



Cisco

C1-N3K-C3264Q

Datasheet



Product Overview

- Cisco Nexus 3264Q is part of the industry-leading Nexus switch line, offering powerful, high-density data center switching.
- It is ideal for cloud data centers, large enterprises, service providers, and financial institutions with latency-sensitive workloads.
- The switch features 64 × QSFP28 (100G) ports, total switching capacity of 5.12 Tbps, and sub-microsecond latency for high-speed networks.
- Modern NX-OS software enables advanced programmability, image management, and operational efficiency for dynamic infrastructure needs.
- It offers robust Layer 2/3 switching, big data-ready support, and seamless integration with Cisco's Nexus 9000 Series for broad compatibility.
- The Nexus 3264Q enables organizations to build scalable, high-throughput, and resilient networks, helping meet evolving demands in digital transformation.

Product Highlights

- **Ultra-High Density:** Supports 64 × QSFP28 (100G) ports for maximum throughput in rack-constrained environments.
- **Wire-Speed Performance:** Delivers wire-rate Layer 2 and Layer 3 switching with low latency between 515-700ns for critical workloads.
- **Flexible Breakout Capability:** Each QSFP28 port can be split into 4 × 25G or 4 × 10G links to match varied network requirements.
- **Advanced Programmability:** Runs modern Cisco NX-OS, supporting automation and efficient network operations for large-scale deployments.

Detailed Features



C1-N3K-C3264Q

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Component	Specification
Switching Capacity	5.12 Tbps
Ports	64 × QSFP28 (100G)
Breakout Capability	4 × 25G or 4 × 10G per port
Latency	515-700ns
Supported Protocols	BGP, OSPF, VXLAN, EVPN, PIM



High Port Density

The Cisco Nexus 3264Q delivers 64 × QSFP28 (100G) ports in a compact 2RU chassis, allowing for maximum high-speed device aggregation. This enables greater scalability in demanding data center and enterprise applications, optimizing space and connectivity without sacrificing throughput or manageability.

Ultra-Low Latency Performance

Engineered for mission-critical environments, the switch achieves sub-microsecond latency, with forwarding times between 515 and 700 nanoseconds. This is crucial for financial services, high-performance computing, and any application where every microsecond impacts operational decisions and competitiveness.

Flexible Port Breakout Options

Each QSFP28 port supports breakout into 4 × 25G or 4 × 10G, enabling flexible network design. This versatility simplifies migration from legacy to next-generation data rates and allows smooth upgrades and seamless expansion to support varying bandwidth needs across racks and workloads.

Robust Switching Capacity

With a backing of 5.12 Tbps switching capacity and a forwarding rate up to 1.2 Bpps, the device effectively handles massive east-west and north-south data traffic. Enterprises can deploy the 3264Q with confidence in their ability to future-proof their environment for data growth and evolving applications.

Comprehensive Protocol Support

The Nexus 3264Q natively supports BGP, OSPF, VXLAN, EVPN, and PIM, bringing advanced L2/L3 functionality and enabling complex fabric architectures including SDN, network virtualization, and cloud data center fabrics out of the box.

Advanced NX-OS Management

The switch runs the latest Cisco NX-OS, facilitating network programmability, automation through RESTCONF/NETCONF APIs, and simple yet powerful management with CLI and SNMPv3 interfaces. This drives operational efficiency and faster deployments.

Power Efficiency and Resilience

Equipped with dual hot-swappable 930W Platinum-certified power supplies and redundant cooling, it ensures continuous operation, high energy efficiency (90%+), and minimal downtime in mission-critical setups.

Enterprise-Grade Scalability

Supports up to 256,000 MAC address entries, 4,096 VLANs, and 64-way ECMP routing. The switch is well suited to large-scale virtualization, multi-tenant networks, and hybrid cloud deployments where maximum flexibility and reliability are required.

Technical Specifications

Product Specifications

Feature	Value
Chassis	1RU fixed-configuration switch
Port Configuration	64 × QSFP28 (100G) ports, breakout capable to 4 × 25G or 4 × 10G
Switching Capacity	5.12 Tbps
Forwarding Rate	1.2 Bpps
Latency	<1 µsec (64-byte packets)
Minimum Latency	515 ns
Maximum Latency	700 ns
Jumbo Frames	Up to 9216 bytes
Buffer Memory	36 MB shared
DRAM	16 GB



Feature	Value
Flash Memory	4 GB
CPU	Quad-core 2.2 GHz
Management Ports	1 × RJ-45 (10/100/1000), 1 × USB 2.0, 1 × RJ-45 Console
Power Supplies	Dual 930W AC/DC (hot-swappable, N+1 redundant)
Cooling	Front-to-back airflow with redundant fans
Power Efficiency	90% Platinum certified
MAC Address Table	256,000 entries
VLANs	4,096
ECMP Routes	64-way
Dimensions (H × W × D)	1.73 in × 17.3 in × 22.6 in (4.4 cm × 43.9 cm × 57.4 cm)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	5% to 95% non-condensing
Altitude	0–3,000 m (0–10,000 ft)
NX-OS Version	7.0(3)I7(5) or later
Protocols	BGP, OSPF, VXLAN, EVPN, PIM
Management	CLI, SNMPv3, RESTCONF, NETCONF
MTBF	1,000,000+ hours

Product Comparison

Feature	C1-N3K-C3264Q	C9500-12Q-E	C1-N9K-C9272Q
Port Configuration	64 × QSFP28 (100G), breakout-capable	12 × QSFP+ (40G)	72 × 40G QSFP+ ports
Switching Capacity	5.12 Tbps	960 Gbps	5.76 Tbps
Forwarding Rate	1.2 Bpps	720 Mpps	4.2 Bpps
Latency	<1 µsec (64-byte packets)	<1 µsec (64-byte packets)	~1 µsec (64-byte packets)
Management	CLI, SNMPv3, RESTCONF, NETCONF	CLI, SNMP, Web	CLI, SNMP, REST API



Feature	C1-N3K-C3264Q	C9500-12Q-E	C1-N9K-C9272Q
Power Supply	Dual 930W (hot-swappable, redundant)	Redundant, hot-swappable	Dual redundant (hot-swappable)
Stacking/ Virtualization	Supported via NX-OS	StackWise Virtual Support	vPC and Fabric Extender (FEX) support
Supported Protocols	BGP, OSPF, VXLAN, EVPN, PIM	OSPF, ISIS, BGP, EIGRP	BGP, OSPF, VXLAN, PIM, EVPN

Accessories

Category	Accessories
Included Accessories	- Dual AC/DC Power Supplies - Mounting Kit - Console Cable
Optional Accessories	- QSFP28 Transceiver Module - Breakout Cable (QSFP28 to 4×SFP28) - Redundant Fan Module



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References

[1] Cisco. (2023). Cisco Nexus 3264Q Switch Datasheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-3264q-switch/datasheet-c78-734905.html>