H3C S6812/S6813 Series

Data Center Switches

Release Date: May 2022

New H3C Technologies Co., Limited

H3C S6812/S6813 Series Data Center Switches

Product overview

H3C S6812/S6813 high-density intelligent switch series is developed for data centers and cloud computing networks. It provides powerful hardware forwarding capacity and abundant data center features. The switch supports modular power modules and fan trays. By using different fan trays, the switch can provide field changeable airflows.

The switch is perfectly matched for high density 10GE, it can also operate as a TOR access switch on an overlay or integrated network.

The S6812/S6813 switch series has four models:

- S6812-24X6C: The switch provides 24 × 10G SFP Plus ports, 6 × 100G QSFP28 ports
- S6812-48X6C: The switch provides 48 × 10G SFP Plus ports, 6 × 100G QSFP28 ports
- S6813-24X6C: The switch provides 24 × 10G SFP Plus ports, 6 × 100G QSFP28 ports
- S6813-48X6C: The switch provides 48 × 10G SFP Plus ports, 6 × 100G QSFP28 ports

S6812-24X6C Front view

S6812-48X6C Front view

S6813-24X6C Front view

S6813-48X6C Front view

Features and Benefits

Flexible Port Combinations

- With the rapid growth of data center virtualization deployment, commercial deployment of 10 Gigabit servers and high-bandwidth applications, there are more and more demands for 100GE, 40GE, and 10 Gigabit networks. H3C S6813-48X6C and S6812-48X6C can support 48 10G ports and 6 100GE QSFP28 ports. S6813-24X6C and S6812-24X6C can support 24 10G ports and 6 100GE QSFP28 ports.

Rich data center features

The switch supports rich data center features, including:

- S6812/S6813 series switches support the VXLAN protocol, which can build a flexible, easy-to-expand, high-performance layer-2 network architecture and a cloud data center that supports dynamic migration of server virtual machines. The tenant data center operation network is connected with the H3C cloud management platform, and a new generation of data center with high reliability and high expansion capability can be built that is flexible and efficient, and can move on demand.
- H3C S6812/S6813 series switch supports DCB (Data Center Bridging), ISSU (In-service Software Upgrade), OAM (Operations, Administration and Maintenance) and Energy-Efficient Ethernet (EEE). It fully meets the high performance data center requirements, and is easy to manage with green energy consumption.
- H3C S6812/S6813 series switch support data center feature, such as Puppet and Chef, which can achieve data center automatic operation and management.

Flexible choice of airflow

- To cope with data center cooling aisle design, the H3C S6812/S6813 series switch comes with flexible airflow design, which features bi-cooling aisles in the front and back. Users may also choose the direction of airflow (from front to back or vice versa) by selecting a different fan tray.

Rich QoS features

- H3C S6812/S6813 series switch support Layer 2 to Layer 4 packet filtering, which can provide traffic classification based on source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN.

Multiple reliability protection

- The S6812/S6813 series switch provides multiple reliability protection at both switch and link levels. With over current, overvoltage, and overheat protection, all models have a redundant pluggable power module, which enables flexible configuration of AC or DC power modules based on actual needs. The entire switch supports fault detection and alarm for power supply and fan, allowing fan speed to change to suit different ambient temperatures.
- The switch supports diverse link redundancy technologies such as H3C proprietary RRPP, VRRPE, and Smart Link. These technologies ensure quick network convergence even when large amount of traffic of multiple services runs on the network.

Excellent manageability

The switch improves system management through the following ways:

- S6812/S6813 series switches support rich management ports, such as Console port, USB port and out-of-band management port.
- S6812/S6813 series switches support multiple access methods, including SNMPv1/v2c/v3, Telnet, SSH 2.0, SSL, and FTP.

Comprehensive security control policies

- H3C S6812/S6813 series switch supports AAA, RADIUS and user account based authentication, IP, MAC, VLAN, port-based user identification, dynamic and static binding; when working with the H3C iMC platform, it can conduct real time management, instant diagnosis and crackdown on illicit network behavior.
- H3C S6812/S6813 series switch supports enhanced ACL control logic, which enables an enormous amount of in-port and out-port ACL, and delegate VLAN based ACL. This simplifies user deployment process and avoids ACL resource wastage. S6812/S6813 series switch can also take advantage of Unicast Reverse Path Forwarding (Unicast RFP). When the device receives a packet, it will perform the reverse check to verify the source address from which the packets are supposedly originated, and will drop the packet if such path doesn't exist. This can effectively prevent the source address spoofing in the network

