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 commerical 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.

■ Compatible with Ixia Vision Edge OS™ 4.7.5 and later version.

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
    PicOS™ version 2.8.0 from Pica8 Inc
    FlexSwitch software from SnapRoute
    Ixia Vision Edge OS™ 4.7.5 and later version

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-L-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