

MyPower S5820 series 100G TOR Switch

Datasheet

Overview

With the rapid pace of information construction in various industries in recent years, the information construction has gradually shifted from the era of the original basic network construction to a new-generation data center deployment era with large data concentration as the main purpose. With the rapid development of data center and cloud computing technology, the data communication network as the basis of the data center and cloud computing, presents new technical requirements. The development and launching of the new generation data center switching products presented by the implementation of high-bandwidth data forwarding, high-density 10G interface access, 40G/100G uplink, high burst flow, virtualization technology become very important.

MyPower S5820 series data center 100G TOR switch is a 10G access box-type switch product with high density 10G/100G interface and flexible board card combination feature. It is developed by Maipu on basis of closely tracking the development of data center technology for many years and combining with the actual situation of the new-generation data center construction in China, making the high-density access of the 10G server and high-density 10G aggregation of the campus network become possible. Meanwhile, MyPower S5820 support complete business features, perfect security control policy, full-port line-speed forwarding, and other features, meeting the challenges of the data center for the scalability, reliability, management, security, and other aspects of the device.



MyPower S5820 Series 100G Switch

S5820-30XQFP supports 24*10G SFP+ optical interfaces, 2*40G QSFP optical interfaces, 4* 100G QSFP28 optical interface, and dual-modular power.

S5820-54XQFP supports 48*10G SFP+ optical interfaces, 2*40G QSFP optical interfaces, 4* 100G QSFP28 optical interface, and dual-modular power.

MyPower S5820 series realize large buffer of the interface data, meeting the data forwarding of the data center network burst flow without packet loss; provide the VST technology of multi-machine management plane, realizing the high-reliability operation under the deployment environment of various complex virtual technologies; provide the modular power and fan design. The key components adopt various "overvoltage" designs to ensure that the product has the strong capability of high-reliability operation, maintenance, and continuous operation.

MyPower S5820 series with MyPower S12800, MyPower S8900E and other core switches can provide the comprehensive, high-guarantee, and multi-series integrated new-generation data center construction solutions for the construction of data centers in various industries, such as finance, government and operators.

Key Features

- **High-density 10G port**

With the popularity of the application server network card rate from Gigabit to 10G, new requirements are put forward for the port bandwidth and access density of the network access layer switches. MyPower S5820 series data center access switch can provide fixed 48/24 10G optical interfaces and can provide 2*40G&4*100G high-speed uplink interfaces. The port combination fully satisfies the interface combination and density requirement of data center construction for access-layer switches.

- **Support H-VST/M-VST technology**

MyPower S5820 with MyPower S12800, MyPower S8900 and other core switches realizes "vertical virtualization". Inserted with 10G fiber, it can automatically realize virtual management, and the site installation is convenient. A maximum of 128 devices can be virtualized to a virtual device without the need to plan the interconnection address and management address. Telnet a core device is equivalent to logging into more than 100 switches at the same time. There is no need to maintain and memorize the complex password. One network has one password. Through the global configuration command, a command is also effective on more than 100 devices at the same time, which greatly improves the daily maintenance efficiency of customers.

- **Large-capacity port buffer technology**

MyPower S5820 series uses the large-capacity port buffer design, and a single port can have 200ms data buffer capacity. With the VoQ hardware virtual queue traffic control technology, it can fully adapt to the application model of the new-generation data center with large data flow and frequent instantaneous flow burst.

- **Comprehensive green environmental protection and energy saving design**

The advanced power management mechanism of switching chips can reduce the power consumption of the standby Ethernet ports, saving 25% power consumption of the whole device. Temperature monitoring and fan stepless speed regulation effectively reduce the environmental noise and extend the life of the hardware card, meeting the green energy saving requirements of the data center room.

