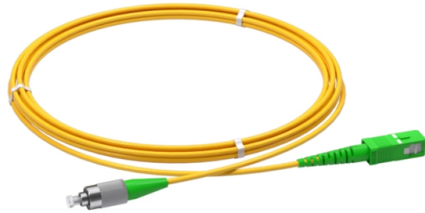


Optical module ESFP and SPF



Overview

Parameters include optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Key Takeaways

eSFP (enhanced Small Form-factor Pluggable) and SFP (Small Form-factor Pluggable) modules are functionally similar, but eSFP adds monitoring capabilities for optical performance and alarms. Overview of SFP and eSFP

SFP modules are compact, hot-swappable optical transceivers used in telecommunication and data communication networks. They support data rates typically up to 1.25 Gbps for standard SFP, and higher for SFP+ (up to 10 Gbps) and SFP28 (up to 25 Gbps) variants. SFP modules are widely used for Gigabit Ethernet, Fiber Channel, and SONET applications, and they come in different types such as SR (short range), LR (long range), ER (extended range), and ZR (ultra-long range) depending on transmission distance and wavelength. eSFP modules are an enhanced version of SFP modules. They provide the same basic functionality as SFPs, including data transmission and compatibility with the same optical power, sensitivity, and distance. The key difference is that eSFP modules include monitoring features, allowing network administrators to track optical power, temperature, and performance events. This makes eSFP modules particularly useful in environments where proactive monitoring and fault detection are important.

Key Differences	Feature	SFP	eSFP	Function	Standard optical transceiver	Standard functions + monitoring capabilities
Monitoring	Not supported	Supports optical power, temperature, and performance monitoring	Compatibility	Can be used interchangeably with eSFP if optical specs match	Can replace SFP if optical specs match	Data Rate
Up to 1.25 Gbps (SFP), 10 Gbps (SFP+), 25 Gbps (SFP28)	Same as SFP/SFP+ depending on model	Use Case	Basic connectivity, legacy systems, low-bandwidth applications	Networks requiring real-time monitoring and diagnostics	Interchangeability	

eSFP and SFP modules can substitute for each other as long as the optical power, sensitivity, and transmission distance are compatible. Both types are available in single-fiber unidirectional and bidirectional configurations, supporting transmission rates from 125 Mbit/s to 5 Gbit/s for unidirectional modules and up to 2.67 Gbit/s for bidirectional modules .

Summary

In essence, eSFP modules offer the same connectivity as SFP modules but with added monitoring features, making them suitable for networks where performance tracking and proactive maintenance are required. SFP modules remain a cost-effective choice for standard data transmission without monitoring needs. Both types are hot-swappable and widely used in enterprise, data center, and metro networks .

Article Content

Optical Module Encapsulation Types

The eSFP and SFP optical modules have the same functions and services. They can substitute for each other as long as they have

FAQ-What is the Difference between eSFP Optical Module and

If optical power, sensitivity and the distance are consistent, they can be changed. Compared with SFP, eSFP has

Optical Module Encapsulation Types

Compared with SFP optical modules, eSFP optical modules support monitoring of optical module alarms, temperature, and

01-10 OPTICAL MODULES

Huawei S series devices support optical modules of the following encapsulation types: CFP, QSFP+, QSFP28, XFP, SFP, eSFP,

Small Form-factor Pluggable

Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable

Types of Optical Modules

An eSFP module is an SFP module that supports monitoring of voltage, temperature, bias current, transmit optical power, and

Optical Transceiver: SFP vs SFP+ vs QSFP28 vs QSFP-DD

This article provides a comprehensive comparison of mainstream optical transceivers, including SFP, SFP+, QSFP+,

Optical Modules for Huawei S Series Switches

An eSFP module is an SFP module that supports monitoring of voltage, temperature, bias current, transmit optical power, and

Huawei SFP-GE-LX-SM1310 1GE 1310nm 10km SFP Optical

Huawei SFP-GE-LX-SM1310 1GE 1310nm 10km single-mode SFP module for Huawei switches and routers. Check real-time price,

Optical Module Encapsulation Types

SFP/eSFP Optical Module Small form-factor pluggable (SFP) optical modules are compact, hot-swappable, low-speed optical

Types of Optical Modules

Currently, eSFP and SFP optical modules are both called SFP optical modules. Small form-factor pluggable plus (SFP+) optical

XG-SFP-LR-SM1310 10GBASE-LR SFP+ 1310-nm 10-km DOM

The XG-SFP-LR-SM1310 is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 kilometers

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Do you know what single mode and multimode in SFP Optical Module Stand for respectively? What are the differences between sm

Differences Between Optical Modules SFP, SFP+, CFP, XFP, QSFP?

Originally designed to replace single-channel SFPs with high-density optical modules, the QSFP is only 30% larger

Types of Optical Modules

According to the encapsulation type, optical modules are classified into SFP, eSFP, SFP+, XFP, SFP28, QSFP+, CXP, CFP, and

Small Form-factor Pluggable

Parameters include optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage. In

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