Cost-effective air-cooled switch QSFP-DD



Overview

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. QSFP-DD pricing creates significant challenges for buyers due to the extreme opacity of the market. Standard procurement guides list endless catalog numbers without valuable context, overwhelming engineers with technical specifications while completely obscuring actual market costs. This guide. QSFP-DD (quad small form-factor pluggable double density) doubles the capacity of QSFP interconnects with an eight-lane electrical interface capable of 28 Gbps NRZ, 56 Gbps PAM4, and 112 Gbps PAM4 to achieve up to 800 Gbps per port. Superior cooling capacity notably enables faster speeds at the port level and can reduce overall system power consumption. The design failed to consider that 32 ports of 800G optics create 544 watts of heat which affects a single 1U switch and exceeds the capacity of her data center's airflow system.



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Article Content

QSFP-DD Connectors, Cages and Cable Assemblies

TE''s QSFP-DD products work cost effectively in 15-18W applications leveraging proprietary heat sink technology. Our new connectors are fully backward

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

This whitepaper offers comprehensive details of QSFP-DD1600 performance enhancements achieved by both module and system designers. Various analyses show the evolved cooling capabilities of 64

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.

Customized QSFP Air-Cooled Switch for Distribution Network

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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

Air Cooling and Water Cooling for Data Center High-Speed I/O ...

In the current work, a series of tests and simulations were conducted on QSFP-DD air-cooled heat sink and water-cooled cold plate applications based on the optimizations done in prior publications.

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.

Optimizing QSFP-DD Systems to Achieve at Least 25 Watt

Due to the commonality of the thermal considerations between QSFP-DD and QSFP-DD800, this paper will typically just refer to QSFP-DD but will call out specific differences for QSFP-DD800 where they

HPE Aruba Networking CX 9300-32D 32-port 100/200/400G

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Provides flexible, cost-effective, high-density 100/400GbE for servers, storage, and intra-fabric connectivity. The HPE Aruba Networking CX 9300 Switch Series enables low-latency and “lossless”

Co-Packaged Optics: Architecture, Status, and the Path to 1.6T Switches

By targeting liquid cooling, XPO enables substantially higher power budgets per module than air-cooled OSFP or QSFP-DD, which in turn allows higher-performing pluggable optics at

Co-Packaged Optics (CPO) 2026: Complete Technical

CPO switches are shipping in 2026. Learn how co-packaged optics work, which platforms are live, power savings vs pluggable, and what optics you

AI Server Components: Engineering Next-Gen Data Center Hardware

The transition from traditional enterprise IT to AI-driven workloads has rendered legacy data center hardware obsolete, forcing infrastructure planners to re-engineer server components for

Heavy Reading White Paper: 800G Client Optics in the Data Center

The QSFP-DD form factor is widely deployed in 400G connected data centers and has been a critical factor in delivering cost-effective 400G optical modules with 50G PAM4 lanes. This form factor was

400G QSFP-DD LR4 Optical Transceiver for High-Performance

Our 400G QSFP-DD LR4 optical transceiver is designed for 400G Ethernet applications, delivering high-speed, long-distance transmission over Single-Mode Fiber (SMF) with CWDM technology.

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

By deploying a 400G QSFP-DD SR4 module on the 400G switch and a 400G OSFP flat top SR4 module on the 400G network adapter, along with MTP®-12 multimode fiber optic cables,

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

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SFP/QSFP | Advanced Thermal Solutions

Test set-up of different heat sink designs on QSFP28 connector cages. Through testing, analytical modeling and computer simulations, ATS

Contact Us

Continue your research online:

Website: https://bagyou.es
Technical inquiry: https://bagyou.es/project-enquiry.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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