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Product Datasheet

20-port L2 10Gigabit Managed Ethernet Core Switch

(B1-56020-12TFM)

OVERVIEW

The B1-56020-12TFM is a Layer 2 10Gigabit managed Ethernet core switch,it has 8*10/100/1000M RJ45 ports +12*1/10G SFP+ fiber slot ports.The B1-56020-12TFM is a standard non-blocking Ethernet switch using Broadcom high-performance chips.It provides 258Gbps switching capacity and 191.36Mpps forwarding performance. It has flexible networking capabilities to ensure stable network operation and load balancing of links. It provides sufficient bandwidth for aggregation and core data exchange. Users can select the appropriate WAN according to their needs. Megaports respond flexibly to network needs.

The B1-56020-12TFM has rich network management functions, complete security protection mechanism, complete ACL/QoS policy and rich VLAN functions, easy management and maintenance, high bandwidth, low latency, and simple network management. High-density access in data centers and cloud computing networks is also

widely used in large and medium-sized security monitoring, large and medium-sized Internet cafes, enterprise networks, and the core or aggregation of metropolitan area networks.

FEATURE

■ **High density 10G access, performance is remarkable**

◇ 8*10/100/1000M RJ45 ports+12*1/10G SFP+ fiber slot ports to meet the high-density access requirements of 10G cores, which is convenient for users to flexibly set up networks to meet the network requirements of various scenarios.

◇ Support non-blocking wire speed forwarding .

◇ Support full duplex based on IEEE802.3x and half duplex based on backpressure .

■ **Strong business processing capability**

◇ Support IEEE 802.1Q VLAN, users can flexibly divide VLAN according to needs, and support QinQ configuration.

◇ Support QoS, support port based, 802.1P based and DSCP based three priority modes and Equ, SP, WRR, SP+WRR four queue scheduling algorithms.

◇ ACL supports the filtering of data packets by configuring matching rules, processing operations and time permissions, and provides a flexible access control strategy.

◇ Support IGMP V1/V2 multicast protocol and support IGMP Snooping to meet the multi terminal HD video surveillance and video conference access requirements.

◇ Support STP/RSTP/MSTP production tree protocol, eliminates two layers of loops, and realizes link backup.

◇ Support static convergence and dynamic convergence, effectively increases link bandwidth, achieves load balancing, link backup, and improves link reliability.

■ **Complete security protection mechanism**

◇ Support IP address, MAC address, VLAN and port quaternion binding to filter packets.

◇ ARP protection is supported, which protects against ARP spoofing and ARP flood attacks, such as gateway spoofing and man-in-the-middle attacks.

◇ Support IP source protection to prevent illegal address spoofing including MAC spoofing, IP spoofing, and MAC/IP spoofing.

◇ Support DoS protection and supports attacks such as Land Attack, Scan SYNFIN, Xmascan, and Ping Flooding.

◇ Support 802.1X authentication, provides authentication functions for LAN computers, and controls the authorization status of controlled ports based on the authentication results.

◇ Support port security. Stop learning when the port learns the maximum number of MAC addresses to prevent MAC address attacks and control port network traffic.

◇ Support DHCP Snooping, effectively eliminate the private DHCP server and ensure the legitimacy of the DHCP server.

◇ Support for port isolation.

◇ Support port broadcast storm suppression.

■ **Excellent heat dissipation design, green energy saving**

◇ Flexible front and rear air duct design and rear front air duct design

◇ Adopt strict front and rear air duct design to support complete isolation of hot and cold air ducts, improve heat dissipation efficiency, and meet the design requirements of data center equipment room;

◇ Flexible support for front and rear and rear front air ducts through optional fan and power module;

◇ Support power and fan redundancy configuration to ensure uninterrupted operation of the business;

◇ Innovative energy-saving technology: Using the industry's latest energy-saving chips, intelligent fan speed control solution, support real-time power consumption detection, reduce operation and maintenance costs for customers, and create a green data center.

■ **Easy to use and maintain**

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

◇ Support encryption methods such as HTTPS, SSL V3, TLSV1, SSHV1/V2, and management is more secure.

◇ Support RMON, system log, port traffic statistics, easy network optimization and transformation.

◇ Support LLDP to facilitate the network management system to query and judge the communication status of the link.

◇ Support CPU monitoring, memory monitoring, ping detection, Tracert detection, cable

detection

◇ Support XModem protocol, software upgrade and BootRom upgrade through TFTP/ZMODEM

◇ Support SFP+, and also backward compatible with XFP, etc.

◇ Provides redundant power, fast failover, and fast connectivity, greatly increasing system reliability

TECHNICAL SPECIFICATION

Model	B1-56020-12TFM
Interface	8*10/100/1000M RJ45 ports (Data) 12*1/10G SFP+ fiber slot ports　(Data) 1*Console RS232 console port (9600,N,8,1)
Network Managed Tape	L2
Network Protocol	IEEE802.3 10BASE-T;IEEE802.3i 10Base-T;IEEE802.3u 100Base-TX; IEEE802.3ab 1000Base-T;IEEE802.3z 1000Base-X; IEEE802.3ae 10GBase-SR/LR;IEEE802.3x
Ethernet Port Feature	Port1-8 supports 10/100/1000BaseT(x) auto-sensing,full/half duplex MDI/MDI-X self-adaption
SFP Port Characteristic	1/10G SFP optical fiber interface, default matching optical modules, need to buy separately, (optional single-mode/multi-mode, single fiber / dual fiber module, LC)
Forwarding Mode	Support store-forward mode and cut-through mode
Switching Capacity	258Gbps (Non-blocking)
Forwarding Rate@64byte	191.36Mpps
MAC Address Table	16K
Buffer Memory	24MB
Twisted Pair Transmission	10BASE-T : Cat3,4,5 UTP(≤100 meter) ; 100BASE-TX : Cat5 or later UTP(≤100 meter) ; 1000BASE-TX : Cat5 or later UTP(≤100 meter)
Optical Fiber Cable	Multi-mode:850nm 0~300M(10G),850nm 0~550M(1.25G) Single-mode:1310nm 0~40KM,1550nm 0~120KM.
Total PWR / Input Voltage	60W/(AC100-240V)
Power Consumption	standby:<15W;full load:<40W
LED Indicator	Power LED indicator: PWR (yellow),System LED indicator:

