

# CS81-24Q8QDA | Technical Datasheet

Ethernet Switch



## Overview

**CS81-24Q8QDA** switch is a high-performance, high-density, flexible configurable 400GbE/200GbE Ethernet switch, it is deployed as the leaf switch in the hyperscale datacenter network. The switch offers twenty-four 200G QSFP56 ports and eight 400G QSFP-DD ports in 1RU Chassis, provides up to 16Tbps non-blocking switch capacity and complete L2 and L3 features.

The CS81-24Q8QDA is pre-installed with ONIE (Open Network Installation Environment), supporting open-source SONIC and various commercial NOS.

## Application

Datacenter Leaf Switch

## Product Features

### Compact Design

- 24 × QSFP56 100GbE + 8 × QSFP-DD 400GbE ports
- Up to 16 Tbps full-duplex switching capacity

### High Reliability

- Redundant design for power supply and fan
- Software real-time monitoring of system status

### OS Compatibility

- Pre-loaded with Open Network Install Environment (ONIE), supporting open-source SONIC and multiple commercial NOS

## CS81-24Q8QDA Ethernet Switch Technical Specifications

Hardware Specifications	
<b>Service port</b>	24x 200G QSFP56 (4x56G PAM4) + 8x 400G QSFP-DD (8x56G PAM4)
<b>Service port indication</b>	QSFP56: 1 LED/Port; QSFP-DD: 1 LED/Port
<b>Switching ASIC</b>	Broadcom BCM56780 (Trident4)
<b>Switching Capacity</b>	16Tbps full-duplex
<b>Management port</b>	1x 10/100/1000Base-T MGMT
	1x USB 2.0 Type A
	1x RJ45 Console
	3x Status LED (Yellow-Green Bi-Color)
<b>CPU</b>	CPU: Intel Xeon D-1734NT
	2x SODIMM DDR4 slots, default 1x32GB
	1x 240GB M.2 SSD
<b>BMC</b>	Aspeed AST2520
<b>Power</b>	1+1 Hot-pluggable, loading sharing, redundant 800W CRPS PSU
	AC: 90~264VAC, HVDC: 180V~300VDC
<b>Fan</b>	N+1 redundancy, 6 fan modules
	Airflow: F2B
<b>Operating temperature</b>	0°C to 40°C, 5% to 90% RH
<b>Size</b>	440mm x 800mm x 43.1mm
<b>Weight</b>	~ 12.5kg

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# CS81-24Q8QDA Ethernet Switch Technical Specifications

Software Specifications	
<b>System and Platform Infrastructure Features</b>	<ul style="list-style-type: none"><li>• Dynamic Port Breakout</li><li>• DOM Information Display</li><li>• System Locator LED Support (Beacon)</li><li>• CMIS 4.0 Optics Support</li><li>• CoPP (Control Plane Policing)</li><li>• Transceiver Parameter Tuning</li><li>• Third-Party Container Management</li><li>• PDDF and PDK Framework</li><li>• Maintenance Mode<ul style="list-style-type: none"><li>◦ LACP Graceful Shut</li><li>◦ BGP Graceful Shut</li><li>◦ OSPFv2 Maximum Metrics</li></ul></li><li>• Multi-Instance Redis DB</li><li>• Zero Touch Provisioning (ZTP)</li><li>• ZTP Provisioning using a USB Drive</li><li>• Auto Negotiation and Link Training</li><li>• Forwarding Plane Drop Counters</li><li>• Time Zone Command Support</li><li>• Broadcom Debug Tool</li><li>• Interface Beacon LED</li><li>• Support Option to Bind the Third-Party Container to the Management VRF</li><li>• Limiting CPU/Memory/Disk Usage for Third Party Containers</li><li>• Option to Send Audit Log Messages to Syslog Server</li><li>• Multi-Site Data Center Interconnect(DCI)</li><li>• Warm Reboot, Fast Reboot</li></ul>
<b>Layer 2 Features</b>	<ul style="list-style-type: none"><li>• VLAN</li><li>• Interface Hold-Down</li><li>• Static LAG</li><li>• LACP Graceful Shutdown</li><li>• LACP Fast Rate and LACP Fallback</li><li>• LLDP</li><li>• UDLD</li><li>• PVST and RPVST+</li><li>• STP, MSTP</li><li>• DHCP snooping</li><li>• Link Tracking</li></ul>

