



Arista

DCS-7050SX3-48C8-R

Datasheet



Product Overview

- The Arista 7050SX3-48C8-R is a flagship switch in the Arista 7050X Series, recognized for advanced data center networking.
- Ideal for modern data centers, cloud services, and big data environments, it suits enterprises and service providers requiring scalable solutions.
- This model offers 48x 10G SFP+ and 8x 100G QSFP28 ports, supporting a maximum switching capacity of 2.56 Tbps, and delivers low-latency forwarding.
- Dynamic buffer management and flexible port allocation ensure reliable performance during traffic spikes or congestion.
- Comprehensive management and monitoring tools, combined with Arista EOS, streamline deployment, configuration, and system upgrades.
- The 7050SX3-48C8-R delivers high-density switching with low power use, supporting demanding workloads in evolving data center topologies.

Product Highlights

- **Unified Arista EOS Software:** Runs all Arista devices with a consistent modular OS for simplified management and streamlined updates.
- **Robust High Availability:** 1+1 hot-swappable power supplies and N+1 fan redundancy deliver continuous operation in mission-critical environments.
- **Dynamic Buffer Allocation:** Allocates up to 6.7MB per port, minimizing packet loss during congestion and ensuring smooth high-speed transfers.
- **Multi-Gig Flexible Design:** Supports both dense 10G and 100G port combinations for seamless leaf-spine scalability and migration planning.

Detailed Features



DCS-7050SX3-48C8-R

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Component	Specification
Switching Ports	48x 10G SFP+
Uplink Ports	8x 100G QSFP28
Switching Capacity	2.56 Tbps
Forwarding Rate	1 Bpps
Redundant Power	1+1 AC, hot-swappable



High-Performance Modular OS

Arista EOS powers all switches with its modular design, using a Linux-based environment. Each system process runs in isolated memory, improving security, stability, and allowing live in-service software upgrades without impact on other operations.

Advanced Reliability and Uptime

The 7050SX3-48C8-R includes 1+1 hot-swappable power supplies, 1+1 redundant fan modules, and live software patching. Features like Stateful Fault Repair and Smart System Upgrade minimize downtime and enable continuous operations.

Flexible Unified Forwarding Table

The switch's unified forwarding table supports customizable allocation for L2 MAC, L3 routing, host, and multicast entries. Network teams can optimize resources per deployment for maximum performance and future-proof scalability.

Cut-Through Low Latency

Supports cut-through packet forwarding, achieving latencies as low as 800 ns for rapid response in time-sensitive cloud or HPC applications. The 32 MB shared buffer dynamically allocates memory to congested ports for smooth and lossless transmission.

Comprehensive Multi-layer Protocols

Rich Layer 2/3 features, including scalable ECMP, LAG/MLAG, and support for advanced protocols like VXLAN, enable flexible virtualized and non-virtualized network deployments with high throughput and efficient path utilization.

Intelligent Monitoring & Automation

Integrated Arista EOS tools such as Zero Touch Provisioning, VMTracer, and Advanced Event Management (AEM) streamline device setup, automate routine tasks, and provide deep network visibility for operational simplicity.

Scaling for Modern Applications

The 7050X architecture enables predictable scaling from small networks to fabric designs supporting 110,000+ 10G servers. Custom hash algorithms and up to 128-way ECMP ensure even traffic distribution for large-scale spine-leaf networks.

Data Center Energy Efficiency

Industry-leading energy design uses less than 2W per 10GbE port with selectable airflow options. This minimizes operational costs and supports sustainable data center growth while maintaining full performance.

Technical Specifications

Product Specifications

Feature	Value
Network Ports	48x 10 Gigabit Ethernet SFP+
Uplink Ports	8x 100 Gigabit Ethernet QSFP28
Management Ports	1x 1 Gigabit Management RJ45, 1x RS-232 RJ45, 1x USB
Packet Buffer	32 MB
VLAN IDs	4096
CPU	Quad-Core x86
Switch Version	Arista EOS
Airflow Direction	Back-to-Front Airflow
Fan Module Options	2x Fan Modules Included (1+1 redundant) - Back-to-Front Airflow
Power Supplies Included	2x PWR-511-AC-BLUE (1+1 redundant) - Back-to-Front Airflow
Power Supply Options	PWR-511-AC-RED is the front-to-back airflow option



Feature	Value
Switching Capacity	2.56 Tbps
Forwarding Rate	1 Bpps
MAC Address Table Size	288,000
Latency	800 ns
DRAM	8 GB DRAM
Flash	8 GB Flash
Model Number	DCS-7050SX3-48C8-R
Part Number	DCS-7050SX3-48C8-R

Product Comparison

Feature	DCS-7050SX3-48C8-R	Arista DCS-7050TX3-48C8-R	Arista DCS-7050SX3-48YC12-F
Fixed Ports	48x 10G SFP+, 8x 100G QSFP28	48x 10GBASE-T, 8x 100G QSFP28	48x 25G SFP28, 12x 100G QSFP28
Switching Capacity	2.56 Tbps	2.56 Tbps	4.8 Tbps
Forwarding Rate	1 Bpps	1 Bpps	2.38 Bpps
MAC Address Table Size	288,000	288,000	288,000
Buffer Size	32 MB	32 MB	42 MB
Airflow Options	Back-to-Front / Front-to-Back	Back-to-Front / Front-to-Back	Front-to-Back
Redundant Power	Yes (1+1)	Yes (1+1)	Yes (1+1)
Typical Application	Dense optical 10G/100G switching	10GBASE-T aggregation, high-performance leaf	25G/100G spine or high-density leaf



Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- 2x AC Power Supply Modules- 2x Fan Modules- Rack Mount Kit
Optional Accessories	<ul style="list-style-type: none">- SFP+ Transceivers- QSFP28 Transceivers- PWR-511-AC-RED Power Supply



Support & Warranty



24/7 Online
Service



3-Year Premium
Warranty



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Technical Support



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References

[1] Arista Networks. (2023). 7050SX3-48C8-R Series Switches Datasheet. Retrieved from https://www.arista.com/assets/data/pdf/Datasheets/7050SX-128_64_Datasheet_S.pdf