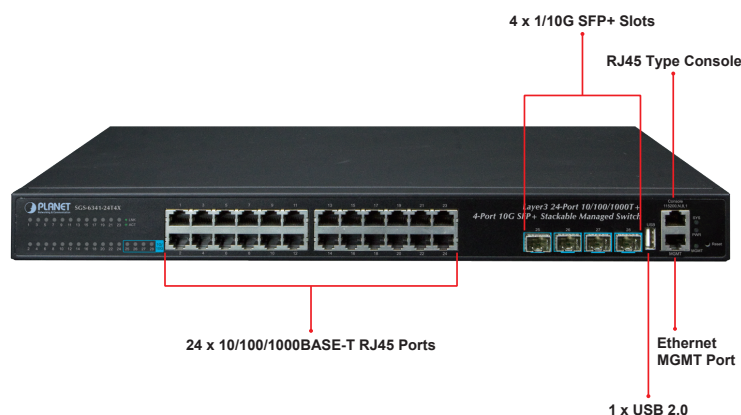# Layer 3 24-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch

Powerful 10Gbps and Layer 3 Routing Solution for Enterprise Backbone and Data Center Networking

PLANET SGS-6341-24T4X is a Layer 3 Stackable Managed Gigabit Switch that provides high-density performance, **Layer 3 static routin**g, **RIP (Routing Information Protocol)** and **OSPF (Open Shortest Path First)** with **10Gbps uplink** interfaces delivered in a rugged, strong case.

The administrator can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the 10G network efficiently. Besides, with **128Gbps switching fabric**, the SGS-6341-24T4X can handle extremely large amounts of data in a secure topology linking to backbone or high capacity servers for ISP and enterprise VoIP, video streaming, and multicast applications.

4 x 1/10G SFP+ Slots

RJ45 Type Console

24 x 10/100/1000BASE-T RJ45 Ports

Ethernet MGMT Port

1 x USB 2.0

Physical Ports
- 24 10/100/1000BASE-T RJ45 copper ports
- **4 10GBASE-SR/LR SFP+** slots, compatible with 1000BASE-SX/LX/BX SFP
- RJ45 to DB9 console interface for switch basic management and setup
- 1 USB2.0 interface for configuration and firmware storage

Stacking Features
- **IP Stacking**
  - Connects with stack member via Gigabit TP, SFP and 10G SFP+ interfaces
  - Single IP address management, supporting up to 24 IP units stacked together
- **Hardware Stacking**
  - Virtualized multiple SGS-6341 series stacked into one logical facility
  - Connects with stack members via assigned 10G SFP+ interfaces
  - Single IP address stack management, supporting up to 4 hardware units stacked together
  - Stacking architecture supports redundant Ring mode

IP Routing Features
- IP routing protocol supports **RIPv1/v2, RIPng, OSPFv2/v3, BGP4/4+**
- Routing interface provides per VLAN routing mode
- **VRRPv1/v3** protocol for redundant routing deployment
- Supports route redistribution
- Supports hardware-based wire-speed VLAN routing

Multicast Routing Features
- Supports **PIM-DM** (Protocol Independent Multicast – Dense Mode) and **PIM-SM** (Protocol Independent Multicast – Sparse Mode) and **PIM-SSM** (Protocol Independent Multicast – Source Specific Multicast)
- Supports **DVMRP** (Distance Vector Multicast Routing Protocol)
- Supports IGMP v1/v2/v3 and MLD v1/v2

Layer 2 Features
- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard
- Supports auto-negotiation and half-duplex/full-duplex

High Performance 10Gbps Ethernet Capacity

The four SFP+ slots built in the SGS-6341 series supports **dual-speed, 10GBASE-SR/LR or 1000BASE-SX/LX**. With 10Gbps uplink interfaces, the SGS-6341 series boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as 128Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Central IP Stacking Management

Positioned as the distribution or aggregation layer switch for large networks, the SGS-6341 series supports IP stacking function that helps network managers to easily configure up to 24 switches in the same series via one single IP address instead of connecting and setting each unit one by one. The IP Stacking technology groups PLANET SGS-6341 switch series together to enable centralized management through a single unit, regardless of physical location or switch type, as long as they are connected to the same local network.

