

Article Overview

SONT dual-mode optical modules are high-performance transceivers designed to operate across multiple fiber types and distances, supporting both short- and mid-reach applications in data centers and telecom networks.

Overview

SONT Technologies offers a range of optical modules that support dual-mode operation, meaning they can function efficiently over both multimode and single-mode fibers or across short- and mid-reach distances. These modules are engineered for high-speed data transmission, including 800G and 1.6T series, and are suitable for AI computing centers, cloud data centers, and telecom networks .

Key Features

- o High Performance: Modules achieve pre-FEC BER < 1E-9 across 0-70°C, ensuring reliable signal integrity and low error rates .
- o Versatility: Supports multiple architectures such as VCSEL, Silicon Photonics (SiPh), and EML, enabling compatibility with diverse network setups .
- o Wide Reach: Capable of interconnect distances from 30m (short-reach) to 500m-2km (mid-reach), making them suitable for both intra-rack and inter-rack connections .
- o Low Power Consumption: Designed with 5nm DSP technology, keeping power usage under 15W, which is critical for energy-efficient data centers .
- o Interoperability: Fully compatible with mainstream switches and NICs from vendors like Nvidia, H3C, Infrawaves, and Delta, supporting Ethernet, Infiniband, breakout, and rate-reduction applications .

Applications

- o Data Centers: Ideal for high-bandwidth AI and machine learning workloads, enabling rapid compute and network upgrades .
- o Telecom Networks: Supports front haul and back haul solutions from 10G to 100G, covering distances from 100m to 80km .
- o Flexible Deployment: Dual-mode capability allows network operators to deploy the same module across different fiber types and distances, reducing inventory complexity and cost.

Advantages

- o Scalable Platform Design: Facilitates cost-effective and rapid delivery of modules across multiple network architectures .
- o Robust Stability: Modules maintain stable performance under full-load, high-speed operations, and are



Sont dual-mode optical module

validated through interoperability tests with multiple hardware platforms .

o Future-Ready: Supports emerging high-speed standards and is suitable for next-generation AI and cloud computing networks . In summary, SONT dual-mode optical modules provide a flexible, high-performance solution for modern data center and telecom networks, combining broad compatibility, energy efficiency, and reliable operation across multiple fiber types and distances.

Perle Protocol and Rate-transparent Media Converters provide conversion between different wavelengths,

The SONT 800G QSFP-DD 2xSR4 (DB185-ED1C) optical transceiver is a Hot-Pluggable, Multi-Mode fiber for 800G short range of

In conclusion, single-mode and multi-mode optical modules and fibers serve distinct purposes in sfp optical module communication,

SONT Technologies Co., Ltd. Founded in June 2008, SONT is a national high-tech enterprise specializing in the research,

Introducing the Sonore opticalModule Deluxe a redesigned the original opticalModule with new features like support

SONT Technologies Co., Ltd. Our products have been deployed extensively by global top tierdata center operators, equipment

Active Optical Cables (AOC) & Active Electrical Cables (AEC) SONT's AOC and AEC are plug-and-play interconnect cables

SONT Technologies Co., Ltd. SF-5F1-80/E/F Small Form Factor Pluggable (SFP) transceivers are compatible with the Small Form

Iangxi SONT has R & D, production and other departments, including extremely clean production workshop which covers an area of

If you mix SFP single-mode optical modules and SFP multi-mode optical modules, it may cause problems such as signal attenuation,

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

SONT's AOC and AEC are plug-and-play interconnect cables designed for lossless operation at 10G, 25G, 40G, 100G, 200G, 400G,



Sont dual-mode optical module

Understanding 1-core, 2-core, Single Mode, and Multi-mode optical modules helps you

At the CFCF2025 Optical Connectivity Conference held on June 17, SONT participated in the 1.6T/800G high-speed optical module

Who is SONT Technologies SONT Technology Co,Ltd.was founded in June 2008, the registered capital of 220 million yuan in

SONT will be exhibiting at OFC 2026 in Los Angeles, one of the world's leading events for optical networking and communications.

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