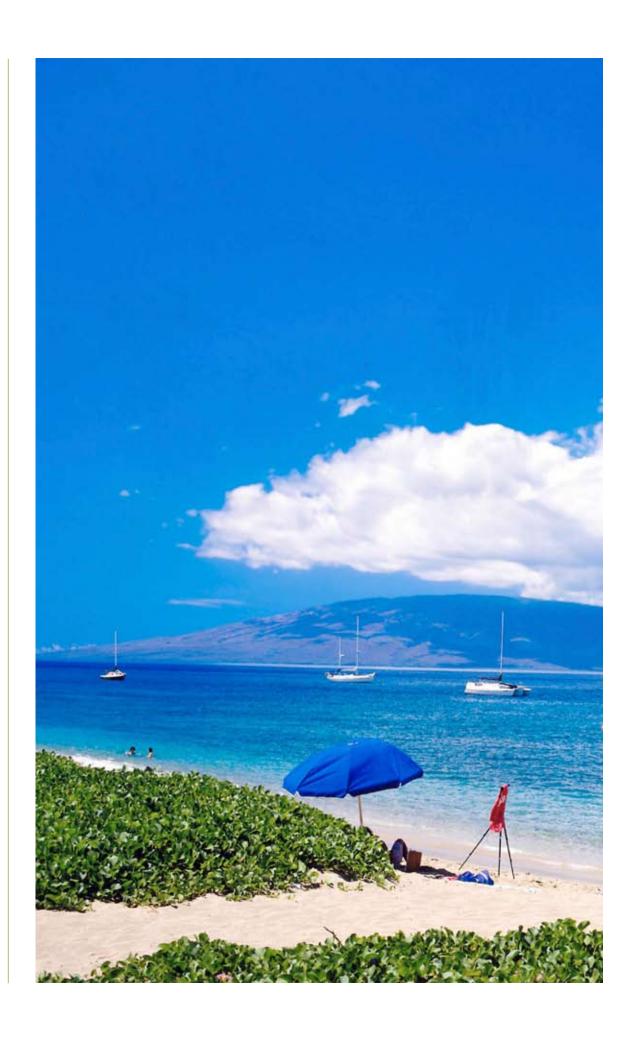
Quidway S5300 Series Gigabit Switches





Product Brochure



Product Overview

Quidway S5300 series gigabit switches (hereinafter referred to as the S5300s) are new generation Ethernet gigabit switches developed by Huawei to meet the requirements for high-bandwidth access and Ethernet multi-service convergence, providing powerful Ethernet functions for carriers and enterprise customers. Based on the new generation high-performance hardware and Huawei Versatile Routing Platform (VRP) software, the S5300 features large capacity and gigabit interfaces of high density, provides 10G uplinks, meeting customers' requirements for the 1G and 10G uplink devices of high density. The S5300 can meet the requirements of multiple scenarios such as service convergence on campus networks and intranets, the access to the IDC at a rate of 1000 Mbit/s, and the access to computers at a rate of 1000 Mbit/s on intranets.

The S5300 is a case-shaped device with a chassis of 1 U high. The S5300 series are classified into SI (standard) and EI (enhanced) models. The S5300 of the SI version supports Layer 2 functions and basic Layer 3 functions, and the S5300 of the EI version supports complicated routing protocols and rich service features. The models of the S5300 consist of S5324TP-SI, S5328C-SI, S5328C-EI, S5328C-EI-24S, S5348TP-SI, S5352C-SI, S5352C-EI, S5324TP-PWR-SI, S5328C-PWR-SI, S5328C-PWR-SI, S5328C-PWR-SI, S5328C-PWR-SI, S5328C-PWR-EI.

Appearance of the \$5300

The S5300 series consist of the following models.



S5324TP-SI: It provides twenty-four 10/100/1000Base-T ports and four 1000Base-X combo ports. It has two models: one uses DC power modules and the other uses AC power modules. It supports RPS 12 V power modules in backup mode and USB interfaces.



