) doubles the density of QSFP interconnects with an eight-lane electrical interface capable of 28 Gbps NRZ or 56 Gbps PAM-4 to achieve 200 or 400 Gbps aggregate per port.

Article Content

QSFP-DD: Enabling 15 Watt Cooling Solutions

It has been demonstrated that the QSFP-DD module/cage design in both stacked and belly-to-belly configurations can support thermal loads beyond 15W as needed for next generation

Thermal solutions for fiber optic transceiver modules

Thermal solutions for fiber optic transceiver modules (OSFP, QSFP-DD) Fiber optical transceiver is one of the key components of the fiber optic communication

Connectors and Cages

ConnectX-6/7 and BlueField-2/3 are not offered using QSFP-DD cages -- only for switches. NVIDIA does not offer a QSA port adapter to convert QSFP112 devices to be inserted into

High-Density Interconnect Modules with Innovative

Molex showed its new BiPass thermal management configuration cooling for QSFP-DD (quad small form-factor pluggable double density)

QSFP-DD CONNECTORS & CABLE ASSEMBLIES PRODUCT

Our QSFP-DD cages feature a proprietary heat sink design, making them the only solution to work in 15-18W applications at a low cost - providing superior thermal and signal integrity performance.

Connectors and Cages

This enables the QSFP-DD cages in switches to support backwards compatibility to 4-channel QSFP56, QSFP28, and QSFP+ devices, which engage only the first row of 4 pins in the 8

2023 QSFP-DD MSA Thermal Whitepaper Final (for approval)

As was the case for previous generations, the universally-adopted QSFP-DD family continues to extend its performance threshold, use cases, and backwards-compatibility. QSFP-DD1600 establishes a

Optimizing QSFP-DD Systems to Achieve at Least 25 Watt

Abstract High performance network environments need to cool pluggable optical modules efficiently. Higher power (25 Watt) modules for QSFP-DD800 systems must dissipate this heat effectively to

Liquid Cooling Solutions

Advanced Liquid Cooling Solution – Purpose-built thermal solutions for any cooling budget Professionally designed, built, & tested to meet the most demanding server/storage/data center

QSFP-DD Connectors | High Speed I/O | Amphenol

The QSFP-DD family supports legacy QSFP channels on the front interface and four additional channels on the rear interface. This interconnect

800G QSFP-DD immersion cooling extender

Features Compliant QSFP-DD MSA Typical insertion loss less 8dB@26.56GHz with 0.3m length 100ohm differential impedance system 3V power supply I2C R/W

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 placed between modules. This flexibility enables switch and routing

SFP vs SFP+ vs QSFP vs QSFP28 vs QSFP-DD:

Compare SFP, SFP+, QSFP, QSFP28, and QSFP-DD by speed, lane count, compatibility, breakout options, power, and upgrade path.

QSFP-DD Strategies Help Data Centers Keep Cool

QSFP-DD Modules are Flexible and Economical Building and sustaining the pipeline of interoperable interconnect solutions is absolutely critical

QSFP-DD series

QSFP-DD can enable up to 14.4 Tbps aggregate bandwidth in a single switch slot. QSFP-DD electrical interfaces will employ eight lanes that operate up to 25 Gbps NRZ modulation or 50 Gbps PAM4

Immersion Liquid Cooling Optics – GIGALIGHT

GIGALIGHT provides 10G to 800G immersion liquid cooling direct attach cable (DAC) products for immersion liquid-cooled data centers, supporting various package types such as SFP+, SFP28,

QSFP-DD Connectors, Cages and Cable Assemblies

QSFP-DD provides high-performance computing capability. The QSFP interconnects density is doubled with electrical interface, providing superior thermal and signal

Understanding Backward Compatibility with QSFP-DD,

Network improvements and transceiver functionality are inextricably related to backward compatibility. A thorough explanation of backward

Thermal Design of QSFP-DD Cages and Heatsinks

This paper will talk to factors in the QSFP-DD design that affect the thermal performance, the thermal design of modular reference 32 port 1U switch loosely based on the Facebook Wedge

Molex QSFP-DD BiPass Thermal Cooling Configuration

The BiPass solution allows higher wattage modules to be cooled and will help designers on the path toward 112 Gbps. As the industry is readying for

100G QSFP28 Immersion Liquid Cooling AOC 1-Meter | AscentOptics

100G QSFP28 Immersion Liquid Cooling AOC is a 100G SR4 transceiver with 4 lanes, 850nm wavelength, supporting 70m OM3 and 100m OM4 fiber - AscentOptics.

Immersible Extender

A new standalone product, the Immersion Liquid Cooling Extender, is designed for immersion-cooled data centers. It extends the electrical interface of the server to

QSFP-DD vs OSFP: Which 400G/800G Form Factor

Compare QSFP-DD and OSFP. Learn about size, compatibility, cooling, density, and use cases. Includes comparison tables, deployment advice,

QSFP-DD Power & Thermal Management Guide for Data Centers

Complete QSFP-DD power and thermal guide with module power data, rack calculations, AI cluster planning, and cooling strategies for 400G and 800G deployments.

The Ultimate Guide to QSFP28-DD: Features, Benefits, and Applications

Discover QSFP28-DD (200G/400G) modules: features, benefits, and applications in data centers, AI/HPC, and telecom. Compare and learn how to choose the right.

Immersion Liquid-Cooled Optical Transceivers for the Next-Generation ...

Traditional air-cooled systems are reaching their thermal limits, prompting a shift toward immersion liquid cooling as the next standard in data center infrastructure. Optech, a leading optical transceiver

QSFP-DD Connector System

QSFP-DD Interconnect System enables faceplate density equal to the current 2x1 QSFP form factor, but with 8-lane ports. In other words, a total of 256 differential

Contact Us

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