



MyPower S6800A Series 10G Core Routing Switch

Datasheet

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Overview

MyPower S6800A is a new multi-service 10G core routing switch developed by Maipu. It adopts the ASIC+NP architecture design, provides the stable, reliable, and secure L2/L3 data wire-speed switching services for the next generation network, owns the advanced 10G Ethernet technology, supports various high-density interface board, and meets the high-density, high-throughput and no-block switching requirements of the core devices at the core layer. S6800A provides the new-generation core data switching service technology for the enterprise network with the services as the core. It supports the chassis with two slots, four slots, eight slots, and 16 slots respectively and provide the Tbps-level backplane bandwidth and switching capacity.

S6800A adopts the carrier-class reliability design and passive backplane technology and supports the control redundancy, switching redundancy, and power redundancy. Its board card, fan, and power supply are hot-swappable. Besides, it supports the STP/RSTP/MSTP/VRRP/EIPS protocols to realize the link redundancy and ensure that the services are not disconnected when the network fails in various networking modes. S6800A provides rich functions. For example, the hardware supports V6; provides various IPv6 networking modes and service applications (via the IPv6Ready2 authentication); supports L2/L3/star/ring/tree MAN networking technologies and Metro-E features (via MEF-9 and MEF-14 authentication); provides the MPLS L2/L3 VPN networking function, perfect security features, various flow classification technologies, QoS technologies, and multicast supporting technologies.

As the network core data switching platform, S6800A can cooperate with the other series switches of Maipu to provide a full range of MAN, LAN, and WAN solutions for the sectors of operators, financial services, government, energy, transportation, education, military, large and medium-sized enterprises. It is widely used in the data center, production network core, district network core, and IP MAN core of the foregoing sectors.



MyPower S6800A

Key Features

- **Advanced hardware structure to ensure Tbps-level backplane and switching capacity**

S6800A switch adopts the ASIC+NP structure, provides passive copper backplane, realizes the intra-board and inter-board L2/L3 wire-speed distributed forwarding via Crossbar switching matrix, and performs high-speed route searching via powerful ASIC chip, thereby improving the forwarding performance and expanding capability greatly, reaching the Tbps-level backplane bandwidth and switching capacity, and providing advanced 10G Ethernet supporting, as well as high-density interface board to meet the high-density and high-throughput requirements of the devices at the core layer.

- **Separate the switching unit from the control unit, ensuring no packet loss**

MyPower S6800A adopts the technology of separating the control card and the switching card. When the control card fails and performs the redundant switching, it does not affect the data forwarding of the switching card and the data of the service cards is still forwarded normally on the switching card, so as to reach the high-reliability requirement of no packet loss.

- **50ms network recovering capability, ensuring that the service is not disconnected forever**

50ms network recovering capability is the telecom network reliability requirement. Maipu realizes the Ethernet fast network recovering capability via the private technology EIPS so that the IP network fault recovering capability improves from tens of seconds to 50ms, ensuring that the service recovers fast and the service is online forever.

- **High-performance 8-Port 10G interface wire-speed service card, making the network architecture more simple**

The advanced 10G system design capability of Maipu realizes that the board supports eight-port 10G wire-speed interfaces. As the network core switching platform, S6800 reduces the network hierarchy and network devices via high-density 10G access capability, so as to make the network architecture more simple.

- **Rich Ethernet OAM features, making Ethernet manageable**

S6800A supports IEEE802.1ag, IEEE802.3ah, and E-LMI standard Ethernet OAM protocols so that Ethernet devices and Ethernet network have the link status, interface status, and network auto configured management capability. Moreover, S6800 provides IPFIX and SLA functions so that Ethernet has the complete promise service capability.

- **Stable core guarantee mechanism and the redundancy for key components to ensure the carrier-class reliability of the core devices**

All key components of S6800A provide the dual-redundancy or multi-redundancy. S6800 supports power redundancy, management module redundancy, switching matrix redundancy, and link redundancy. The power module, fan module, and all service cards of S6800A are hot-swappable, ensuring that the services are not interrupted forever. The special dual-engine backup design ensures the carrier-class reliability of the core switching platform.

- **Hardware supports distributed IPv6/MPLS wire-speed forwarding**

Each wire card of S6800A has the hardware IPv6/MPLS capability, including protocol/function processing, and data forwarding, which avoids the bottleneck and delay problems of the centralized forwarding, provides the strong guarantee for the large-scale commercial applications of IPv6/MPLS, and meets the different IPv6/MPLS applications.

- **Perfect network security features ensure that the core devices can provide the complete anti-attack and anti-virus capability**

S6800A adopts excellent security design; supports SNMP V3 based on user security policy, MAC+IP+VLAN binding, and 802.1X authentication; supports the security policies such as anti network storm attack, anti DOS/DDOS attack, anti ARP attack, anti-scan pry attack, anti freaky packet attack, and anti network protocol packet attack to prevent attacks and virus efficiently. It is suitable for large-scale, multi-service, and complicated-flow networks.

