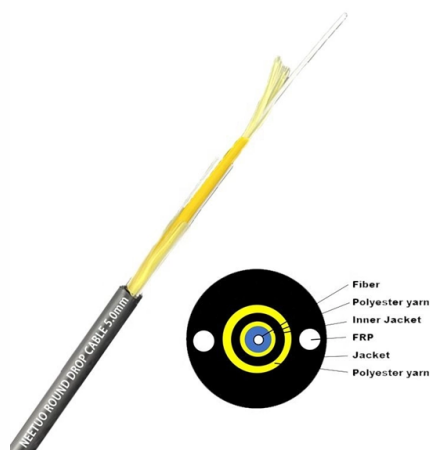


Nordic ODM Single-Fiber Bidirectional QSFP-DD



AI Overview

The Nordic ODM Single-Fiber Bidirectional QSFP-DD enables high-speed, single-fiber bidirectional connectivity for 100G to 400G networks, optimizing fiber usage and supporting QSFP-DD form factor interoperability.

Overview The Nordic ODM Single-Fiber Bidirectional (BiDi) QSFP-DD is designed to transmit and receive data over a single optical fiber, effectively doubling fiber capacity without requiring additional cabling. This solution is particularly useful in data center interconnects (DCI), hyperscale Spine-Leaf architectures, and carrier Ethernet networks, where fiber resources are limited or costly. The module is compatible with standard QSFP-DD ports, ensuring plug-and-play interoperability with major switch vendors such as Cisco, Arista, Juniper, and Mellanox/NVIDIA.

Key Features

- Single-Fiber BiDi Operation:** Uses two wavelengths (commonly 1300nm and 1550nm) to enable simultaneous transmit and receive on a single fiber, reducing fiber deployment costs by up to 50%.
- High-Speed Support:** Compatible with 100G, 200G, and 400G QSFP-DD modules, leveraging PAM4 modulation for high data rates.
- Form Factor Compatibility:** Fits standard QSFP-DD cages and connectors, maintaining backward compatibility with QSFP28 and QSFP-DD modules.
- OEM/ODM Customization:** Nordic ODM solutions can be tailored for specific thermal, coding, or vendor lock-in requirements, ensuring optimized performance in dense racks or multi-vendor environments.
- Passive Adaptor Technology:** Many BiDi solutions, like RAD's patented miniature passive adaptor, require no active electronics, simplifying deployment and reducing power consumption.

Applications

- Data Center Interconnects (DCI):** Efficiently connects high-capacity switches across short to medium distances while minimizing fiber usage.
- Carrier Ethernet Services:** Supports multiple service providers over a single fi...

Article Content

SFP+, SFP28, QSFP+, QSFP28, QSFP56, QSFP-DD,

Initial Published: February 19, 2022 The optical transceiver plays a crucial role in modern fiber networking. Various high-speed transceiver types are

Optical Fiber Amplifiers

Navigator Nordic delivers optical transceivers, components and data center solutions for the Nordic market, with expert support, fast service and lifetime warranty.

Understanding Pluggable Optical Modules

QSFP-DD (Quad Small Form-Factor Pluggable-Double Density) optical module: It is a double-density four-channel small pluggable high-speed optical module. QSFP-DD is currently the preferred

Optical Interface for QSFP-DD Bidi Transceivers

Currently, 400G QSFP-DD transceivers use 8 pairs of MMF to transmit signal in short distance, while bidirectional (BiDi) technology enables users to save the fibers for new data center deployment or

Dual to Single Fiber Solutions | RAD BiDi QSFP28 DD Adaptor

Simple to deploy, this compact adaptor doubles fiber capacity while avoiding costly new fiber/transceiver deployments and frees up fiber for other services. 50% fiber savings with quick ROI. Any bit rate up:

Nigerian ODM Single Fiber Bidirectional 100G

Nigerian ODM Single Fiber Bidirectional 100G Our 100G BiDi QSFP28 MMF transceiver enables fiber-efficient short-reach connectivity using single-fiber bidirectional technology.

Transceivers

Navigator Nordic delivers optical transceivers, components and data center solutions for the Nordic market, with expert support, fast service and lifetime warranty.