S5324TP-PWR-SI: It provides twenty-four 10/100/1000Base-T ports and four 1000Base-X combo ports. It supports two hotswappable AC power modules, PoE, and USB interfaces.



s5348TP-SI: It provides fortyeight 10/100/1000Base-T ports and four 1000Base-X combo ports. It has two models: one uses DC power modules and the other uses AC power modules. It supports RPS 12 V power modules in backup mode and USB interfaces.

S5348TP-PWR-SI

S5348TP-PWR-SI: It provides forty-eight 10/100/1000Base-T ports and four 1000Base-X combo ports. It supports AC power modules, PoE, and USB interfaces.



S5328C-SI: It provides twentyfour 10/100/1000Base-T ports, and supports four 100/1000Base-X combo ports, two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ uplink ports, or four 10GE SFP+ ports. The S5328C-SI supports two hotswappable power modules, PoE, and USB interfaces.



S5328C-PWR-SI: It provides twenty-four 10/100/1000Base-T ports, and supports four 100/1000Base-X combo ports, two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ uplink ports, or four 10GE SFP+ ports. The S5328C-PWR-SI supports two hot-swappable AC power modules, PoE, and USB interfaces.



S5352C-SI: It provides fortyeight 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ ports, or four 10GE SFP+ ports. The S5352C-SI supports two hotswappable power modules, PoE, and USB interfaces.



S5352C-PWR-SI: It provides forty-eight 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ uplink ports, or four 10GE SFP+ ports. The S5352C-PWR-SI supports two hotswappable AC power modules, PoE, and USB interfaces.



S5328C-EI: It provides twentyfour 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ uplink ports, or four 10GE SFP+ ports. It supports two hot-swappable power modules.



S5328C-PWR-EI: It provides twenty-four 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, or two 10GE SFP+ ports. It supports two hot-swappable AC power modules and PoE.



S5328C-EI-24S: It provides twenty-four 100/1000Base-X ports, four 10/100/1000Base-T combo ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, two 10GE SFP+ ports, or four 10GE SFP+ ports. It supports two hot-swappable power modules.



S5352C-EI: It provides forty-eight 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, or two 10GE SFP+ ports. It supports two hot-swappable power modules.



S5352C-PWR-EI: It provides forty-eight 10/100/1000Base-T ports, and supports two 10GE XFP uplink ports, four 1000Base-X SFP uplink ports, or two 10GE SFP+ ports. It supports two hotswappable AC power modules and PoE.

Product Characteristics

Powerful Service Support

- The S5300 provides the enhanced selective QinQ function to add outer VLAN tags to packets, without occupying
 ACL resources. The S5300 can map the CoS value in the inner VLAN tag of a packet to the outer VLAN tag or
 change the CoS value in the outer VLAN tag. In addition, the S5300 can flexibly mark the QoS classes of different
 services to carry various services.
- The S5300 supports IGMP snooping, IGMPv3 snooping, IGMP filter, IGMP fast leave, and IGMP proxy. The S5300 supports line-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV services and other multicast services.
- The S5300 provides the MCE function to isolate users of different VPNs on a device, thus ensuring the security of user data and reducing the investments of users.

High Reliability

- In addition to traditional STP, RSTP, and MSTP, the S5300 supports enhanced Ethernet technologies such as Smart Link and RRPP, implements millisecond-level protection switchover for links, and ensures the network quality.
 Smart Link and RRPP both support multi-instance to implement load balancing among links, further improving bandwidth usage.
- The S5300 supports E-Trunk. With this function, a CE can be dual-homed to two PEs through an E-Trunk. E-Trunk greatly enhances link reliability between devices and implements link aggregation and load balancing between devices. Reliability of access devices is thus improved.
- The S5300 supports SEP, a ring network protocol applied to the link layer of an Ethernet network. SEP is applicable to open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover within 50 ms without interrupting services. Huawei devices have implemented Ethernet link management through SEP. SEP features simplicity, high reliability, high switchover performance, convenient maintenance, and flexible topology and enables you to mange and plan networks conveniently.
- The S5300 supports dual power modules for backup, and supports AC power input and DC power input at the same time. Users can select the operation mode of the power supply module, that is, single power supply or dual power modules, which improves the reliability of devices.
 - The S5300 El series support VRRP, and can set up VRRP backup groups with other Layer 3 switches. The
- S5300 can set up the backup topology structure when faults occur and keeps the continuity and reliability of communications, which effectively ensures the stability of networks. Multiple equal-cost routes can be configured on the S5300 to implement uplink route redundancy. When the active uplink route is faulty, traffic is automatically switched to a standby route. Thus, multi-level backup is implemented for uplink routes.
- The S5300 supports BFD and provides millisecond-level detection for protocols such as OSPF, IS-IS, VRRP, and
 PIM to improve network reliability. Conforming to IEEE 802.3ah and 802.1ag, the S5300 supports point-topoint Ethernet fault management. It can detect faults in the last mile of a direct link on the user side. Ethernet
 OAM improves network management and maintenance capabilities on Ethernet and guarantees the stability of
 networks.