- **Low-power consumption and lead-free ROHS design**

According to 10°C rule, the reliability and life of semiconductor chip are related with working temperature. The working temperature increases 10 °C and the reliability of semiconductor reduces a half, while the working temperature and power consumption are in direct proportion. The maximum power consumption of MyPower S6800A series 10G core routing switch is lower than 1800W, while the lower-power consumption design of S6800A makes the temperature of the board card semiconductor chip lower. Therefore, the low-power consumption design improves the use life and stable running of high-end devices, saves the running energy consumption of devices, and meets the green environmental protection requirements.

Technical Specifications

Product	MyPower S6800A Series			
Shelf	SM6800-02A	SM6800-04A	SM6800-08A	SM6800-16A
Shelf configuration				
Structure	Rack/modular distributed structure design			
Slots of the device	4	8	12	20
Control slots	2	2	2	2
Service slots	2	4	8	16
Switching slots	Integrated	2	2	2
Console port	1			
Out-band interface	1			
Hot swap	The power supply, fan and board cards support hot-swap.			
Power supply redundancy	Supports power supply redundancy (N+M)			
Switching Card redundancy	Supports dual switching card redundancy			
Control Card redundancy	Supports dual control card redundancy			
Performance				
Switch capacity	512Gbps	1Tbps	2Tbps	3.2Tbps
IPv4 throughput	238Mbps	476Mpps	953Mpps	1905Mpps
IPv6 throughput	238Mbps	476Mpps	953Mpps	1905Mpps
Average non-fault time	>200,000 hours			
Standards & protocols				
L2 protocol	802.1X, VLAN, PVLAN, STP, RSTP, MSTP, port mirroring, IGMP Snooping, GVRP, Broadcast Storm Control, QINQ, VLAN Translation, AAA function, port binding, address filter, supports cross-board port/flow mirroring, supports RSPAN, IP-based ACL, MAC-based ACL, MAC+IP-based ACL, and Jumbo Frame			
50ms ring protection	Ethernet Intelligent Protection Switching(EIPS)			
IPv4 L3 protocol	Static route, RIPv1/v2, OSPF, BGP4, IGMP, PIM-SM, PIM-DM, MBGP, VRRP, equivalent route, policy route, Graceful Restart			

IPv6 L3 protocol	Supports ICMPv6, ICMPv6 redirection, DHCPv6, ACLv6, OSPFv3, RIPng, BGP4+, IS-ISv6, manual tunnel, ISATAP, 6to4 tunnel, IPv6 and IPv4 dual stack			
QoS	Supports Diff-serv/QoS, flow monitoring (CAR), SP, WRR, SP+WRR queue scheduling algorithm, 802.1P/DSCP/TOS, queue scheduling mechanism, Two rate Three color (trTcm)			
Upper layer application	DHCP/DHCP Option82/DHCP Relay/DHCP Snooping, IGMPv1/v2/v3, IGMPv1/v2/v3 Snooping, PIM-SM/PIM-DM/PIM-SSM, PIM-SMv6, PIM-DMv6, PIM-SSMv6			
MPLS deployment	MPLS L3 VPN, MPLS L2 VPN, MPLS TE, VPLS, H-VPLS			
Security mechanism	SSH, ACL flow filtering mechanism, ACL, ARP, SNMPv3, Radius user-graded login authentication, accesstable host access control, data log, IP address/VLAN ID/MAC address/port binding, packet filtering, packet filtering of application layer			
System management	SHELL, TELNET, FTP, SNMP V1/V2/V3, network management software, third-party software, IPFIX (Netflow), NTP clock			
IEEE standards	IEEE 802.3 (10BASE-T) IEEE 802.3u (100BASE-T) IEEE 802.3z (1000BASE-X) IEEE 802.3ab (1000BASE-T) IEEE 802.3ae (10G BASE) IEEE 802.1ad (Q in Q) IEEE 802.3ad (Link Aggregation) IEEE 802.3x (Flow Control) IEEE 802.1d (STP) IEEE 802.1Q (Virtual LAN) IEEE 802.1w (RSTP) IEEE 802.1s (MSTP) IEEE 802.1p (COS priority) IEEE 802.1x (port authentication)			
Physical index				
Dimension (W×D×H)	444x600x110	444x600x310	444x600x577	444x600x977
Power supply				
Input voltage (AC)	100-240V, 50-60Hz			
Input voltage (DC)	-40~-57V			
Environment parameters				
Working temperature	0~45℃			
Working humidity	10-90% no-condensing			