IP Stacking
Up to 24 units with SGS-6341 Series
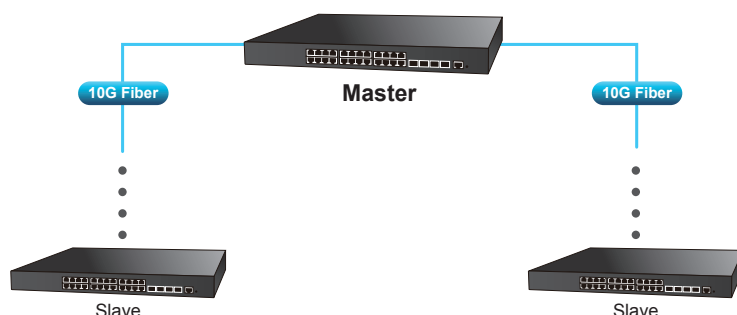
High Reliability Hardware Stacking

Two of the 10G SFP+ ports are used to connect several SGS-6341 series for building a virtually logical facility. The SGS-6341 series gives the enterprises, service providers and telecoms flexible control over port density, uplinks and switch stack performance. The SGS-6341 series can connect as a ring for redundancy and ensures that data integrity is retained even if one switch in the stack fails. You can even hot-swap switches without disrupting the network, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Hardware Stacking
Up to 4 units with SGS-6341 Series

modes for all 10BASE-T, 100BASE-TX and 1000BASE-T ports
- Auto-MDI/MDI-X detection on each RJ45 port
- Prevents packet loss flow control
  – IEEE 802.3x pause frame flow control in full-duplex mode
  – Back pressure flow control in half-duplex mode
- High performance Store-and-Forward architecture, broadcast storm control, port loopback detection
- 16K MAC address table, automatic source address learning and aging
- Supports VLAN
  – IEEE 802.1Q tag-based VLAN
  – GVRP for dynamic VLAN management
  – Up to 256 VLANs groups, out of 4041 VLAN IDs
  – Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
  – Private VLAN Edge (PVE) supported
  – GVRP protocol for Management VLAN
  – Protocol-based VLAN
  – MAC-based VLAN
  – IP subnet VLAN
- Supports Link Aggregation
  – Maximum 128 trunk groups, up to 8 ports per trunk group
  – IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  – Cisco ether-channel (static trunk)
- Supports Spanning Tree Protocol
  – STP, IEEE 802.1D (Classic Spanning Tree Protocol)
  – RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
  – MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol, spanning tree by VLAN)
  – Supports BPDU & root guard
- Port mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)
- Provides port mirror (many-to-1)
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)

Quality of Service
- 8 priority queues on all switch ports
- Support for strict priority and WRR (Weighted Round Robin) CoS policies
- Traffic classification
  – IEEE 802.1p CoS/ToS
  – IPv4/IPv6 DSCP
  – Port-based WRR

Redundant Ring, Fast Recovery for Critical Network Applications

The SGS-6341 Series supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS** (Ethernet Ring Protection Switching) technology and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in harsh environments. In a certain simple Ring network, the recovery time could be less than 50ms to quickly bring the network back to normal operation.

Layer 3 Routing Support

The SGS-6341 series enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, and the **RIP** or **OSPF** settings automatically. The RIP can employ the hop count as a routing metric and prevent routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination. The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Strong Multicast

The SGS-6341 series supports abundant multicast features. In Layer 2, it features IPv4 IGMPv1/v2/v3 snooping and IPv6 MLD v1/v2 snooping. In Layer 3 multicast protocols, it features IGMPv1/v2/v3 and DVMRP. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions which make the SGS-6341 series great for any robust networking.

Full IPv6 Support

The SGS-6341 series provides IPv6 management and enterprise-level secure features such as **SSH**, **ACL**, **WRR** and **RADIUS** authentication. It thus helps the enterprises to step in the IPv6 era with the lowest investment. In addition, you don't need to replace the network facilities when the IPv6 FTTx edge network is built.

