

# **Fiji ODM Air-Cooled Switch OSFP**





## Overview

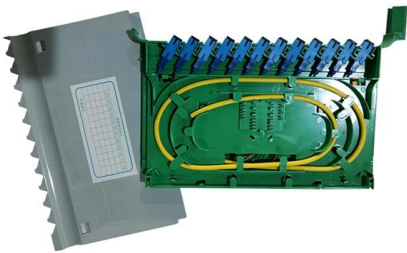
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The switches use Twin port OSFP cages supporting two transceiver engines in a single OSFP form-factor plug creating 800Gb/s electrical to the switch and 2x400G optics using two MPO/-12/APC optical connectors. The OSFP (Octal Small Form Factor Pluggable) form factor has emerged as a leading choice for next-generation 800G and 1. The line rate is 400Gb/s for both 400GbE Ethernet and NDR InfiniBand based on the 100G-PAM4 modulation. This article covers the thermal structure, design, methods and benefits of 400G/800G/1. FIBERSTAMP OSFP modules offer flexible packaging options to match different cooling scenarios, helping you maximize performance and energy efficiency.



## Fiji ODM Air-Cooled Switch OSFP

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### OSFP Thermal Form Factors Explained: Finned Top, Closed Top, and

As 800G and 1.6T optics increase power density, OSFP thermal design becomes critical. Learn the differences between OSFP-IHS and OSFP-RHS, and how Finned Top, Closed Top, and Flat Top

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### OSFP Connector System

The Octal Small Form Factor Pluggable (OSFP) Connector System provides single- or dual-port, 8- or 16-lane I/O connectivity with DAC, AOC, ACC and optical

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### Overview

Both switches use the same Twin port, 2x400G OSFP plugs for transceivers, copper DACs and ACCs, and are only used in Quantum-2 and

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### OSFP Transceivers: High-Density, High-Speed Connectivity from

FS 1.6T OSFP closed-finned-top (OSFP-IHS) transceivers are compatible with NVIDIA Quantum-X800 air-cooled and liquid-cooled switches, and support breakout connectivity from a 1.6T



x

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

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## A Comprehensive Guide of the Thermal Design in OSFP Modules

The design incorporates a layer of metal cover over the heat dissipation fins, which provides mechanical rigidity and EMI shielding. Combining the thermal characteristics of both finned

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## OSFP Thermal Form Factors Explained: Finned Top, Closed Top

This article explains why multiple OSFP thermal form factors exist, compares the structural differences between OSFP-IHS and OSFP-RHS, and provides guidance on selecting Finned Top, Closed

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## OSFP OCTAL SMALL FORM FACTOR PLUGGABLE MODULE

To allow for forced air cooling of the OSFP module, it is recommended there be ventilation holes in the top and back of the cages. Refer to Figure 4-10 and Figure 4-11 for examples of ventilation hole details.

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## From Airflow to Liquid Cooling: A Deep Dive into 800G

Designed for air-cooled switches, especially traditional rack-mounted Ethernet switches. Improves cooling efficiency in airflow channels, ensuring

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## OSFP IHS vs OSFP RHS: Thermal Design and Key

This article introduces two thermal designs for OSFP IHS and OSFP RHS optical modules, explaining their main differences in structure, heat

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## Welcome to OSFPmsa

A: No, due to mechanical and electrical differences, OSFP modules are not compatible with OSFP-XD ports, and vice-versa. Mechanical keying features on

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## Introduction to OSFP

It is particularly suitable for high-power, air-cooled switches. Flat Top Type: Optimized for space-constrained environments (like GPU servers, liquid

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## OSFP vs OSFP-XD: The Definitive 1.6T Transceiver Form Factor

As hyperscale data centers push toward high-density switching architectures, the shift from 800G to 1.6T optics has accelerated the competition between next-generation pluggable form

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## Understanding OSFP Modules: Your Guide to High

Discover how OSFP modules provide high-speed optical connectivity for data center applications. Learn about the different form factors, data rates,

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## OSFP MSA Rev 5

Abstract: This specification defines the electrical connectors, electrical signals and power supplies, and mechanical and thermal requirements of the OSFP Module, connector, and cage systems. The

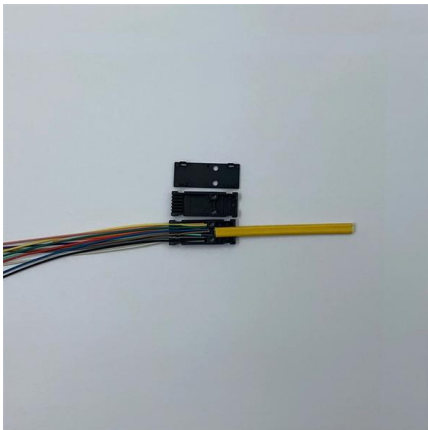
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## Connectors and Cages

The twin-port OSFP 800G plug has 8-channels of electrical signaling for the switch and two 400Gb/s engines inside the transceiver that exit to two 400G optical or copper ports. Extra

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## OSFP Connectors 2025: Design, QSFP-DD

While QSFP-DD remains common, the OSFP (Octal Small Form-Factor Pluggable) has emerged as a strong contender, designed from the ground

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## OSFP Connectors 2025: Design, QSFP-DD Comparison, and

While QSFP-DD remains common, the OSFP (Octal Small Form-Factor Pluggable) has emerged as a strong contender, designed from the ground up for high-power, high-speed applications such as AI

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## Choosing the Right OSFP: Balancing Performance and Thermal

Ideal for air-cooled OSFP switches, such as standard Ethernet switches relying on chassis fan airflow for cooling. Suited for hybrid cooling setups, like NVIDIA DGX H100 Cedar systems connecting to air

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## A Comprehensive Guide of the Thermal Design in OSFP Modules

Combining the thermal characteristics of both finned-top and flat-top designs, it is suitable for air-cooled switches, liquid-cooling systems, or environments where dust protection is required.

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## Finned-top and Flat-top Design in 400G/800G Optical

In the 800G OSFP series, SR8, DR8, and FR8 optical transceivers use a finned-top design (though there is an SR8 and DR8 variant used for

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## 400GBASE-SR4 OSFP Flat Top 850nm 100m MMF

400GbE OSFP SR4 liquid/immersion cooling transceiver (flat top), 3M MPO-12/APC Female Type A plug, 4x106.25GBd data lanes, for short-range MMF data

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## OSFP Thermal Form Factors Explained: Finned Top, Closed Top, and

Because cooling is largely self-contained, OSFP-IHS modules are well suited to platforms where switch or router airflow is predictable and well characterized. This approach also

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### OSFP MSA Rev 5

An OSFP/OSFP800 or OSFP1600 module (see section 3, section 4 and section 11) includes an air-cooled integrated heatsink (IHS) with a closed top (see section 3.3) or an open top (see section 3.4),

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### OSFP MSA Rev 5.0

For proper cooling of the OSFP module in the stacked cage, the cage shall have appropriate ventilation holes. From Figure 7-5 to Figure 7-8, the ventilation holes required in the stacked ganged cage are

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