Technical Specifications

Product Model	S5820-30XQFP	S5820-54XQFP
Hardware specification		
Physical ports	Fixed 24 10G SFP+ optical interfaces, two 40G QSFP optical interfaces, four 100G QSFP28 optical interface.	Fixed 48 10G SFP+ optical interfaces, two 40G QSFP optical interfaces, four 100G QSFP28 optical interface.
Management interface	One Console port, one management Ethernet port, one reset bottom, one USB interface	
Redundant design	Support power redundancy, 1+ 1 backup mode	
Dimension(W×D×H)	440mm×560mm×44.2mm	440mm×560mm×44.2mm
Power consumption	200W	300W
Power	Two Power Slots	
	Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz	
Temperature	Work temperature: -10°C to 45°C	
	Storage temperature: -40°C to 70°C	
Humidity	Work humidity: 10% to 90%, no-condensing	
	Storage humidity: 5% to 95%, no-condensing	
Switching capacity	1.44Tbps	1.92Tbps
MTBF	>100, 000 hours	
Software Features		
Ethernet features	Port features	Port isolation, UNI/NNI isolation
		Storm suppression
		Port auto-sensing
	MAC address management	Learning quantity limitation based on port, VLAN, global MAC address
		Static MAC configuration
		Black hole address configuration
		MAC address auto learning and aging
		MAC address migration alarm
	VLAN	4K VLANs, VLAN based on port, MAC, IP address, protocol number
		VLAN Mapping N:1
		PVLAN
		Super-VLAN
		GVRP

	Q-in-Q	Basic Q-in-Q and selective Q-in-Q
	Ring-network protection	STP/MSTP/RSTP, BPDU Guard, Root Guard
		Flap Guard, Loop Guard, edge port detection, BPDU message encryption
		EIPS
	Port mirroring	One-to-one, multi-to-one port mirroring
		Data flow mirroring
		ERSPAN remote mirroring
		ERSPAN enhanced remote mirroring
		VLAN mirroring
	Link aggregation	Dynamic link aggregation
		Static link aggregation
		Cross-board, cross-device link aggregation
		Traffic load balance
Routing features	IP protocol	TCP, UDP, Ping, Traceroute, Telnet, FTP, TFTP, ICMPv4, DNS, UDP Helper, DHCP, DHCP server, DHCP Delay, DHCP Snooping, NTP, SNTP, support ARP, ARP Proxy
	Routing protocol	Static Routes, RIPv1/v2, IRMP, OSPFv2, IS-IS, BGP Routing policy, routing iteration, policy routing
Multicast function	L2 multicast	IGMPv1/v2/v3 Snooping, multicast VLAN, support MLD v1/v2 Snooping
	L3 multicast	IGMPv1/v2/v3, MLD v1/v2, multicast static routing, multicast routing in IPv4 domain, multicast routing between IPv4 domains, IPv4 multicast group management, support MSDP, PIM-SM, PIM-DM, PIM-SSM, PIM-SDM.
ACL/QOS	ACL	Standard ACL
		Extended ACL
		Mixed ACL
		MAC ACL
		Port-based ACL
		ACL based on L3 interface
		VLAN-based ACL
		Global-based ACL
		Ingress/Egress ACL
		ACL matching logs
	Bind ALC based on time domain	
QOS	SP, RR, WRR, WDRR, and other queue scheduling modes	