Robust Layer 2 Features

The SGS-6341 series can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, Multiple Spanning Tree Protocol, WRR and bandwidth control. This switch provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol functions. By supporting port aggregation, the SGS-6341 series allows the operation of a high-speed trunk combined with multiple ports.

L2/L4
Managed Switch

L2/L4
Managed Switch
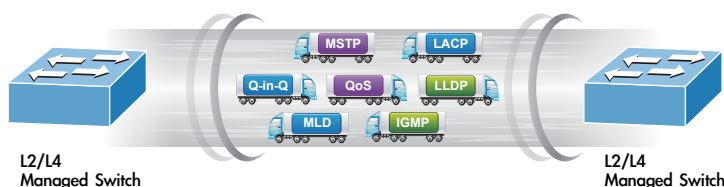
- Strict priority and WRR CoS policies

Multicast

- Supports IPv4 IGMP snooping v1, v2 and v3; IPv6 MLD v1 and v2 snooping
- Querier mode support
- Supports Multicast VLAN Register (MVR)

Security

- IEEE 802.1x port-based network access authentication
- MAC-based network access authentication
- Built-in RADIUS client to cooperate with the RADIUS servers for IPv4 and IPv6
- TACACS+ login users access authentication
- IP-based Access Control List (ACL)
- MAC-based Access Control List
- Supports DHCP snooping
- Supports ARP inspection
- **IP Source Guard** prevents IP spoofing attacks
- **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding

Management

- Management IP for IPv4 and IPv6
- Switch Management Interface
    – Console/Telnet Command Line Interface
    – Web switch management
    – SNMP v1, v2c, and v3 switch management
    – SSH/SSL secure access
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via TFTP or HTTP Protocol for IPv4 and IPv6
- SNTP (Simple Network Time Protocol) for IPv4 and IPv6
- User privilege levels control
- Syslog server for IPv4 and IPv6
- Supports DDM
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports sFlow
- Supports ULDP
- Supports ULPP (Uplink Protection Protocol)
- Supports ULSM (Uplink State Monitor protocol)
- Supports LLDP/LLDP MED
- Supports DHCP Option82, Option37/38
- Supports ping, trace route function for IPv4 and IPv6

Excellent Layer 2 to Layer 4 Traffic Control

The SGS-6341 series is loaded with powerful traffic management and WRR features to enhance services offered by telecoms. The WRR functionalities include wire-speed Layer 4 traffic classifiers and bandwidth limitation which are particularly useful for multi-tenant unit, multi-business unit, Telco, or network service applications. It also empowers the enterprises to take full advantage of the limited network resources and guarantees the best in VoIP and video conferencing transmission.

Powerful Security

The SGS-6341 series supports ACL policies comprehensively. The traffic can be classified by source/destination IP addresses, source/destination MAC addresses, IP protocols, TCP/UDP, IP precedence, time ranges and ToS. Moreover, various policies can be conducted to forward the traffic. The SGS-6341 series also provides IEEE 802.1x port based access authentication, which can be deployed with RADIUS, to ensure the port level security and block illegal users.

Efficient and Secure Management

For efficient management, the SGS-6341 Managed Gigabit Switch series is equipped with console, Web and SNMP management interfaces. With its built-in Web-based management interface, the SGS-6341 series offers an easy-to-use, platform-independent management and configuration facility. The SGS-6341 series supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software.

For reducing product learning time, the SGS-6341 series offers Cisco-like command via Telnet or console port and customer doesn't need to learn new command from these switches. Moreover, the SGS-6341 series offers secure remote management by supporting SSH connection which encrypts the packet content at each session.

