16 GPON Ports

Support 2048 ONTs

V1.1.1

ITU-T G.984x GPON ONT

2.5Gbps Downstream

Enhanced Layer 2-7 Switching

Dual power supply

IPv6

SGT8016A 16 Port GPON OLT:

SGT8016A is a small capacity and enhancement mode cassette GPON OLT, meeting the requirements of ITU-T G.984/G.988, possessing super GPON access capacity, carrier-class reliability and the complete security function. It can satisfy long-distance optical fiber access requirement on account of its excellent management, maintenance and monitoring capability, abundant service features and flexible network mode. SGT8016A can be used with NGBNVIEW network management system so as to provide users with the perfect solution.

SGT8016A provides 16 * downlink GPON port, 4 *GE combo port and 2* 10G SFP+ port. The height is only 1U for easy installation and space saving. SGT8016A is suitable for Broadcast three in one, video surveillance network, enterprise LAN, Internet of Things, etc.

Main Characters

- ITU-T G.984.x standard, interoperable with Chima and most popular GPON ONTs
- Offers 16*GPON SC Ports, support 2048 subscriber ONTs at 1:128 Splitting Ratio
- Offers 4*Gigabit SFP and 4*Gigabit Tx combo uplink ports, Optionally 2*10GE SFP+ uplink ports.
- Dual AC or Dual DC or 1AC+1DC Redundant Power supply
- Comprehensive GPON DBA capabilities, dynamic assignment of bandwidth
- IPv4 and IPv6 ready, suitable for applying in both IPv4 and IPv6 based Networks
- IEEE802.1Q VLAN, QinQ, VLAN translation, GVRP, highly applicable in HFC networks
- Enhanced L2-7 Switching features, support STP, RSTP, MSTP, QOS, ACL, etc.
- Standard OMCI management function
- ONU batch software upgrade, fixed time upgrade, real time upgrade
- PON port optical power detection

Technical Parameters

GPON Parameters

ITU-T G.984.x GPON standard, 1310nm upstream & 1490nm downstream
Support G.984.1, G.984.2, G.984.3, G.984.4, G.988 GPON & OMCI protocols
TR-101 compliant solution for GPON OLT applications
1:128 Splitting Ratio, support max 2048 subscriber GPON ONTs
Max transmission distance: 20Km
SN or SN+Password methods for ONT identifier and authentication
T-cont bandwidth, static bandwidth and dynamic bandwidth allocation
4096 port-IDs per GPON MAC in upstream and downstream directions.
1024 allocated IDs per Gpon MAC in upstream direction
Fiber Transmission cable: G.652 Single mode optical fiber cable
Enhanced GPON debug and diagnostic functions.
Support NSR/SR Dynamic Bandwidth Allocation (DBA), 1Kbit/s
Support Forward Error Correction (FEC)
128bit triple churning encryption for both upstream and downstream
Verification of legal subscriber ONT, illegal subscriber ONT report
ONT Firmware upgrade: massive upgrade, timed upgrade, realtime upgrade
Transmission and Receiving optic power detection at PON port
Support Dying Gasp

Hardware Parameters

Model NO. SGT8016A
Offers 16* GPON downstream ports
Offers 4*GE SFP/Tx combo upstream ports
Optionally offers 2*10G SFP+ upstream ports
Redundant dual AC, dual DC or 1AC+1DC power supplies:
AC: Input 90～264V, 47～63Hz;
DC: Input -36V～-72V;
Switching Capacity: 140Gbps
IPv4 & IPv6 Switching Througput: 104Mpps
Power consumption: ≤110W
Product Measurement: 440mm×44mm×380mm
Product Weight: ≤3kgs
Live Leds for all interfaces

Product features

Item	SGT8016A	
PON Features	ITU-TG.984.x standard Maximum 20 Km PON transmission distance access 128 terminals for single fiber PON Uplink and downlink triple churning encrypted function with 128Bits ONU terminal legitimacy certification, report illegal ONU registration DBA algorithm, the particle is 1Kbit/s Standard OMCI management function ONU batch software upgrade, fixed time upgrade, real time upgrade PON port optical power detection	
L2 Features	MAC	MAC Black Hole Port MAC Limit 64K MAC (packet exchange chip cache 2MB, external cache 720 MB)

