FIBERROAD®

LAYER 3
10G NETWORK SWITCH

Product Data Sheet

Ver. 2.0

The Fiberroad FR-5T6224 is a high-performance Layer 3 Managed Switch engineered for next-generation Metro, Data Center, Campus, and Enterprise networks. Housed in a rugged 1RU chassis, it provides high-density connectivity with 24x 10G SFP+ ports and 2x 40G/100GbE QSFP28 uplinks. Its comprehensive Layer 3 feature set, including support for advanced protocols like RIP, OSPF, BGP, and PIM, facilitates rapid service deployment and simplifies management for both traditional and fully virtualized data centers.

Main Features

- 24x10GBASE-SR/LR SFP+ slots
- 2x40/100G QSFP28 Slots
- High performance Store-and-Forward architecture, broadcast storm control, port loopback detect
- Maximum 32 trunk groups with up to 8 ports per trunk group
- Supports strict priority and WRR (Weighted Round Robin) CoS policies
- Supports IPv4 IGMP snooping v1, v2 and v3; and IPv6 MLD v1 and v2 snooping
- RADIUS/TACACS+ users access authentication
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IPv4 and IPv6 dual stack management
- SNMP trap for interface Link Up and Link Down notification
- Virtualized multiple FR-5T6224 switches integrated into one logical device
- Single IP address stack management, supporting up to 10 hardware units stacked together

Product Specifications

Hardware Specifications	
Product	FR-5T6224
Fiber Ports	24x GE/10G SFP+
	2x40/100G QSFP28
Console	1xRJ45 Console
Management Port	1x10/100/1000BASE-T RJ45 port
USB	1xUSB 2.0
Installation	19inch Rack Mount
Dimension	440mm*300mm*44mm
Weight	5.8 kg
Enclosure	IP30 Metal
Switching & Routing	
Switch Architecture	Store-and-Forward
DRAM	2048 MB
FLASH	4096 MB
Switch Fabric	880Gbps/non-blocking
Shared Data Buffer	4.5MB
Forwarding Rate	660Mpps
Maximum Packet Length	9K bytes
MAC Address Table	128K entries, automatic source address learning and aging
Routing Table	IPv4: 16K, IPv6: 8K
ARP Table	IPv4:16K, IPv6: 8K
Total SVI	1K
Power Supply & Power over Ethernet	
Power Input	2
Input Voltage	AC 100-240V, 50/60Hz
Power Consumption	70 Watts Max Full Load
Fan Number	4
Environmental	
Operating Temperature	0℃ to +50 ℃
Storage Temperature	-40℃ to 80℃
Operating Humidity	10%~85% (non-condensing)
Total output BTU	238.91 (1000BTU/H=293W)
Noise@25℃(dBA)	57
LED Indicators	
PWR	ON: Power is being supplied ,OFF: Power is not being supplied
SYS	ON: System running in normal, OFF: System running in abnormal
10G Port	ON: Port connection is active, Blinking: Data transmitted, OFF: Port connection is not active
100G Port	ON: Port connection is active, Blinking: Data transmitted, OFF: Port connection is not active