Intelligent SFP Diagnosis Mechanism

The SGS-6341-24T4X supports **SFP-DDM (Digital Diagnostic Monitor)** function that greatly helps network administrator to easily monitor real-time parameters of the SFP and SFP+ transceivers, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Digital Diagnostic Monitor (DDM)
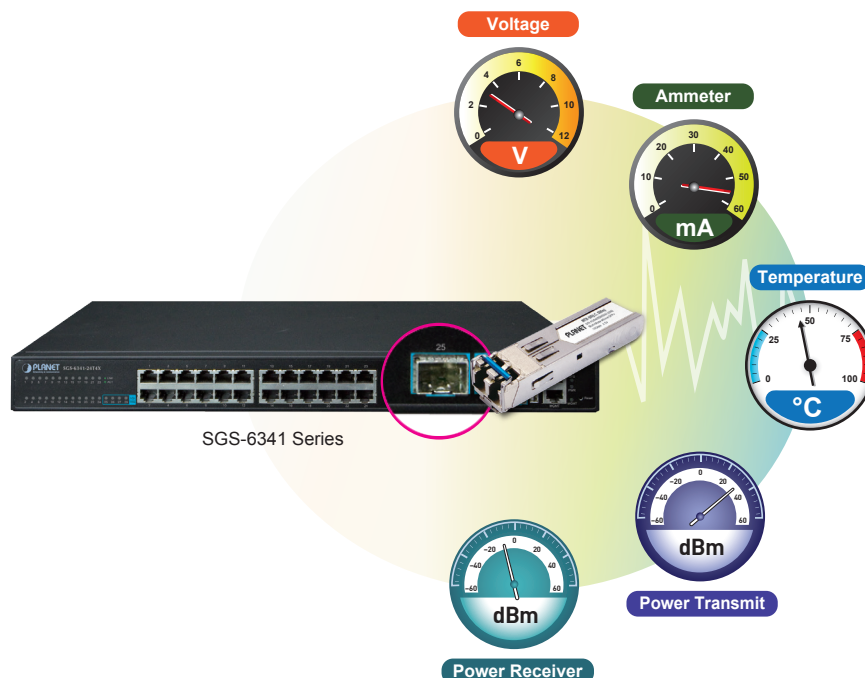
Applications

High Availability Mesh Networking Solution for Big Data System

With highly-flexible, highly-extendable and easy-to-install features, the SGS-6341-24T4X series offers up to **128Gbps** data exchange speed via optical fiber interface and the transmission distance can be extended to 120km. The SGS-6341-24T4X series features strong, rapid, self-recovery capability to prevent interruptions and external intrusions. It incorporates **IEEE 802.1s MSTP (Multiple Spanning Tree Protocol, spanning tree by VLAN)** into customer's automation network to enhance system reliability and uptime. The SGS-6341-24T4X is the ideal solution for data centers, service providers and telecoms to build redundant connection and establish high bandwidth for **Big Data** server farm.
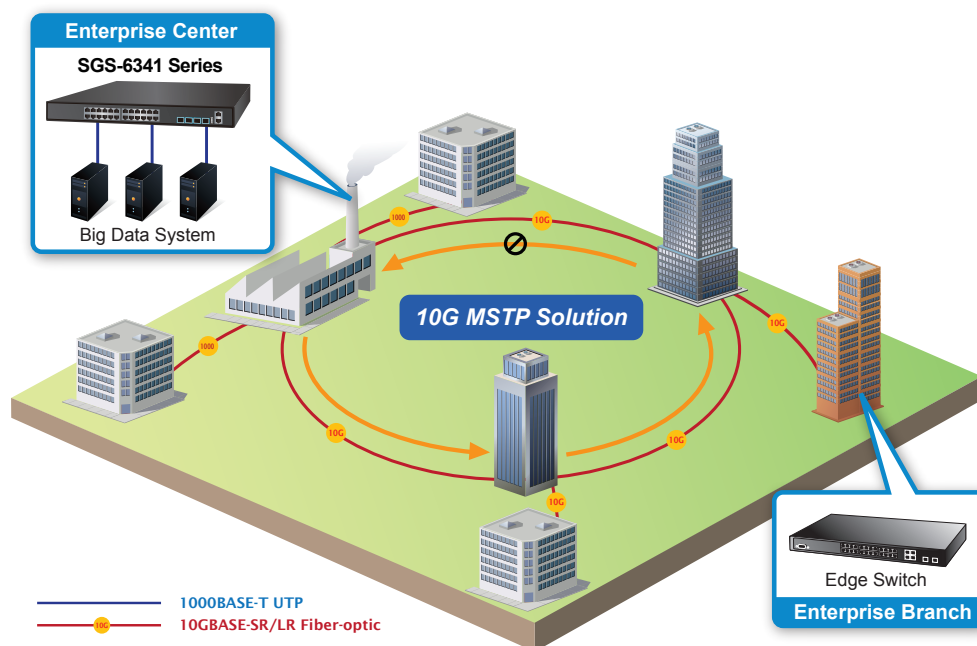
Excellent Solution to Core/Data Center Security and QoS Switch

