MyPower S3900 Series Switch Datasheet

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MyPower S3900 Series Switch

MyPower S3900 is the carrier-class Ethernet aggregation switch. It supports next generation L2 and L3 features and meets the requirements of customers for QoS, OAM, VPN, Multi-service and Protection. Its hardware adopts the fifth generation distributed structure to support the IPv6/MPLS/OAM technologies.

S3900 can help customers develop IPTV, VoIP, VPN, wireless access and TDMoIP services. The high integrated platform design meets the requirement of the customer that a box provides rich physical interface and software features to reduce the total cost (TCO) and operating expenses (OpEx).

MyPower S3900 adopts the dual power supply redundancy, high-integrated E1/T1 interface, and optical-electric Ethernet access. It is suitable for carriers to deploy the medium and small aggregation nodes with service access nodes, develop multi-service access (wireless, VPN, and mobile), and complete the reconstruction from TDM to IP.

MyPower S3900 series includes one model with multiple modules and can meet the requirements of carriers' district access, base station access and business building access. It provides various VPN services.

Key Features

- Multi-service aggregation Ethernet switch with highest integrity;
- Supports perfect OAM protocols(802.1ag,802.3ah,E-LMI);
- Supports VPN services defined by MEF9&MEF14;
- 50ms Ethernet Ring protection(EIPS);
- Supports selective QinQ and VLAN translation;
- Supports UDLD and improves operation and maintenance capabilities;
- Supports rich L2 and L3 protocols;
- Supports PWE3 protocols for TDMoIP applications;
- Supports Hardware-based IPv6/MPLS/VPLS;
- Supports perfect multicast protocol;
- Hard QoS including two-rate three-color mode(trTCM)

Product Features

- **Multi-service access**

A single S3900 supports the 16 E1/T1 interfaces (TDMoIP) to meet the requirement of carriers to transmit 2G and 3G base station services to the aggregation node via IP network and then recover to E1/T1 connected to BSC/RNC, and access the traditional TDM devices such as PBX, realizing unified IP bearing; supports Ethernet fiber access and twisted-pair electric access for carriers to access services and remote commercial customers in the machine room.

- **Perfect OAM**

Currently, S3900 is one of Ethernet access devices that support perfect OAM. It can help carriers to manage the network more efficiently. In this way, the operation cost of customers is reduced. The supported OAM standards include 802.1ag, 802.3ah and E-LMI.

- **Various VPN**

S3900 passes MEF9 and MEF14 authentications of MEF, and supports the three VPN services including EPL, EVPL and E-LAN defined by MEF to help carriers open various VPN services for customers.

- **Carrier-class UNI/NNI**

Considering carriers, S3900 defines all downstream interfaces as UNI interfaces. By default, UNI interfaces are disabled and have no local switching function. And the data on UNI interface is not sent to CPU, which ensures the device security. By default, NNI interfaces are enabled, which is convenient for carriers to manage remotely.

- **50ms service protection**

S3900 adopts Ethernet ring protection technology of Maipu, which can realize 50ms network protection in single-ring, dual-ring/multi-ring, tangent-ring and crossover-ring networking environments. In this way, the service continuity of carriers is ensured and customer satisfaction is improved.

- **New generation switching structure to realize distributed wire-speed processing IPv6/MPLS function**

S3900 supports rich IPv6/MPLS features and distributed full wire-speed hardware IPv6/MPLS forwarding mode to realize the intra-board and inter-board wire-speed processing of IPv6/MPLS packets, avoid the bottleneck and delay problems of the centralized forwarding, and provide the strong guarantee for the large-scale commercial applications of IPv6/MPLS.

- **High reliability**

S3900 adopts dual-power redundancy design. Each power can access different power supply networks. In this way, the hot backup for power modules (to prevent power supply fault) and the backup for power supply network (to prevent the power-off of power company) are realized.

- **Advanced QoS**

Each port of S3900 supports eight queues and the queue scheduling policies such as SP, RR, WRR, and WDRR; rich priority mappings including 802.1p→802.1p, 802.1p→COS, DSCP→802.1p, and DSCP→DSCP; 64Kbps-based port traffic rate restriction and carriers can limit the rate according to the time period; Tail Drop and sRED packet loss algorithm.

S3900 supports single-rate three-color mode (srTCM) and dual-rate three-color mode (trTCM) to meet the SLA requirements of operators, including CIR, CBS and PIR.

- **L2/L3 multicast**

S3900 supports 1024 concurrent multicast data flow; IGMP snooping and IGMP fast-adding/leaving protocol; L3 PIM and PIM-DM/SM protocol to meet the requirement of customers for multicast protocol.

- **Powerful anti-attack checking capability**

S3900 supports LAND, SYN Flood, Smurf, Ping Flood, Teardrop and Ping of Death and defines the processing policies for attack packets to ensure the device and network security.

- **Authentication mode**

S3900 supports 802.1x access authentication modes, and Radius and TACACS+ protocols to meet the requirements of operators' access authentication, authorization and accounting for customers.

