Circuit Assembly™

SFP & QSFP Transceivers

The Small Form-factor Pluggable transceiver (SFP) is a compact transceiver used to link routers, switches, and fiber optic assemblies. SFP supports transmission rates up to 1Gbit/s.

The two primary benefits of using SFP connectors are:

1. SFP transceivers can be fitted with different connectors and link different networking devices. (e.g., Router/Switches with RJ45 connectors and Fiber Optic Assemblies).
2. SFP supports longer transmission lengths compared to CAT5 or CAT6 Cables.

QSFP (Quad Small Form-factor Pluggable) is a smaller, more compact version of the SFP, but supports up to 4 channels.

The SFP+ (Enhanced small form-factor pluggable) is an updated version of the SFP. Although virtually identical in appearance, the SFP+ supports transmission rates up to 10Gbit/sec.

QSFP+ (Enhanced Quad Small Form-factor Pluggable) is the smaller, more compact version of the SFP+, and also supports up to 4 channels.

Key Features and Benefits

- Data transfer rate of up to 10Gbit/s
- Supports optical modules with both electrical and optical ports,
- SFP ports allow switches to connect to a variety of fiber and Ethernet cables
- Twinax Cable contains two inner conducto
- 1000Mbps shielded and unshielded transfer rates
- SFP ports are in line with numerous standards (IEEE 802.3ab)
- Much longer transmission lengths than RJ45

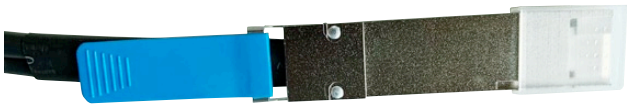
Applications

- Communications between devices like routers, switches, fiber optic assemblies, and it converts between electrical and optical signals

SFP cable assemblies use what's called a Twinax Cable. These cables are similar to coax cables except Twinax contains two inner conductors vs. the single one in coax cables. The two conductors are used individually to transmit data. These cables are capable of transmitting speed up to 10Gbps. These cables come in two different versions, active and passive. All this means is that the Twinax cable length that is less than 7 meters is considered passive, and a length longer than 7 meters is active. When a cable is active, the cable contains electronics that help to achieve the 10Gbps signal over the long length while maintaining its signal quality. The passive is a simple wire that can carry the signal through the copper wire directly. The ultimate reason why you do not see fiber optic cables with SFP is due to cost. Twinax provides a cost-saving alternative.

In today's market, gigabit internet is the faster internet service that everyone is adopting due to its fast speeds of 1,000 Mbps (1 Gbps or Gigabits). You will commonly see RJ45 ports and SFP ports on gigabit switches. The RJ45 port is standard on all switches and connects two RJ45 gigabit ethernet switches needing only a CAT 5 or CAT 6 cable. The transfer rates on these cables are similar to SFP, 1000Mbps at shielded and unshielded. SFP ports are in line with numerous standards (IEEE 802.3ab), which defines the physical media and the working characteristics of ethernet. When using SFP cables, they are inserted in the SFP receptacle, and then a CAT 5/6/6E cable is used for the data transfer. SFP ports allow the switches to connect to a variety of different fiber and Ethernet cables such as single-mode and multimode, and varying speeds from 1Gbps to 10Gbps.

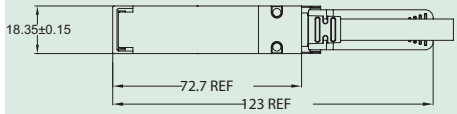
It may seem counter-intuitive to use an SFP connection vs. RJ45 due to its performance similarities. However, the SFP port is ultimately necessary since it can support optical modules with both electrical and optical ports, whereas RJ45 can only do optical to optical. SFP also has much longer transmission lengths, which makes it favorable for larger server rooms with units across an entire room.



Product Description

CA Part Number	Description
CA-H709800-XXX	QSFP+ to QSFP+ 30AWG 40G 0.5M/1M/2M/3M/ 4M/5M/6M cable assembly QSFP+ to QSFP+ 28AWG 40G 5.1M-7M
CA-H709801-XXX	SFP28 to SFP 30AWG 25G 0.75M/1M/1.25M/1.5M/ 1.75M/2M/2.5M/3M cable assembly
CA-H709802-XXX	QSFP28 to QSFP28 30AWG 100G 0.5M/1M/1.5/ 2M/2.5M/3M/3.5M/4M cable assembly
CA-H709803-XXX	SFP+ to SFP+ 30AWG 10G 0.5M/1M/1.5M/2M/ 2.5M/3M/3.5M/4M/4.5M/5M/5.5M/6M cable assembly SFP+ to SFP+ 28AWG 10G 4.6M-7M

H709800



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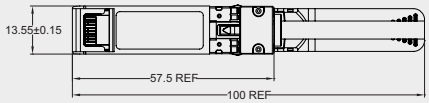

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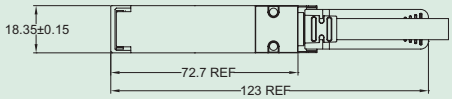

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