The SGS-6341-24T4X series performs 128 Gigabits per second non-blocking switch fabric, so it can easily provide a local 10Gbps high bandwidth Ethernet network for the backbone of your department. With the four built-in SFP+ ports, the SGS-6341-24T4X series provides the uplink to the backbone network through the 10G Ethernet LR/SR SFP+ modules. It further improves the network efficiency and protects the network clients by offering the security and QoS features.

High Performance Server Service
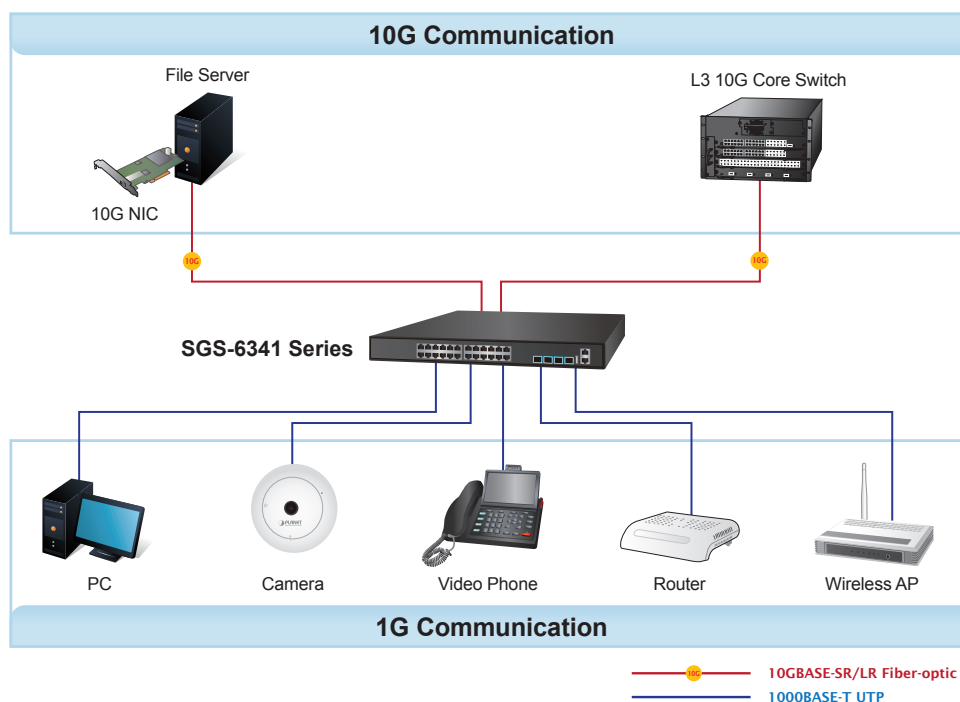
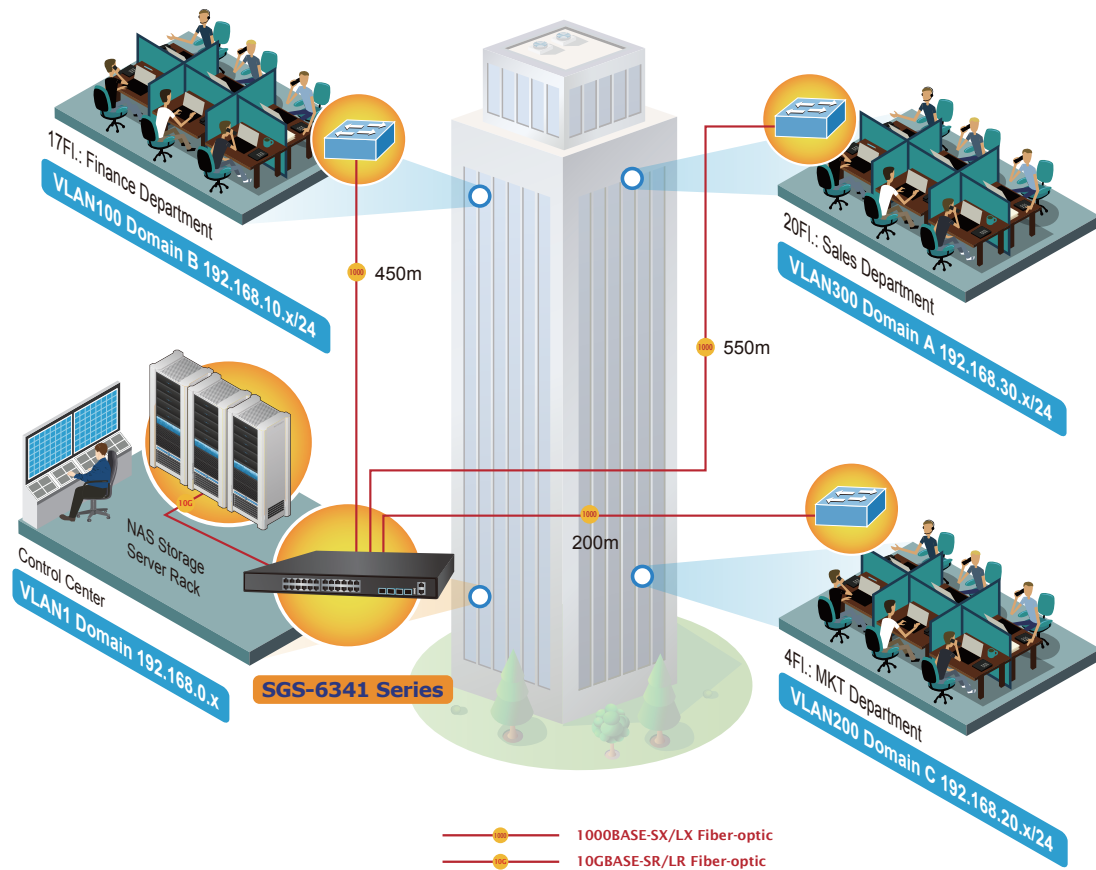## Layer 3 VLAN Routing

