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 10BASE-T 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; USB storage port.
- 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.
- AS5812-54T SKU compatible with Cumulus® Linux® feature release version.
AS5812-54T Product Specifications

**Features**

### Ports

- **Switch Ports:**
  - 48 x 40GbE, 48 x 10GbE
  - 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 port

### Key Components

- **Switch Silicon:** Broadcom BCM56864 Trident2+ 720Gbps
- **CPU Modules:**
  - AS5812-54T: 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

- **Wire Speed Forwarding:** L2 and L3
- **Switching Capacity:** 720 Gbps
- **Forwarding Rate:** 1 Bpps
- **MAC Addresses:** 320 K
- **VLAN IDs:** 4 K
- **Jumbo frames:** (9216 Bytes)
- **L3 Routes:** IPv4 64K, IPv6 20K
- **Packet Buffer Size:** 12MB shared buffer pool
- **Latency (RFC2544):** 720 ns (L2/L3, cut thru, full line rate)

### 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-SR4 DAC to 4 x 40GbE: 100m over OM2, 150m over OM3 MMF, 150m over OM4 MMF
  - 40GBASE-SR4 to 6 x 10GBASE-SR: 100 m over OM3, 150 m over OM4
  - 40GBASE-LR4: Up to 10km 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:** 8.5 kg (18.74 lbs), with two PSU modules
- **Fans:** hot-swappable 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, Diagnostics, Fans, Locator

### Software

- **Open Network Install Environment (ONIE) software installer**

**Power**

- **PSUs:** 2 redundant, load-sharing, hot-swappable AC
- **Input Voltage:** 90 to 264 VAC at 50-60 Hz, -48 to -72 VDC
- **Input Current:** Max 6A @100/120VAC, 3A @ 200/240VAC, 10A @ -72 VDC
- **PSU Efficiency:** Up to 93% for AC PSUs
- **Maximum Power Consumption:** 348 W

### Regulatory (All in Process)

- **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
  - RoHS-6 Compliant
  - Country of Origin: Taiwan (TAA Compliant)

### Warranty

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**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 (877) 828-CORE (877-828-2673) or authorized resellers.

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### AS5812-54T Ordering Information

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

<table>
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<tr>
<th>Model Number</th>
<th>CPU Module</th>
<th>PSU</th>
<th>Airflow</th>
<th>Region (power cord)</th>
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