What is BiDi Transceiver: A Beginner's Guide

What is a BiDi Transceiver? BiDi transceiver, or Bidirectional or simplex optical transceiver, is an optical module that uses Wavelength Division Multiplexing (WDM) technology to

What is QSFP & QSFP+ Transceiver: An Ultimate Guide

What is a QSFP & QSFP+ Transceiver? QSFP stands for Quad Small Form-factor Pluggable. By integrating four-lane signals into a single module, it supports four times the data

FLYOVER QSFP CABLE ASSEMBLIES

FEATURES & BENEFITS QSFP, QSFP-DD and QSFP-D8 systems utilize Samtec Flyover® technology to route data above lossy PCB, simplifying board layout and extending signal reach. The modular

Understanding 100G Single Fiber QSFP28 Module for Modern Networks

100G single fiber QSFP28 modules enable fast, cost-effective network upgrades using one fiber strand, ideal for scalable modern data centers.

The Ultimate Guide to QSFP Cable: Everything You Need to Know

Discover everything you need to know about QSFP cables with Fibermall's expert insights!

Cisco 400G QSFP-DD Cable and Transceiver Modules

The 400 Gigabit Ethernet signal is carried over four parallel pairs of fibers by two 50Gbps bidirectional wavelength per fiber. It can also be used as

Arista Networks Compatible QSFP-DD 800GBASE-PLR8 PAM4

Arista Networks Compatible 800GBASE-PLR8 QSFP-DD Optical Transceiver Module (SMF, 1310nm, 10km, MTP/MPO-16, DOM) The 800GBASE-PLR8 QSFP-DD transceiver supports up to 10km link

Bidirectional (BiDi) WDM Transceivers

Non – BiDi duplex transceivers require two fibers for two – way communication. In contrast to BiDi, non – BiDi transceivers do not use wavelength division multiplexing to achieve

400G Modules Compared: QSFP-DD, OSFP & QSFP112

Unsure which 400G module fits your data center? Compare QSFP-DD, OSFP, and QSFP112 with expert insights for top performance and scalability.

Dual to Single Fiber Solutions | RAD BiDi QSFP28 DD Adaptor

RAD offers dual to single fiber solutions for high-speed, reliable networks. Explore our Bidi QSFP28 adaptors for seamless connectivity.

QSFP Cables Explained 2025: Types, DAC vs AOC, and DC Use Cases

But QSFP is not a single thing, there are multiple generations (QSFP+, QSFP28, QSFP56, QSFP-DD), different physical media (copper vs fiber), and multiple deployment options (DAC vs AOC). Picking

100G QSFP28 / SFP-DD Modules and Cables FAQ | FS

Each optical port on the QSFP28 BiDi contains both a transmitter and receiver, transmitting and receiving data to/from interconnected network devices (like network switches or routers) at full-duplex

QSFP-40G-BiDi vs QSFP-40G-SR4, which to choose?

Unlike QSFP-40G-SR4, QSFP-40G-SR-BD has four 10Gbps signal channels which are converted to two bidirectional channels of 20Gbps signals. The two channels transmit and receive

The Ultimate Guide to QSFP Cables: What You.

What is a QSFP Cable? QSFP cables are high-speed transceiver and cabling solutions that combine four lanes of data transmission in one

QSFP-DD Optical Module Overview: What is the differ?

This article will introduce the next generation optical module in detail, QSFP-DD, also known as quad small factor pluggable, and this article will also introduce the difference between

Specification - QSFP-DD

July 11, 2019 - QSFP-DD Hardware Specification for QSFP DOUBLE DENSITY 8X PLUGGABLE TRANSCEIVER - Rev 5.0 May 8, 2019 - Common Management Interface

QSFP-DD Connectors, Cages and Cable Assemblies

QSFP-DD cages are fully backwards compatible, providing an upgrade path from existing QSFP solutions - allowing an economical path to upgrade to 112G

100G QSFP28 BiDi : Optical Transceiver Module | NEC

100G QSFP28 LR1 BiDi/ER1 BiDi /ZR4 BiDi NEC's 100G QSFP28 BiDi optical transceiver enables the transmission and reception of 100Gb/s high-speed data over a single optical fiber. By enabling

Optical Transceiver Manufacturer & Supplier | OEM/ODM Factory

Explore Fibertop's full range of optical transceivers from 155M to 800G, including SFP, SFP+, QSFP and OSFP modules. OEM/ODM services, broad compatibility and reliable performance for data centers,

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