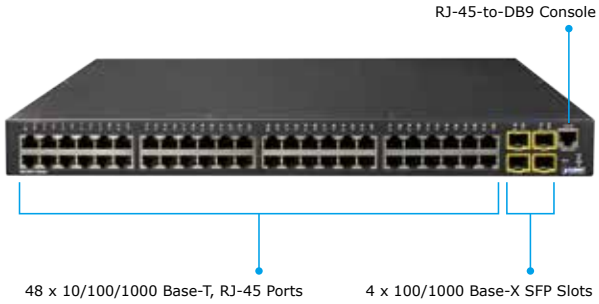
Layer 3 48-Port 10/100/1000T + 4-Port 1000X SFP Stackable Managed Switch

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

PLANET SGS-6340-48T4S is a Layer 3 Stackable Managed Gigabit Switch that provides high-density performance, Layer 3 static routing, RIP (Routing Information Protocol) and OSPF (Open Shortest Path First). With 104Gbps switching fabric, the SGS-6340-48T4S can handle extremely large amounts of data in a secure topology linking to an enterprise backbone or high capacity servers. The powerful WRR (Weighted Round Robin) and Network Security features make the SGS-6340-48T4S perform effective data traffic control for ISP and enterprise VoIP, video streaming, and multicast applications.



Layer 3 Routing Support

The SGS-6340-48T4S enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, the RIP (Routing Information Protocol) or OSPF (Open Shortest Path First) 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 maximum number of hops allowed for the RIP is 15. The OSPF is an interior dynamic routing protocol for autonomous system based on link-state. The protocol creates a link-state database by exchanging link-states among Layer3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Physical Ports

- 48-Port 10/100/1000BASE-T Gigabit Ethernet RJ45
- 4 1000BASE-X mini-GBIC/SFP slots
- RJ45 to DB9 console interface for switch basic management and setup

IP Stacking

- Connects with stack member via both Gigabit TP and SFP interfaces
- Single IP address management, supporting up to 24 units stacked together

IP Routing Features

- Supports maximum 128 static routes and route summarization
- Supports dynamic routing protocol: RIP and OSPF

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 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 for full-duplex mode
  - Back-pressure flow control in half-duplex mode
- High performance Store-and-Forward architecture, broadcast storm control, port loopback detect
- 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

Abundant IPv6 Support

The SGS-6340-48T4S provides IPv6 management and enterprise-level secure features such as SSH, ACL, WRR and RADIUS authentication. The SGS-6340-48T4S 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.

High Performance

The SGS-6340-48T4S provides 48 10/100/1000Mbps Gigabit Ethernet ports with 4 additional Gigabit SFP slots. It boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as 104Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Robust Layer 2 Features

The SGS-6340-48T4S can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, Spanning Tree Protocol, WRR, bandwidth control and IGMP snooping. The SGS-6340-48T4S provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol. The VLAN groups allowed to be on the SGS-6340-48T4S will be maximally up to 256. By supporting port aggregation, the SGS-6340-48T4S allows the operation of a high-speed trunk combined with multiple ports. It enables up to 128 groups for trunking with a maximum of 8 ports for each group.

Excellent Traffic Control

The SGS-6340-48T4S 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 performance in VoIP and video conferencing transmission.

Powerful Security

The SGS-6340-48T4S 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-6340-48T4S 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 Management

The SGS-6340-48T4S 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. For efficient management, the SGS-6340-48T4S Managed Gigabit Switch is equipped with console, Web and SNMP management interfaces. With its built-in Web-based management interface, the SGS-6340-48T4S offers an easy-to-use, platform-independent management and configuration facility. The SGS-6340-48T4S supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. For text-based management, the SGS-6340-48T4S can be accessed via Telnet and the console port. Moreover, the SGS-6340-48T4S offers secure remote management by supporting SSH connection which encrypts the packet content at each session.

