QLOGIC®
The Ultimate in Performance

DATA SHEET

12300 Switch

18–36 Port 40Gbps, Modular Configuration, Managed

Overview

High performance computing (HPC) solutions have used InfiniBand networks to meet the needs of the most demanding set of applications. The QLogic 12300 is an 18–36 port, 40Gbps InfiniBand switch designed to cost-effectively link workgroup resources into a cluster or provide an edge switch option for a larger fabric. Customers can manage the modular InfiniBand switch internally or externally. The QLogic 12300 is part of the 12000 Series of products that deliver an unmatched set of high-speed networking features and functions.

Highlights

Benefits

- Quad data rate (QDR) line rate performance
- Ultra-low latency under heavy loads
- Flexible QoS maximizes bandwidth utilization
- Protects existing InfiniBand™ investments
- Highly reliable and available
- Easy to manage
- Minimal power and cooling requirements

Features

- 18–36 ports of InfiniBand QDR (40Gbps) performance with support for DDR and SDR
- 2.88Tbps aggregate bandwidth
- TrueScale™ architecture with scalable, predictable low latency
- Multiple virtual lanes (VLs) per physical port
- Supports Virtual Fabric Partitioning
- Small QDR data center footprint with cost-effective InfiniBand edge port density
- External chassis management via optional InfiniBand Fabric Suite (IFS) management solution that provides an expanded set of fabric views and fabric tools
- RoHS 6 compliant
- Minimal power and cooling requirements
- Complies with InfiniBand Trade Association (IBTA) v1.2 standard

Simple Installation and Configuration. Using the installation and configuration wizards contained in the IFS package allows end users to deploy fabrics in days instead of weeks.

Low Latency. QLogic's 12300 provides scalable, predictable low latency, even at 90 percent traffic utilization. Predictable latency means HPC applications can easily be scaled without having to worry about diminished cluster performance or costly system tuning efforts.

Flexible Partitioning. The QLogic 12300 advanced design is based on an architecture that provides a comprehensive set of Virtual Fabric Partitioning capabilities, enabling the InfiniBand fabric to support the evolving requirements of an organization. The TrueScale architecture, together with IFS, allows the fabric to be shared by mission critical applications while delivering maximum bandwidth utilization.

Investment Protection. The 12000 Series of switch products adhere to the IBTA version 1.2 standard, ensuring the ability to interoperate with all other IBTA-compliant devices.

Highly Reliable. The highly-reliable 12300 is built around state-of-the-art fault detection and recovery capabilities. It ships with hot-swappable, redundant power and cooling modules.

Easy to Manage. Customers can manage the 12300 by utilizing an optional embedded fabric management capability and by taking advantage of QLogic's advanced IFS software to facilitate quicker installation and configuration. IFS tools verify fabric configuration, topology, and performance. Faults are automatically isolated to the component level and reported.

Power Optimized. Maximum performance is delivered with minimal power and cooling requirements as part of QLogic's StarPower™ commitment to developing green solutions for the data center.

Switch Options

Switch Models

- 12300-BS01: 36 active ports
- 12300-BS18: 18 active ports

Switch Specifications

- 40/20/10Gbps auto-negotiation links
- A maximum of 36, 4x QDR ports (32 Gbit/s) or 18, 8x QDR ports (64 Gbit/s)
- Switching capacity: 2.88Tbps
- Virtual lanes: eight plus one management
- Maximum MTU size: 4,096 bytes
- Maximum multicast table size: 1,024 entries
- Supports quad small form factor pluggable (QSFP) optical and copper cable specifications

Interoperability

- Compliant with IBTA specifications 1.0a, 1.1, 1.2, and 1.2.1

Fabric Management

Management Methods

- Command line interface
- Optional external server-based InfiniBand compliant subnet manager
- Optional embedded fabric management
- IBTA compliant SMA,PMA, and BMA
- SNMP support
- Chassis management user interface

Access Methods

- 10/100 Ethernet Base T (RJ45)
- Serial port (RS-232 with DB9)

LEDs

- One per InfiniBand port
- One for 10/100 Ethernet interface
- Two for InfiniBand switch status

Physical

Dimensions

- H × W × D: 43.2 × 439.6 × 609.6 mm (1.7 × 17.3 × 24 in)

Weight

- 11.8 kg (26 lbs)

Environmental

Operating

- 5°C to 40°C
- Humidity: 5% to 85% non-condensing
- Altitude: 0 to 10,000 feet
- Vibration: 5–500 Hz, 0.27g, 5 sweeps
- Shock: 3.5g, 3ms, half sine, 20 repetitions

Non-Operating

- –40°C to 65°C
- Humidity: 5% to 90% non-condensing
- Altitude: 0 to 40,000 feet
- Vibration: 2–200 Hz, 0.5g, 5 sweeps
- Shock: 50g, 4216mmps, 13msec, 3 axis

Electrical

- Voltage: 100 to 240 VAC; 50 to 60 Hz
- Power consumption: 85W to 226W

Airflow

- Front-to-back

Agency Approvals

- Safety: UL/CSA/IEC/EN 60950-1
- EMI: FCC/VCCI/EN/IEC Class A
- Marking: FCC/ICES-003/TUV-CUE/CE/VCCI/C-Tick/GOST/KCC
- RoHS 6

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