Hardware Specification

Item	S6812-24X6C	S6812-48X6C	S6813-24X6C	S6813-48X6C
Dimensions (H × W × D)	440×360×43.6	440×360×43.6	440×360×43.6	440×360×43.6
Weight	≤ 5.5 kg (12.13 lb)	≤ 6 kg (13.23 lb)	≤ 6 kg (13.23 lb)	≤ 6.5 kg (14.34 lb)
Serial console port	1	1	1	1
Out-of-band management port	1	1	1	1
Mini USB console port	1	1	1	1
USB port			1	
QSFP28 port	6	6	6	6
SFP+ port	24	48	24	48
AC-input voltage	90v AC to 264v AC			
Power module slot	2	2	2	2
Fan tray slot	3 Hot-swappable fans, fan speed adjustable and wind invertible			
Air flow direction	Front to rear or rear to front			
Operating temperature	0°C to 45°C (32°F to 113°F)			
Operating humidity (noncondensing)	5% to 95%			

Software Specification

Item		S6812-24X6C	S6812-48X6C	S6813-24X6C	S6813-48X6C
Line-rate switching	Switching capacity	1680G	2160G	1680G	2160G
	Forwarding capacity	600 Mpps	600 Mpps	705 Mpps	1050 Mpps
MAC address table		128K max	128K max	256K max	256K max
IPv4 routing table		64K max	64K max	128K max	128K max
Dynamic ARP table		64K max	64K max	128K max	128K max
Virtualization		IRF2 Distributed device management, distributed link aggregation, distributed resilient routing DRNI			
Link aggregation		10GE/40GE/100GE port aggregation Static aggregation, dynamic aggregation			
Data center		EVPN distributed gateway VXLAN Service chain ROCEv2 OpenFlow NETCONF, Python, Ansible			
Jumbo Frame		Supported			
MAC address table		Static MAC address Blackhole MAC address			
VLAN		Port-based VLAN (quantity: 4094) Default VLAN Super VLAN Voice VLAN			
Traffic monitoring		sFlow Telemetry			
DHCP		DHCP server/client DHCP snooping/DHCP relay			
ARP		RARP Gratuitous ARP Dynamic ARP inspection ARP source-suppression ARP anti-attack ARP detection			

Item	Specification
IP routing	Stating routing, RIPv1/v2, OSPFv1/v2/v3, BGP, IS-IS
	ECMP, VRRP, policy-based routing
	BGP4+ for IPv6, VRRP, IPv6 policy-based routing
	RIPng, OSPFv3, ISISv6
IPV6	IPv6 ND
	IPv6 PMTU
	IPv6 VxLAN over IPv4
	Path MTU Discovery
	ICMPv6, Telnetv6, SFTPv6, SNMPv6, BFDv6, VRRPv3
	IPv6 portal/IPv6 tunnel
Multicast	IGMP snooping v2/v3
	IGMPv1/v2/v3
	PIM-DM/SM
	MLD snooping
	Multicast policy
	Multicast VLAN
	Multicast VLAN
	Multicast over VXLAN
MPLS	MPLS
	MCE
	MPLS VPN, VPLS
	MPLS TE
MSTP	STP/RSTP/MSTP
	PVST+/RPVST+
	STP Root Guard
	BPDU Guard
QoS/ACL	Inbound and outbound traffic rate limit
	CAR
	SP, WRR, SP+WRR queuing
	Packet filtering at Layer 2 to Layer 4
	Traffic classification based on source MAC address, destination MAC address, VLAN, source IP(IPv4/IPv6) address, destination IP(IPv4/IPv6) address, port number, protocol type
	WRED
Mirroring	Traffic mirroring
	N:1 port mirroring
	Local port mirroring
	Remote port mirroring (ERSPAN)

Item	Specification
Security	Hierarchical user management and password protection
	AAA /RADIUS/HWTACACS
	IP address+MAC address+port number binding
	IP source guard
	HTTPs/SSL
Loading and upgrading	Loading/upgrading through the XMODEM protocol
	Loading/upgrading through FTP and TFTP
Management and maintenance	Telemetry
	Micro-burst detection
	Auto-config
	Configuration via CLI, Telnet, and Console port
	RMON (Remote Monitoring)
	SNMPv1/v2c/v3
	IMC
	Netconf, Python
	System logs
	Hierarchical alarms
	NTP
	Jumbo Frame
	Ping and tracert
	Debugging information output
	File uploading and downloading through the USB port
EMC	FCC Part 15 Subpart B CLASS A
	ICES-003 CLASS A
	VCCI CLASS A
	CISPR 32 CLASS A
	EN 55032 CLASS A
	AS/NZS CISPR32 CLASS A
	CISPR 24
	EN 55024
	EN 61000-3-2
	EN 61000-3-3
	ETSI EN 300 386
	GB/T 9254
	YD/T 993
Safety	UL 60950-1
	CAN/CSA C22.2 No 60950-1
	IEC 60950-1
	EN 60950-1
	AS/NZS 60950-1
	FDA 21 CFR Subchapter J
	GB 4943.1

