

AS7312-54XS Switch

25GbE Data Center Switch

Bare-Metal Hardware



Product Overview

The Edgecore AS7312-54XS switch is a Top-of-Rack (TOR) or spine switch for high-performance data centers. In a compact 1RU form factor, the switch provides line-rate L2 and L3 switching across the 48 x2 5GbE SFP28 with 6x100GbE QSFP28, supporting up to 48 x 10/25 GbE, 6 x 40/100 GbE connections. The AS7312-54XS can be deployed as a TOR switch supporting 10/25 GbE to servers with 40/100 GbE uplinks, or as a spine switch supporting 40/100 GbE spine interconnects. This open network switch is loaded with the Open Network Install Environment (ONIE) which supports the installation of compatible Network Operating System software, including the open source options Open Network Linux and OpenSwitch, plus commercial NOS offerings.

Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- Deploy as Top-of-Rack switch supporting 10 or 25 GbE to servers, with 40 or 100 GbE uplinks.
- Deploy as spine switch supporting 10, 25, 40, or 100 GbE ToR and spine interconnects.
- 48 x 25G SFP28 plus 6 x 100G QSFP28 ports, each SFP28 supporting 1 x 10 or 25 GbE and each QSFP28 supporting 1 x 100G or 1 x 40G.
- Layer 2 or Layer 3 forwarding of 3.6 Tbps full duplex.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant AC or -48V DC or 12V DC PSUs.
- 5+1 redundant, hot-swappable fan modules.
- Bare-Metal hardware switch pre-loaded with diagnostics software and with Open Network Install Environment (ONIE) for automated loading of compatible open source and commercial NOS offerings.
 Compatible with Open Network Linux (ONL), the open-source, OCP reference NOS.
 Compatible with Cumulus® Linux® r3.6 and later version.
 Compatible with PicOS™ from Pica8 Inc.
 Compatible with SnapRoute CN-NOS, Cloud Native - NOS software.
 Compatible with Netvisor ONE Network operating system from Pluribus Networks

Data Center Switch



Features

Ports

Switch Ports:

48 x 25G SFP28 plus 6 x 100G QSFP28 ports:

Each SFP28 supports 1 x 10 G or 25 GbE

Each QSFP28 supports 1x40/100 GbE or 4 x 25 GbE or 4 x 10 GbE per port using splitter cables

Management ports on port side:

1 x RJ-45 serial console

1 x RJ-45 100/1000BASE-T management

1 x USB Type A storage

Key Components

Switch Silicon: Broadcom BCM56967 Tomahawk+

No PHYs, No Retimers

CPU Modules:

Intel Atom® C2538 quad-core 2.4 GHz x86 processor

DDR3: 8 GB x 2 SO-DIMM with ECC

SPI NOR Flash: 8 MB x 2

mSATA: 32 GB MLC

Performance

Switching Capacity: 3.6 Tbps full duplex

Forwarding Rate: 2.6 Bpps

Jumbo frames support up to 9216 Bytes

Packet Buffer Size: 22 MB integrated packet buffer

Subject to NOS:

MAC Addresses: 8K min./136K max.

VLAN IDs: 4 K

IPv4/32: 16 K L3 LPM entries with TCAM-only mode

IPv6/64: 8 K L3 LPM entries with TCAM-only mode

IPv6/128: 4 K L3 LPM entries with TCAM-only mode

Physical and Environmental

Dimensions (WxDxH): 43.84 x 47.3 x 4.35 cm (17.26 x 18.62 x 1.73 in)

Weight: 9.43 kg (20.78 lb), with two installed PSUs

Fans: 5+1 redundant, hot-swappable

Operating Temperature: 0°C to 45°C (32°F to 113°F)

Storage Temperature: -40°C to 70°C (-40°F to 158°F)

Operating Humidity: 5% to 95% non-condensing

Software

Diagnostics

Compatible with the following NOS options:

Open Network Linux, the open-source, OCP reference NOS

Compatible with Cumulus® Linux® r3.6 and later version

Compatible with PicOS™ from Pica8 Inc

Compatible with SnapRoute CN-NOS, Cloud Native - NOS software.

Compatible withvNetvisor ONE Network operating system from Pluribus Networks

LEDs

10G SFP+ Port LEDs: Link Speed, Link Status, Activity

25G SFP28 Port LEDs: Link Status, Activity for 25G status

100G QSFP28 Port LEDs: Link Status, Activity for 100G status

100G QSFP28 Breakout LEDs: show Link, Status, Activity with 4 x 25G breakout

Ethernet Management Port LED: Link Status, Activity

System LEDs: Diagnostic, Locator, PSU and Fan Status

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC

Input Voltage: 90 to 240 VAC at 50-60 Hz. -36 to -72 VDC

PSU Efficiency: Up to 93% for AC PSUs

Power input option: 12 VDC

The total estimated power budget is around 511 W

Regulatory

EMI

CE Mark

EN55032 Class A

EN55024

EN61000-3-2

EN61000-3-3

FCC Part 15 Subpart B Class A

VCCI Class A

CCC

Safety

CB

UL/CUL

CCC

BSMI

Environmental:

NEBS GR63-CORE (Pre-test)

RoHS 2.0 Compliant

Country of Origin: Taiwan (TAA Compliant)

WEEE Standards: The switches complied with the following

WEEE standards: Waste Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)

Ordering Information

Base Model: AS7312-54XS 48-Port 25G SFP28 with 6 x 100G QSFP uplinks; ONIE software installer

| Model Number | CPU Module | PSU | Airflow | Region (power cord) |
|---------------------|-----------------------------|--|-----------------------|---------------------|
| 7312-54XS-O-AC-F-US | Intel Atom® C2538 processor | Dual AC PSUs | Port-to-Power airflow | N. America |
| 7312-54XS-O-AC-B-US | Intel Atom® C2538 processor | Dual AC PSUs | Power-to-Port airflow | N. America |
| 7312-54XS-O-AC-F-EU | Intel Atom® C2538 processor | Dual AC PSUs | Port-to-Power airflow | Europe |
| 7312-54XS-O-AC-B-EU | Intel Atom® C2538 processor | Dual AC PSUs | Power-to-Port airflow | Europe |
| 7312-54XS-O-AC-F-UK | Intel Atom® C2538 processor | Dual AC PSUs | Port-to-Power airflow | UK |
| 7312-54XS-O-AC-B-UK | Intel Atom® C2538 processor | Dual AC PSUs | Power-to-Port airflow | UK |
| 7312-54XS-O-AC-F-JP | Intel Atom® C2538 processor | Dual AC PSUs | Port-to-Power airflow | Japan |
| 7312-54XS-O-AC-B-JP | Intel Atom® C2538 processor | Dual AC PSUs | Power-to-Port airflow | Japan |
| 7312-54XS-O-48V-F | Intel Atom® C2538 processor | Dual 48 VDC PSUs port-to-power airflow | | |
| 7312-54XS-O-48V-B | Intel Atom® C2538 processor | Dual 48 VDC PSUs power-to-port airflow | | |
| 7312-54XS-O-12V-F | Intel Atom® C2538 processor | One 12 VDC power input port-to-power airflow | | |
| 7312-54XS-O-12V-B | Intel Atom® C2538 processor | One 12 VDC power input power-to-port airflow | | |

Warranty

Please check www.edge-core.com for the warranty terms in your country.

For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation

Edgecore Networks Corporation is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edgecore Networks Corporation delivers the software and systems that transform the way the world connects. Edgecore Networks Corporation serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore Data Center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.

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