Product Specifications

Layer 2 Functions	
Port Configuration	Port disable/enable
	Port Speed
	Flow control disable/enable
	Bandwidth control on each port
	Port loopback detect
VLAN	IEEE 802.1Q tag-based VLAN
	IEEE 802.1ad Q-in-Q VLAN stacking/tunneling
	GVRP for VLAN management
	Private VLAN, Protocol-based VLAN, MAC-based-VLAN
	Voice VLAN, Multicast VLAN Register(MVR)
	Up to 4K VLAN groups
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
	BPDU
Ring	ITU-G G.8032 EPRS
	EAPS
IPv4 IGMP Snooping	IPv4 IGMP v1/v2/v3 snooping
	IGMP Fast Leave
	IPv4 Querier
	IGMP Filtering and IGMP Throttling
	IGMP Proxy Reporting
IPv6 MLD Snooping	IPv6 MLD v1/v2 snooping
Bandwidth Control	Ingress and Egress
	At least 64Kbps stream
Link Aggregation	IEEE 802.3ad LACP/static trunk
QoS	8 priority queues on all switch ports
	Traffic Supervision and Traffic Shaping
	Scheduling for priority queues
	• Weighted Round Robin(WRR)
	• Strict priority(SP)
	• SP+WRR
	Traffic Classification
	IEEE 802.1p CoS
	• DSCP
	• DiffServ
	• Precedence
	• TOS
	• VLAN ID
	• IP ACL
	• MAC ACL
	• Port ACL
	Policy-based ingress and egress QoS
	802.1p and DSCP priority
IPv4 Layer 3 Functions	
IP Routing Protocol	RIP v1/v2, OSPF, BGP(Board Gateway Protocol)
	Static routing
Multicast Routing	PIM-DM and PIM-SM
	PIM-SSM
Routing Features	VRRP, Policy-based routing
	Load balance through equal-cost routing
	BFD (Bi-directional Forwarding Detection) for OSPF and BGP

IPv6 Layer 3 Functions	
IP Routing Protocol	RIPng, OSPFv3, BGP4+
Routing Features	Manual tunnel ISATAP tunnel 6-to-4 tunnel
IPv6 functions	ICMPv6, DHCPv6, ACLv6, IPv6 Telnet IPv6 Neighbor Discovery Path MTU Discovery
Security Function	
Authentication	IEEE 802.1x port-based network access control AAA authentication: TACACS+ and IPv4/IPv6 over RADIUS
Access Control List	Stand and Expanded ACL IP-based ACL/MAC-based ACL/Port-based ACL Time-based ACL Up to 1K entries
Security	Port Isolation Port security, 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 unknow unicast packet DHCP Snooping, DHCP Option 82 Command line authority control based on user levels
AAA	TACACS+ and IPv4/IPv6 over RADIUS
Management Function	
System Configuration	Console and Telnet Web browser SNMPv1, v2C
Secure Management	SSHv2, SSLv3 and SNMPv3 Maximum 8 sessions for SSH and Telnet connection
System Management	Support both IPv4 and IPv6 Protocols Support the user IP security inspection for IPv4/IPv6 SNMP Support MIB and TRAP Support TFTP,FTP Support RMON 1,2,3,9 groups Support the RADIUS authentication for IPv4/IPv6 Telnet username and password The right configuration for users to adopt RADIUS server's shell management Supports CLI, console, Telnet Supports Security IP safety net management function: avoid unlawful landing at non-restrictive area Support TACACS+
Stacking Management	10 members max. 2 software-defined ports function as stacking up and down interface
Event Management	Supports syslog server for IPv4 and IPv6

Precautions

To avoid damage to the equipment and personal injury caused by improper use, please observe the following precautions:

❖ Keep the power off during installation, wear an anti-static wrist, and ensure that the anti-static wrist is in good contact with the skin to avoid potential safety hazards.
❖ The switch can work normally under the correct power supply. Please confirm that the power supply voltage matches the voltage indicated by the switch.
❖ Before powering on the switch, please make sure that the power circuit is not overloaded, so as not to affect the normal operation of the switch and even cause unnecessary damage.
❖ To avoid the risk of electric shock, do not open the case while the switch is working, even if it is not charged, do not open it yourself.
❖ Before cleaning the switch, pull out the power plug of the switch. Do not wipe with a wet cloth. Do not use liquid to clean it.
❖ The equipment installed in the rack is generally from bottom to top to avoid overload installation.
❖ Avoid placing other heavy objects on the surface of the switch to avoid accidents.

Order Information

Model Number	1/10G SFP+ Port	40/100G QSFP28 PoRT	Optical Port Connector	Input Voltage	Operating Temp.
FR-5T6224-AA	24	2	LC	AC110-240V	0 to +50℃

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