Juniper QFX5110-48S-AFO2

Datasheet

Product Overview

- Juniper QFX5110-48S-AFO2 is a fixed 1U data center access and leaf switch with 48 native 10GbE SFP+ ports and 4 QSFP28 ports.
- The switch delivers up to 1.76 Tbps bidirectional system throughput and 1.32 Bpps forwarding performance for low-latency server access and fabric deployments.
- Each QSFP28 port can operate as 40GbE or 100GbE, or be split into four 10GbE interfaces with supported breakout cables, expanding the switch to 64 10GbE ports.
- The AFO2 configuration provides redundant hot-pluggable AC power supplies and front-to-back airflow from the port side toward the FRUs.
- Junos OS supports Layer 2, Layer 3, MPLS, VXLAN, and EVPN-VXLAN capabilities for data center and campus distribution designs.
- A quad-core Intel control-plane CPU, 16GB memory, 64GB SSD, dual management ports, console, and USB support operational scale and serviceability.

Product Highlights

- **48-Port 10GbE Access:** Provides 48 SFP+ ports for high-density server and data-center access deployments.
- **QSFP28 40/100GbE Uplinks:** Four QSFP28 ports support 40GbE or 100GbE operation for fabric and spine connectivity.
- **64-Port 10GbE Expansion:** Supported QSFP28 breakout cables can create four 10GbE interfaces per port, increasing total 10GbE support to 64 ports.
- **AFO2 Redundancy:** Combines 1+1 hot-pluggable AC power, N+1 hot-pluggable fans, and front-to-back airflow.

Detailed Features



QFX5110-48S-AFO2

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Component	Specification
Product Type	1U data center access and leaf switch
Downlink Ports	48 × 10GbE SFP+
Uplink Ports	4 × QSFP28, configurable for 40GbE or 100GbE
Switching Capacity	1.76 Tbps

High-Density 10GbE Access

The QFX5110-48S-AFO2 provides 48 native 10GbE SFP+ interfaces for dense server access, leaf, and aggregation deployments.

Flexible QSFP28 Uplinks

Four QSFP28 ports support native 40GbE or 100GbE operation for high-bandwidth fabric and spine connections.

Breakout Expansion

Supported QSFP28 breakout cables can create four 10GbE interfaces per port, increasing total 10GbE support to 64 ports.

Wire-Speed Low-Latency Switching

The switch provides 1.76 Tbps switching capacity, 1.32 Bpps forwarding performance, and 550 ns latency.

AFO2 Cooling Direction

The AFO2 variant directs airflow from the port side toward the field-replaceable units, matching front-to-back data center cooling layouts.

Redundant AC Power

The configuration uses 1+1 hot-pluggable AC power supplies with JPSU-650W-AC-AFO modules for service continuity.

Junos Data Center Features

Junos OS supports Layer 2 and Layer 3 networking with VXLAN OVSDB, EVPN-VXLAN, Contrail Networking, and VMware NSX L2/L3 gateway integration.

Control Plane and Serviceability

A 1.8 GHz quad-core Intel CPU, 16GB memory, 64GB SSD, two management ports, RS-232 console, and USB 2.0 support administration and maintenance.

Technical Specifications

Product Specifications

Feature	Value
Product Model	QFX5110-48S-AFO2
Product Type	Fixed 1U data center access and leaf switch
Port Profile	48 × 10GbE SFP+, 4 × QSFP28
1GbE SFP Ports	48
10GbE SFP+ Ports	48 native; 64 with QSFP28 breakout
40GbE QSFP28 Ports	4
100GbE QSFP28 Ports	4
Switching Capacity	1.76 Tbps (bidirectional)
Forwarding Rate	1.32 Bpps
QSFP28 Modes	40GbE, 100GbE, or 4 × 10GbE per port
Airflow	Front-to-back (ports-to-FRUs); AFO2
Power Supplies	Dual redundant 1+1 hot-pluggable AC power supplies
AC PSU Model	JPSU-650W-AC-AFO
Fan Modules	Redundant N+1 hot-pluggable fan modules
Fan Model	QFX5110-FANAFO
Airflow Volume	155 CFM
Management Ports	2: 2 × SFP fiber or 1 × RJ-45 and 1 × copper SFP

Feature	Value
Console Port	1 RS-232 console port
USB Port	1 USB 2.0 port
CPU	1.8 GHz quad-core Intel CPU
Memory	16 GB
Storage	64 GB SSD
Buffer	16 MB
MAC Addresses	288,000
IPv4 Routes	128,000 unicast / 104,000 multicast
IPv6 Routes	84,000 unicast / 52,000 multicast
VLANs	4,093
ARP Entries	48,000
Latency	550 ns
Power Consumption	Max 300W; typical 195W; idle 150W
Dimensions (H × W × D)	1.72 × 17.36 × 20.48 in (4.37 × 44.09 × 52.02 cm), excluding fan and power-supply handles
Weight	23 lb (10.43 kg), with two power supplies
Operating System	Junos OS

Product Comparison

Feature	QFX5110-48S-AFO2	QFX5110-48S-AFO	QFX5110-32Q-AFO
Primary port profile	48 × 10GbE SFP+	48 × 10GbE SFP+	32 × 40GbE QSFP+
QSFP/ QSFP28 uplinks	4 × QSFP28	4 × QSFP28	32 × QSFP+
100GbE ports	4	4	4 × QSFP28
10GbE interfaces with breakout	64	64	96
Switching capacity	1.76 Tbps	1.76 Tbps	2.56 Tbps
Forwarding rate	1.32 Bpps	1.32 Bpps	1.44 Bpps

Feature	QFX5110-48S-AFO2	QFX5110-48S-AFO	QFX5110-32Q-AFO
Form factor	1U	1U	1U
Power supplies	Redundant AC	Redundant AC	Redundant AC
Airflow	Front-to-back	Front-to-back	Front-to-back
Management ports	2	2	2
Power consumption	Max 300W; typical 195W; idle 150W	Max 300W; typical 195W; idle 150W	Max 340W; typical 290W; idle 250W
Dimensions (H × W × D)	1.72 × 17.36 × 20.48 in	1.72 × 17.36 × 20.48 in	1.72 × 17.36 × 20.48 in
Weight	23 lb (10.43 kg)	23 lb (10.43 kg)	24.6 lb (11.16 kg)
Best fit	10GbE access or leaf with 40/100GbE uplinks	10GbE access or leaf with 40/100GbE uplinks	High-density 40/100GbE aggregation or leaf

Accessories

Category	Accessories
Included Accessories	Not specified in consulted official documentation
Optional Accessories	- JPSU-650W-AC-AFO AC power supply module
	- QFX5110-FANAFO fan module
	- Supported SFP+/QSFP+/QSFP28 optics and breakout cables selected through Juniper HCT

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