Order information

PID	Description
LS-6812-24X6C	H3C S6812-24X6C L3 Ethernet Switch with 24 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
LS-6813-24X6C	H3C S6813-24X6C L3 Ethernet Switch with 24 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
LS-6812-48X6C	H3C S6812-48X6C L3 Ethernet Switch with 48 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
LS-6813-48X6C	H3C S6813-48X6C L3 Ethernet Switch with 48 SFP Plus Ports and 6 QSFP28 Ports,Without Power Supplies
Power	
PSR180-12A-B	180W Asset-Manageable AC Power Supply(Port to Power Airflow)
PSR180-12A-F	180W Asset-Manageable AC Power Supply(Power to Port Airflow)
Fan	
LSPM1FANSA-SN	H3C Fan Module with Power to Port Airflow
LSPM1FANSB-SN	H3C Fan Module with Port to Power Airflow
Transceiver	
SFP-GE-LH80-SM1550	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-GE-LX-SM1310-A	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)
SFP-GE-LH40-SM1310	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-LH100-SM1550	1000BASE-LH100 SFP Transceiver, Single Mode (1550nm, 100km, LC)
SFP-GE-LH40-SM1550	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)
SFP-GE-SX-MM850-A	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
SFP-GE-LX-SM1310-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC)
SFP-GE-LX-SM1490-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC)
SFP-GE-T	SFP GE Copper Interface Transceiver Module (100m,RJ45)
SFP-XG-LX-SM1310	SFP+ Module(1310nm,10km,LC)
SFP-XG-LH40-SM1550	SFP+ Module(1550nm,40km,LC)
SFP-XG-LH80-SM1550	SFP+ Module(1550nm,80km,LC)
SFP-XG-SX-MM850-E	SFP+ Module(850nm,300m,LC)
SFP-XG-LX-SM1310-E	SFP+ Module(1310nm,10km,LC)
SFP-XG-SX-MM850-A	SFP+ Module(850nm,300m,LC)
QSFP-100G-LR4-WDM1300	100G QSFP28 Optical Transceiver Module(1310nm,10km,LR4,WDM,LC)
QSFP-100G-LR4L-WDM1300	100G QSFP28 Optical Transceiver Module (1310nm,2km,LR4L,CWDM4,LC)
QSFP-100G-ER4L-WDM1300	100G QSFP28 Optical Transceiver Module (1310nm,40km,ER4L,WDM,LC)
QSFP-100G-PSM4-SM1310	100G QSFP28 Optical Transceiver Module (1310nm,500m,PSM4,MPO/APC)
QSFP-100G-SR4-MM850	100G QSFP28 Optical Transceiver Module (850nm,100m OM4,SR4,MPO)

PID	Description
Transceiver	
QSFP-40G-LR4-WDM1300	QSFP+ 40GBASE Optical Transceiver Module (1310nm,10km,LR4,LC)
QSFP-40G-ER4-WDM1300	QSFP+ 40GBASE Optical Transceiver Module (1310nm,40km,ER4,LC)
QSFP-40G-SR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,100m,SR4,Support 40G to 4*10G)
QSFP-40G-CSR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,300m,CSR4,Support 40G to 4*10G)
Cable	
SFP-XG-D-AOC-10M	SFP+ to SFP+ 10m Active Optical Cable
SFP-XG-D-AOC-20M	SFP+ to SFP+ 20m Active Optical Cable
SFP-XG-D-AOC-7M	SFP+ to SFP+ 7m Active Optical Cable
LSWM1STK	SFP+ Cable 0.65m
LSWM2STK	SFP+ Cable 1.2m
LSWM3STK	SFP+ Cable 3m
LSTM1STK	SFP+ Cable 5m
QSFP-100G-D-AOC-10M	100G QSFP28 to 100G QSFP28 10m Active Optical Cable
QSFP-100G-D-CAB-1M	100G QSFP28 to 100G QSFP28 1m Passive Cable
QSFP-100G-D-AOC-20M	100G QSFP28 to 100G QSFP28 20m Active Optical Cable
QSFP-100G-D-CAB-3M	100G QSFP28 to 100G QSFP28 3m Passive Cable
QSFP-100G-D-CAB-5M	100G QSFP28 to 100G QSFP28 5m Passive Cable
QSFP-100G-D-AOC-7M	100G QSFP28 to 100G QSFP28 7m Active Optical Cable
LSWM1QSTK0	40G QSFP+ Cable 1m
LSWM1QSTK1	40G QSFP+ Cable 3m
LSWM1QSTK2	40G QSFP+ Cable 5m
QSFP-40G-D-AOC-10M	40G QSFP+ to 40G QSFP+ 10m Active Optical Cable
QSFP-40G-D-AOC-20M	40G QSFP+ to 40G QSFP+ 20m Active Optical Cable
QSFP-40G-D-AOC-7M	40G QSFP+ to 40G QSFP+ 7m Active Optical Cable
LSWM1QSTK3	40G QSFP+ to 4x10G SFP+ Cable 1m
LSWM1QSTK4	40G QSFP+ to 4x10G SFP+ Cable 3m
LSWM1QSTK5	40G QSFP+ to 4x10G SFP+ Cable 5m
SFP-STACK-Kit	SFP Stacking Cable (150cm,including two 1000BASE-T SFP module and one stacking cable)

http://www.h3c.com