Product Datasheet

38-port 10G Uplink Core Routing Switch

(ONV58248-6TFM)

OVERVIEW

The ONV58248-6TFM is a high-performance L3 managed Ethernet switch oriented to the next generation of IP metropolitan area networks, large campus networks, and enterprise networks. It has 8*10/100/1000M RJ45 ports and 24*100/1000M SFP fiber ports and 6*1/10G SFP+ fiber ports. Use 1U/19” installation.

The ONV58248-6TFM has complete L3 management functions with comprehensive protocols and applications. Based on providing high-performance L2/L3/L4 line-speed switching service deployment and management, it further integrates IPv6, MPLS VPN, network security, traffic analysis, virtualization, and other network services, combined with various data centers high-reliability technologies such as uninterrupted upgrades, uninterrupted forwarding, restart, and redundant protection, to ensure the longest uninterrupted communication capability of the network. Supporting advanced functions such as RIP, OSPF, BGP, and PIM-DM/SM is the choice for traditional or fully virtualized large data transmission. Flexibly select the appropriate fiber connection according to the transmission distance or transmission speed, and effectively expand the 1G/10G network.

The switching capacity of 598Gbps and 6*1/10G SFP+ uplink ports greatly increase the network bandwidth converged to the core, meeting the high bandwidth requirements of users' voice, video, and data networks. It is suitable for application needs in smart campuses, large smart communities, smart cities, smart transportation, and other fields.

FEATURE

Advanced hardware architecture

◇ Adopting the industry's advanced hardware architecture design, the 1U machine can support 8*10/100/1000M RJ45 ports and 24*100/1000M SFP fiber ports and 6*1/10G SFP+ fiber ports, meeting the high performance, high capacity, and high density of big data transmission and expandable requirements.

Strong data service guarantee

◇ Support ISSU (In-Service Software Upgrade) to ensure uninterrupted forwarding of user data during system upgrade and master control switchover.

◇ The perfect Ethernet OAM mechanism supports 802.3ah, 802.1ag, and ITU-Y.1731, and realizes rapid detection and location of faults through real-time monitoring of network operation status.

◇ The key power supply system based on HPS (Hitless Protection System) adopts a redundant design, modular hot-swappable, and supports seamless switching in case of failure without interrupting business.

◇ Support simple and efficient redundant protection mechanisms such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink primary and backup link protection, LACP link aggregation, etc.

◇ The ultra-high-precision BFD bidirectional link detection mechanism realizes millisecond-level fault detection and service recovery through linkage with the second and third-layer protocols, greatly improving the reliability of the network system.

◇ Support virtualization cluster switching technology, which can virtualize multiple physical devices into a logical device. The actual physical device is transparent to the user, which simplifies the management of network devices and network topology,

improves network operation efficiency, and effectively reduces operation and maintenance costs. The performance, reliability, flexibility, and management of its virtual system are superior to those of independent physical devices.

Rich business feature

- ◇ Support IPv6 protocol family, IPv6 neighbor discovery, ICMPv6, Path MTU discovery, DHCPv6 and other IPv6 features.
- ◇ Support IPv6-based Ping, Traceroute, Telnet, SSH, ACL, etc. to meet the needs of pure IPv6 network equipment management and business control.
- ◇ Complete L2 and L3 multicast routing protocols to meet the access requirements of IPTV, multi-terminal HD video surveillance, and HD video conferencing.
- ◇ Support L2 and L3 MPLS VPN can form large MPLS VPN core networks to meet the access requirements of industry private network VPN users and enterprise network VPN users.
- ◇ Support IPv6 multicast features such as MLD Snooping, IPv6 static routing, RIPng, OSPFv3, BGP4+ and other IPv6 L3 routing protocols to provide users with complete IPv6 L2 and L3 solutions.
- ◇ Support a variety of IPv4 to IPv6 transition technologies, including IPv6 manual tunnel, automatic tunnel, 6to4 tunnel, ISATAP tunnel, and other tunnel technologies to ensure a smooth transition from IPv4 network to IPv6 network.
- ◇ Complete L3 routing protocols and large routing table capacity to meet the needs of various types of network interconnection, and can form ultra-large data center networks, campus networks, enterprise networks, and industry user networks.

Security

- ◇ Support IEEE 802.1x, Radius, and Tacacs+, to provide users with a complete security authentication mechanism.
- ◇ Advanced hardware architecture design, hardware-implemented hierarchical scheduling, and protection of messages, support for preventing DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic, and other attacks on the device. support

command line hierarchical protection, different levels of users have different management permissions.

◇ Support plain text or MD5 authentication of related routing protocols, support uRPF reverse routing lookup technology, which can effectively control illegal business. Hardware-level message deep detection and filtering technology, supports deep detection of control messages and data messages, to effectively isolate illegal data messages and improve the security of the network system.

■ Stable and reliable

◇ Support energy-efficient Ethernet function, and complies with IEEE 802.3az to effectively reduce energy consumption.

◇ The intelligent fan design supports a flexible selection of front and back/back and front air ducts and supports automatic fan speed regulation to effectively reduce the speed, reduce noise, and extend the use of the fan.