  - 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)

Quality of Service

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

Multicast

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

Security

- IEEE 802.1x port-based network access authentication
- MAC-based network access authentication
- Built-in RADIUS client to co-operate 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
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports ping, trace route function for IPv4 and IPv6

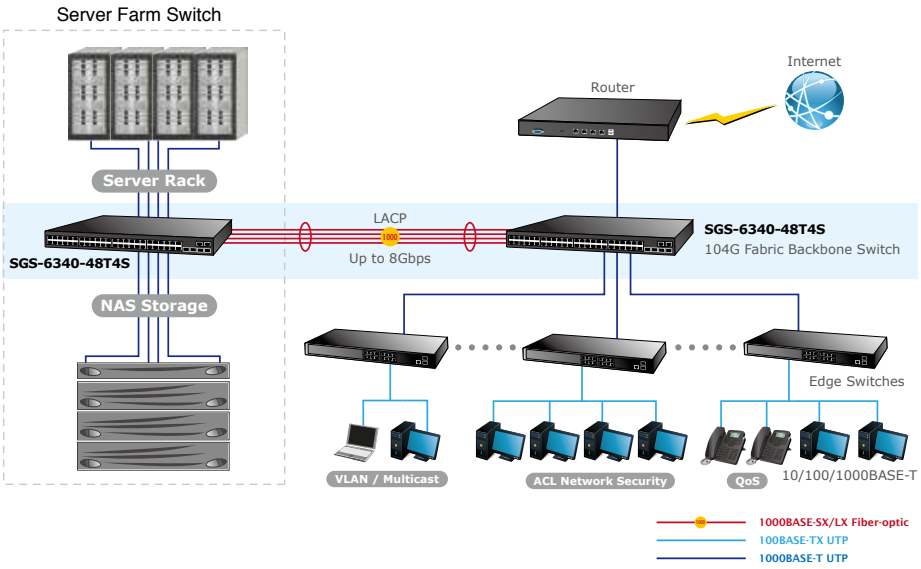
Flexibility and Extension Solution

The four mini-GBIC slots built in the SGS-6340-48T4S are compatible with 1000BASE-X and WDM SFP (Small Form-factor Pluggable) fiber-optic modules. The distance can be extended from 550 meters (multi-mode fiber) to 10/50/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Applications