	SYS(yellow),Network LED indicator: Link/Act (yellow), SFP port :L/A(green)
Reset switch	Support one key to restore factory settings
Power Supply	Built-in power supply; AC100~240V 50-60Hz 1A
Operation TEMP/ Humidity	-20~+50°C;5%~90% RH Non condensing
Storage TEMP/Humidity	-40~+70°C;5%~95% RH Non condensing
Dimension(L*W*H)	439*473*43.5mm
Net /Gross Weight	<3.4kg / <4.2kg
Installation Method	Desktop tape. 19 inch 1U cabinet installation
Lightning protection/protection level	Port Lightning Protection :6KV 8/20us; Protection Level: IP30
Certification	CE mark; commercial; CE/LVD EN60950; FCC Part 15 Class B; RoHS;
Warranty	Etherent switch 1 year, lifetime maintenance
Characteristics	
Interface	IEEE802.3x flow control (full duplex) Broadcast storm suppression for port rate support speed limit for incoming and offline message traffic, with a minimum particle size of 64Kbps. Temperature protection setting Energy saving configuration of port EEE Ethernet
VLAN	Port based VLAN 802.1Q VLAN Based IP Based MAC
Port Aggregation	Support LACP Support static polymerization Support the largest 8 aggregation groups, each aggregation group supports 8 ports.
Spanning Tree	STP (IEEE802.1d); RSTP (IEEE802.1w); MSTP (IEEE802.1s)
Multicast	Support IGMP Snooping V1/V2 and support 1024 multicast groups at most. Support the user's quick departure mechanism Support MLD Snooping V1/V2 Support multicast VLAN
Port Mirror	Bi-directional traffic mirroring supporting the basic port
QoS	Diff-Serv QoS Each port supports 8 output queues 802.1p/DSCP priority mapping

	Support queue scheduling mechanism (SP, WRR, SP+WRR) priority tag Mark/Remark stream based packet filtering Support for stream based redirection Support flow based speed limit
ACL	Support L2 to L4 packet filtering function, can match the first 80 bytes of the message, provide based on the source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN and other definition ACL. Support ACL based on port and VLAN
Safety Characteristics	Support user grading management and password protection Support IEEE802.1X authentication / centralized MAC address authentication Support AAA&RADIUS authentication Support the number of MAC address learning restrictions Support MAC address black hole Support SSH 2 to provide secure passwords for user login. Support SSL to ensure data transmission security Support port isolation Support the speed limit function of ARP message Support IP source address protection Support ARP intrusion detection function Support against DoS attacks Support port broadcast message suppression Support host data backup mechanism Binding capabilities of IP+MAC+VLAN+ ports
DHCP	DHCP Client;DHCP Snooping
Management And Maintenance	Support Console/AUX Modem/Telnet/SSH2.0 CLI command line configuration Support WEB network management (HTTPS) Support FTP, TFTP, Xmodem, SFTP file download management Support SNMP V1/V2C/V3 Support one bond reduction Support NTP clock Support system work log Support the English command line to help information Support Ping detection Support cable state detection Support CPU instant utilization status view Support link layer discovery protocol LLDP ONV NMS cluster management supporting ONV service (LLDP+SNMP)
System Requirements	Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later;

	5 types and above Ethernet cable; TCP/ IP, network adapter and network operating system (such as		

PACKING LIST

	CONTENT	QTY	UNIT
PACKING LIST	20-port L2 10Gigabit managed Ethernet core switch (B1-56020-12TFM)	1	SET
	AC Power Cable	1	PC
	Mounting Kits	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

ORDERING INFORMATION

Model	Description
B1-56020-12T FM	L2 managed with 8*10/100/1000M RJ45 ports+ 12*1/10G SFP+ fiber slot ports ,10 Gigabit Ethernet core switch,total power is 60W,Built-in power supply.

SELECTION OF INFORMATION

Fiber Module Selection Table

Product	Model	Description	Unit
1.25G Fiber Module	B1-2630	SFP optical module, 1.25G, multi mode dual fiber 850nm, transmission distance: 550m, LC interface, support DDM function, support hot plug and pull.	PC
	B1-2632	SFP optical module, 1.25G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	B1-2612-T	SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	B1-2613-R	SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	B1-2612-T-S C	SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
	B1-2613-R-S C	SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
Electric Module	B1-SFP/TP	1.25G SFP optical module transfers to 10/100/1000M RJ45 net port.	PC
10G Fiber Module	B1-6630	SFP+ optical module,10G Multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function,support hot plug and pull.	PC
	B1-7832	SFP+ optical module,10G Single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	B1-7832-33	SFP+ optical module,10G Single-mode single fiber TX1330nm/RX1270nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	B1-7832-27	SFP+ optical module,10G Single-mode single fiber TX1270nm/RX13300nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC