SNR

SNR-S3750G Series L3 Gigabit Ethernet Switch Datasheet

SNR-S3750G-24S-E

SNR-S3750G-48S-E

Product Overview

The SNR-S3750G Series switches are 10G full optical Ethernet Layer 3 switches for carrier and MAN networks. They support strong IPv4/IPv6 routing, MPLS VRF, comprehensive QoS, enhanced Vlan functions (Multicast Vlan, Voice Vlan, QinQ, etc), classified bandwidth control, multiple link aggregation, intelligent security control. It is ideal for the Metro Ethernet market, using in the aggregation layer of three-tier networks provides long distance fiber connections to aggregate access layer switches or DSLAMs. It is also an excellent choice as a core switch for enterprise customers.

The SNR-S3750G carrier level switches have 2 types: SNR-S3750G-24S-E and SNR-S3750G-24S-E. The switches support IPv6 with hardware and pass the IPv6 form certification Phase II. With the abundant IPv6 features, the product can still work for next generation network.

Key Features and Benefits

► Performance and Scalability

With high switching capacity, the SNR-S3750G series switches support wire-speed L2/L3 forwarding and high routing performance for IPv4 and IPv6 protocols.

The SFP-based Gigabit ports support various optional Gigabit Ethernet mini GBIC transceivers, for different distance fiber connections.

The 10 Gigabit Ethernet connectivity of SNR-S3750G is accomplished via a hot-pluggable 10 Gigabit XFP/SFP+ transceiver which supports distance up to 300 meters over multimode fiber and 10 to 80km over single-mode fiber (The distance depends the optical module chosen). The SNR-S3750G series supports redundant AC and DC power supplies for different environment applications.

► Full Optical Port

The SNR-S3750G series supports abundant optical connection ports to construct full optical network and increase the performance of networks.

The SNR-S3750G-24S-E includes 12 GE combo and 12 GE SFP ports with max 4 10GE ports.

The SNR-S3750G-48S-E includes 44 GE SFP and 4 GE combo ports with max 4 10GE ports.

► Rich L3 Features

The SNR-S3750G series delivers high-performance, hardware based IP routing.

RIP, OSPF and BGP provide dynamic routing by exchangin grouting information with other Layer 3 switches and routers. Policy based Route(PBR) is important for customer when they need multi exit application and SNR-S3750G series can support it.

► Strong Multicast

The SNR-S3750G series supports abundant multicast features. The product supports rich L2 multicast features such as IGMPv1/v2/v3 and snooping and L3 multicast protocols such as PIM-DM, PIM-SM, PIM-SSM even MSDP. As the rich application experience, the product supports Multicast VLAN Register and Multicast Receive Control and Illegal Multicast Source Detection functions.

► MPLS VRF

The SNR-S3750G series supports multiple VRF function to be deployed as MPLS MCE and helps customer to construct more security VPN network.

► Easy high reliability network

MRPP is Multi-layer Ring Protection Protocol. It introduces Layer concept for loop at the basis of traditional loop protect protocol. Each loop layer has multiple same-level Ethernet loop networks. With multi-loop layers, it can achieve quick convergence from core to aggregation.

MRPP can get fast recovery for links at different layers. Compared with spanning tree protocol, it has advantages of fast convergence, simple protocol calculation, little system resources cost, clear networking idea and so on, which can improve the reliability of Ethernet network operation.

VRRP is a high reliability protocol for network and the SNR-S3750G series can support also. With the protocol support the product can help customer network increase network reliability and upgrade network more smoothly.

SNR-S3750G series supports VSF technology for stacking and control-plane redundancy*.

► Comprehensive QoS

8 queues per port enable differentiated management of up to 8 traffic types.

Traffic is prioritized according to IEEE802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

Bi-directional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.

► Enhanced Security

IEEE 802.1X port-based access control and MAC-based access control ensure all users are authorized before being granted access to the network.

Ingress/Egress Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 headers information. And for some service is based on time, the product can support time based ACL to match the requirement.

Secure Shell (SSH) encrypts network management information via Telnet providing secure network management.

RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch.

► Abundant IPv6 Support

The SNR-S3750G series supports IPv6 routing in hardware for maximum performance. As more network devices growing and the need for larger addressing and higher security become critical, the SNR-S3750G series will be a right product to meet the requirement. The SNR-S3750G passed IPv6 form Phase II certificate is the best proof of the application.