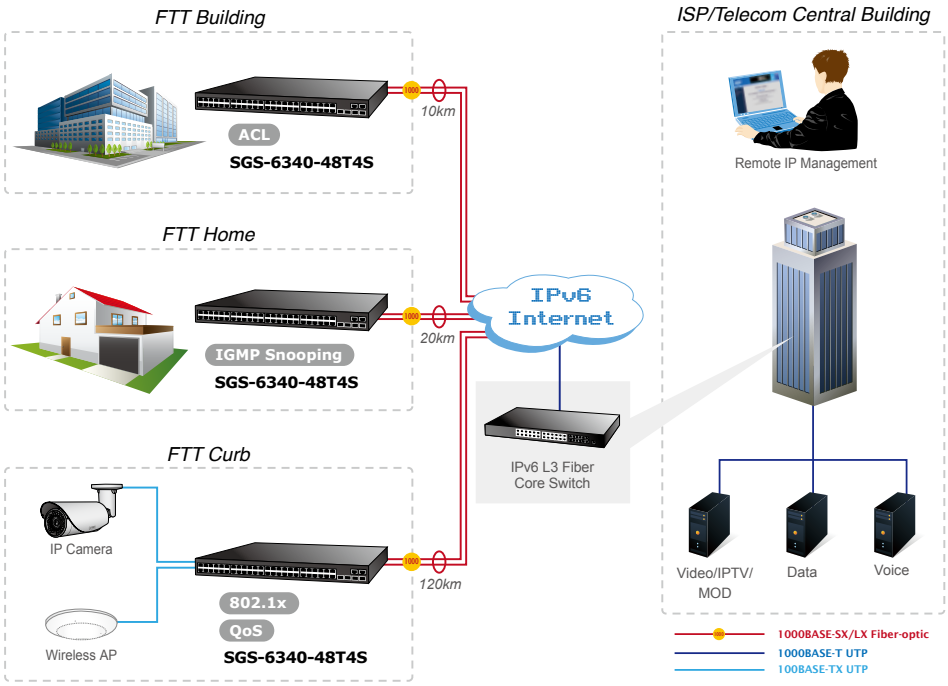
Server Farm Switch

The SGS-6340-48T4S provides up to 52 Gigabit Ethernet ports for enterprises and network servers. It is ideal to be used as a server farm switch connecting to servers. With its port trunking function, an 8GB fat pipe is provided for connecting to the backbone if required.



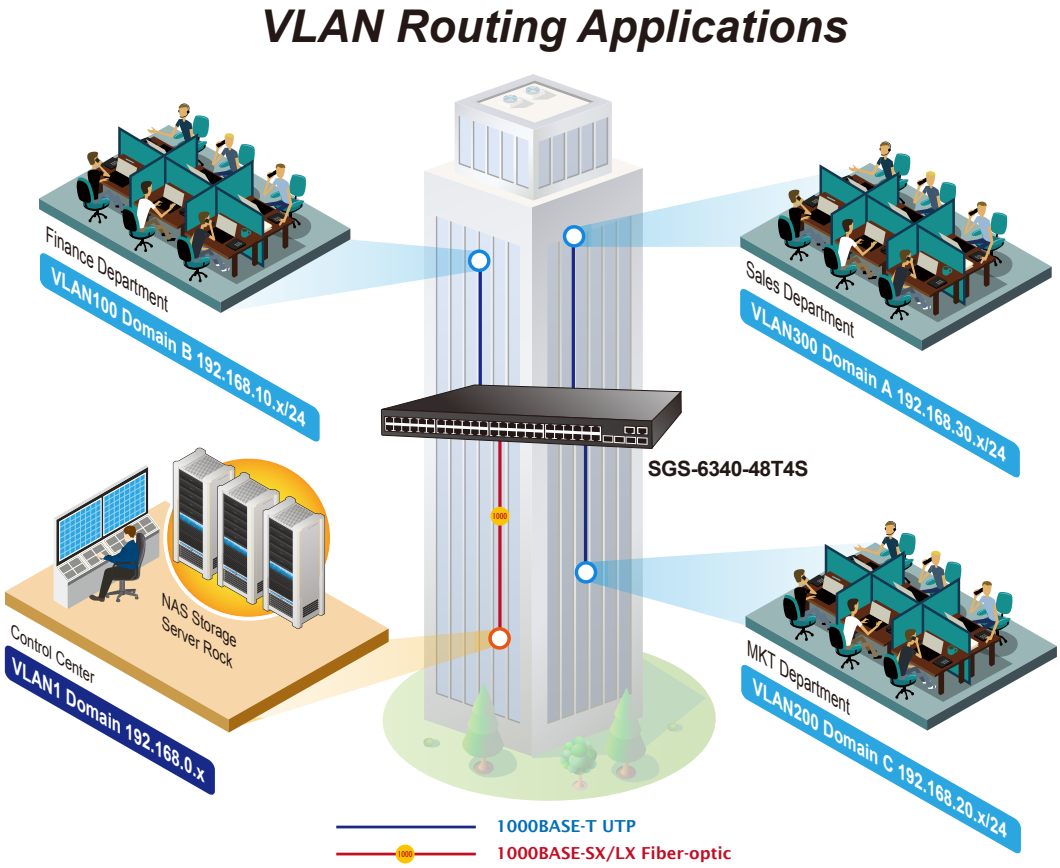
Enterprise Security and QoS Edge Switch

With the IEEE 802.1x network access authentication, the SGS-6340-48T4S provides the MAC/IP/Protocol Access Control list and Port Security functions which can limit the number of MAC addresses to be passed through one specific port. The IGMP snooping and QoS features in the SGS-6340-48T4S improve the network efficiency and protect the network clients.



