Mellanox
TECHNOLOGIES

IS5023

18-port Non-blocking Unmanaged 40Gb/s InfiniBand Switch System

The IS5023 unmanaged switch system provides a cost effective high-performance fabric solution in a 1U form factor by delivering 1.44Tb/s of non-blocking bandwidth with 100ns port-to-port latency.

IS5023

Built with Mellanox's 4th generation InfiniScale® InfiniBand switch device, the IS5023 provides up to 40Gb/s full bidirectional bandwidth per port. This unmanaged fixed edge switch is an ideal choice for top-of-rack leaf connectivity or for building small to medium sized clusters. The IS5023 is designed to carry converged LAN and SAN traffic with the combination of assured bandwidth and granular Quality of Service (QoS).

Unmanaged switches are plug and play out of the box. All switches come with the latest FW burned on the Flash and EEPROM. Update of FW on unmanaged switches is done in-band only.

Sustained Network Performance
The IS5023 enables efficient computing with features such as static routing, adaptive routing, and congestion management. These features ensure the maximum effective fabric bandwidth by eliminating congestion hot spots. Whether used for parallel computation or as a converged fabric, the IS5000 family of switches provides the industry's best traffic-carrying capacity.

World-Class Design
The IS5023 is an elegant top of the rack design, that is designed for performance, serviceability and energy savings. The design is optimized for fitting into industry-standard racks for scale-out computing solutions from industry leaders. The IS5023 supports reversible airflow option adapting to a variety of data center cooling techniques.

Ease of Use and Serviceability
The IS5023 has enhanced LED indications and a rack mounting design that simplifies maintenance. The IS5023 has a Port Error LED in the status panel that provides an aggregate status of the all the ports on the switch. It also supports a Unit ID LED* that can be lit on the switch through remote in-band control packets. This allows administrators to physically identify the switch in crowded data center environments.

The IS5023 has no Field Replaceable Units (FRUs), this simplifies the usage and maintenance of the switch. All connectors and cables including the power connector and cable are on the same side of the switch making it unnecessary to require access to the non-connector side of the switch. The enhanced rail mounting kit on the IS5023 allows the switch to be inserted, removed and maintained requiring physical access only from the connector side of the rack.

HIGHLIGHTS

BENEFITS
– Industry-leading, switch platform in performance, power, and density
– Designed for energy and cost savings
– Ultra low latency
– Granular QoS for Cluster, LAN and SAN traffic
– Maximizes performance by removing fabric congestions

KEY FEATURES
– 18 QDR (40Gb/s) ports in a 1U switch
– 1.44Tb/s switching capacity
– Quality of Service enforcement

HARDWARE

INFINIBAND SWITCH
– 18 QSFP non-blocking ports
– Aggregate data throughput up to 1.44 Tb/s
– Port-to-port latency < 100ns
– IBTA 1.21 compliant
– 9 virtual lanes: 8 data + 1 management
– Adaptive routing
– Congestion control
– Port mirroring
– 48K entry linear forwarding data base

MANAGEMENT PORTS
– I²C (RJ45)

CONNECTORS AND CABLING
– QSFP connectors
– Passive/Active copper or fiber cables
– Fiber media adapters

INDICATORS
– Per port status LED Link, Activity
– System status and Power Supply LEDs
– Fan LED
– Port Error LED
– Unit ID LED*

POWER SUPPLY
– Input range: 100 - 240VAC
– Frequency: 50-60Hz, single phase AC

FANS
– Front-to-rear or rear-to-front cooling
  (fan unit ordering option)

* Available in future release

Ordering Part Number	Description
MIS5023Q-1BFR	InfiniScale® IV QDR InfiniBand Switch, 18 QSFP ports, 1 power supply, Remotely-managed Connector side airflow outlet, no FRUs, with rack rails, Short depth Form Factor, RoHS 6
MIS5023Q-1BRR	InfiniScale® IV QDR InfiniBand Switch, 18 QSFP ports, 1 power supply, Remotely-managed, PSU side airflow exhaust, no FRUs, with rack rails, Short Depth Form Factor, RoHS 6

COMPLIANCE

SAFETY
– US/Canada: cTUVus
– EU: IEC60950
– International: CB

EMC (EMISSIONS)
– USA: FCC, Class A
– Canada: ICES, Class A
– EU: EN55022, Class A
– EU: EN55024, Class A
– EU: EN61000-3-2, Class A
– EU: EN61000-3-3, Class A
– Japan: VCCI, Class A

ENVIRONMENTAL
– EU: IEC 60068-2-64: Random Vibration
– EU: IEC 60068-2-29: Shocks, Type I / II
– EU: IEC 60068-2-32: Fall Test

ACCOUSTIC
– ISO 7779
– ETS 300 753

OPERATING CONDITIONS
– Operating 0ºC to 45ºC,
  Non Operating -40ºC to 70ºC
– Humidity: Operating 10% to 90%,
  non condensing
– Altitude: Operating -60 to 2000m

OTHER
– RoHS6
– 1-year warrenty
– Rack-mountable, 1U

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