L2 Features	VLAN	4K VLAN entries Port-based/MAC-based/protocol/IP subnet-based QinQ and flexible QinQ (StackedVLAN) VLAN Swap and VLAN Remark PVLAN to realize port isolation and saving public-vlan resources GVRP
	Spanning Tree	STP/RSTP/MSTP Remote loop detecting
	Port	Bi-directional bandwidth control Static link aggregation and LACP(Link Aggregation Control Protocol) Port mirroring
Security Features	User’ s Security	Anti-ARP-spoofing Anti-ARP-flooding IP Source Guard create IP+VLAN+MAC+Port binding Port Isolation MAC address binding to the port and MAC address filtering IEEE 802.1x and AAA/Radius authentication
	Device Security	Anti-DOS attack(such as ARP, Synflood, Smurf, ICMP attack), ARP detection, worm and Msblaster worm attack SSHv2 Secure Shell SNMP v3 encrypted management Security IP login through Telnet Hierarchical management and password protection of users
Service Features	Network Security	User-based MAC and ARP traffic examination Restrict ARP traffic of each user and force-out user with abnormal ARP traffic Dynamic ARP table-based binding IP+VLAN+MAC+Port binding L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet Port-based broadcast/multicast suppression and auto-shutdown risk port URPF to prevent IP address counterfeit and attack DHCP Option82 and PPPoE+ upload user’ s physical location Plaintext authentication of OSPF, RIPv2 and BGPv4 packets and MD5 cryptograph authentication
Service Features	ACL	Standard and extended ACL Time Range ACL Flow classification and flow definition based on source/destination MAC address, VLAN, 802.1p, ToS, DiffServ, source/destination IP(IPv4/IPv6) address, TCP/UDP port number, protocol type, etc packet filtration of L2～L7 deep to 80 bytes of IP packet head

	QoS	Rate-limit to packet sending/receiving speed of port or self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and Remark CAR(Committed Access Rate), Traffic Shaping and flow statistics Packet mirror and redirection of interface and self-defined flow Super queue scheduler based on port or self-defined flow. Each port/ flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR. Congestion avoid mechanism, including Tail-Drop and WRED
	IPv4	ARP Proxy DHCP Relay DHCP Server Static Routing RIPv1/v2 OSPFv2 BGPv4 Equivalent Routing Routing Strategy
	IPv6	ICMPv6 ICMPv6 Redirection DHCPv6 ACLv6 OSPFv3 RIPng BGP4+ Configured Tunnels ISATAP 6to4 Tunnels Dual stack of IPv6 and IPv4
	Multicast	IGMPv1/v2/v3 IGMPv1/v2/v3 Snooping IGMP Filter MVR and cross VLAN multicast copy IGMP Fast leave IGMP Proxy PIM-SM/PIM-DM/PIM-SSM PIM-SMv6, PIM-DMv6, PIM-SSMv6 MLDv2/MLDv2 Snooping

Reliability	Loop Protection	EAPS and GERP (recover-time <50ms) Loopback-detection
Reliability	Link Protection	FlexLink (recover-time <50ms) RSTP/MSTP (recover-time <1s) LACP (recover-time <10ms) BFD
	Device Protection	VRRP host backup 1+1 power hot backup
Maintenance	Network Maintenance	Port real-time, utilization and transmit/receive statistic based on Telnet RFC3176 sFlow analysis LLDP GPON OMCI RFC 3164 BSD syslog Protocol Ping and Trace route
	Device Management	CLI, Console port, Telnet and WEB SNMPv1/v2/v3 RMON (Remote Monitoring)1,2,3,9 groups MIB NTP NGBN View network management

Order Information

Model No.	Product Description
SGT8016A	SGT8016A GPON OLT, with 16*GPON Ports, 2*10G SFP+, 4*1GE SFP/Tx combo uplink ports
SGTP01PWR100AC	SGT8016A AC Power Supply Module, 100W, 110-220V AC
SFP-GPON-T20	GPON SFP Transceiver, 1310Tx/1490Rx, SC/UPC, 20Km, Class B+
SGTU-10G-2-SFP+	SGT8016A Uplink Switching Board, 2*10G SFP+ slots