

Innovative Datacenter Switch

48 x 1GE Base-T & 8 x 10GE SFP+ Ports



High-density, datacenter optimized server switching.

The rapid growth in demand for bandwidth shows no signs of stopping, requiring datacenters to constantly build upon the existing density of their networking environments. The S6800-56ST switch is a datacenter-class switch product with 48 x 1GE Base-T and 8 x 10GE SFP+ ports designed to meet customers' large capacity data switching needs with superior performance and unsurpassed reliability. By providing a high number of ports in a single compact switch, the S6800-56ST makes automation and orchestration easier than ever, simplifying datacenter network infrastructure through its innovative architecture and extensive datacenter-ready features. With its low-latency, high-density ports, the S6800-56ST makes scale-out easy, giving datacenters unmatched capacity to meet whatever demands the future may bring. Flexible, reliable, powerful – maximize your return on investment and ensure compliance with environmental policies with the next-generation S6800-56ST.

Key applications

- High-density 1GE ToR server aggregation for high-performance datacenter environments.
- Hot/cold aisle airflow support, front to rear and rear to front..
- Enables cost-effective application of 10GE uplinks through small-scale implementation in Spine-Leaf networks.
- Serves as TOR switch to link with a server or as IPMI switch.
- Open network install environment (ONIE) support for network switches.
- VXLAN/NVGRE capable hardware supporting virtual machine mobility.
- Extensive transition technologies for IPv4, IPv6, and dual stack management functions.
- Superior management and security through console and out-of-band interface options.
- High-speed Layer 2 deployment support to connect nonvirtualized infrastructure with hyper visor-based overlay networks.

Key features

- 48 x 1GE Base-T & 8 x 10GE SFP+ ports for downlinking and uplinking capability.
- Modular dual power supply and fan assembly with overcurrent, overvoltage, and overheating protection.
- Next-generation Spine-Leaf network architecture, enhancing capacity and optimizing scaling.
- ARM Cortex A9@1GHz CPU with 256 Gbps switching capacity.
- Specifically designed for utilization in high-performance datacenter environments.
- Hot and cold backup switching without system reboot or reconfiguration ensuring uninterrupted data processing and operation.
- Non-blocking switching architecture.

Specifications

Physical

- Compact full featured modular 1GE/10GE datacenter switch
- 1 RJ45 console/management port with RS232 signaling
- 1 10/100/1000 Base-T Ethernet for Out-of-Band management
- 1 USB 2.0 Type-A port

Processor	ARM Cortex A9@1GHz
Memory	DDR3 2GB w/ ECC SODIMM
Storage	NAND Flash: 2GB
ASIC	Broadcom BCM56344 (Helix 4)
Built-in Interfaces	Total 1GE Base-T: 48 Total 10GE: 8
LED	Power, system, link & activity, fan & PSU status
Chassis	1 RU, 440w x 44h x 406d mm (17.32" x 1.73" x 15.98") Weight (including 2 x PSUs & 2 x fans): 7.92 kg (17.46 lb)
Redundancy	Two hot swappable power supplies with integrated fans and trays

Environmental

- Fresh air compliant to 45°C (113°F)
- Rack mounting kit

Power supply AC input: 100V-127V, 5.8A, 50/60Hz
DC input: 200V-240V, 2.9A (240Vdc China only)
Typical/Max power draw: 88/116 Watts

Max. operating Specs. Operating temperature: 0°C to 45°C (32°F to 113°F)
Operating humidity: 10% to 90% (RH), noncondensing

Max. non-operating Specs. Storage temperature: -40°C to 70°C (-40°F to 158°F)
Storage humidity: 5% to 95% (RH), non-condensing

Performance

Switching Capacity 256Gbps

Packet throughput 190Mpps

Regulatory compliance

EMC EN55032 Class A
EN61000-3-2/EN61000-3-3
EN55024
FCC P15B Class A
BSMI (CNS 13438) Class A
CCC (GB9254) Class A
RoHS: RoHS 6
UL

Safety IEC/EN 60950-1/A2
BSMI (CNS 14336-1)
CCC (GB4943)

