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Iceland GPON Equipment QSFP-DD



Overview

QSFP-DD Interconnect System enables faceplate density equal to the current 2x1 QSFP form factor, but with 8-lane ports.

Key Takeaways

QSFP-DD modules provide high-speed, backward-compatible connectivity for EPON systems, supporting 400G, 800G, and 1600G applications with optimized density and thermal management.Overview of QSFP-DD

QSFP-DD (Quad Small Form-Factor Pluggable Double Density) is a high-performance pluggable module and connector system designed to extend the QSFP family to support higher data rates such as 400G, 800G, and 1600G . It features an additional row of contacts, enabling an eight-lane electrical interface, which allows for multi-lane high-speed transmission while maintaining a compact form factor . This design is particularly suitable for EPON equipment that requires high bandwidth and port density.

Key Features
• High-Speed Performance: QSFP-DD supports up to 400 Gbps per port over an 8x50 Gbps interface, with newer variants like QSFP-DD800 and QSFP-DD1600 supporting 800 Gbps and 1.6 Tbps per port, respectively .

• Backward Compatibility: QSFP-DD ports can accept QSFP28 and QSFP56 modules, allowing smooth migration from 100G/200G to 200G/400G networks without replacing existing infrastructure .

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• Form Factor and Density: Its small, flat-top design enables high port density, making it ideal for dense EPON switches and aggregation equipment .

• Thermal Management: QSFP-DD modules require careful thermal design, as higher data rates increase heat output. Compared to OSFP modules, QSFP-DD is slightly smaller, which can impact cooling strategies .

• Flexibility: Supports passive and active copper, as well as optical solutions, providing versatility for different EPON deployment scenarios .

Advantages for EPON Systems

• Scalable Bandwidth: Supports the growing bandwidth demands of next-generation EPON networks, including AI/ML-driven traffic and high-speed data aggregation .

• Cost Efficiency: Backward compatibility reduces the need for full equipment replacement, lowering migration costs.

• High Port Density: Compact design allows more ports per switch, optimizing rack space and network scalability.

• Multi-Protocol Support: Compatible with Ethernet, Fibre Channel, and InfiniBand, making it suitable for diverse EPON applications .

Considerations

• Power Consumption: QSFP-DD modules typically consume less than 12W, which is lower than OSFP modules, but thermal management is still critical in dense EPON deployments .

• System Design: EPON equipment must account for module cooling, signal integrity, and mechanical compatibility when integrating QSFP-DD modules .

Conclusion

QSFP-DD modules are a high-speed, flexible, and backward-compatible solution for EPON equipment, enabling operators to scale bandwidth efficiently while maintaining high port density and supporting legacy modules. Their adoption in Icelandic EPON networks would allow for future-proof, high-capacity deployments capable of handling modern data traffic demands.

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Article Content

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Cisco 400G QSFP-DD Cable and Transceiver Modules

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QSFP-DD Connectors, Cages and Cable Assemblies

QSFP-DD provides high-performance computing capability. The QSFP interconnects density is doubled with electrical interface,

Specification – QSFP-DD

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QSFP-DD Connector System

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QSFP-DD Explained: The Complete 400G/800G Double-Density Guide

Learn what QSFP-DD is and how it enables 400G/800G data center networks. Compare module types, form factors,

What Is QSFP-DD? Specs, Architecture, and 400G Use Cases

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Product overview The ongoing explosion of data traffic is driving the need for faster processing, greater bandwidth, and higher

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Learn what a QSFP module is, how QSFP+, QSFP28, QSFP56, and QSFP-DD differ, and how to choose the right

How to Choose QSFP-DD: Step-by-Step Selection Guide

Learn how to choose QSFP-DD transceivers for 400G/800G networks, including reach, compatibility, power, and

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800G Transceiver Overview: QSFP-DD and OSFP Packages

This article provides an overview of 800G optical transceivers, focusing on the QSFP-DD and OSFP packages.

Cisco 400G QSFP-DD High-Power (Bright) Optical Module Data Sheet

Learn how Cisco 400G QSFP-DD High-Power (Bright) Optical module''s small size and low power make it an optimal

Sunstar Combo 50G & XGS & GPON OLT QSFP-DD light module

The Combo 50G & XGS & GPON OLT QSFP-DD light module launched by Sichuan Guangheng has won the

QSFP-DD vs QSFP28 vs OSFP: 400G Form Factor Guide

Compare QSFP-DD vs QSFP28 vs OSFP for 400G/800G networks. Learn backward compatibility, power differences,

QSFP-DD Module Testing

The QSFP-DD module is a marvel of electronic, photonic, mechanical and thermal engineering held together with complex firmware.

Cisco GPON SFP Data Sheet

This data sheet describes the benefits, specifications, and ordering information for the Cisco GPON SFP.

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Cisco QSFP-DD Pluggable Open Line System (QDD OLS) Data Sheet

Learn more about the Cisco QSFP-DD Open Line System (QDD OLS), a pluggable optical amplifier module that

QSFP-DD Optical form factor: An evolutionary approach to 400GbE ...

QSFP-DD: Crossing the Chasm QSFP-DD has been designed to meet all of the market needs and optimized system

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Iceland GPON Equipment Market is expected to grow during 2023-2029

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