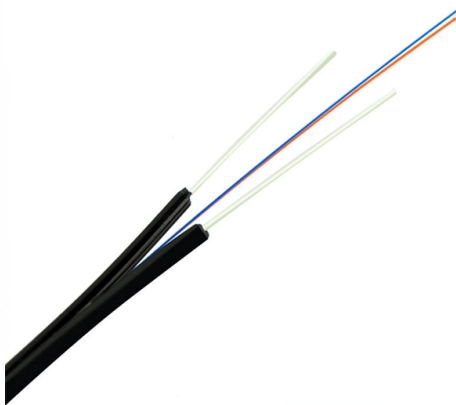


ASEAN 10 countries QSFP-DD optical module LPO



Overview

Introducing our 800G LPO QSFP-DD800, a pinnacle in high-speed connectivity. Infused with Linear-Drive Technology, it transforms short-range, high-bandwidth, low-power, and low-latency applications.

Key Takeaways

QSFP-DD LPO transceivers provide high-density, low-latency, and power-efficient optical connectivity for 400G and 800G networks, ideal for data centers and telecom infrastructure in ASEAN countries. Overview of QSFP-DD LPO QSFP-DD (Quad Small Form-Factor Pluggable Double Density) modules are designed to double the number of high-speed electrical lanes compared to QSFP28, enabling 400G and 800G Ethernet speeds while maintaining the same port density.

LP

O (Linear Pluggable Optics) is a variant that removes the onboard DSP, reducing power consumption by nearly 50%, which is particularly beneficial for large-scale deployments in data centers. These modules are optimized for rack-to-rack interconnects, AI/ML workloads, and high-bandwidth PCIe Gen 5.0 links.

Key Advantages



High Bandwidth and Density: QSFP-DD supports 8 lanes, doubling the data throughput of traditional QSFP modules, allowing efficient scaling without additional rack space. **Thermal Efficiency:** LPO modules reduce heat generation, but require robust host SerDes and strict channel loss budgets for reliable operation. **Backward Compatibility:** QSFP-DD ports can accept legacy QSFP modules, enabling gradual network upgrades while protecting existing infrastructure.

Flexible Deployment: Supports short-range multimode fiber for intra-data center connections and coherent DWDM for metro/regional networks. **Security and Compliance:** Some QSFP-DD modules offer AES-256 encryption and OTN compliance for secure Layer 1 transport.

Considerations for ASEAN Deployments

Network Infrastructure: ASEAN data centers and telecom operators can leverage QSFP-DD LPO for high-density 400G/800G interconnects, especially in urban hubs like Singapore, Kuala Lumpur, and Bangkok. **Power and Cooling:** LPO modules reduce power consumption, which is critical in tropical climates where cooling costs are high. Proper thermal management is still required for reliable operation.

Vendor Selection: Leading suppliers include Amphenol, Smartoptics, Cisco, and LINK-PP, offering modules compatible with both multimode and single-mode fiber networks. **Compatibility and Standards:** Ensure host switches support RS (544) FEC for PAM4 optics and verify channel loss budgets for LPO deployment.

Recommended Use Cases

Data Center Spine-

Leaf Networks: High-density QSFP-DD LPO modules enable scalable 400G/800G spine-to-leaf interconnects. **AI/ML Clusters:** Low-latency LPO modules support PCIe Gen 5.0 over optical links for AI inference servers.

Metro and Regional Transport: Coherent QSFP-DD modules allow cost-efficient DWDM deployment for regional connectivity. **Conclusion** QSFP-DD LPO modules are a strategic choice for ASEAN network operators seeking high-speed, energy-efficient, and scalable optical connectivity. By combining backward compatibility, thermal efficiency, and high port density, these modules support both current 400G/800G deployments and future-proof network expansion in Southeast Asia.

Article Content

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 scalable server disaggregation and efficient rack-to-rack

Singapore QSFP optical module LPO

Introducing our 800G LPO QSFP-DD800, a pinnacle in high-speed connectivity. Infused with Linear-Drive Technology, it transforms short-range, high-bandwidth, low-power, and low-latency applications.

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Third-Party Optical Transceivers Market by Form Factor, Connector Type, Fiber Mode, Protocol Family, Fiber Count, Application, End User - Global Forecast 2026-2032 - The Third-Party

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Linear Drive Pluggable Optics Eoptolink offers a full portfolio of LPO optics for OSFP, OSFP-RHS, QSFP-DD and QSFP112 transceivers. At ECOC 2023, Eoptolink will be conducting an interop demo

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