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# CS81-24Q8QDA Ethernet Switch Technical Specifications

Software Specifications	
<b>Layer 3 Features</b>	<ul style="list-style-type: none"> <li>• IPv4,IPv6</li> <li>• IGMP</li> <li>• IPV6 Routing</li> <li>• Virtual Routing and Forwarding</li> <li>• Border Gateway Protocol</li> <li>• Next Hop Group (NHG) Support</li> <li>• IPv4 ARP</li> <li>• OSFv2</li> <li>• Route-Maps</li> <li>• Static Routes</li> <li>• Policy-Based Routing</li> <li>• Virtual Router Redundancy Protocol</li> <li>• Network Address Translation</li> <li>• ECMP load Sharing</li> <li>• IP Helper</li> <li>• RPVST, PVST, and MSTP over MC-LAG</li> </ul>
<b>ACL and Flow-Based Services</b>	<ul style="list-style-type: none"> <li>• PBR Enhancements for Service Chaining</li> <li>• ACL-based CoPP</li> <li>• ACL DSCP Map/Remarking</li> <li>• ACL Rate Limiting</li> <li>• Control Plane ACL</li> <li>• Policy-based Routing (IPv4 and IPv6)</li> <li>• ACL-based Packet Replication</li> <li>• ACL Consistency Checker</li> </ul>
<b>Security Features</b>	<ul style="list-style-type: none"> <li>• RADIUS and TACACS</li> <li>• RADIUS/TACACS Password Obfuscation</li> <li>• NTP Server and NTP Authentication</li> <li>• NTP Prefer Option</li> <li>• LDAP Integration</li> <li>• AAA Authorization support with TACACS+</li> </ul>
<b>Manageability Features</b>	<ul style="list-style-type: none"> <li>• Industry Standard CLI (IS-CLI)</li> <li>• REST and gNMI Interfaces via OpenConfig YANG (OC-YANG)</li> <li>• Role-Based Access Control (RBAC)</li> <li>• RBAC and HAMd Enhancements</li> <li>• SNMP Configuration Traps and OIDs</li> <li>• gNMI Subscription Support for Limited YANG Paths (OnChange, Interval, Once, Poll, Target defined)</li> <li>• Bulking support in both REST(YANG patch) and gNMI</li> <li>• Query parameter for REST and filtering support for gNMI</li> <li>• Scalar encoding support for gNMI</li> <li>• Support to Read Service Tag via SNMP</li> <li>• SNMP Trap Enablement on Interface Instead of Global</li> </ul>

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Software Specifications	
<b>Debuggability/ Serviceability features</b>	<ul style="list-style-type: none"><li>• In-memory Debug Logging</li><li>• Audit Logging and Syslogs</li><li>• Command to Return Interfaces to the Default Configuration</li><li>• Port Mirroring on Port Channel and VLAN</li></ul>
<b>QoS</b>	<ul style="list-style-type: none"><li>• Flow-Based QoS</li><li>• Scheduler Policy</li><li>• Port Shaping</li><li>• Qos Maps</li><li>• Control Plane Policing</li><li>• Priority Flow Control</li><li>• Storm Control</li><li>• Buffer Management</li></ul>
<b>Telemetry</b>	<ul style="list-style-type: none"><li>• sFlow</li><li>• GRPC</li><li>• Inband Flow Analytics</li><li>• Packet Drop Monitoring</li></ul>

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