

AS5812-54T

10GbE Data Center Switch

Bare-Metal Hardware



Product Overview

The Edgecore AS5812-54T switch meets the high-performance, availability, and network-scaling requirements of enterprise and cloud data centers. The AS5812-54T 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 AS5812-54T hardware provides the high-availability features required for data center operation, including; redundant, hot-swappable AC power input, 4+1 redundant fan modules, and port-to-power or power-to-port airflow options. The AS5812-54T is an ideal Top-of-Rack switch for virtualized data centers, with its support of VXLAN and NVGRE tunneling functions in hardware, leveraging existing Cat 5e/Cat 6/Cat 6A/Cat 7 cabling infrastructure that saves further investment.

Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- 48 x RJ-45 Copper, supporting 10GBASE-T, 1000BASE-T and 100BASE-TX Ethernet on Cat 6, Cat 6 A and Cat 7 twisted-pair cable.
- 48 x RJ-45 Copper, supporting 1000BASE-T and 100BASE-TX on Cat 5e UTP, Cat 6, Cat 6A and Cat 7 twisted-pair cable.
- 6 x 40 QSFP switch ports, each supporting 40GbE (DAC, 40GBASE-SR4/LR4) or 4 x 10GbE (DAC or fiber breakout cable).
- Hot-swappable, load sharing, redundant AC PSUs power input option.
- Full line-rate Layer 2 or Layer 3 forwarding of 720 Gbps.
- 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 tray on rear.
- Hot swappable 4+1 redundant fan modules.
- Management: Ethernet and console RJ-45 ports.
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible NOS software. Compatible with Open Network Linux, the open-source, OCP-approved reference NOS.
- Compatible with PicOS™ version 2.8.0 from Pica8 Inc.
- Compatible with Cumulus® Linux® feature release version.
- Compatible with Big Cloud Fabric™ version 3.7.0 SDN applications from Big Switch Networks.
- Compatible with SnapRoute FlexSwitch software.
- Compatible with Pluribus Open Netvisor® Linux V2.5 or later.



Features

Ports

- Switch Ports:
 - 48 x RJ-45 Copper each supporting 10GbE, 1GbE or 100 Mbps
 - 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

Key Components

- Switch Silicon: Broadcom BCM56864 Trident2+ 720 Gbps
- CPU Modules:
 - Intel Atom C2538 quad-core 2.4 GHz x86 processor
 - 8 GB SO-DIMM DDR3 RAM with ECC
 - 16 MB SPI NOR Flash
 - 8 GB NAND flash
 - Reserve mSATA connector

Performance

- Wire Speed Forwarding: L2 and L3
- Switching Capacity: 720 Gbps
- Forwarding Rate: 1 Bpps
- Jumbo frames support up to 9216 Bytes
- Packet Buffer Size: 16 MB integrated packet buffer
- Latency (RFC2544): 720 ns (L2/L3, cut-through mode, full line rate)
- 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

- RJ45 Copper ports:
 - 10GBASE-T on Cat 6, Cat 6A and Cat 7 twisted-pair cable
 - 1000BASE-T and 100BASE-TX on Cat 5e UTP, Cat 6, Cat 6A and Cat 7 twisted-pair cable.
- QSFP Ports:
 - 40GBASE-CR4 DAC; 0.5 m to 7 m; passive and active
 - 40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC; up to 5 m passive; up to 10m active
 - 40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4 MMF
 - 40GBASE-SR4 to 6 x 10GBASE-SR: 100 m over OM3, 150 m OM4
 - 40GBASE-LR4: Up to 10 km over SMF

Physical and Environmental

- Dimensions (WxDxH): 47.3 x 44.25 x 4.39 cm (18.6 x 17.4 x 1.71 in)
- Weight: 9.5 kg (20.94 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 4x10G breakout
- Ethernet Management Port LED: Link Status, Activity
- Console Port LED: Link Status
- System LEDs: PSU1, PSU2, Diagnostic, Fans, Locator

Software

- Open Network Install Environment (ONIE) software installer
- Compatible with the following NOS software:
 - Open Network Linux, the open-source, OCP reference NOS
 - Compatible with PicOS™ version 2.8.0 from Pica8 Inc
 - Cumulus® Linux® rCL 3.0 and later version from Cumulus Networks™
 - Big Cloud Fabric™ version 3.7.0 SDN applications from Big Switch Networks
 - FlexSwitch software from SnapRoute
 - Pluribus Open Netvisor® Linux v2.5 or later

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
- Maximum Power Consumption: 348 W

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
 - Vibration: IEC 68-2-6
 - Shock: IEC 68-2-29
 - Acoustic Noise Level: Under 63dB in normal temperature (23±5°) (AC Version)
- RoHS-6 Compliant

Warranty

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

Ordering Information

Model Number	Marketing Description	PSU	Airflow
5812-54T-O-AC-B	48-Port 10GbE RJ45 port ONIE SWITCH + 6x40G QSFP, Broadcom Trident2+, quad-core ATOM x86, 3-years warranty	Dual AC 400W	Port-to-power (P2C)
UPGR-CUM-10GBT	Cumulus Linux software license for Edgecore AS5812 10GBaseT Ethernet Switch. Requires purchase of SUP-5812-XXX		
PSU-AC-400-B	AS5812-54T switch 400W AC power supply, FRU		Port-to-power (P2C)
FAN-1x1D-B	AS5812-54T fan module Type D, FRU		Port-to-power (P2C)
RKIT-L-6712	Rack mount kit for AS5812-54T		

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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