Technical Specifications

Item	Description
Product configuration	
Product model	Interface
SM3900-24GEF2XGE	MyPower S3900 host (provides 16 1000M SFP ports,8 1000M Combo and two 10G XFP ports)
SM3900-24GEF	MyPower S3900 host (provides 16 1000M SFP ports,8 1000M Combo)
Board card	**Interface**
SM39-24GETH	24-port 1000M electric interface card
SM39-24GEFH	24-port 1000M optical interface card
SM39-2XGEFH	2-port 10G optical interface card
SM39-8PWE3-CE1H	8-port supports PWE3 channelized E1/T1 module card
Performance parameters	
Switching capacity	192Gbps
Throughput	131Mpps
Standards and protocols	
VPN	EPL, EVPL, E-LAN (comply with MEF9&MEF14)
OAM	802.1ag,802.3ah ,E-LMI
QoS	Each port supports eight queues; Supports 802.1q and can change the packet priority; Flow shaping: srTCM (single-rate three-color mode), trTCM (dual-rate three-color mode); SLA: CIR, PIR, CBS; Priority mapping: the mapping among 802.1p, COS, DSCP; Ingress/Egress port rate limiting: 64Kbp granularity, limit the rate based on time period; Supports the flow shaping at the out direction; Queue scheduling: SP, RR, WRR, WDRR; Block workaround: Tail Drop, sRED;
50m protection	Provides Ethernet ring protection protocol (EIPS) ; Supports single ring, dual-ring/multi-ring, crossover ring, tangent ring;
TDMoIP	Supports E1 and T1, up to 64 E1/T1 interfaces; Supports SAToP, CESoPSN, AAL1, AAL2, and HDLC bearing mechanisms; Supports eight independent clocks, including internal clock, external clock, loop clock and RTP clock; Supports 512 independent TDMoIP data flow; Compatible with ITU-T Y.1413, Y.1414, MEF3, MEF8, IETF PWE3;
VLAN	The value range of VLAN ID is 1–4094; Supports dividing VLANs based on port, protocol, MAC, and IP

	address; Port VLAN type: Access, Trunk, Hybrid; Supports Super-VLAN and Sub-VLAN; Supports GVRP;
QinQ	Complies with IEEE 802.1ad; Supports modifying tag protocol ID; Supports up to 4024 QinQs; Supports selective QinQ based on C-VLAN ID; Supports the translation between C-VLAN and S-VLAN;
Multi-cast	Supports IGMP Snooping; Supports IGMP fast adding/leaving; Supports MVR; Supports PIM-DM, PIM-SM; Supports multicast ACL; Supports 1024 multicast groups;
Security	Supports IP Source Address spoofing check; Supports LAND attack check; Supports SYN Flood check; Supports Smurf attack check; Supports Ping Flood attack check; Supports Teardrop attack check; Supports Ping of Death attack check; Supports NetBios/Samba filtering; Supports port isolation; Supports port monitoring; Supports port security;
Authentication	Supports IEEE 802.1x; EAP trunk working mode; EAP terminating working mode; Can be based on MAC address and port; Compatible with Windows client; Supports Auto VLAN; Supports Guest VLAN; Supports Radious, nTACAS+;
Availability	Supports VRRP, VBRP; Supports UDLD; Supports dual power redundancy;
Configuration and management	Supports SSH, Telnet, SNMPV1/2/3; Supports outband Console port, and Ethernet port (shared with service Ethernet port) management; Supports Masterplan management and third-party network management system; Supports SPAN; Supports sFlow;
L2 protocol	IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3x, IEEE 802.1p, IEEE802.1q, IEEE 802.1v, IEEE 802.1ad, IEEE 802.1s/d, RFC2236
MPLS	MPLS basic functions, MPLS L3/L2 VPN, VPLS, VLL, and supports MCE
L3 protocol	Static route, RIPv1/v2, OSPF, BGP4, IGMP, PIM-SM, PIM-DM, VRRP, IPv4 protocol stack, UDP/TCP
Upper application	HTTP, TELNET, FTP/TFTP, DHCP, SNMP V1/V2/V3, SNTP, NTP

Physical indexes	
Demission (W×D× H)	444x240x133 (mm)
Weight	<8Kg
Power supply	
Input voltage (AC)	100~240V: 50Hz/60Hz
Input voltage (DC)	-40~-57V
Power consumption	<200w
Environment parameters	
Working temperature	0～45℃
Working humidity	-40～70℃

Order Information

Product Model	Description
Host	
SM3900-24GEF2XGE	Includes shelf, backplane, Fan slot; besides, the power needs to be configured; provides 16 1000M optical ports (the SFP module needs to be configured),8 1000M Combo, two 10G ports (XFP module needs to be configured), and two slots;
SM3900-24GEF	Includes shelf, backplane, Fan slot; besides, the power needs to be configured; provides 16 1000M optical ports (the SFP module needs to be configured), 8 1000M Combo, and two slots;
Modules	
SM39-24GETH	Suitable for the line card slot 1 of SM3900-24GEF2XGE and SM3900-24GEF hosts
SM39-24GEFH	Suitable for the line card slot 1 of SM3900-24GEF2XGE and SM3900-24GEF hosts
SM39-2XGEFH	Suitable for the line card slot 2 of SM3900-24GEF2XGE and SM3900-24GEF hosts
SM39-8PWE3-CE1H	Supports transparent E1/T1 and channelizedT1; suitable for line card slots 1 and 2 of SM3900-24GEF2XGE and SM3900-24GEF hosts
FAN-3C-01	Suitable for SM3900-24GEF2XGE and SM3900-24GEF hosts
AD200-1S005N	Suitable for SM3900-24GEF2XGE and SM3900-24GEF hosts
DD200-5S005N	Suitable for SM3900-24GEF2XGE and SM3900-24GEF hosts