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.

■ 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 Netvisor® OS (ONVL) version 2.5 and later from Pluribus Networks.

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+
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

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

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 Networks – Netvisor® OS (ONVL)

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.

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
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Ordering Information

Base Model: AS5812-54T 48-Port 10GBASE-T with 6x40G QSFP uplinks; ONIE software installer

Model Number	CPU Module	PSU	Airflow	Region (power cord)
5812-54T-O-AC-F-US	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	N. America
5812-54T-O-AC-B-US	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	N. America
5812-54T-O-AC-F-EU	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Europe
5812-54T-O-AC-B-EU	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Europe
5812-54T-O-AC-F-UK	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	UK
5812-54T-O-AC-B-UK	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	UK
5812-54T-O-AC-F-JP	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Japan
5812-54T-O-AC-B-JP	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Japan

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