Perfect QoS Policies and Security Mechanism

- The S5300 can implement complex traffic classification based on the information such as the quintuple information, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source interface, VLAN ID, the protocol type of an Ethernet frame, and CoS. The S5300 supports inbound and outbound ACLs. The S5300 supports the flow-based two rate and three color CAR. Each interface supports eight priority queues and multiple queue scheduling algorithms such as WRR, DRR, SP, WRR+SP, and DRR+SP, which effectively ensures the quality of voice, video and data services.
- The S5300 provides multiple security measures to protect information security. It can defend against DoS attacks, attacks to networks, and attacks to users. DoS attacks include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP serer attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, DHCP request flood attacks, and DoS attacks that change the CHADDR values of packets.
- The S5300 listens to information about the MAC or IP address of an access user, lease, VLAN ID, and interface by establishing and maintaining a DHCP snooping binding table. In this manner, the problem of locating IP addresses and interfaces of DHCP users is solved. The S5300 directly discards invalid packets that do not match binding entries, such as ARP spoofing packets and packets with tampered IP addresses, to prevent man-in-the-middle attacks to campus networks that hackers initiate by using ARP packets. The trusted interface can also be

- configured to ensure validity of the DHCP server.
- The S5300 supports strict learning of ARP entries to prevent ARP spoofing attackers from exhausting ARP entries
 so that users can access the Internet normally. It also supports IP source check to prevent DoS attacks caused by
 MAC address spoofing, IP address spoofing, and MAC/IP spoofing.
- User information such as the user name, IP address, MAC address, VLAN, access interface, and flag indicating
 whether anti-virus software is installed on the client can be bound statically or dynamically, and policies (VLAN,
 QoS, ACL) can be delivered dynamically.
- The S5300 can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC address. In this way, MAC addresses of normal users can be learned and flooding is prevented.

Easy Deployment Without Maintenance

• The S5300 supports automatic configuration, plug-and-play, deployment through USB interfaces, and batch remote upgrade. Upgrade and service delivery of the S5300 can be completed at one time, which simplifies management and performance in the future. The maintenance costs are thus greatly reduced. The S5300 supports diversified management and maintenance modes such as SNMPv1/v2/v3, CLI, Web network management, and HGMP, which makes device management more flexible. In addition, the S5300 supports NTP, SSHv2.0, TACACS+, RMON, multi-log host, interface-based traffic statistics, and NQA, which helps to better plan and adjust networks.

PoE Function

• The S5300 can use PoE power modules with different power levels to provide the PoE function. Powered devices (PDs) such as IP Phone, WLAN AP, Security, and Buletooth AP can be connected to the S5300 through ethernet cable. The S5300 provides –48V DC power for the connected PDs. As the power sourcing equipment (PSE), the S5300 complies with IEEE 802.3af and 802.3at (PoE+) and is compatible with PDs that are incompatible with 802.3af or 802.3at. Each port provides a maximum power of 30 W, complying with IEEE 802.3at. The PoE+ function increases the maximum power of each port and implements intelligent power management in high-power applications, which helps you use PDs conveniently. In addition, the S5300 can work in power-saving mode. The S5300 PWR series support improved PoE solutions and you can determine whether a PoE port provides power and the time a PoE port provides power.