With the built-in robust Layer 3 traffic routing protocols, the SGS-6341-24T4X ensures reliable routing between VLANs and network segments. The routing protocols can be applied via VLAN interface. The SGS-6341-24T4X is certainly a cost-effective and ideal solution for enterprises.

VLAN Routing + 10G Uplink Applications

1000BASE-SX/LX Fiber-optic
10GBASE-SR/LR Fiber-optic

Specifications

Product	SGS-6341-24T4X
Hardware Specifications	
Hardware Version	2
Copper Ports	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
SFP+ Slots	4 10GBASE-SR/LR SFP+ interfaces (port-25 to port-28)
	Compatible with 1000BASE-SX/LX/BX SFP transceiver
Console	1 x RJ45-to-RS232 serial port (115200, 8, N, 1)
CPU	ARM A9 400MHz
RAM	256Mbytes
Flash Memory	32Mbytes
Switch Architecture	Store-and-forward
Switch Fabric	128Gbps/non-blocking
Switch Throughput	95.23Mpps
Address Table	16K MAC address table with auto learning function
ARP Table	4K
Routing Table	1024 (IPv4 + IPv6)
IP Interface	1024
ACL Table	1024
Shared Data Buffer	1.5MB
Flow Control	Back pressure for half duplex
	IEEE 802.3x pause frame for full duplex
Jumbo Frame	10KB
LED	System:
	PWR/DC/MGMT/SYS
	Ports:
	10/100/1000T RJ45 Port: LNK/ACT
	1/10G SFP+ slot: LNK/ACT
Dimensions (W x D x H)	440 x 240 x 43.6 mm, 1U height
Weight	3170g
Power Consumption	26 watts/88.66 BTU
Power Requirements	AC 100~240V, 50/60Hz
Fan	Fanless design
IPv4 Layer 3 Functions	
IP Routing Protocol	■ Static route
	■ RIPv1/v2
	■ OSPFv2
	■ BGPv4
	■ Policy-based routing (PBR)
	■ LPM routing (MD5 authentication)
Multicast Routing Protocol	■ IGMP v1/v2/v3
	■ DVMRP
	■ PIM-DM/SM
	■ PIM-SSM
Layer 3 Protocol	■ VRRP v1/v3
	■ ARP
	■ ARP Proxy
	■ IGMP Proxy
IPv6 Layer 3 Functions	
IP Routing Protocol	■ RIPng
	■ OSPFv3
	■ BGPv4+
	■ IPv6 LPM Routing
	■ IPv6 Policy-based Routing (PBR)
	■ IPv6 VRRPv3
	■ IPv6 URPF
	■ IPv6 RA
Multicast Routing Protocol	■ PIM-SM/DM for IPv6
	■ MLD for IPv6 (v1)
	■ MLDv1/v2
	■ MLD Snooping, 6 to 4 Tunnels
	■ IPv6 Any Cast RP
	■ Multicast receive control
	■ Illegal multicast source detect

