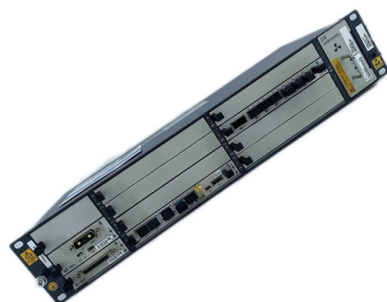


Introduction to DR8 Optical Module



Overview

It is compliant with IEEE 802.3 800GBASE-VR8 and OSFP MSA module requirements with integrated heat sink.

Key Takeaways

The DR8 optical module is an 800Gb/s OSFP transceiver supporting 8 parallel 100Gb/s lanes over single-mode fiber with a reach of up to 500 meters.

Key Specifications

- Data Rate: 800Gb/s aggregate, achieved via 8 lanes of 100Gb/s each using PAM4 modulation .
- Form Factor: OSFP (Octal Small Form Factor Pluggable), designed for high-density, high-speed data center applications .
- Optical Reach: Up to 500 meters over single-mode fiber (SMF) for standard DR8 modules; some variants support up to 2 km with enhanced DR8+ designs .
- Connectors: Dual MPO-12 or MPO-16 APC connectors for parallel fiber lanes .
- Breakout Options: Supports multiple configurations including 8x100GbE, 4x200GbE, 2x400GbE, or a single 800GbE link, with software-configurable half-rate operation for backward compatibility .
- Standards Compliance: IEEE 802.3 800GBASE-DR8, OSFP MSA, and CMIS 5.3 for firmware management .

- Digital Diagnostics: Provides monitoring of optical power, temperature, and voltage via I2C interface .
 - Applications: Ideal for data centers, high-performance computing networks, enterprise core/distribution layers, and AI front-end/back-end networks .
- Performance and Features
- Parallel Single-Mode Fiber: Each lane carries 100Gb/s, enabling high-bandwidth, low-latency interconnects .
 - Forward Error Correction (FEC): Implemented on the host platform to ensure error-free transmission .
 - Firmware Upgradeable: Supports field firmware updates for enhanced functionality and VDM support .
 - Power and Thermal: Low power consumption with options for liquid-cooled switches in high-density deployments .

Summary

The DR8 optical module is a high-speed, versatile transceiver designed for modern data center networks requiring 800Gb/s throughput with flexible breakout options. Its OSFP form factor, single-mode fiber support, and PAM4 modulation make it suitable for short-reach (up to 500m) and extended-reach (up to 2 km) applications, providing reliable, high-density connectivity for enterprise, service provider, and AI workloads .

Article Content

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Optical connector types for 800GBASE-VR8, 800GBASE-SR8,

Introduction At 50G/lane, 400GBASE-SR8 has two optical connector options: Option A, a dual-row twelve-fiber interface (24 fiber

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