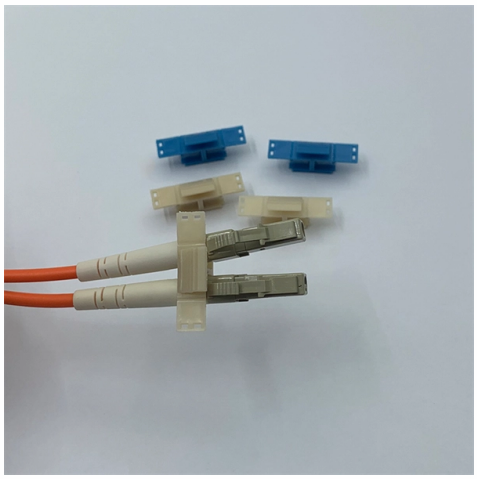
PON optical module specifications



Overview

Cisco 10G Routed PON Modules Data Sheet Cisco 10G Routed PON simplifies the network with pluggable form factor Optical Line Terminals (OLTs) and a software.

Key Takeaways

PON optical modules are classified into OLT, ONU, and stick modules, with common form factors including SFP, SFP+, SFP28, XFP, and QSFP112.

Overview of PON Modules

A PO

N module is an optical transceiver designed for Passive Optical Network applications, enabling high-speed data, voice, and video transmission over fiber-optic networks. These modules are essential active components in a PON system, handling electrical-to-optical (E-O) and optical-to-electrical (O-E) conversions, managing wavelengths for upstream and downstream traffic, and supporting burst-mode reception for asynchronous upstream signals.

Types of PO

N ModulesOLT (Optical Line Terminal) ModulesLocated at the service provider's central office or data center. Responsible for generating, scheduling, and distributing optical signals to multiple ONUs. Handles upstream signals from ONUs using burst-mode receivers.

Supports standards like GPON, EPON, XG-PON, XGS-PON, and NG-PON2.

ON

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U (Optical Network Unit) ModulesInstalled at the subscriber or customer premises. Converts optical signals from the OLT into electrical signals for user devices and vice versa. Typically corresponds to a single household or subscriber, providing network access and communication services.

Stick Modules

Connect subscriber equipment directly to the fiber network. Often used for smaller-scale or specialized connections at the network edge. Form FactorsPON modules come in various form factors to fit different network equipment: SFP (Small Form-factor Pluggable) – most common for GPON and EPON.

SFP+ – supports higher data rates, often used in XG-PON or XGS-PON. SFP28 – designed for 25 Gbps applications.

XF

P – older high-speed module standard. QSFP112 – supports ultra-high-speed PON networks. The choice of form factor depends on the required data rate, network standard, and equipment compatibility.

Standards and WavelengthsPON modules adhere to standards such as GPON (ITU-T G. 984), XG-PON (ITU-T G. 987), and EPON, with specific wavelengths for upstream (1270–1310 nm) and downstream (1490–1577 nm) traffic.

Some modules also support a third wavelength for video transmission (1550–1610 nm),.

Summary

In essence, PON optical modules are categorized by their network role (OLT, ONU, stick) and form factor (SFP, SFP+, SFP28, XFP, QSFP112). They are critical for enabling efficient, high-speed, and cost-effective fiber-optic broadband services, ensuring reliable communication between service providers and end users.

Article Content

Cisco 10G Routed PON Modules Data Sheet

Cisco 10G Routed PON simplifies the network with pluggable form factor Optical Line Terminals (OLTs) and a software controller on Cisco NCS 540, NCS5500, and NCS 5700 that

The Comprehensive Guide to PON Architecture: Mastering OLT,

Comprehensive guide to Passive Optical Networks (PON), covering OLT, ODN, ONU/ONT, GPON/XGS-PON/NG-PON2 standards, deployment strategies, and FTTH network

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Cisco 10G Routed PON ONT Data Sheet

These 10G optical network terminals for fiber-to-the-premises applications can be managed remotely and are interoperable with the Cisco Routed PON solution. Three models offer a

PON Transceiver Modules Data Sheet | FS

It is fully compliant with SFP+ MSA, SFF-8432, SFF-8472 and RoHS standards and is ideal for asymmetric 10-Gigabit capable passive optical network (XG-PON) system.

PON Module Parameters Guide: How to Choose the Best GPON

Discover key PON module parameters for selecting the best GPON and EPON modules. Understand their impact on network performance and make informed choices.

Huawei PON SFP Modules | GPON XG-PON XGS-PON & 50G-PON

These modules support transmission distances up to 60 km, provide excellent optical budgets, and are optimized for deployment in Huawei OLT platforms and modern Fiber-to-the-Home

PON Optical Transceiver Modules | Broadex Technologies

Broadex Technologies'' class leading high performance and cost effective PON Optical Transceiver Modules are built utilizing our innovative COB technology.

What is PON Modules and Its Role in Modern Networking

Discover the types, features, and benefits of PON modules, including OLT, ONU, and ONT devices, transmission protocols, and scalability for fiber networks.

Coexistence Elements Solutions Guide

This PON (passive optical network) evolution includes higher bandwidth services such as XGS-PON (10 Gbps symmetrical), NGPON2 (multiwavelength TWDM 10 Gbps to 40 Gbps), 25GS-PON (25 Gbps

50GPON ONU QSFP28 Optical Transceiver Module

Superxon 50G ONU transceivers, compliant with QSFP28 MSA, support single-fiber bi-directional data links with asymmetric TX and RX rates: 24.8832Gbps TX and

Effectiveness of 50G PON EML-SOA Features in Networks

Understanding 50G PON EML-SOA Features The 50G PON (Passive Optical Network) technology is designed to deliver 50 gigabits per second data rates, supporting the increasing bandwidth needs of

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XGSPON ONU SFP+ 1270nm-TX/1577nm-RX 9.953G-TX/9.953G-RX

OverviewThe XGS-SFP-ONT-MAC-I is a high-performance optical transceiver module designed for 10-Gigabit-capable passive optical network (XGS-PON) deployments. It functions as an integrated

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Ubiquiti Compatible XGSPON ONU SFP+ 1270nm-TX/1577nm-RX

Overview The XGS-SFP-ONT-MAC-I is an SFP+ transceiver module engineered for 10-Gigabit capable symmetric passive optical network (XGS-PON) systems. It utilizes bidirectional transmission over a

Optical Splitters for Central Office/Headend

Optical Splitters for Central Office/Headend Optical splitters and couplers split or combine light—distributing signals injected into a single fiber strand to multiple

What is Optical Module？A Simple Guide for Beginners

Learn what an optical module is, how it works, its internal components, common types, key specifications, and where it is commonly used.

PON Transceiver Modules Data Sheet | FS

Ethernet or Passive Optical Network (PON) technologies such as Gigabit PON (GPON) are supported by FS OLT/ONU. PON modules support fiber-based (FTTx) access scenarios,

Coexistence Elements Solutions Guide

WDM devices that overlay PON services are referred to as Coexistence Elements (CEX). Corning Optical Communications has integrated our micro-optics devices into various industry recognized

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