

Arista

Arista DCS-7050TX3-48C8-

R

Datasheet



Product Overview

- The Arista 7050X3 Series is part of Arista's data center switching lineup, delivering scalable agility for modern networks.
- It targets data centers deploying virtualized servers, containers, and high-density cloud environments across enterprises and carriers.
- Key specifications include 48 10G-T ports, 8 QSFP100 uplinks, and a switching capacity up to 2.56 Tbps, ensuring strong performance.
- Advanced hardware features like a Unified Forwarding Table, low 800 ns latency, and 32MB packet buffer set it apart from competitors.
- Support for Arista EOS and a wide range of interface speeds allow for flexible deployment and seamless network integration.
- The DCS-7050TX3-48C8-R excels in scalable architectures where consistent, reliable, and efficient Ethernet switching is essential.

Product Highlights

- **High-Density Performance:** Delivers 48 x 10G-T downlinks and 8 x QSFP100 uplinks, supporting massive data center throughput in a compact chassis.
- **Flexible Power and Airflow:** Features 1+1 hot-swappable power, N+1 fans, back-to-front or front-to-back airflow and efficient, tool-less installation.
- **Cloud-Ready Operations:** Supports VXLAN, OpenFlow, VM Tracer, eAPI, stateful monitoring, and dynamic buffer allocation for modern cloud networks.
- **Unified EOS Platform:** One binary image, Linux shell access, extensibility with Python/C++/GO, and automated zero-touch provisioning for simplified management.

Detailed Features



Arista DCS-7050TX3-48C8-R

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Component	Specification
Switching Ports	48 x 10 Gigabit Ethernet RJ45 (10/1)
Uplink Ports	8 x 100 Gigabit Ethernet QSFP100
Airflow	Back-to-Front
Redundant Power	Yes (1+1)
Form Factor	1RU



Unified Network Operating System

Arista EOS harmonizes management by running a single binary image across all devices, reducing operational complexity. It uses a modular Linux-based architecture with unique state sharing, separating switch logic from protocol handling for reliability and rapid in-service updates.

Advanced Network Monitoring

EOS offers native, advanced monitoring with tools like Zero Touch Provisioning, VMTracer, and full Linux capabilities on-box. This enables real-time analytics, automation, and deep visibility into network traffic, helping IT teams detect, troubleshoot, and optimize performance efficiently.

Resilient High Availability Design

The 7050X3 Series features 1+1 hot-swappable power supplies and N+1 redundant fans, supporting continuous hardware and software operation. Additional features such as Smart System Upgrade (SSU) and Stateful Fault Repair (SFR) ensure true non-stop service and rapid auto-recovery from failures.

Dynamic Buffer and Burst Absorption

A fully shared, intelligent 32MB packet buffer dynamically allocates memory per port and traffic class. This guarantees fair handling of lossy and lossless traffic, absorbs bursts, and allows visibility of buffer thresholds and occupancy, even under extreme data bursts in cloud and AI/ML workloads.

Cloud Networking Flexibility

The switch supports Software Driven Cloud Networking with automation, self-service, network virtualization, and open programmability. VXLAN, sFlow, and multi-port mirroring enable smooth integration in next-gen data centers and scalable leaf-spine or multi-tier architectures.

Maximum Scalability for Network Growth

Supporting up to 128-way ECMP, 64-way MLAG, and flexible hash algorithms, the 7050X3 platform allows seamless scaling. The Unified Forwarding Table (UFT) offers flexible allocation for L2/L3/Multicast entries, tailored to unique deployment profiles and evolving requirements.

Cut-through Low Latency Switching

The device operates in cut-through mode with consistent 800 nanoseconds latency. It supports hitless speed changes from 10G to 100G, ensuring no downtime during bandwidth upgrades a critical advantage for evolving enterprise, AI, and big data scenarios.

AI and Workload Analyzer

Aristas AI Analyzer enables granular monitoring of ECMP traffic utilization at up to 100 microsecond intervals. This fine-grained analysis is essential for AI/ML environments, ensuring dynamic, even load balancing and optimized resource allocation across network fabrics.

Technical Specifications

Product Specifications

Feature	Value
Network Ports	48 x 10 Gigabit Ethernet RJ45 (10/1)
Uplink Ports	8 x 100 Gigabit Ethernet QSFP100 (100/50/40/25)
Management Ports	1 x 1 Gigabit Management RJ45, 1 x RS-232 RJ45, 1 x USB
CPU	Quad-Core x86
VLAN IDs	4096
Packet Buffer	32 MB
Switch Version	Arista EOS
Airflow Direction	Back-to-Front Airflow
Fan Module Options	2 x Fan Modules Included (1+1 redundant) - Back-to-Front Airflow
Power Supplies Included	2 x PWR-511-AC-BLUE (1+1 redundant) - Back-to-Front Airflow