Good Expansibility

• The S5300 series switches support iStack. Multiple S5300s start to construct a virtual chassis-shaped structure immediately after stacking cables are connected. Stack members are classified into master, slave, and backup switches. The backup switch reduces the duration of service interruption when the master switch fails. The S5300 supports intelligent upgrade. Therefore, the software version of a new switch does not need to be changed when it is added to a stack. The stacking technology enables you to connect multiple switches through cables to expand the system capacity and manage switches in a stack by using a single IP address, which greatly reduces costs of system expansion, operation, and maintenance. Compared with traditional networking technologies, the iStack stacking technology has advantages in extensibility, reliability, and system architecture.

Simple Manageability

The S5300 supports GVRP, which dynamically assigns, registers, and propagates VLAN attributes to reduce the
network administrator's workload and ensure correct configuration of VLANs. The GVRP technology implements
dynamic configuration of VLANs. On a complicated network, GVRP can simplify VLAN configuration and reduce
network communication faults caused by incorrect configuration of VLANs.

• The S5300 supports MUX VLAN. The MUX VLAN function is used to isolate Layer 2 traffic between interfaces on a VLAN. Subordinate VLANs can communicate with the MUX VLAN but cannot communicate with each other. MUX VLAN is usually applied to enterprise intranets. With this function, a user interface can communicate with a server interface but cannot communicate with other user interfaces. MUX VLAN prevents communication between network devices connected to some interfaces or interface group but allows these devices to communicate with the default gateway.

Abundant IPv6 Features

• The S5300 provides dual protocol stacks and supports smooth upgrade. The S5300 hardware supports the IPv6/ IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. Therefore, the S5300 can be deployed on IPv4 networks, IPv6 networks, and networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.

Product Specification

			O-SI	S5300-EI					
ltem		S5324TP-SI/ S5324TP -PWR-SI	S5328C -SI/S5328C -PWR-SI	S5348TP -SI/S5348TP -PWR-SI	S5352C -SI/S5352C -PWR-SI	S5328C -EI/S5328C -PWR-EI	S5328C -EI-24S	S5352C -EI/S5352C -PWR-EI	
Port	1000 M port	24*10/100/1000 4*100/1000Base	· ·	48*10/100/ 1000Base-TX, 4*100/1000 Base-X Combo	48*10/ 100/1000 Base-TX	24*10/100 /1000 Base-TX	24*100/ 1000 Base-X, 4*10/100 /1000 Base- TCombo	48*10/100 /1000 Base-TX	
	Extended slot	S53TP Series have an extended slot The S53C series have two extended slots, which can be installed with uplink subcard and stacking card respectively.							
	varding ormance	36 Mpps	96 Mpps	72 Mpps	132 Mpps	96 Mpps	96 Mpps	132 Mpps	
Port switching capacity (bit/s)		48 Gbit/s	128 Gbit/s	96 Gbit/s	176 Gbit/s	128 Gbit/s	128 Gbit/s	176 Gbit/s	
Board swite capa	hing	256 Gbit/s							
MAC address table		Complies with IEEE 802.1d. El series support 32 K MAC addresses and SI series support 16 K MAC addresses. Supports dynamic learning and aging of MAC addresses. Supports static, dynamic, and blackhole MAC address entries. Filters packets based on source MAC addresses.							
VLAN		Supports 4 K VLANs. Supports guest VLANs and voice VLANs. Supports VLANs based on MAC addresses, protocols, IP subnets, policies, and interfaces. Supports 1:1 and N:1 VLAN switching. Supports QinQ and selective QinQ.							