S6800-56ST Views



S6800-56ST front view



S6800-56ST rear view

Supported Accessories

Transceiver	10GE, SR SFP+ 10GE, LR SFP+
Cable types	10GE, SFP+ to SFP+, Active Optical Cable 10GE, SFP+ to SFP+, Direct Attached Cable
Power supply types	DPS-460KBL-FTB, 460W AC PSU, airflow from panel to rear side (front to rear) DPS-460KBK-BTF, 460W AC PSU, airflow from rear to panel side (rear to front)
Fan types	Fan normal airflow from panel to rear side Fan reverse airflow from rear side to panel Fan spare supports normal and reverse airflow operations

Software Specification

Aggregation Features

- 802.3ad with LACP
- Cisco EtherChannel
- Max number of groups: 64
- Max number of members per group: 32
- Unicast/Multicast traffic balance

VLAN

- IEEE 802.1Q
- Port-Based
- Private VLAN

Spanning Tree Protocol

- IEEE 802.1D
- IEEE 802.1w
- IEEE 802.1s
- Edge port
- Auto Edge
- BPDU Filter/Guard
- Loop Guard
- TCN Guard
- Root Guard

IGMP Snooping

- IGMP Snooping v1/v2/v3
- IGMP v1/v2 querier support
- IGMP Immediate Leave
- MLD Snooping

QoS Features

- 8 priority queues
- Scheduling
- WRR
- Strict priority
- Hybrid (WRR+Strict Priority)
- Port rate limit
- DiffServ
- COS 802.1p based COS
IP Precedence
IP DSCP base COS

Security

- HTTPS & SSL
- SSH 1.5/2.0
- DoS Control, MAC filter
- IP Source Guard
- Dynamic ARP inspection
- Control Plane Policy (CoPP)
- Static/Dynamic Port Security (MAC-based)
- DHCP snooping
- 802.1x
- ACL
- RADIUS
- TACACS+

Storm Control

- Broadcast
- Unknown Multicast
- DLF (unknown unicast)

IP Multicast

- Multicast groups
- IGMP v1/v2/v3
- MLD v1/v2
- DVMRP
- PIM-DM v4/v6
- PIM-SM v4/v6
- IGMP proxy

IPv6

- v4/v6 dual stack
- ICMPv6
- ICMPv6 redirect
- IPv6 Path MTU Discovery
- IPv6 Neighbor Discovery
- Stateless Auto-configuration
- DHCPv6
- SNMP
- SSH
- Telnet
- DNS Resolver
- RADIUS
- TACACS+
- Syslog
- SNMP
- TFTP
- Remote IPv6 Ping

Layer 3 Features

- Number of IP interface: 128
- Multi-netting / CIDR / 31 subnet support
- IP ARP
- Proxy ARP
- Local Proxy ARP
- IRDP
- Static route
- 48-way ECMP
- OSPF v2/v3
- BGP v4/v6
- VRRP
- Loopback
- Source IP Configuration
- Policy-based Routing (PBR)
- IPv6 Tunneling
- IPv6 Loopback
- DHCPv6 relay
- DHCPv6 server

Management

- CLI
- CLI filtering
- TELNET/SSH
- TFTP/XMODEM/FTP/SCP/SFTP
- software & configuration download/upload
- SNMP v1/v2c/v3
- RMON 1,2,3,9 groups
- BOOTP client/relay
- Event log
- DNS client
- Utility: Remote ping, traceroute
- SNMPv4
- LLDP
- 802.1AB
- 802.MED
- CDP
- UDLD
- sFlow v5
- Cable test
- Email alerting
- DHCP
- Port mirroring

SDN

- OpEn API
- OpenFlow v1.0/v1.3.1⁽¹⁾

Datacenter Features

- FIP Snooping
- Congestion Notification (CN)
- PFC
- DCBX for PFC (CIN/CEE v1.06/IEEE)
- Puppet/Chef
- MLAG
- VXLAN/NVGRE
- Neutron plug-ins for OpenStack

(1) It is supported in the feature firmware upgrade.