

Optical module espf



Article Overview

ESPF (Enhanced Small Form-Factor Pluggable) optical modules are hot-swappable transceivers that support monitoring functions and multi-rate data transmission for fiber networks.

Overview

ESPF modules are an enhanced version of standard SFP modules, designed for compact, hot-swappable deployment in switches, routers, and other network devices. They comply with the SFP Multi-Source Agreement (MSA) and support monitoring of optical alarms, temperature, and performance events, which standard SFP modules do not provide. ESPF modules can substitute for SFP modules if they match in optical power, sensitivity, and transmission distance.

Key Specifications

- **Data Rate:** ESPF modules typically support 155 Mbps to 2.67 Gbps for single-mode or multi-mode fiber, with some models supporting up to 1.25 Gbps or 10 Gbps depending on the variant.
- **Wavelength:** Common wavelengths include 850 nm for multi-mode and 1310 nm or 1550 nm for single-mode modules.
- **Transmission Distance:** Multi-mode ESPF modules usually cover 0.5–0.55 km, while single-mode modules can reach 10–80 km depending on the model.
- **Connector Type:** Most ESPF modules use LC connectors for fiber connections.
- **Monitoring:** ESPF modules provide real-time monitoring of temperature, optical power, and alarms, enhancing network reliability

Article Content

Oct 02, 2025

SFP Optical Transceiver | SFP Optical Module | Perle

For example, by simply replacing the pluggable optical transceiver, a media converter that was originally used in a multimode

Apr 10, 2026

The Ultimate Guide to SFP Modules (2026): Types, Speeds

Confused by SFP vs SFP+? Read the definitive 2026 guide on SFP modules. We explain Single Mode vs Multimode, DDM

May 14, 2026

OSFP OCTAL SMALL FORM FACTOR PLUGGABLE MODULE

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

Jul 13, 2026

Understanding Optical Modules

This document explains optical modules, their types, and applications, providing a comprehensive understanding of their functionality

Nov 04, 2025

SFP modules – transceivers for 1/2/4G fibre channel

SFP – small form factor – pluggable modules for various optical data communications such as Fast Ethernet, Gigabit Ethernet, BiDi,

Jun 18, 2026

Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical

Nov 26, 2025

Designing a Module for High-Speed Optical Communication

The ultimate goal for all-optical connectivity with an ultra-high F5G bandwidth is to increase transmission rates. Optical modules —

Nov 05, 2025

SFP module specification and selection guide (EN)

Description CXR SFP Modules are industry standard Small Form Pluggable optical modules that serve networking services in the

Sep 27, 2025

ELSFP Implementation Agreement

The single-ferrule configuration consists of the same optical connector components as the dual-ferrule configuration, except that the

Jan 12, 2026

01-10 OPTICAL MODULES

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

Mar 09, 2026

Everything You Need to Know About Optical Modules

Optical modules are electronic devices used in communication systems to transmit optical signals. These modules

May 17, 2026

eSFP-GE-SX-MM850 (02315204)

Important Notes About Using Optical Modules Certified for Huawei Switches
Understanding Optical Modules Understanding Copper

Oct 31, 2025

White Paper: Management of Smart Optical Modules

For smart optical modules as defined in this white paper, the new paradigm proposes utilization of a high speed,

Aug 26, 2025

GE eSFP Optical Modules

This document provides an overall description of the CE12800 series switches hardware, helping you obtain detailed information

Nov 23, 2025

Co-Packaged Optic Assembly Guidance Document

1.3. Introduction The CPO JDF plans to release three documents focused on different elements of Co-Packaged Optics (CPO): the

Feb 11, 2026

eSFP-GE-SX-MM850 (02315204 02313URD) Datasheet

Overview Huawei eSFP-GE-SX-MM850 Optical Transceiver, eSFP, GE, Multi-mode Module (850nm, 0.55km, LC).

Jan 15, 2026

Huawei eSFP-GE-SX-MM850 Gigabit Optical Module Overview

The eSFP-GE-SX-MM850 optical module is a Huawei Gigabit multimode optical module with DOM/DDM support,

Dec 25, 2025

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable

Jan 25, 2026

SFP Optical Transceiver Products | Syrotech Networks

Syrotech Networks is market leader in manufacturing and supplier of sfp module, optical transceiver, sfp port, sfp optical

Mar 03, 2026

Huawei eKitEngine Optical Module Datasheet

modules gives you flexible and plug-and-play options for all types of interfaces. These compact optical

Sep 19, 2025

155M~2.67Gbps ESFP Optical Transceiver

Description The ESFP transceivers are high performance, cost effective modules supporting multi-rate of

Jul 17, 2026

Cisco Transceiver Modules

Cisco Transceiver Modules - Learn product details such as features and benefits, as well as hardware and software specifications.

Oct 07, 2025

Types of Optical Modules

Optical modules are available in various types to meet diversified requirements. Classified by transmission rates Depending on

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Optical Module Encapsulation Types

Enhanced small form-factor pluggable (eSFP) modules are hot-swappable, low-speed optical modules with the monitoring function.

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