Feature	Value
Power Supply Options	PWR-511-AC-RED is the front-to-back airflow option
Switching Capacity	1.28 (2.56) Tbps
Forwarding Rate	1 Bpps
MAC Address Table Size	288,000
Latency	3 μ sec
DRAM and Flash	8 GB DRAM, 8 GB Flash
Model Number	DCS-7050TX3-48C8-R
Part Number	DCS-7050TX3-48C8-R

Product Comparison

Feature	Arista DCS-7050TX3-48C8-R	Arista DCS-7050TX3-48C8-F	Arista DCS-7050SX3-48YC12-F
Switching Ports	48 x 10G-T RJ45	48 x 10G-T RJ45	48 x 25G SFP28
Uplink Ports	8 x 100G QSFP100	8 x 100G QSFP100	12 x 100G QSFP100
Switching Capacity	1.28 (2.56) Tbps	1.28 (2.56) Tbps	2.4 (4.8) Tbps
Packet Buffer	32 MB	32 MB	32 MB
Airflow	Back-to-Front	Front-to-Back	Front-to-Back
Redundant Power	Yes (1+1)	Yes (1+1)	Yes (1+1)
Latency	3 μ sec	3 μ sec	3.5 μ sec
Form Factor	1RU	1RU	1RU
MAC Address Table	288,000	288,000	288,000
Ideal Use	10G copper access at edge/spine	10G copper access (alternative airflow)	High-density 25G/100G optical aggregation



Accessories

Category	Accessories
Included Accessories	- 2 x PWR-511-AC-BLUE Power Supplies - 2 x Hot-Swappable Fan Modules - Rack Mount Kit
Optional Accessories	- PWR-511-AC-RED Power Supply (front-to-back airflow) - QSFP100 Optical Transceiver Modules - SFP+/SFP28 Modules



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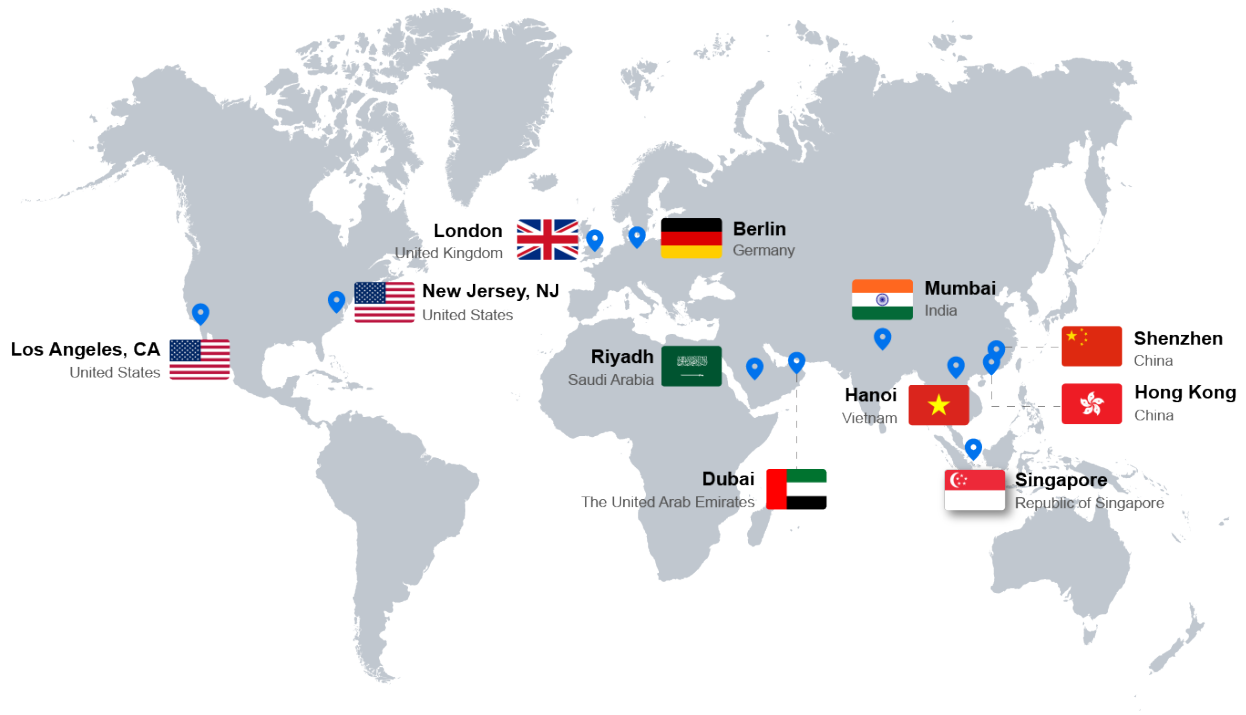
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References

[1] Arista Networks. (2023). 7050X3 Series Data Center Switches Datasheet. Retrieved from <https://www.arista.com/assets/data/pdf/Datasheets/7050X3-Datasheet.pdf>