

AS5812-54X 10GbE Data Center Switch Bare-Metal Hardware



Product Overview

The Edgecore AS5812-54X switch meets the high-performance, availability, and network-scaling requirements of enterprise and cloud data centers. The AS5812-54X provides full line-rate switching at Layer 2 or Layer 3 across 48 x 10GbE ports and 6 x 40GbE uplinks. The switch can be deployed either as a Top-of-Rack switch, or as part of a 10GbE or 40GbE distributed spine, forming a non-blocking folded-Clos data center fabric. The switch is rack mountable in either a standard 19 inch rack, or with the Open Rack Switch Adapter in the 21 inch Open Rack.

The AS5812-54X hardware provides the high availability features required for data center operation, including; redundant, hot-swappable AC or -48 VDC PSUs or 12 VDC power input; fan with 4+1 redundant fan modules; and port-to-power or power-to-port airflow options. The AS5812-54X is an ideal Top-of-Rack switch for virtualized data centers, with its support of VXLAN and NVGRE tunneling functions in hardware.

Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- 48 x SFP+ switch ports, supporting 10GbE (DAC, 10GBASE-SR/LR) or 1GbE (1000BASE-T/SX/LX).
- 6 x 40 QSFP switch ports, each supporting 40GbE (DAC, 40GBASE-SR4/LR4) or 4 x 10GbE (DAC or fiber breakout cable).
- Port Grouping to group 4 x 10G ports into one 40G port at the physical layer for maximum bandwidth utilization, and for 300 m optical reach over MMF (Subject to NOS options).
- VXLAN and NVGRE tunneling support in hardware for network virtualization.
- Rack mountable in standard 19" racks. Mountable in 21" Open Rack with the Open Rack Switch Adapter.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs, fan modules on rear.
- Hot-swappable, load sharing, redundant AC or -48 VDC PSUs. 12 VDC power input option.
- Hot swappable 4+1 redundant fan modules.
- Management: Ethernet and console RJ-45 ports; USB storage port.
- Hardware switch pre-loaded 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 Switch Light OS from Big Switch Networks and Big Cloud Fabric™ SDN applications.
- Compatible with Cumulus® Linux® r3.0 and later version from Cumulus Networks®.
- Compatible with IP Infusion OcNOS.
- Compatible with PicOS™ version 2.8.0 from Pica8 Inc.
- Compatible with SnapRoute FlexSwitch software.

Data Center Switch



Features

Ports

- Switch Ports:
 - 48 x SFP+ each supporting 10GbE or 1GbE
 - 6 x QSFP each supporting 40GbE or 4 x 10GbE
- Management Ports on Front Panel:
 - 1 x RJ-45 serial console
 - 1 x RJ-45 100/1000BASE-T management
 - 1 x USB Type A storage port

Key Components

- Switch Silicon: Broadcom BCM56864 Trident II+
- CPU Modules:
 - Intel Atom C2538 quad-core 2.4GHz x86 processor
 - 8 GB SO-DIMM DDR3 RAM with ECC
 - 16 MB SPI
 - 8 GB NAND flash

Performance

- Switching Capacity: 1.44 Tbps full duplex
- Forwarding Rate: 1 Bpps
- Jumbo frames support up to 9216 Bytes
- Packet Buffer Size: 16 MB integrated packet buffer
- Subject to NOS:
 - MAC Address: 32 K min./288 K max.
 - VLAN IDs: 4 K
 - Support 4 K ECMP group
 - IPv4: 16 K min./112 K max. host entries; 16 K LPM entries with TCAM-only mode
 - IPv6: 8 K min./56 K max. host entries; IPv6/64=8K TCAM-only mode

Supported Optics and Cables

- SFP+ Ports:
 - 10GBASE-CR DAC: up to 5 m passive; up to 10 m active
 - 10GBASE-SRL/SR: up to 100/300 m over OM3 MMF
 - 10GBASE-LR: Up to 10km over SMF
 - 10GBASE-1000BASE-SX, 1000BASE-LX, 100/1000BASE-T
- QSFP Ports:
 - 40GBASE-CR4 DAC; 0.5 m to 7 m; Passive and Active
 - 40GBASE-CR4 DAC to 4 x SFP+
 - 40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4 MMF
 - 40GBASE-LR4: Up to 10 km over SMF

Physical and Environmental

- Dimensions (WxDxH): 44.3 x 47.3 x 4.34 cm (17.4 x 18.6 x 1.71 in)
- Weight: 8.95 kg (19.73 lb), with two installed PSU modules
- Fans: hot-swappable 4+1 redundant fans
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Storage Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Humidity: 5% to 95% non-condensing

