

# AS7312-54X Switch

## 25GbE Data Center Switch

### Bare-Metal Hardware



#### Product Overview

The Edgecore AS7312-54X 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 AS7312-54X 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 PSUs.
- 5+1 redundant, hot-swappable fan modules.
- Energy Efficiency: 310 W typical power consumption without pluggable optics.
- 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 PicOS™ from Pica8 Inc.

## 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 1.8 Tbps  
No PHYs, No Retimers
- CPU Modules:  
Intel Rangeley 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: 16 MB integrated packet buffer
- Subject to NOS:
- MAC Addresses: 16 K min./272 K 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): 43.8 x 51.5 x 4.35 cm (17.3 x 20.3 x 1.7 in)
- Weight: 10 kg (23 lb)
- 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  
PicOS™ from Pica8 Inc

### 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
- The total estimated power budget is around 511 W

### Regulatory

- EMI  
CE Mark  
EN55022 Class A  
EN55024  
EN61000-3-2  
EN61000-3-3  
FCC Part 15 Subpart B Class A  
VCCI Class A
- Safety  
CB  
UL/CUL
- Environmental:  
Temperature: IEC 68-2-14  
Vibration: IEC 68-2-36, IEC 68-2-6  
Shock: IEC 68-2-29  
Acoustic Level: < 62 dB@ 27°C
- RoHS-6 Compliant
- WEEE Standards: The switches complied with the following WEEE standards: Waste Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)

### Warranty

Please check [www.edge-core.com](http://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](http://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](http://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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