Specification

Item	SNR-S3750G-24S-E	SNR-S3750G-48S-E
Ports	12 GE SFP ports, 12 COMBO (SFP/GT) 2 slots and max 4 10GE,	44 GE SFP ports, 4 COMBO (SFP/GT) 2 slots and max 4 10GE,
Performance		
Switching Capability	128Gbps	176Gbps
Forwarding Rate	96Mpps	132Mpps
MAC Address	Max 16K	Max 16K
VLAN Table	Max 4K	Max 4K
ACL TABLE	Max 3k	Max 3k
Routing Table	Max 13k	Max 13k
L3 Interface	Max 1K	Max 1K
VRF interface	Max 252	Max 252
Port Queues	8	8
Physical		
Dimension(WHD)	440mm×44mm×325mm	440mm×44mm×325mm
Relative Humidity	5% ~ 90%, non-condensing	5% ~ 90%, non-condensing
Power Input	AC: 100V~240V	AC: 100V~240V
Operating Temperature	0°C ~ 50°C	0°C ~ 50°C
Storage Temperature	-40°C ~ 70°C	-40°C ~ 70°C
Power Consumption	<65W	<130W
MTBF	>80,000 hours	>80,000 hours
EMC safety	FCC, CE, RoHS,	FCC, CE, RoHS,
MTBF	>=200000 Hours	>=200000 Hours
Features		
Forwarding Mode	Storage and Forwarding	
L1, L2 Features	IEEE802.3(10Base-T) IEEE802.3u(100Base-TX) IEEE802.3z(1000BASE-X) IEEE802.3ab(1000Base-T) IEEE802.3ae(10GBase) 9k Jumbo Frame Port Loopback Detection LLDP and LLDP-MED UDLD DDM VCT	
	Support LACP 802.3ad, max.128 group trunk with max 8 ports for each trunk, Support Load Balance	
	IEEEE802.1d(STP) IEEEE802.1W(RSTP) IEEEE802.1S(MSTP) Max.48 instances Root Guard BPDU Guard BPDU Forwarding	
	1:1 and N:1 port mirror RSPAN	
	IGMP v1/v2/v3 Snooping and L2 Query ND Snooping MLDv1/v2 Snooping	
	QinQ and Selective QinQ, GVRP, Broadcast / Multicast / Unicast Storm Control Port/ MAC/ IP segment/ Portocol/ Voice/ Private/ VLAN support Multicast Vlan Register/MVR for IPv4 and IPv6 service	
	802.1Q, 4096 VLAN	
	MAC Filtering, MAC Limiting	

Item	SNR-S3750G-24S-E	SNR-S3750G-48S-E
L3 Features	IP Protocol(IP support both of IPv4 and IPv6) Manual Configure IPv4/IPv6 tunnel 6to4 tunnel ISATAP tunnel	
	Default Routing, Static Routing, Black hole route, VLSM and CIDR,	
	RIPv1/V2, OSPFv2, BGP4, support MD5 authentication LPM Routing	
	OSPFv3, BGP4+	
	Policy Based Routing(PBR) for IPv4 and IPv6	
	VRRP, VRRP v3	
	PIM-DM, PIM-SM, PIM-SSM, MSDP Static Multicast route PIM-SM/DM/SSM for IPv6, 6 to 4 Tunnels, configured Tunnels, ISATAP Source / Destination Control Illegal Multicast Source Detection Any Cast RP for IPv4 and IPv6	
	Support ECMP(Equal Cost Multi-Path)with maxim 8 groups	
	URPF for IPv4 and IPv6	
	BFD	
	ARP Guard, Local ARP Proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit	
QoS	8 Queues per port	
	Traffic Classification Based on IEEE 802.1p, ToS, port and DiffServ	
	SP, WRR.SWRR	
	Traffic Shaping	
	PRI Mark/Remark	
ACL	Supprt standard and expanded ACL IP ACL and MAC ACL ACL based on source/definition IP, MAC, L3 IP, TCP/UDP port number, IP PRI(DSCP, ToS, Precedence), Time Time-based Security Auto-negotiation ACL rules can be configured to port, VLAN, VLAN routing interfaces Can be used for QoS classification	
Reliability	MSTP(802.1s) VRRP, LACP load balance MRPP - Multi-layer Ring Protection Protocol Redundant power supply, power load balancing Firmware & Configure dual fault tolerance backup	
DHCP	DCHP Client, Relay, Snooping, Option 82	
	DHCP Server for IPv4 and IPv6	
	DHCP v6 and DHCP Snooping v6	
Security	802.1x Guest VLAN and Auto VLAN MAB GRE Tunnel BPDU Tunnel	
Management	CLI, Console(RS-232), Telnet (IPv4/IPv6), SSH(IPv4/IPv6),SSL connection WEB Based NMS SNMPv1/v2c/v3 for IPv4, SNMPv1/v2c for IPv6 Strict management hosts by ACL AAA or Local Authentication SNTP and NTP, Daylight Saving time Configuration file backup Multiple configuration files FTP/TFTP server and client upgrade X-modem protocol upgrade Cluster with 10GE ports and managed by single IP 802.1 ah OAM	
Supervision and Trouble Shooting	ISupervise abnormity of task, memory, CPU, stack, switch chip, temperature and raise alarm Mirror based on port and flow, RSPAN Syslog Sflow for IPv4 and IPv6 RMON 1, 2, 3, 9 Ping and trace route command	

Ordering Information

Product	Description
SNR-S3750G-24S-E	10G IPv6 Routing Switch, 12* GE SFP and 12 Gigabit Combo (SFP/GT) ports and 2 slots, AC+DC redundant power supply
SNR-S3750G-48S-E	10G IPv6 Routing Switch, 44* GE SFP and 4 Gigabit Combo (SFP/GT) ports and 2 slots, AC+DC redundant power supply
SNR-S3-2SFP+	2* 10G module(SFP+ interface) for SNR-S3750, SNR-S3650 series

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