Cisco OSFP 800G Transceiver Modules

Contents

Product overview

The Cisco® OSFP 800G transceiver modules provide 800 Gigabit Ethernet (GE), 2x 400GE, 4x 200GE, and 8x 100GE connectivity options, complying with the Octal Small Form Factor Pluggable (OSFP) MSA for pluggable transceivers. The modules comply with the OSFP configuration with integrated heat sink. These transceivers are used in AI applications for both front-end and back-end networks as well as other data center applications. They meet the 800GE requirements along with the flexibility of 400GE, 200GE, and 100GE connectivity options for data centers, high-performance computing networks, enterprise core and distribution layers, and service provider applications. The OSFP 800G modules are Cisco's new generation of pluggable transceiver modules based on the OSFP specification.

Table 1.   Feature and benefits

Feature	Benefit
Hot-swappable	I/O device that plugs into an 800GE Cisco OSFP port.
Interoperable	Interoperable with other IEEE-compliant 800GE, 400GE, 200GE, and 100GE interfaces where applicable.
Certified on Cisco platform	Certified and tested on Cisco OSFP 800G ports for superior performance, quality, and reliability.
Compatible with IEEE 802.3	High-speed electrical compliance with IEEE 802.3.
Compatible with MSA	Optical and coding compliance with OSFP MSA, CMIS Rev 5, OIF 112G PAM4, and IEEE 802.3.
Breakout capability	Modules have the capability to interface to multiple 100GE, 200GE, and 400GE modules, providing higher port density for 100GE, 200GE, and 400GE interfaces.

Table 2.   Cisco OSFP 800G portfolio

Product ID	Description	Max power consumption (W)	Optical connector
OSFP-800G-DR8	OSFP (Integrated Heat Sink) Transceiver, 800GBASE-DR8, Dual MPO-12, 500m parallel SMF	17	Dual MPO-12

Note: The OSFP-800G-DR8 requires patch cords with angled physical contact (APC) MPO connectors. All cables and cable assemblies used must comply with the standards specified in the standards section of this data sheet.
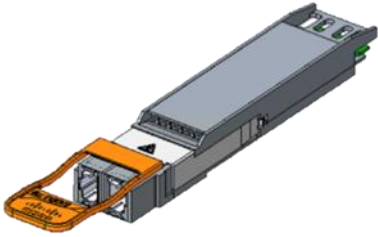
Prominent features and differentiators

Figure 1.
OSFP-800G-DR8

The Cisco OSFP-800G-DR8 module (Figure 1) supports 800GE as well as 2x 400GE, 4x 200GE, and 8x 100GE breakouts for links up to 500m in reach. The module has eight pairs of single-mode fiber with MPO-12 APC connectors. It is compliant with IEEE 802.3 800GBASE-DR8 and OSFP MSA requirements. Optical signals are carried over eight pairs of parallel lanes, with one wavelength per lane. The optical interface can interoperate with any IEEE-compliant module regardless of the form factor. Forward Error Correction (FEC) is performed on the host platform. The OSFP-800G-DR8 module is field firmware upgradeable, complying with CMIS 5.0 firmware upgradability process. The module also has dual bank memory, providing the ability to down new firmware to the module without interrupting module operation.

Table 3.   OSFP port and cabling specifications

Cisco 800G OSFP	Nominal wavelength (nm)	Cable type	Core size (microns)	Modal bandwidth	Cable distance	Pull tab color
OSFP-800G-DR8	1310	SMF	G.652		500m	Orange

Platform support

Cisco OSFP 800G modules are supported on Cisco switches and routers. For more details, refer to the [Cisco Transceiver Modules Compatibility Matrix](#).

Specifications

Table 4.   Electrical specifications

Product	Description	Nominal data rate	High-speed electrical	Link meter
OSFP-800G-DR8	OSFP Transceiver, 800GBASE-DR8, Dual MPO-12, 500m parallel SMF	800GE	800GAUI-8	500m

Table 5.   Optical specifications

Product	Description	Average transmit power per lane (dBm) min	Average transmit power per lane (dBm) max	Average receive power per lane (dBm) min[1]	Average receive power per lane (dBm) max	Maximum supported insertion loss (IL) (dB)	Wavelength (nm)	Pre- FEC
OSFP-800G-DR8	OSFP Transceiver, 800GBASE-DR8, MPO-12, 500m parallel SMF	–2.9	4	–5.9	4	3	1310	2.4×10^{-4}

[1] Average receive power per lane (min) is informative and not the principal indicator of signal strength. A received power below this value cannot be compliant; however, a value above this does not ensure compliance.

Table 6.   Mechanical specifications

Specification	Value
Module dimension with pull tab	(H x W x D) 13 x 22.58 x 116 mm (0.51 x 0.89 x 4.57 in.) max
Module weight (max)	100 g (3.5 oz)
Module operation temperature	0° to 70°C (32° to 158°F)
Storage temperature	–40 to 85°C (–40° to 185°F)

Table 7.   Ordering information

Part ID	Product description
OSFP-800G-DR8	OSFP Transceiver, 800GBASE-DR8,2x MPO-12, 500m parallel SMF

Regulatory and standards compliance

Standards

- OSFP MSA OSFP Octal Small Form Factor Pluggable Module, Rev 5.1, specification
- GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
- GR-326-CORE: Generic Requirements for Single-Mode Optical Connectors and Jumper Assemblies
- GR-468-CORE: Generic Requirements for Optoelectronic Devices Used in Telecommunications Equipment

- GR-1435-CORE: Generic Requirements for Multifiber Optical Connectors

- Common Management Specification (CMIS) Rev 5.0

- IEEE Std 802.3-2018 IEEE Standard for Ethernet

- IEEE 802.3ba CL88

- IEEE 802.3df 800GAUI-8

- IEEE 802.3ck

- IEEE 802.3cd CL136

- IEEE 802.3cu CL140

Safety

- Laser Class 1 21CFR-1040 LN#50

- Laser Class 1 IEC60825-1

- Compliance with North American (FCC/ICES), European (CENELEC), Japanese (VCCI), and Telcordia NEBS standards

- GR-1089 EMC and Electrical Safety – Generic Criteria for Network Telecommunications Equipment

- EMI compliance with FCC Part 15 (30 MHz to 40 GHz) and CISPR32/CISPR22 (30 to 6000 MHz)

- RFI compliance with EN/IEC 61000-4-3 and GR-1089-CORE (10kHz to 10 GHz)

- ESD compliance with EN/IEC 61000-4-2 and GR-1089

- Certification to IEC/EN 60825-1 +A2

- RoHS 6 compliance

Table 8.   Laser class for OSFP modules

Part ID	Laser class
OSFP-800G-DR8	1

Warranty

Standard warranty: 5 years. Expedited replacement available via a Cisco Smart Net Total Care® Service support contract.

Product sustainability

Information about Cisco's Environmental, Social and Governance (ESG) initiatives and performance is provided in Cisco's CSR and sustainability [reporting](#).

Table 9.   Cisco environmental sustainability information

Sustainability topic		Reference
General	Information on product-material-content laws and regulations	[Materials](#)
	Information on electronic waste laws and regulations, including our products, batteries and packaging	[WEEE Compliance](#)
	Information on product takeback and reuse program	[Cisco Takeback and Reuse Program](#)
	Sustainability Inquiries	Contact: csr_inquiries@cisco.com
Material	Product packaging weight and materials	Contact: environment@cisco.com

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Additional information

For more information about Cisco 800G OSFP transceiver modules, contact your sales representative or visit www.cisco.com/en/US/products/hw/modules/ps5455/prod_module_series_home.html.