◇ The advanced power system architecture design realizes efficient power conversion, unique power monitoring, slow start, other functions, real-time monitoring of the whole machine operation status, and intelligent adjustment for deep energy saving.

■ Easy O&M management

◇ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.

◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.

◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.

◇ LLDP is convenient for the network management system to query and judge the communication status of the link.

◇ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

TECHNICAL SPECIFICATION

Model	ONV58248-6TFM
Interface Characteristics	
Fixed Port	1*Console RS232 port (9600,8,N,1) 8*10/100/1000M RJ45 ports (Data) 24*100/1000M SFP fiber ports (Data) 6*1/10G uplink SFP+ fiber ports(Data)
Ethernet Port	Port 1-8 can support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters)
Optical Fiber Port	1/10G SFP+ optical fiber interface, default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae 10Gb/s Ethernet, IEEE802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	598Gbps (non-blocking)
Forwarding Rate @64byte	137Mpps
MAC	40K
Buffer Memory	32M

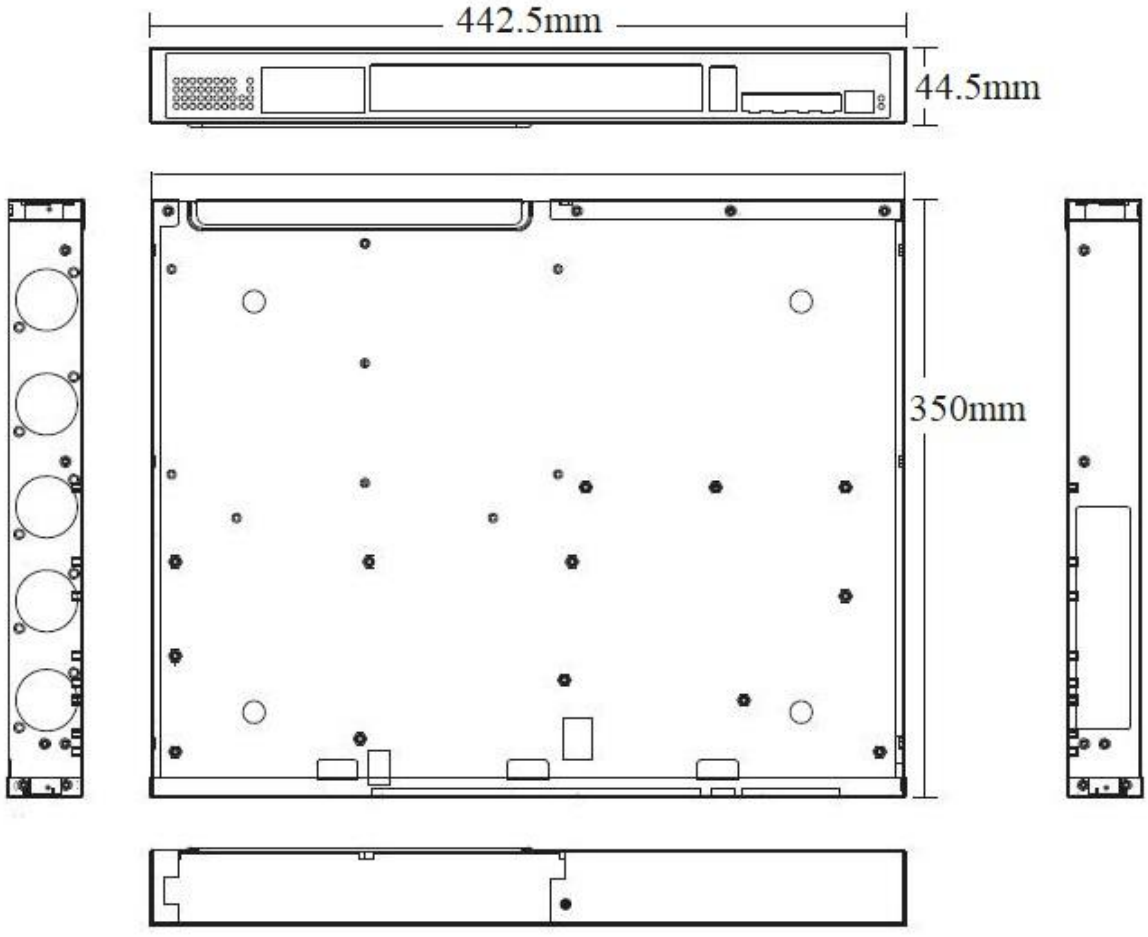
Jumbo Frame	9K
LED Indicator	Power: PWR (Green), System: SYS (Green), Network: 1-32 (Green), 10G Fiber port: TE1-6 (Green)
Power Supply	
Total PWR/ Input Voltage	75W/(AC100-240V), Default AC input single power supply, expandable AC/DC input dual power supply
Power Consumption	Standby<35W, Full Load<70W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 2.0A
Physical Parameter	
Operation Temp/ Humidity	-20°C~+55°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40°C~+75°C, 5%~95% RH Non condensing
Dimension (L*W*H)	442.5*350*44.5mm
Net /Gross Weight	<6.0kg/ <6.3kg
Installation	Desktop, 1U/19” cabinet
Certification & Warranty	
Lightning Protection	Port lightning protection: 6KV 8/20us, Protection level: IP30
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Feature	
Virtualization and Stacking	Stacking via standard Ethernet interface Virtualization, Local stacking and remote stacking MAD stack split detection mechanism based on LACP, BFD, and ARP Distributed device management, distributed link aggregation, and distributed elastic routing
IPv4	Policy routing, BFD for OSPF, BGP Equal-cost routing to achieve load balancing Static routing, RIP v1/v2, OSPF, BGP, IS-IS, BEIGRP

