



Cisco

C1-C6840-X-LE-40G

Datasheet



Product Overview

- Cisco Catalyst 6840-X Series is a leading-edge backbone switch for enterprise, education, and service provider networks.
- This platform is ideal for small or midsize campus backbones and supports users needing high-density 10G/40G connectivity.
- It features up to 40x 10G SFP/SFP+ ports plus 2 native 40G QSFP uplinks, with advanced MPLS support and large routing tables.
- With support for virtualization and security features, it brings layered services such as MPLS/VPLS and robust dual-stack IPv4/IPv6.
- Integrated management and redundancy features ensure network uptime, workforce productivity, and high operational efficiency.
- The Catalyst 6840-X delivers scalable, secure, and reliable switching for organizations needing flexible growth and long-term network investments.

Product Highlights

- **Flexible Chassis Options:** Four chassis versions offer adaptable port density, from 16x10G to 40x10G SFP/SFP+, plus 2x40G QSFP uplinks.
- **High Scalability:** Delivers up to 960Gbps switching, expandable to 1.92Tbps in Virtual Switching System (VSS) mode.
- **Advanced Security:** Supports Cisco TrustSec, MACsec encryption, and Cisco ISE for comprehensive enterprise security.
- **Comprehensive Virtualization:** Full MPLS, L2/L3 VPN, segment-based policy, and VPLS support for efficient network segmentation and service delivery.

Detailed Features



C1-C6840-X-LE-40G

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Component	Specification
Subtype	10 Gigabit Ethernet
Switch Ports	40 x 1 Gigabit SFP/10 Gigabit SFP+
Uplink Ports	2 x 40 Gigabit QSFP+ (breakout compatible)
Management	Layer 3, managed
Form Factor	Desktop, rack-mountable 2U



Outstanding Platform Scalability

The Cisco Catalyst 6840-X delivers up to 960Gbps switching capacity and can scale to 1.92Tbps with VSS. This allows seamless bandwidth expansion and high performance, making it suitable for modern network cores and demanding data environments.

Enterprise-Class Security

Offers Cisco TrustSec® for comprehensive IEEE 802.1AE MACsec encryption. It protects enterprises from security threats using role-based ACL, CoPP for DoS attack prevention, and Cisco ISE integration for robust end-to-end security management.

Comprehensive Virtualization

Supports a broad virtualization suite, including L2/L3 VPN, full MPLS, EVN, VRF-aware NAT Netflow, GRE for IPv4/IPv6, and L2 extensions with VPLS. This flexibility enables secure segmentation for diverse user groups and application needs.

Superior Application Visibility

Offers application monitoring via Flexible and Sampled NetFlow, and advanced queuing with Hierarchical QoS. It delivers granular visibility and precise traffic management to optimize application performance on enterprise and campus networks.

Smarter Operations and Deployment

With Cisco Instant Access, the switch can act as a remote line card for centralized management. Smart Install Director enables zero-touch deployment, reducing manual configuration and speeding up access-layer rollouts.

High Availability Architecture

The Catalyst 6840-X can form a VSS for nonstop operation and simplified management. It eliminates the need for FHRP and Spanning Tree, ensuring fast failover and minimal downtime in critical networks.

Proven Software Stability

Runs on the established Cisco Catalyst 6500 Supervisor Engine 2T architecture, ensuring mature IOS code stability and feature richness. Delivers tested performance and operational consistency in enterprise backbones.

Integrated Redundancy and Cooling

Built-in 1+1 power supply redundancy and a removable fan tray with four redundant fans maintain uptime. These features help maximize workforce productivity, customer satisfaction, and overall business profitability.