Layer 3 Protocol	■ Configured Tunnels ■ ISATAP ■ GRE Tunnel
Other	ICMPv6,ND,DNSv6
Layer 2 Function	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable/enable Bandwidth control on each port Port loopback detect
Port Status	Display each port's speed duplex mode, link status, flow control status and auto negotiation status
VLAN	802.1Q tagged based VLAN, up to 4K VLAN groups 802.1ad Q-in-Q (VLAN stacking) GVRP for VLAN management Private VLAN Edge (PVE) supported Protocol-based VLAN MAC-based VLAN IP subnet VLAN
Bandwidth Control	TX/RX/Both
Link Aggregation	IEEE 802.3ad LACP/static trunk Supports 128 groups with 8 ports per trunk group

QoS	8 priority queues on all switch ports
	Supports strict priority and Weighted Round Robin (WRR) CoS policies
	Traffic classification:
	  - IEEE 802.1p CoS/ToS
	  - IPv4/IPv6 DSCP
	  - Port-based WRR

Multicast	IPv4 IGMP v1/v2/v3 snooping IPv4 Querier mode support IPv6 MLD v1/v2 snooping Multicast VLAN Register (MVR) Up to 1024 multicast groups
Access Control List	Supports Standard and Expanded ACL IP-based ACL/MAC-based ACL Time-based ACL Up to 1K entries
Security	Port isolation Supports IP + MAC + port binding Identification and filtering of L2/L3/L4 based ACL Defend against DOS or TCP attacks Suppression of broadcast, multicast and unknown unicast packet DHCP Snooping, DHCP Option 82 Command line authority control based on user levels
Authentication	IEEE 802.1x port-based network access control AAA authentication: TACACS+ and IPv4/IPv6 over RADIUS
Management Function	
System Configuration	Console, Telnet, Web browser, SNMP v1, v2c
Secure Management Intefaces	SSHv1/v2, SSL, SNMPv3
Management	IPv4 and IPv6 dual stack management User IP security inspection for IPv4/IPv6 SNMP SNMP v1, v2c and v3 SNMP MIB and TRAP SNMP RMON 1, 2, 3, 9 four groups IPv4/IPv6 FTP/TFTP IPv4/IPv6 NTP RADIUS authentication for IPv4/IPv6 Telnet user name and password IPv4/IPv6 SSH The right configuration for users to adopt RADIUS server's shell management CLI, console, Telnet Security IP safety net management function: avoid unlawful landing at nonrestrictive area Syslog server for IPv4 and IPv6 TACACS+

