

GPON optical module types



Overview

Introduction to GPON Optical Modules and Their In this blog post, we'll provide an introduction to GPON optical modules and explore the key classification.

Key Takeaways

GPON optical modules are classified by device type, power class, and form factor, with common types including GPON OLT SFP, GPON ONU/ONT SFP, and variants like Class B+, C+, and C++.

Overview of GPO

N Optical ModulesGPON (Gigabit Passive Optical Network) optical modules are transceivers that convert electrical signals to optical signals and vice versa, enabling high-speed data transmission over fiber networks. They are installed in Optical Line Terminals (OLTs) at the service provider's central office and Optical Network Units (ONUs) or Optical Network Terminals (ONTs) at the customer premises.

GPO

N supports downstream speeds up to 2.5 Gbps and upstream speeds up to 1.25 Gbps, using wavelength-division multiplexing (WDM) with 1490 nm for downstream and 1310 nm for upstream.

Classification by Device TypeGPON OLT SFP Modules: Installed in the OLT, these modules aggregate signals from multiple ONUs and handle burst-mode reception for asynchronous upstream traffic.



GPO

N ONU/ONT SFP Modules: Installed at the customer end, these modules convert optical signals back to electrical signals for end-user devices. They are compatible with OLT modules and support triple-play services (voice, data, video),. Classification by Power ClassGPON modules are further categorized based on optical power budget, which determines reach and split ratio: Class B+: Optical budget ~28 dB, typical reach up to 20 km, supports standard deployments.

Class C+: Optical budget ~32 dB, allows longer distances or higher split ratios, suitable for extended networks. Class C++: Optical budget ~35 dB, used in dense or high-demand networks.

Form Factor

Most GPO

N modules use the SFP (Small Form-factor Pluggable) design, which is hot-pluggable and compatible with various OLT and ONU devices.

Advanced PO

N generations like XG-PON, XGS-PON, and NG-PON2 use SFP+ or tunable modules to support higher bandwidths and symmetric data rates.

Key Considerations

When selecting a GPON module, consider: Device compatibility (OLT or ONU/ONT)Required transmission distance and power classEnvironmental conditions and temperature rangeCompliance with ITU-T G. 984 standards and regional regulations GPON optical modules are essential for reliable, high-speed fiber access networks, and understanding their types ensures proper deployment and optimal network performance.

Article Content

Introduction to GPON Optical Modules and Their

In this blog post, we'll provide an introduction to GPON optical modules and explore the key classification standards that define their

Understand GPON Technology

Learn how GPON OLT works, its features, and how to choose the right device for efficient fiber network deployment.

GPON SFP Modules Explained: Types, Applications, and Benefits

Learn what GPON SFP modules are, how they work, and why they're essential for high-speed fiber networks. Covers key components and use cases.

GPON Optical Modules

Ensure that the optical power is not overloaded. Otherwise, the optical module may be burnt. In practice, the maximum upstream service bandwidth is 1.1 Gbit/s and downlink service bandwidth is 2.3 Gbit/s.

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.

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

Huawei GPON SFP B+ C+ C++ Introduction and Comparison

It converts electrical signals into optical signals over fiber optic cables in the GPON network. Huawei GPON module has 3 types of Class B+, C+ and C++, price is different based on

Differences in GPON SFP Classes | PDF

The document outlines the differences between Class B+, C+, and C++ GPON SFP modules, primarily focusing on their output optical power and receiver sensitivity.

Passive Optical Network Module Market Size, Share, Growth

The Passive Optical Network (PON) module market is experiencing robust growth, driven by the increasing demand for high-speed internet connectivity and advancements in fiber-optic

Optical Network Unit (ONU): Definition, Working Principles, and Future ...

Optical Transceivers in ONUs The optical transceiver module is the "eyes" of the ONU, enabling electro-optical conversion and flexible deployment. Modern ONUs support pluggable

Gigac Technology

Gigac is a leading manufacturer of fiber optic communication components and GPON equipment. We specialize in producing a wide range of optical transceivers, including SFP, SFF, Mini-SFF, LCC, and

GPON SFP Module Wiki: GPON ONT SFP, GPON ONU SFP

GPON SFP module is important part in GPON optical network. This post focus on GPON SFP wiki, GPON SFP Class B+ and Class C+.

GPON SFP Modules Explained: Types, Applications, and Benefits

GPON SFP modules are essential for high-speed, cost-effective optical networks. They support diverse applications, from residential FTTH to enterprise connectivity, with scalability and

Internet optical fiber equipment solutions suppliers

Original HG8546M Gpon Onu Router with PPPOE Bridge Mode HG8546M GPON ONT HG8546M optical network terminal (ONT) is a indoor optical network

ZTE XGSPON&GPON SFP+ Optic Module

ZTE 033030400042 XGSPON&GPON C+/C+ "23003400 SFP+ optic module transceiver for ZTE XGS-PON & GPON Combo Board GFCH GFCO. Ideal for FTTH FTTB FTTX networks.| Alibaba

SFP Optical Transceiver Modules for Long Distance: A Complete

Discover everything you need to know about SFP optical transceiver modules for long-distance fiber transmission. Compare LX, EX, ZX models and choose the right module for your

Optical Module SFP-GE-SX-MM850 1.25G SFP Dual LC 55m

Optical Module SFP-GE-SX-MM850 1.25G SFP Dual LC 55m Multimode for Huawei/Cisco/H3C/Other AI Computing/HPC/Data Center

Understanding PON, GPON, EPON, OLT, ONU and PON Optical Module

What is PON Optical Module? PON fiber optic module is a high-performance fiber optic module used in PON system, also called PON module, conforms to ITU-T G.984.2 standard and

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