Order Information

Model	Description
MyPower S6800A	
Shelf and power supply	
SM6800-02A-MF	SM6800-02A chassis, 4 slots, 2 service slots (including backplane and fan slots)
SM6800-04A-MF	SM6800-04A chassis, 8 slots, 4 service slots (including backplane and fan slots)
SM6800-08A-MF	SM6800-08A chassis, 12 slots, 8 service slots (including backplane and fan slots)
SM6800-16A-MF	SM6800-16A chassis, 20 slots, 16 service slots (including backplane and fan slots)
SM68A-MPUAH	Control module, supporting active/standby backup function (one is mandatory, 1+1 redundancy is optional) (for slot 2/4)
SM68A-MPUBH	Control module, supporting active/standby backup function (one is mandatory, 1+1 redundancy is optional) (for slot 8/16)
SM68A-SFUAH	Switching module; one is optional; 1+1 redundancy is optional (for slot 4/8)
SM68A-SFUBH	Switching module; one is optional; 1+1 redundancy is optional (for slot 8/16)
FAN-3B-01	2-slot chassis fan module
FAN-7A-01	4-slot chassis fan module
FAN-13A-01	8-slot chassis fan module
FAN-22A-01	16-slot chassis fan module (need 2 fans for SM6800-16A chassis)
AD600-1S007Z	600W AC power module
DD600-1S007Z	600W DC power module
SM6800A-SIUH	Liquid crystal display card
Enhanced Ethernet interface card (supporting MPLS/IPv6 function)	
SM68A-24GEFH-A	24-port 1000M optical interface (the SFP optical module needs to be configured)
SM68A-24GETH-A	24-port 1000M electric interface module; up to three POE modules can be configured.
SM68A-24GET24GEFH-A	24-port 1000M optical interface (the SFP optical module needs to be configured) + 24-port 1000M electric interface; up to three POE modules can be configured.
SM68A-48GETH-A	48-port 1000M electric interface; up to six POE modules can be configured.
SM68A-48GEFH-A	48-port 1000M optical interface module (SFP optical module needs to be configured)
SM68A-2XGEFH-A	2-port 10G XFP interface (the XFP optical port module needs to be configured)
SM68A-4XGEFH-A	4-port 10G XFP interface (the XFP optical port module needs to be configured)
SM68A-8XGEFH-A	8-port 10G XFP interface (the XFP optical port module needs to be configured), must be configured with SFUB module
High-performance Ethernet interface card (supporting MPLS/IPv6 function, large Routing entry)	
SM68A-24GEFH-B	24-port 1000M optical interface (the SFP optical module needs to be configured)

SM68A-24GETH-B	24-port 1000M electric interface module; up to three POE modules can be configured.
SM68A-24GET24GEFH-B	24-port 1000M optical interface (the SFP optical module needs to be configured) + 24-port 1000M electric interface; up to three POE modules can be configured.
SM68A-48GETH-B	48-port 1000M electric interface; up to six POE modules can be configured.
SM68A-48GEFH-B	48-port 1000M optical interface module (SFP optical module needs to be configured)
SM68A-2XGEFH-B	2-port 10G XFP interface (the XFP optical port module needs to be configured)
SM68A-4XGEFH-B	4-port 10G XFP interface (the XFP optical port module needs to be configured)
SM68A-8XGEFH-B	8-port 10G XFP interface (the XFP optical port module needs to be configured) ,must be configured with SFUB module
Value-added service module/card	
POE15-8PSE	POE power module, supporting eight Ethernet ports and each port is 15W at most; do not support hot-swap
Storage module	
CF-1GB	1G CF card
CF-2GB	2G CF card
DDR333-1024S	1G memory
DDR400-512S	512 M memory
Interface optical module	
SFP-M1-L24P8	1.25G multi-mode optical module (550m transmission distance, LC interface, PECL level, 850nm wavelength)
SFP-S2-L24P3	1.25G single-mode optical module (20km transmission distance, LC interface, PECL level, 1310nm wavelength)
SFP-S4-L24P5	1.25G single-mode optical module (40km transmission distance, LC interface, PECL level, 1550nm wavelength)
SFP-S8-L24P5	1.25G single-mode optical module (80km transmission distance, LC interface, PECL level, 1550nm wavelength)
SFP-GETA	1000M SFP interface card module, RJ-45 interface
XFP-M1-L192P8	10G XFP multi-mode fiber interface card module (850nm, MMF 32/85m, 2000MHz/km MMF 300m), LC interface
XFP-S1-L192P3	10G XFP single-mode fiber interface card module (1310mm,SMF,10km), LC interface
XFP-S4-L192P5	10G XFP single-mode fiber interface card module (1550mm,SMF,40km),LC interface
XFP-S7-L192P5	10G XFP single-mode fiber interface card module (1550mm,SMF,70km), LC interface