LEDs

- 10G SFP+ Port LEDs: Link Speed, Link Status, Activity
- 40G QSFP Port LEDs: Link Status, Activity for 40G status
- 40G QSFP Breakout LEDs: set of 24 LEDs, 4 per QSFP port, show Link, Status, Activity 10G links with 4 x 10G breakout
- Ethernet Management Port LED: Link Status, Activity
- Console Port LED: Link Status
- System LEDs: PSU1, PSU2, Diagnostic, Fans, Locator

Software

- Switch is loaded with Open Network Install Environment (ONIE) software installer
- Compatible with the following NOS options:
 - Open Network Linux, the open-source, OCP reference NOS
 - Cumulus® Linux® r3.0 and later version from Cumulus Networks®
 - OcNOS r1.2 and later version from IP Infusion
 - Switch Light OS from Big Switch Networks, and Big Cloud Fabric™ applications
 - PicOST™ version 2.8.0 from Pica8 Inc
 - FlexSwitch software from SnapRoute

Power

- PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC
- Input Voltage: 90 to 264 VAC at 50-60 Hz. -48 to -72 VDC.
- Input Current: Max 6 A@100/120 VAC, 3 A@ 200/240 VAC, 10 A@ -72 VDC
- PSU Efficiency: Up to 93% for AC PSUs
- Power input option: 12 VDC
- Max Power: 282 W, with pluggable optics

Regulatory

- EMI
 - CE Mark (EN55022 Class A)
 - FCC Part 15 Class A
- VCCI
- Safety
 - CB, EN 60950
 - UL/CUL
- Environmental:
 - Temperature: IEC 68-2-14
 - Drop: ISTA 2A
 - Vibration: IEC 68-2-36, IEC 68-2-6
 - Shock: IEC 68-2-29
 - Acoustic Noise Level: Target at under 60 dB in 40°C
- RoHS-6 Compliant
- Country of Origin: Taiwan (TAA Compliant)

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 5638888 (HQ) or +1 (949)-336-6801 or authorized resellers.

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Ordering Information

Base Model: AS5812-54X 48-Port 10G SFP+ with 6x40G QSFP uplinks; ONIE software installer

Model Number	CPU Module	PSU	Airflow	Region (power cord)
5812-54X-O-AC-F-US	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	N. America
5812-54X-O-AC-B-US	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	N. America
5812-54X-O-AC-F-EU	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Europe
5812-54X-O-AC-B-EU	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Europe
5812-54X-O-AC-F-UK	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	UK
5812-54X-O-AC-B-UK	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	UK
5812-54X-O-AC-F-JP	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Japan
5812-54X-O-AC-B-JP	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Japan
5812-54X-O-48V-F	Intel Atom C2538 processor	dual -48V DC PSUs	port-to-power airflow	
5812-54X-O-48V-B	Intel Atom C2538 processor	dual -48V DC PSUs	power-to-port airflow	
5812-54X-O-12V-F	Intel Atom C2538 processor	one 12 VDC power input	port-to-power airflow	
5812-54X-O-12V-B	Intel Atom C2538 processor	one 12 VDC power input	power-to-port airflow	
PSU-AC-400-F		400 W AC Power Supply FRU	port-to-power airflow	no power cord
PSU-AC-400-B		400 W AC Power Supply FRU	power-to-port airflow	no power cord
PSU-48V-400-F		400 W -48 V DC Power Supply FRU	port-to-power airflow	no power cord
PSU-48V-400-B		400 W -48 V DC Power Supply FRU	power-to-port airflow	no power cord
PSU-12V-400-1		12 V DC power input unit FRU		
FAN-1U-1x1D-F		Fan Tray FRU	port-to-power airflow	
FAN-1U-1x1C-B		Fan Tray FRU	power-to-port airflow	

Model Number	Description
58XX-54X-SVC-RTF	AS5810-54X Annual Hardware Service, post warranty, Return-to-Factory
RKIT-85-6712	Rack mount kit
ORSA-1U	Open Rack Switch Adapter, for mounting standard 19 inch form factor 1U switches into 21 inch Open Rack
CBL-PWR-US	AC Power Cable – US (125 V/13 A, 1830 mm) – only required with spare power supplies
CBL-PWR-EU	AC Power Cable – Europe (250 V/10 A, 1830 mm) – only required with spare power supplies
CBL-PWR-UK	AC Power Cable – UK (250 V/10 A, 1830 mm) – only required with spare power supplies
CBL-PWR-JP	AC Power Cable – Japan – only required with spare power supplies