		802.1p, DSCP, and other priority mapping
		Flow classification
		Traffic monitoring
		Traffic shaping
		Congestion management
		Congestion avoidance
		Rate limitation based on time domain
		Traffic shaping based on time domain
Security function	Device security	Prevent packet attack, prevent protocol packet attack, support attack detection function, protocol packet protection, message sending and receiving diagnosis, CPU protection technology
	Network security	URPF check, packet filtering function, protocol classification flow limiting, port isolation, DHCP Snooping, IPSG, AARF, Dynamic ARP Inspection, ARP Check, Host Guard
	Management security	Device management security, network user binding, AAA, SSH2.0, force to update the password periodically, login password strength setting, multi-login failure locking function
	Access security	Portal authentication, 802.1X authentication, MAC authentication, port security, trusted device access
Virtualization	H-VST	Horizontal virtualization, support for splitting, merging, multi-activating, and many other online tests.
	M-VST	Vertical virtualization management
Data center feature	VxLAN	VxLAN interconnection crossing data center
	EVPN	Support EVPN
Device maintenance	Device Management	Console port login, Telnet, SSH V1/V2, CLI for device management, IBM, HP and third-party network management platform.
	File Management	Upload / download files via FTP/TFTP, formatting, files, directory creation, copy, delete, save file management functions
	Network maintenance	Ping, Traceroute, LSP Ping/Tracert function, port loop monitoring
	Network Management	SNMP V1/V2/V3, RMON, WEB network management, third-party network management, SSH V1/V2, support remote batch upgrade, configuration auto delivery, IPFIX/SFLOW, support TR069
	Green Energy	IEEE 802.3az EEE (energy efficiency Ethernet)
High reliability	Device reliability	Support power hot-swap
		Support fan hot-swap
		Support IOS backup and recovery, support configuration file backup and recovery
		VRRP, VBRP

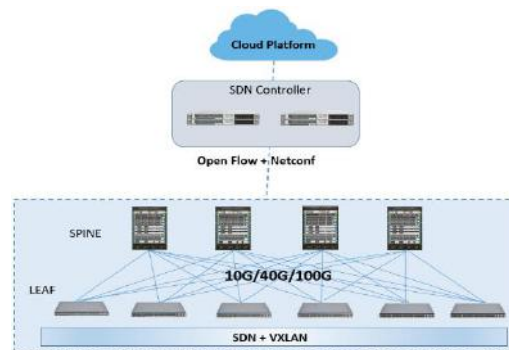
	Network Reliability	IP FRR, VPN FRR, BFD for VRRP/BGP/IS-IS/RIP/OSPF/RSVP/static route, ULFD, ULPP, Monitor Link, keepalive
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Order Information

Product model	Description
MyPower S5820 series host	
S5820-30XQFP	Fixed 24 10G SFP+ optical interfaces, two 40G QSFP optical interfaces, four 100G QSFP28 optical interface, dual modular power slots.
S5820-54XQFP	Fixed 48 10G SFP+ optical interfaces, two 40G QSFP optical interfaces, four 100G QSFP28 optical interface, dual modular power slots.
Power modules	
AD250-1S005E-B	AC power module, 250W, AC input 100-240V, support hot-swap, draw air outward

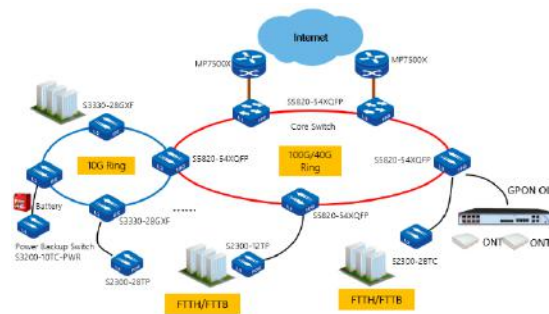
Typical Scenario

1. Data Center VXLAN+EVPN Solution



Recently, fabric architecture has become a common and popular design option for building new-generation enterprise data center networks. Virtual Extensible LAN (VXLAN) and Ethernet VPN (EVPN) is essentially becoming the standard technology used for deploying network virtualization overlays in data center fabrics.

2. ISP Metro Ethernet 100G Ring Solution



With the rapid growth of operators' MAN services, such as IPTV, video surveillance and NGN voice, higher requirements are put forward for the performance, bandwidth and quality of service of MAN. The new S5820 100G switch has been introduced to meet the increasing demand of multi-service bearer for operators. The new S5820 provides 4-Port 100G interfaces for ring network. It will greatly enhance the capacity of MAN and shorten the time of business on-line, providing customers with a higher quality experience.

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