Layer 3 VLAN Routing

With the built-in robust Layer 3 traffic routing protocols, the SGS-6340-48T4S ensures reliable routing between VLANs and network segments. The routing protocols can be applied via VLAN interface. The SGS-6340-48T4S is certainly a cost-effective and ideal solution for enterprises.



Specifications

Model	SGS-6340-48T4S Layer 3 48-Port 10/100/1000T + 4-Port 1000X SFP Stackable Managed Switch
Hardware Specifications	
CPU	ARM A9 400MHz
RAM Size	256MB
FLASH Size	32MB
Copper Ports	48 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	4 1000BASE-X SFP interfaces
Console	1 x RJ45-to-RS232 serial port (9600, 8, N, 1)
Switch Architecture	Store-and-forward
Switch Fabric	104Gbps/non-blocking
Switch Throughput	77.38Mpps
Address Table	16K MAC address table with auto learning function
Shared Data Buffer	1.5Mbytes
Flow Control	Back pressure for half-duplex IEEE 802.3x pause frame for full-duplex
Jumbo Frame	9K bytes
LED	System: PWR, SYS Ports: 10/100/1000T RJ45 Port: LNK/ACT 1000X SFP slot: LNK/ACT
Dimensions (W x D x H)	442 x 280 x 44 mm, 1U height
Weight	3702g
Power Consumption	38 watts/129 BTU (maximum)
Power Requirements	AC 100~240V, 50/60Hz
Management Function	
System Configuration	Console, Telnet, SSH, Web browser, SNMP v1, v2c and v3
Management	Supports both IPv4 and IPv6 addressing Supports the user IP security inspection for IPv4/IPv6 SNMP Supports MIB and TRAP Supports IPv4/IPv6 FTP/TFTP Supports IPv4/IPv6 NTP Supports RMOM 1, 2, 3, 9 four groups Supports the RADIUS authentication for IPv4/IPv6 Telnet user name and password Supports IPv4/IPv6 SSH The right configuration for users to adopt RADIUS server's shell management Supports CLI, console, Telnet Supports SNMPv1/v2c/v3 Supports Security IP safety net management function: avoid unlawful landing at nonrestrictive area Supports Syslog server for IPv4 and IPv6 Supports TACACS+
Layer 3 Function	
Routing Protocol	Static routing, RIP and OSPF
Routing Table	Total 128 entries (IPv4+IPv6)
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 256 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	IGMP v1/v2/v3 snooping Querier mode support MLD v1/v2 snooping Querier mode support Multicast VLAN Register (MVR)
Access Control List	Supports Standard and Expanded ACL IP-based ACL/MAC-based ACL Time-based ACL Up to 512 entries
Bandwidth Control	At least 64Kbps step
Security	Supports MAC + port binding IPv4/IPv6 + MAC + port binding IPv4/IPv6 + port binding Supports MAC filter ARP scanning prevention
Authentication	IEEE 802.1x port-based network access control AAA authentication: TACACS+ and IPv4/IPv6 over RADIUS
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 SNMPV3 notify RFC 2574 SNMPV3 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 802.3x 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 version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 FRC 3810 MLD version 2 RFC 2328 OSPF v2 RFC 1058 RIP v1 RFC 2453 RIP v2

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-6340-48T4S	Layer 3 48-Port 10/100/1000T + 4-Port 1000X SFP Stackable Managed Switch

Related PoE Products

SGS-6340-24T4S	Layer 3 24-Port 10/100/1000T + 4-Port 1000X SFP Stackable Managed Switch
SGS-6340-24P4S	Layer 3 24-Port 10/100/1000T 802.3at PoE + 4-Port 1000X SFP Stackable Managed Switch/370W
SGS-6340-20S4C4X	Layer 3 20-Port 100/1000X SFP + 4-Port Gigabit TP/SFP + 4-Port 10G SFP+ Stackable Managed Switch

Available Modules for SGS-6340-48T4S

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

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