OEM Active Optical Devices QSFP

Overview

Pivotal Optics AOC cables deliver 10G–400G fiber performance up to 50m with low power draw and zero connector cleaning.

Key Takeaways

OEM QSFP Active Optical Cables (AOCs) provide high-speed, long-reach connectivity for data centers and networking applications, supporting data rates from 10G up to 400G.Overview

Active Optical Cables (AOCs) in QSFP form factors are high-performance optical interconnects designed to replace traditional copper cables for medium- to long-reach connections. They integrate optical transceivers and fiber into a single assembly, offering low power consumption, high bandwidth, and improved signal integrity compared to passive copper solutions . OEM AOCs are manufactured to meet original equipment manufacturer specifications, ensuring compatibility with major switch and server vendors such as Cisco, Juniper, Arista, Dell, HP, and Brocade .

Data Rates and Standards

QSFP AOCs support a wide range of data rates:

• 10G, 25G, 40G, 50G, 56G, 100G, 200G, and 400G depending on the cable and transceiver type .

• Compliant with QSFP MSA, QSFP-DD, OSFP, IEEE 802.3 standards, and SFF-8436 for interoperability .

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• Available in multiple variants such as SR4, eSR4, IR4, LR4, ER4 lite, and breakout AOCs for flexible deployment .

Applications

QSFP AOCs are widely used in:

• Data centers for high-speed server-to-switch and switch-to-switch connections.

• High-performance computing (HPC) clusters requiring low-latency, high-bandwidth interconnects.

• Campus and metropolitan area networks where long-reach optical links are needed .

Advantages

• Longer reach and flexibility compared to passive copper cables.

• Lower power consumption and reduced heat generation.

• Plug-and-play compatibility with multiple OEM switches and servers.

• Compact form factor suitable for dense networking environments .

OEM and Testing

Reputable OEM suppliers, such as OEM Optic, USource, Amphenol, TE Connectivity, and FS.COM, provide AOCs that are tested for compatibility and performance in real-world network environments. These tests ensure that each module meets OEM specifications and operates reliably across different platforms . Many suppliers also offer custom programming and quality control to guarantee interoperability with major networking equipment .

Conclusion

OEM QSFP Active Optical Devices are essential for modern high-speed networks, offering scalable, reliable, and energy-efficient optical connectivity. They are ideal for data centers, HPC clusters, and enterprise networks requiring high bandwidth, low latency, and long-reach optical links. Selecting OEM-certified AOCs ensures compatibility, performance, and longevity in demanding network environments.

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Article Content

Active Optical Cables_AOC_SFP QSFP QSFP-DD

USource is leading manufacturer OEM ODM Carrier-Grade of high speed Active Optical Cables in SFP

40Gb/s QSFP+ Active Optical Cables (AOC)

Amphenol provides a series of 40G QSFP+optical module products, including SR4, eSR4,

Cisco QSFP-DD Pluggable Open Line System (QDD

The QSFP-DD OLS is a pluggable open line system solution that

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200G QSFP DD Active Optical Cable (AOC)

Amphenol QSFP DD to QSFP DD 200G Active Optical Cable assemblies increase the number of lanes from 4 to 8 and

78-5102-0201-9 A

The 3M Active Optical Cable (AOC) Assembly for QSFP+ FDR (fourteen data rate) Applications extends the performance and

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OEM Optic, Inc

Active Optical Cables: Flexible Connectivity for 2025 Networks At OEM Optic (), our active optical cables (AOC)

Spec Sheet

Regional Availability - Global Siemon 40G QSFP+ Active Optical Cable (AOC) assemblies offer a highly reliable and cost-effective

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Active Optical Cables AOC SFP QSFP 10G 25G 100G

Pivotal Optics AOC cables deliver 10G–400G fiber performance up to 50m with low power draw and zero

Customized OEM 100G QSFP28 AOC Active Optical

COMNEN''s Customized 100G QSFP28 Active Optical Cable (AOC) is engineered to deliver high-speed,

Spec Sheet

QSFP+ 40G Active Optical Cables Siemon option for 40Gb/s high-speed Low data Power with four fiber optic transceivers per end,

FS

FS - HPC, Data Center, Enterprise, Telecom

AOC (Active Optical Cable) : Optical Transceiver Module | NEC

Active Optical Cables (AOC) use optical fibers, allowing for longer distance transmission compared to copper cables and being less

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Cisco 40GBASE QSFP Modules Data Sheet

Cisco QSFP to QSFP active optical cables Cisco QSFP to QSFP copper direct-attach 40GBASE-CR4 cables (Figure

Validated and Supported Cables and Switches

Validated and Supported Cables and Modules Cables Lifecycle Legend Lifecycle Phase Definition EOL End of Life LTB

SFP, QSFP, QSFP-DD, OSFP ACTIVE OPTICAL CABLE

TE Connectivity''s (TE) active optical cable assembly portfolio provides improved cable flexibility and longer reach, as compared to

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SFP, QSFP, QSFP-DD, OSFP Active Optical Cable Assemblies

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SFP, QSFP, QSFP-DD, OSFP ACTIVE OPTICAL CABLE

Small form-factor pluggable (SFP), quad small form-factor pluggable (QSFP), quad small form-factor pluggable double-density

Active Optical Cables | Proficium – Proficium

Active optical cables for data center and AI/HPC deployments. 25G to 800G speeds. OSFP, QSFP-DD, QSFP28, and SFP28 form

40G QSFP+ Transceiver Modules | Optical Transceivers

FS 40G QSFP+ optical transceiver module solutions offer a full range of QSFP+ modules from 150m to 80km reach, and used for

Active Optics Cable Assemblies | TE Connectivity

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Small form-factor pluggable (SFP), quad small form-factor pluggable (QSFP), quad small form-factor pluggable double-density

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