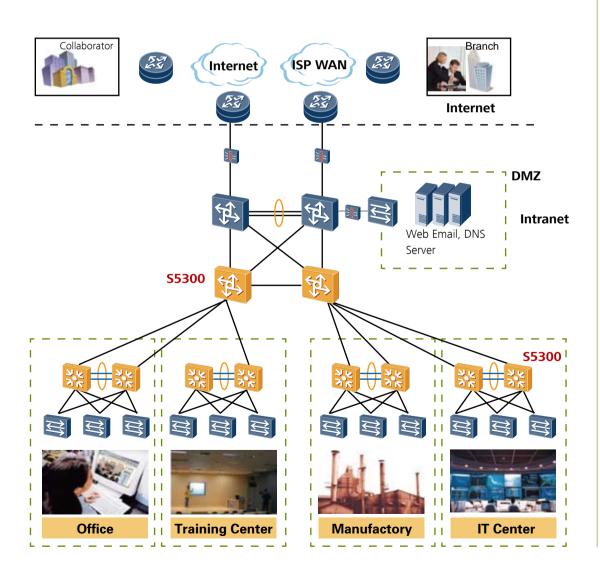
		S5300)-SI		S5300-EI			
Item	S5324TP-SI/ S5324TP -PWR-SI	S5328C -SI/S5328C -PWR-SI	S5348TP -SI/S5348TP -PWR-SI	S5352C -SI/S5352C -PWR-SI	S5328C -EI/S5328C -PWR-EI	S5328C -EI-24S	S5352C -EI/S5352C -PWR-EI	
Reliability	Supports the RRPP topology and RRPP multi-instance. Supports the Smart Link tree topology and Smart Link multi-instance and provides the millisecond-level protection. Supports SEP. El series support BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM. Supports STP, RSTP, and MSTP. Supports BPDU protection, root protection, and loop protection. Supports E-Trunk.							
IP routing	Supports static route, RIPv1, RIPv2, and ECMP. Supports static routes, R OSPF, IS-IS, BGP, and ECI							
IPv6 features	Supports Neighbor Discovery (ND). Supports PMTU. Supports IPv6 Ping, IPv6 Tracert, and IP v6 Telnet. Supports 6to4 tunnels, ISATAP tunnels, and manually configured tunnels. Supports ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type. Supports MLDv1/v2 snooping.							
Multicast	Supports IGMPv1/v2/v3 snooping and IGMP fast leave. Supports multicast forwarding in a VLAN and multicast replication across VLANs Supports multicast load balancing among member interfaces of a trunk. Supports controllable multicast. Supports port-based multicast traffic statistics. Supports IGMPv1/v2/v3 snooping and IGMP fast leave. Supports multicast forwarding in a VLA and multicast replication across VLANs. Supports multicast load balancing among member interfaces of a trunk. Supports controllable multicast. Supports port-based multicast traffic statistics. Supports IGMPv1/v2/v3 snooping and IGMP fast leave. Supports multicast forwarding in a VLA and multicast replication across VLANs. Supports multicast load balancing among member interfaces of a trunk. Supports controllable multicast. Supports IGMPv1/v2/v3, PIM-SM, and PIM-DM.					ding in a VLAN cross VLANs. llancing of a trunk. icast. cast traffic		
QoS/ACL	Supports rate limit on packets sent and received by an interface. Supports packet redirection. Supports interface-based traffic policing and two-rate and three-color CAR. Supports eight queues on each interface. Supports WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms. Supports re-marking of the 802.1p priority and DSCP priority. Supports packet filtering on Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol, and VLAN ID. Support queue-based rate limit and traffic shaping on interfaces.							

	S5300-SI				S5300-EI			
ltem	S5324TP-SI/ S5324TP -PWR-SI	S5328C -SI/S5328C -PWR-SI	S5348TP -SI/S5348TP -PWR-SI	S5352C -SI/S5352C -PWR-SI	S5328C -EI/S5328C -PWR-EI	S5328C -EI-24S	S5352C -EI/S5352C -PWR-EI	
Power consumption (the stacking card is not included and only the power consumption of the board is tested)	Non-PoE: > 33 W PoE: Max: 178 W (PoE: 124 W)	Non-PoE: > 42 W PoE: Max: 178 W (PoE: 124 W)	Non-PoE: > 58 W PoE: Max: 208 W (PoE: 124 W)	Non-PoE: > 70 W POE: Max: 208 W (PoE: 124 W)	Non-PoE: > 49 W POE: Max: 186 W (PoE: 124 W)	>61W	Non-PoE: > 73 W POE: Max: 216 W (PoE: 124 W)	

Application scenario

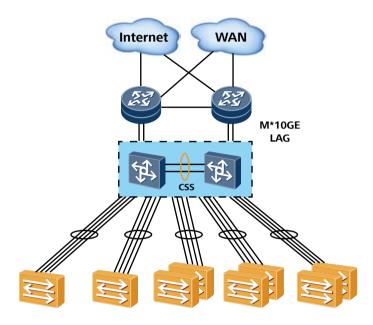
Application in the access/convergent layer of large enterprise/campus network

The S5300 can function as the convergence device of large-scale enterprise networks and improves network reliability through link aggregation and dual-homing.