IP Cluster (Stacking) Compatibility List	XGS3-24242v2 XGS3-24042v3 SGS-6341-24T4Xv2 SGS-6341-24P4Xv2 SGS-6341-16S8C4XR SGS-6341-48T4X XGS-5240-24X2QR
Hardware Stacking Compatibility List	SGS-6341-24T4Xv2 SGS-6341-24P4Xv2 SGS-6341-16S8C4XR SGS-6341-48T4X
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Internet Engineering Task Force RFC 1271 RMON RFC 1354 IP-Forwarding MIB RFC 1493 Bridge MIB RFC 1643 Ether-like MIB RFC 1907 SNMP v2 RFC 2011 IP/ICMP MIB RFC 2012 TCP MIB RFC 2013 UDP MIB RFC 2096 IP forward MIB RFC 2233 if MIB RFC 2452 TCP6 MIB RFC 2454 UDP6 MIB RFC 2465 IPv6 MIB RFC 2466 ICMP6 MIB RFC 2573 SNMP v3 notify RFC 2574 SNMP v3 vacm RFC 2674 Bridge MIB Extensions (IEEE 802.1Q MIB) RFC 2674 Bridge MIB Extensions (IEEE 802.1P MIB)

Standard Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3z Gigabit 1000BASE-SX/LX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3ae 10Gb/s Ethernet IEEE 802.3x flow control and back pressure IEEE 802.3ad port trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging IEEE 802.1X port authentication network control IEEE 802.1ab LLDP RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 FRC 3810 MLD v2 RFC 2328 OSPF v2 RFC 1058 RIP v1 RFC 2453 RIP v2 ITU-T G.8032 ERPS Ring

Environment	
Operating	Temperature: 0 ~ 50 degrees C
	Relative Humidity: 5 ~ 90% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C
	Relative Humidity: 5 ~ 90% (non-condensing)

Ordering Information

SGS-6341-24T4X	Layer 3 24-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch

Related Products

SGS-6341-16S8C4XR	Layer 3 16-Port 100/1000X SFP + 8-Port Gigabit TP/SFP + 4-Port 10G SFP+ Stackable Managed Switch (100~240V AC, 36~75V DC)
SGS-6341-24P4X	Layer 3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Stackable Managed Switch (370W)
SGS-6341-48T4X	Layer 3 48-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch

Available Modules for SGS-6341-24T4X

10Gigabit Ethernet Transceiver (10GBASE-X SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MTB-RJ	10G	Copper	--	30m	--	0 ~ 70 degrees C
MTB-SR	10G	LC	Multi Mode	300m	850nm	0 ~ 60 degrees C
MTB-LR	10G	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MTB-TSR	10G	LC	Multi Mode	Up to 300m	850nm	-40 ~ 75 degrees C
MTB-TLR	10G	LC	Single Mode	10km	1310nm	-40 ~ 75 degrees C

10Gbps SFP+ (10GBASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-LA20	10G	WDM(LC)	Single Mode	20km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB20	10G	WDM(LC)	Single Mode	20km	1330nm	1270nm	0 ~ 60 degrees C
MTB-LA40	10G	WDM(LC)	Single Mode	40km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB40	10G	WDM(LC)	Single Mode	40km	1330nm	1270nm	0 ~ 60 degrees C
MTB-LA60	10G	WDM(LC)	Single Mode	60km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB60	10G	WDM(LC)	Single Mode	60km	1330nm	1270nm	0 ~ 60 degrees C

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60 degrees C
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60 degrees C
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60 degrees C
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 degrees C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75 degrees C
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 75 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10 MGB-LB10	1000	WDM(LC)	Single Mode	10km	1310nm 1550nm	1550nm 1310nm	0 ~ 60 degrees C
MGB-LA20 MGB-LB20	1000	WDM(LC)	Single Mode	20km	1310nm 1550nm	1550nm 1310nm	0 ~ 60 degrees C
MGB-LA40 MGB-LB40	1000	WDM(LC)	Single Mode	40km	1310nm 1550nm	1550nm 1310nm	0 ~ 60 degrees C
MGB-LA60 MGB-LB60	1000	WDM(LC)	Single Mode	60km	1310nm 1550nm	1550nm 1310nm	0 ~ 60 degrees C
MGB-TLA10 MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1310nm 1550nm	1550nm 1310nm	-40 ~ 75 degrees C
MGB-TLA20 MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1310nm 1550nm	1550nm 1310nm	-40 ~ 75 degrees C
MGB-TLA40 MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1310nm 1550nm	1550nm 1310nm	-40 ~ 75 degrees C
MGB-TLA60 MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1310nm 1550nm	1550nm 1310nm	-40 ~ 75 degrees C

SGS-6341-24T4X