

PRODUCT DATA SHEET

16 Ports Cassette GPON OLT

Introduction

NTFG3416P provides 16 GPON ports and 4* GE Combo + 2*10GE SFP+uplink ports to meet for the increasing demand on high-bandwidth from end user, With the 1RU cassette design and redundant 2 slots making NTFG3416P to be flexible deployment and multifunctional. Built as the compact GPON OLT platform using Broadcom chipset designed for different type carrier in ISP market, the reliable testing of MTTH and MTTB ensure the NTFG3416P working stably and smoothly.



Adopting the industrial advanced technology, NTFG3416P support powerful Ethernet services and QoS feature, also SLA and DBA. The splitting ratio up to 1:128, supporting different types of ONU in different networks, minimizing operators' investments.

Features

- 102Gbps switching capacity
- 152.52MPPS throughput (IPV4/IPV6)
- 16 *PON ports, 4* GE Combo and 2*10GE SFP+ uplink ports
- AC and DC power redundancy supported
- Rich L2/L3 switching function(Static QINQ and Flexible QINQ); Powerful Multicast services capabilities (IGMPV1/V2/V3, IGMP snooping, MVR multicast); Support DHCP option 82 and PPPOE+

Technical Specification

Switching capacity	102Gbps
Throughput (IPv4/IPv6)	152.52MPPS
Ports	16*PON port, 4*GE combo, 2*10GE SFP+
Power redundancy	Dual power supply. Can be double AC, double DC or AC+DC
Power supply	AC: Input 100~240V,47~63Hz; DC: Input -36V~-75V;
Power consumption	≤85W
Outline dimensions (mm) (W*D*H)	440mm×44mm×380mm
Weight (in maximum config)	≤ 8KG
Environmental requirements	Working temperature : -15°C~55°C Storage temperature : -40°C~70°C Relative humidity : 10%~90%, no condensing



Business Features

PON features	GPON	<p>Satisfy ITU -T standard</p> <p>TR-101 compliant solution for FTTx OLT applications</p> <p>High splitter rate, each PON port supports 32*ONU ,96*T-CONT</p> <p>Maximum transmission distance of 20KM</p> <p>Support uplink FEC, downlink FEC(Forward Error Correction)</p> <p>ONU identifier authentication :SN /SN+PASSWD</p> <p>Bandwidth allocation mechanism</p> <p>5 types of T-CONT bandwidth</p> <p>Static Bandwidth Allocation</p> <p>Dynamic Bandwidth Allocation</p> <p>GPON feature parameter</p> <p>4096 port-IDs per GPON MAC (Downstream and Upstream)</p> <p>1024 Alloc -IDs per GPON MAC (Upstream)</p>
L2 features	MAC	<p>MAC Black Hole</p> <p>Port MAC Limit</p>
	VLAN	<p>4K VLAN entries</p> <p>Port-based/MAC-based/IP subnet-based VLAN</p> <p>Port-based QinQ and Selective QinQ (StackVLAN)</p> <p>VLAN Swap and VLAN Remark and VLAN Translate</p> <p>GVRP</p> <p>Based on ONU service flow VLAN add, delete, replace</p>
	Spanning tree protocol	<p>IEEE 802.1D Spanning Tree Protocol (STP)</p> <p>IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)</p> <p>IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)</p>
	Port	<p>Bi-directional bandwidth control</p> <p>Static link aggregation and LACP (Link Aggregation Control Protocol)</p> <p>Port mirroring and traffic mirroring</p>
Security Features	User Security	<p>Anti-ARP-spoofing</p> <p>Anti-ARP-flooding</p> <p>IP Source Guard create IP+VLAN+MAC+Port binding</p> <p>Port Isolation</p> <p>MAC address binds to port and port MAC address filtration</p> <p>IEEE 802.1x and AAA/Radius authentication</p> <p>TACACS+ authentication</p> <p>dhcp anti-attack flood attack automatic suppression</p> <p>ONU isolation control</p>
	Device security	<p>Anti-DOS attack(such as ARP,Synflood, Smurf, ICMP attack), ARP detection, worm and Msblaster worm attack</p> <p>SSHv2 Secure Shell</p> <p>SNMP v3 encrypted management</p> <p>Security IP login through Telnet</p> <p>Hierarchical management and password protection of users</p>



Security features	Network security	<p>User-based MAC and ARP traffic examination</p> <p>Restrict ARP traffic of each user and force-out user with abnormal ARP traffic</p> <p>Dynamic ARP table-based binding</p> <p>Supports IP+VLAN+MAC+Port binding</p> <p>L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet</p> <p>Port-based broadcast/multicast suppression and auto-shutdown risk port</p> <p>URPF to prevent IP address counterfeit and attack</p> <p>DHCP Option82 and PPPoE+ upload user's physical location</p> <p>Plaintext authentication of OSPF, RIPv2 and MD5 cryptograph authentication</p>
IP routing	IPv4	<p>ARP Proxy</p> <p>DHCP Relay</p> <p>DHCP Server</p> <p>Static route</p>
	IPv6	<p>ICMPv6</p> <p>ICMPv6 redirection</p> <p>DHCPv6</p> <p>ACLv6</p> <p>Configured Tunnel</p> <p>6to4 tunnel</p> <p>Ipv6 and IPv4 Tunnels</p>
Security Features	ACL	<p>Standard and extended ACL</p> <p>Time Range ACL</p> <p>Packet filter providing filtering based on source/destination MAC address, source/destination IP address, port, protocol, VLAN, VLAN range, MAC address range, or invalid frame. System supports concurrent identification at most 50 service traffic</p> <p>Support packet filtration of L2~L7 even deep to 80 bytes of IP packet head</p>
	QoS	<p>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</p> <p>Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and Remark</p> <p>CAR(Committed Access Rate)、Traffic Shaping and flow statistics</p> <p>Packet mirror and redirection of interface and self-defined flow</p> <p>Super queue scheduler based on port and self-defined flow. Each port/flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR.</p> <p>Congestion avoid mechanism, including Tail-Drop and WRED</p>

Security features	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
	MPLS	NPLS LDP
Reliability	Loop protection	EAPS and GERP (recover-time <50ms) Loopback-detection
	Link Protection	FlexLink (recover-time <50ms) RSTP/MSTP (recover-time <1s) LACP (recover-time <10ms) BFD
	Device protection	VRRP host backup Double fault-tolerant backup of host program and configuration files 1+1 power hot backup
Maintenance	Network maintenance	Telnet-based statistics RFC3176 sFlow LLDP 802.3ah Ethernet OAM RFC 3164 BSD syslog Protocol Ping and Traceroute
	Device management	Command-line interface (CLI), Console, Telnet and WEB configuration System configuration with SNMPv1/v2/v3 RMON (Remote Monitoring)1/2/3/9 groups of MIB NTP (Network Time Protocol)