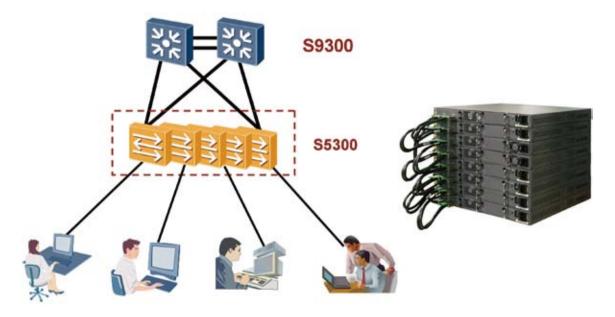
Application in IDC

The S5300 can be used in the data center to access the 1000M server and connect to upper-layer devices through link aggregation. If multiple servers are available, you can use the stacking technology. The stacking technology can improve network reliability.



GE to desktop

Through the stacking technology, the S5300 can be connected to computers at a rate of 1000 Mbit/s. In this case, only four pairs of fibers are required. Thus, the uplink fibers and interfaces of upper-layer devices are saved and network reliability is improved.



Quidway S5300 Series Gigabit Switches

Order Information

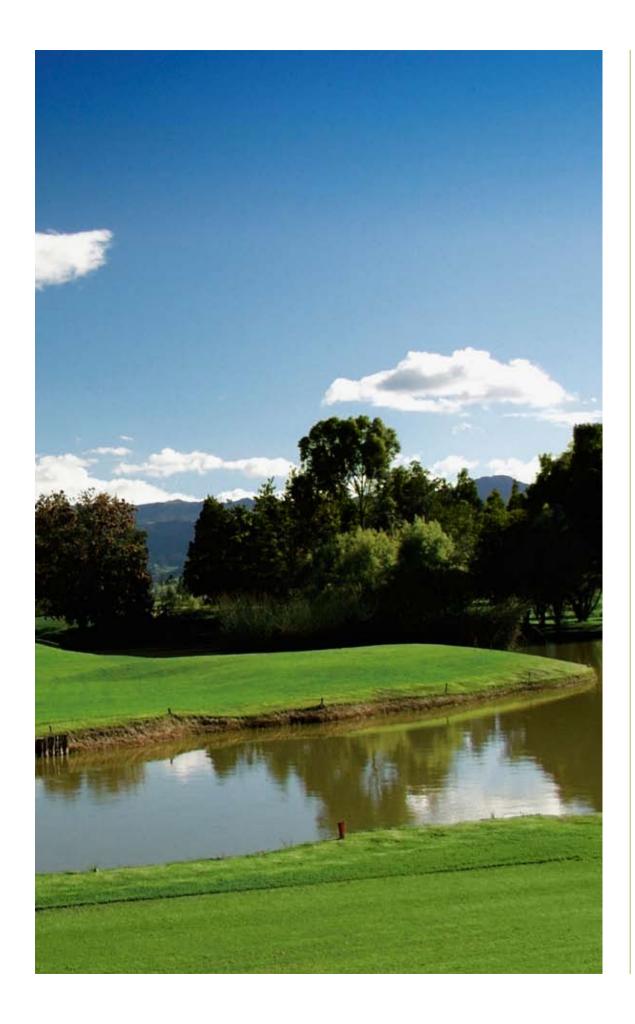
1. List of S5300 series Ethernet switches and optical modules

