

OSFP optical module power consumption



Article Overview

OSFP optical modules typically consume between 8W and 20W depending on data rate, module type, and thermal design.

Overview of OSFP Power Consumption

OSFP (Octal Small Form-factor Pluggable) modules are designed to support high-speed data rates of 400G, 800G, and future 1.6T using eight electrical lanes, with each lane operating at 50G, 100G, or 200G PAM4 depending on the module configuration. The form factor is slightly larger than QSFP-DD (22.5 mm vs 18.35 mm width) to provide a larger thermal envelope, allowing higher power dissipation and improved heat management.

Typical Power Ranges

- 400G OSFP modules: Generally consume 8-12W, depending on whether they are short-reach multimode or longer-reach single-mode modules.
- 800G OSFP modules: Power consumption ranges from 12-20W, with high-density or long-reach coherent optics approaching the upper end of this range.
- 1.6T OSFP modules: Expected to consume up to 20W or more, as higher per-lane speeds (200G per lane) increase DSP complexity and thermal load. Power consumption is influenced by module type, transmission distance, DSP complexity, and optical architecture. Short-reach multimode modules are more energy-efficient, while long-haul coherent optics require more power for signal processing and amplification.

Article Content

800G Optical Transceiver Overview: QSFP-DD and OSFP Packages

This article provides an overview of 800G optical transceivers, focusing on the QSFP-DD and OSFP packages.

Introduction to OSFP

For instance, the typical power consumption of an 800G OSFP module is around 13.5-15W. Common Types and

OSFP Transceivers: High-Density Optical Connectivity from 400G to

Power your AI and cloud networks with next-gen OSFP optics. LINK-PP offers 400G/800G/1.6T modules, LPO, and

1.6Tb/s Twin-port XDR OSFP 2xDR4 1310nm 500m Optical Transceiver

Description The OSFP-1.6T-2xDR4H is a cost-effective module with high performance, which is optimized for AI

OSFP MSA Rev 5

Abstract: This specification defines the electrical connectors, electrical signals and power supplies, and mechanical and thermal

Form Factors

Power Requirements Transceiver modules have varying power consumption levels and thermal output. It depends on

Power Management for 10G SFP Optical Transceivers

Optimizing the power consumption of optical modules not only reduces operating costs and improves energy efficiency

What is the power range of sfp?

These advancements not only offer higher speeds but also aim to maintain or even reduce power consumption through more efficient

Cisco OSFP 800G Transceiver Modules Data Sheet

Optical signals are carried over eight pairs of parallel lanes, with one wavelength per lane. The optical interface can

OSFP-Stromverbrauch nach Datenrate: Leitfaden von 400G bis 1.6T

Erfahren Sie mehr über die Leistungsaufnahmespezifikationen von OSFP-Modulen mit 400G, 800G und 1.6T.

OSFP Power Consumption by Data Rate: 400G to 1.6T Guide

Learn OSFP power consumption specifications for 400G, 800G, and 1.6T modules. Compare real-world wattage,

OSFP OCTAL SMALL FORM FACTOR PLUGGABLE MODULE

This specification defines the electrical connectors, electrical signals and power supplies, mechanical and thermal requirements of

Cisco QSFP-DD and OSFP 800G ZR/ZR+ Coherent Optics Modules

Cisco QSFP-DD and OSFP 800G coherent optical modules are supported on Cisco switches and routers. For more

Understanding the OSFP Standard: The Open 400G/800G Optical

Unlike the backward-compatible QSFP-DD, OSFP introduces a slightly larger mechanical form to accommodate

OSFP Optical Transceiver MSA Spec

OSFP OCTAL SMALL FORM FACTOR PLUGGABLE MODULE Rev 1.12 August 1 st, 2017
Abstract: This specification defines the

Complete Guide to OSFP Transceiver: 400G/800G/1.6T

In actual use, OSFP modules demonstrate power consumption between 8W and 12W, while advanced models reach

What is the power consumption of SFP?

The power consumption of Small Form-Factor Pluggable (SFP) transceivers can vary depending on the specific type

OSFP Transceivers: High-Density Optical Connectivity from 400G to

Designed for high thermal capacity, electrical scalability, and forward compatibility, OSFP modules now drive

DESIN SLUINS

How to Power Your QSFP-DD Optical Transceiver Growth in the optical transceiver market is driven by demand for higher Ethernet

OSFP1600_and_OSFP-XD

OSFP-XD can also support 8-lane optics modules that want to take advantage of thermal management capabilities and useable

OCP EMEA 2025: FiberMall's 1.6T Pluggable Optical Module Based

For instance, FiberMall's 1.6T OSFP 224 2*DR4 module exhibits an energy efficiency of 18.75 pJ/bit when utilizing a

QSFP-DD vs OSFP: What Are the Differences?

QSFP-DD vs OSFP: Thermal Capacity and Power Consumption The QSFP-DD is smaller in size, so its thermal capacity is only 7 to

OSFP Optical Transceiver MSA Spec

Abstract: This specification defines the electrical connectors, electrical signals and power supplies, mechanical and thermal

OSFP1600_and_OSFP-XD

Power consumption for 1.6T and 3.2T modules is expected to reach up to 40W. It is well accepted that integrated heatsinks (IHS)

Evaluating Co-Packaged Optics (CPO) Performance

Introduction Hyperscale data centers currently being deployed are focusing on changing the optical interface to facilitate the “Beyond

A Guide to 800G Optical Module Form Factors

800G optical transceivers are revolutionizing high-speed networking, catering to the growing demands of cloud

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://watermanfinance.co.za>

Email: sales@watermanfinance.co.za

Phone: +49-176-8294713

Address: Neue Mainzer Str. 66-68, 60311 Frankfurt am Main, Germany

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