QSFP housing and optical module



Overview

MSA QSFP Housing Die Casting Zinc Alloy QSFP DD The MSA QSFP Housing encompasses the physical and mechanical features that house the optical and electrical.

Key Takeaways

QSFP optical module housing is a protective and precision-engineered enclosure that ensures mechanical stability, thermal management, and EMI shielding for high-speed optical transceivers. OverviewQSFP (Quad Small Form-factor Pluggable) optical module housings, also called transceiver housings or enclosures, are designed to protect optical and electrical components while maintaining signal integrity in high-speed networking applications. They are standardized to ensure interoperability across switches, routers, and data center equipment, supporting speeds from 40G to 400G and beyond.

Materials and Manufacturing

Zinc Alloy Die Casting: Provides high thermal conductivity, mechanical strength, and consistency. Often used for standard QSFP housings with stainless steel shielding for EMI protection. Aluminum Alloy (ADC12, A380): Offers excellent thermal dissipation, corrosion resistance, and dimensional accuracy.

High-pressure die casting combined with CNC machining ensures precise tolerances and robust EMI shielding. Stainless Steel Components: Pull tabs and shielding elements are typically made from SUS304 stainless steel for durability and effective EMI suppression.

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Design Features

Thermal Management: Integrated heat sinks or fin structures enhance heat dissipation, critical for high-density 400G/800G/1. 6T transceivers.

EM

I Shielding: Fully enclosed metal housings block external electromagnetic interference, preserving signal quality in high-speed data transmission. Mechanical Strength: Die-cast housings withstand frequent insertion and removal cycles, ensuring long-term reliability. Port Alignment: Precision-engineered optical port cavities maintain accurate fiber alignment, minimizing insertion loss.

Customization: OEM/ODM options allow modifications in housing dimensions, port layouts, surface treatments, and mounting features to meet specific module requirements. ApplicationsQSFP housings are used in data centers, high-speed switches, routers, and AI/cloud computing environments. They support various optical standards, including QSFP+, QSFP28, QSFP56, and QSFP-DD, and are compatible with both optical and copper interfaces.

The housings are tested for thermal resistance, environmental resilience, and high-temperature aging, ensuring reliable operation under demanding conditions. SummaryQSFP optical module housings are critical components that combine mechanical protection, thermal management, and EMI shielding to ensure the performance and longevity of high-speed optical transceivers. They are available in standard and fully customizable designs, using materials like zinc and aluminum alloys, and are engineered to meet the rigorous demands of modern data center and telecommunications networks.

Article Content

MSA QSFP Housing Die Casting Zinc Alloy QSFP DD

The MSA QSFP Housing encompasses the physical and mechanical features that house the optical and electrical components of a QSFP module. Its design is

Comprehensive Guide to QSFP – MapYourTech

QSFP modules employ various optical connector types depending on the application and reach requirements. The mechanical interface must ensure

QSFP Optical Module Market Demand and Revenue Growth with a

The QSFP Optical Module market emphasizes cost-effectiveness and resource optimization, with an expected CAGR of 10.5% from 2023 to 2028, driven by increasing data center

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Cisco 400G QSFP-DD High-Power (Bright) Optical

These small, modular optical interface transceivers offer a convenient and cost-effective solution for an array of applications in the data center,

40G QSFP+ Transceiver Modules | Optical

FS 40G QSFP+ optical transceiver module solutions offer a full range of QSFP+ modules from 150m to 80km reach, and used for high-density switching, routing

What is QSFP & QSFP+ Transceiver: An Ultimate

QSFP stands for Quad Small Form-factor Pluggable. By integrating four-lane signals into a single module, it supports four times the data throughput

100GBASE QSFP-100G Modules Data Sheet

The Cisco QSFP-100G-SR-S Module is a pluggable optical transceiver with a duplex LC connector interface supporting link lengths of 70

Understanding the OSFP Standard: The Open 400G/800G Optical

The OSFP Multi-Source Agreement (MSA) defines the complete ecosystem — from mechanical housing to electrical interface and management protocols — ensuring interoperability

High-Precision Die-Cast Aluminum Optical Module Housing with

This high-precision optical module housing is engineered for the next generation of high-speed pluggable transceivers (SFP, QSFP, OSFP). Featuring an integrated heat-sink design with optimized

QSFP, QSFP+, zQSFP, QSFP28 and QSFP56, QSFP

Each channel is capable of transferring data from 10 to 112 Gbps and supports a total of up to 400 Gbps per port. Our QSFP product portfolio includes cages in

400G Digital Optical Modules: Market Evolution & Growth Forecast to

The 400G Digital Optical Modules market is expanding rapidly due to rising data center demand and cloud service adoption. With an 11.1% CAGR, significant growth is projected. Access

Top Optical Modules for POTN Deployment: SFP, QSFP, and OSFP

Modern optical transport networks are the nervous system of digital infrastructure. As data demand continues to multiply, choosing the right optical module becomes a crucial decision in

DAC vs AOC vs Fiber + Optics Buying Guide | How to Choose the

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Not sure whether to choose DAC, AOC, or Fiber + Optics? Learn the differences, transmission distances, applications, and recommended optical modules for data centers, enterprise

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 than a standard SFP module. The device supports rates from 100Mbps to

Cisco QSFP-DD and OSFP 800G ZR/ZR+ Coherent Optics Modules

Product overview Cisco® QSFP-DD and OSFP 800G ZR/ZR+ coherent optics modules enable 800G traffic over amplified DWDM links up to 120 km for 800ZR and over 1000 km for 800G ZR+.

Understanding the OSFP Standard: The Open 400G/800G Optical

Introduction: The Shift from QSFP-DD to OSFP As data centers transition from 400G to 800G interconnects, bandwidth demand, power efficiency, and thermal constraints have forced the

InnoLight''s QSFP-DD Optical Transceiver

The InnoLight''s 400G QSFP-DD is on of the first 400G optical transceiver on the market and it allows to communicate up to 2km in PSM4. The InnoLight solution is based on the INPHI chipset, the

QSFP-DD Product Family » Acacia

Quad Small Form-factor Pluggable Double Density (QSFP-DD) solution that fits into high-density switch and router client ports for optical interconnect links

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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