IPv6	MLD v1/v2, MLD Snooping ICMPv6, DHCPv6, ACLv6, IPv6 Telnet Manual tunnel, ISATAP tunnel, 6to4 tunnel IPv6 static routing, RIPng, OSPFv3, BGP4+ IPv6 neighbor discovery, Path MTU discovery
MAC Switching	View and clear the MAC address MAC address aging time is configurable IEEE 802.1AE MacSec Security Control Limit the number of MAC address learning Black hole MAC table entry, MAC address filtering function Static configuration and dynamic learning of MAC addresses
VLAN	Basic QinQ and flexible QinQ function 4K VLAN entries, GVRP, Private VLAN, 1:1 and N:1 VLAN Mapping
Link Aggregation	10GE port aggregation, Static aggregation, Dynamic aggregation
Flow Monitoring	sFLOW
DHCP	DHCP Snooping option82/ DHCP Relay option82 HCP Client, DHCP Snooping, DHCP Relay, DHCP Server Zero configuration methods such as DHCP auto-config and CWMP-TR069
STP/ERPS	802.1D (STP), 802.1W (RSTP), 802.1S (MSTP) BPDU protection, Root protection, Loop protection ERPS Ethernet Ring Protection Protocol (G.8032)
Multicast	Multicast group policy and multicast number limit IGMP V1/v2/v3, IGMP Snooping, IGMP Fast Leave PIM-SM.PIM-DM, Multicast traffic cross VLAN duplication
ARP	Static entries, ARP source suppression Standard proxy ARP and local proxy ARP Free ARP, Dynamic ARP Inspection, ARP anti-attack ARP Detection (check based on DHCP Snooping security entries, 802.1x entries, or IP/MAC static binding entries)

Mirroring	Flow mirroring, N:4 port mirroring, Local and remote port mirroring
MPLS VPN	MCE, MPLS TE, MPLS OAM, LDP protocol, P/PE of MPLS VPN
QoS/ACL	Traffic supervision and traffic shaping SP, WRR, SP+WRR scheduling mode CAR traffic restriction, 802.1P/DSCP priority re-marking Tail-Drop, WRED, and other congestion avoidance mechanisms Traffic classification based on each field of the L2/L3/L4 protocol header Ingress and Egress ACL, matching L2, L3, L4 and IP five-tuple, copying, forwarding, and discarding Hash same-source and same-destination load balancing to ensure session integrity of traffic output
Security	Identification and filtering of L2/L3/L4 based ACL Urpf, Port isolation, Port security, IP + MAC + port binding IEEE 8021x certification, DHCP Snooping, DHCP Option 82 Radius and BDTacacs+, Command line hierarchical protection Suppression of broadcast, multicast, and unknown unicast packet Defend against DDoS attack, SYN Flood attack of TCP, and UDP Flood attack
Reliability	EAPS, ERPS ring network protection ISSU service without interruption system upgrade HSRP, VRRP hot standby protocol, GR for OSPF, BGP Optional power supply 1+1 backup, BFD for OSPF, BGP Static/LACP link aggregation, support cross-service card link aggregation
Management	File upload and download management in TFTP mode Telnet remote maintenance, ZTP(Zero Touch Provisioning) Power alarm, Fan, temperature alarm, Console,Telnet, SSH 2.0 ISSU, Track, Tracert, sFLOW and other traffic statistics analysis NTP, Ping, Debug information output, Web browser management System logs, Graded alarm, SNMP v1/v2/v3, 802.1AG and 802.3AH

	RMON event history, SNMP (Simple Network Management Protocol)
Energy Saving	IEEE802.3az green energy Ethernet
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

DIMENSION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV58248-6TFM	L3 managed Ethernet core routing switch with 8*10/100/1000M RJ45 ports and 24*100/1000M SFP fiber ports and 6*1/10G uplink SFP+ fiber ports. Built-in power supply (Extended dual AC/DC power supply).	75W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	38-port 10G uplink core routing switch	1	Set
	AC Power Cable	1	PC
	Mounting Kit	1	Set
	Warranty Card and Certificate of Conformity	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630	SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface. supports DDM function and hot plugging.	PC
	2632	SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T	SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

	2613-R	SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T-SC	SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
	2613-R-SC	SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC
10G Optical Module	6630	SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface. supports DDM function and hot plugging.	PC
	7832	SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-33	SFP+ optical module, 10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-27	SFP+ optical module, 10G single-mode single fiber TX1270nm/ RX13300nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

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