Technical Specifications

Product Specifications

Feature	Value
Device Type	Switch - 40 ports - L3 - managed
Enclosure Type	Desktop, rack-mountable 2U
Subtype	10 Gigabit Ethernet
Ports	40 x 1 Gigabit SFP/ 10 Gigabit SFP+ + 2 x 40 Gigabit QSFP+ (breakout compatible)
Performance - Forwarding	Forwarding performance: up to 180 Mpps
Performance - Switching Capacity	Switching capacity (full duplex): up to 240 Gbps
Routing Performance	IPv4 routing: up to 180 Mpps
IPv6 Routing Performance	IPv6 routing: up to 90 Mpps
Layer 2 Bridging	Layer 2 bridging: up to 180 Mpps
IPv4 Route Capacity	IPv4 routes: 256000
IPv6 Route Capacity	IPv6 routes: 128000
NetFlow Entries	NetFlow entries: 1500000



Feature	Value
Multicast IPv4 Route Capacity	IPv4 routes (Multicast): 128000
Multicast IPv6 Route Capacity	IPv6 routes (Multicast): 64000
VLAN Interfaces	Virtual interfaces (VLANs): 4094
Domains Supported	Domains: 16000
ACL Entries	ACL entries: 64000
Logical Interfaces	Logical interfaces: 128000
MAC Address Table Size	128K entries
Jumbo Frame Support	9216 bytes
Routing Protocol	IGMPv2, IGMP, PIM-SM, PIM-DM, IGMPv3, GRE, MSDP, MLDv2, MLD, MPLS, PIM-SMv6, PIM-DMv6
Remote Management Protocol	RMON, SMON
Power Device	Internal power supply - hot-plug
Installed Qty (Power Supply)	0 (installed) / 2 (max)
Power Redundancy	Optional
Power Redundancy Scheme	1+1 (with optional power supply)
Compliant Standards	CISPR 22 Class A, EN55024, EN55022 Class A, EN50082-1, EN 61000-6-1, UL 60950-1 Second Edition, FCC Part 15 A, AS/NZS 3548 Class A, AS/NZS 60950, EN 60950-1 Second Edition, IEC 60950-1 Second Edition, GR-1089-CORE, CAN/CSA C22.2 No. 60950, VCCI Class A, ETS 300386, ETSI 300 019
Software Included	Cisco IOS Advanced Enterprise Services, Cisco IOS IP Services
OS Required	Cisco IOS 15.2(2)SY
Dimensions - Width	17.4 in
Dimensions - Depth	21.5 in
Dimensions - Height	3.5 in
Weight	37.04 lbs
Min Operating Temperature	32 °F
Max Operating Temperature	104 °F
Operating Humidity Range	5 - 90% (non-condensing)
Min Storage Temperature	-4 °F
Max Storage Temperature	149 °F
Storage Humidity Range	5 - 90% (non-condensing)



Product Comparison

Feature	C1-C6840-X-LE-40G	C9200-48P-E	C9500-32C-A
Ports	40 x 1G/10G SFP+ + 2 x 40G QSFP+	48 x 1G copper + 4 x 10G SFP+	32 x 100G QSFP28
Switching Capacity	960Gbps (up to 1.92Tbps VSS)	176Gbps	6.4Tbps
Forwarding Rate	Up to 180 Mpps	130.95 Mpps	2 Bpps
Layer 3 Support	Yes, Advanced (MPLS, VRF, VPLS)	Yes	Yes (full routing, MPLS)
Stacking Capability	Supports VSS	StackWise-160	StackWise Virtual
Redundant Power	1+1 hot-swappable	Yes, dual power supplies	Yes, dual power supplies
Form Factor	2U, fixed	1U, fixed	1U, fixed
Security	MACsec, TrustSec, CoPP, ISE	802.1X, TrustSec	MACsec, TrustSec
Target Scenario	Campus backbone/core	Enterprise access/aggregation	Large enterprise core/data center

Accessories

Category	Accessories
Included Accessories	- Power Adapter - Rack Mount Kit - Console Cable
Optional Accessories	- SFP+ Transceiver Module - 40G QSFP+ Module - Redundant Power Supply



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References

[1] Cisco. (2015). Cisco Catalyst 6840-X Series Switches Data Sheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-6840-x-switch/datasheet-c78-734470.html>