Product Description
S5324TP-SI-AC (input voltage: 220 V AC)
S5324TP-SI-DC (input voltage: -48 V DC)
S5328C-SI (supports two hot-swappable AC power modules, with the input voltage being 220 V or –48 V DC)
S5328C-EI (supports two hot-swappable AC power modules, with the input voltage being 220 V or –48 V DC)
S5328C-EI-24S (supports two hot-swappable AC power modules, with the input voltage being 220 V or –48 V DC)
S5348TP-SI-AC (input voltage: 220 V AC)
S5348TP-SI-DC (input voltage: -48 V DC)
S5352C-SI (supports two hot-swappable AC power modules, with the input voltage being 220 V or –48 V DC)
S5352C-EI (supports two hot-swappable AC power modules, with the input voltage being 220 V or –48 V DC)
S5324TP-PWR-S (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
S5348TP-PWR-SI (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
S5328C-PWR-SI (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
S5328C-PWR-EI (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
S5352C-PWR-SI (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
S5352C-PWR-EI (supports two hot-swappable AC power modules and PoE, with the input voltage being 220 V)
4*GE SFP uplink subcard
2*10GE XFP uplink subcard
2*10GE SFP + uplink subcard
4*10GE SFP + uplink subcard



10G optical module
Optical Transceiver,XFP,10G,Multi-mode Module(850nm,0.3km,LC)
Optical Transceiver, XFP, 10G, Single-mode Module (1310nm, 10km, LC)
Optical Transceiver,XFP,10G,Single-mode Module(1550nm,40km,LC)
Optical Transceiver, XFP, 10G Single-mode Module(1550nm, 80km, LC)
Optical Transceiver ,SFP+,10G Multi-mode Module (850nm,0.3km,LC)
Optical Transceiver ,SFP+,10G Single-mode Module (1310nm,10km,LC)
GE-SFP optical module
Electrical Transceiver, SFP, GE, Electrical Interface Module (100m, RJ45)
Optical Transceiver,ESFP,GE,Multi-mode Module(850nm,0.5km,LC)
Optical Transceiver, SFP, GE, Single-mode Module (1310nm, 10km, LC)
Optical Transceiver,eSFP,GE,Single-mode Module(1310nm,40km,LC)
Optical Transceiver,eSFP,GE,Single-mode Module(1550nm,40km,LC)
Optical Transceiver,eSFP,GE,Single-mode Module(1550nm,80km,LC)
Optical Transceiver,ESFP,GE,Single-mode Module(1550nm,100km,LC)
FE/STM-1-SFP optical module
Optical Transceiver,SFP,100M/155M,Multi-mode Module(1310nm,2km,LC)
Optical Transceiver, ESFP, 100M/155M, Single-mode Module (1310nm, 15km, LC)
Optical Transceiver,eSFP,FE,Single-mode Module(1310nm,40km,LC)
Optical Transceiver,eSFP,FE,Single-mode Module(1550nm,80km,LC)
BIDI-SFP optical module
Optical Transceiver, SFP, GE, BIDI Single-mode Module (TX1490/RX1310, 10km, LC)
Optical Transceiver, SFP, GE, BIDI Single-mode Module (TX1310/RX1490, 10km, LC)
Optical Transceiver, SFP, FE, BIDI Single-mode Module (TX1310/RX1550, 15km, LC)
Optical Transceiver, SFP, FE, BIDI Single-mode Module (TX1550/RX1310, 15km, LC)
CWDM-SFP optical module
Optical Transceiver-eSFP-1571nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1591nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1551nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1511nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1611nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1491nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1531nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km
Optical Transceiver-eSFP-1471nm-100M~2.67Gbps-0dBm-5dBm28dBm-LC-80km

For more information, visit www.huawei.com or contact the Huawei local sale office.



Copyright © Huawei Technologies Co., Ltd. 2010. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademark Notice

HUAWEI, and war trademarks or registered trademarks of Huawei Technologies Co., Ltd.

Other trademarks, product, service and company names mentioned are the property of their respective owners.

NO WARRANTY

THE CONTENTS OF THIS MANUAL ARE PROVIDED "AS IS". EXCEPT AS REQUIRED BY APPLICABLE LAWS, NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE IN RELATION TO THE ACCURACY, RELIABILITY OR CONTENTS OF THIS MANUAL.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO CASE SHALL HUAWEI TECHNOLOGIES CO., LTD BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, OR LOST PROFITS, BUSINESS, REVENUE, DATA, GOODWILL OR ANTICIPATED SAVINGS ARISING OUT OF OR IN CONNECTION WITH THE USE OF THIS MANUAL.

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base Bantian Longgang Shenzhen 518129, P.R. China Tel: +86-755-28780808

www.huawei.com