edge OPTICAL SOLUTIONS

Product Data Sheet

100G-QSFP28-100

Optical Transceiver

Key Features

- Media Type: **4 Lanes of Multi-Mode Fiber (MMF)**
- Connector: **MTP/MPO-12 (UPC)**
- Fiber Count: **8 Fibers**
- Maximum Distance: **100 m**
- Guaranteed Link Budget: **1.9 dB**
- Tx Wavelenght: **850 nm**
- Supported Data Rate: **103.125 Gbps**
- DDM/DOM: **Supported**

Product Description

Our EDGEOPTIC 100G-QSFP28-100 is a multi-vendor compatible 100GBASE-SR4 QSFP28 optical module designed for 100 Gigabit Ethernet applications operating over multimode fiber infrastructure. This quad small form-factor pluggable transceiver utilizes four parallel optical lanes at 25 Gbps each, delivering aggregate throughput of 103.125 Gbps for high-density data center and enterprise backbone deployments.

The 100G-QSFP28-100 module operates at 850nm wavelength across all four transmit and receive channels, employing NRZ (Non-Return to Zero) modulation for signal encoding. Our 100GBASE-SR4 QSFP28 transceiver utilizes VCSEL (Vertical-Cavity Surface-Emitting Laser) array for transmission and PIN photodiode array for receiving. This proven optical architecture delivers reliable performance while maintaining cost-effectiveness for short-reach multimode fiber applications.

Transceiver ensures a 1.9 dB guaranteed optical link budget, which determines the maximum transmission distance. Over OM4 multimode fiber, the transceiver can reach distances up to 100 meters, while on OM3 cabling approximately 70 meters. However, distance is just an indicative parameter calculated for comfort of identification – eventually we calculate distance taking into account minimal optical budget and average attenuation of optical cabling in industry. The module requires 8 fibers for full-duplex operation, using four fibers for transmission and four for reception.

100G-QSFP28-100 compatible 100GBASE-SR4 module is a hot-pluggable QSFP28 with MTP/MPO-12 (UPC) connector as the optical interface. The electrical interface conforms to SFF-8636 and SFF-8665 MSA (Multi-Source Agreement) specifications, ensuring compatibility with standard QSFP28 host systems supporting

multiple vendor equipment platforms. Our 100GBASE-SR4 QSFP28 transceiver can be encoded to be compatible and successfully operate in different 80+ brands of equipment.

The module incorporates DDM/DOM (Digital Diagnostic Monitoring) functionality providing real-time information including transmitted and received optical power levels, module temperature, bias current, and supply voltage. This diagnostic data is available via MSA-compatible interface and enables monitoring of transceiver operational parameters. The module operates within a 0 to 70°C temperature range with maximum power consumption of 3.5W, with appropriate thermal considerations for sustained operation in controlled data center environments.

Standards compliance includes IEEE 802.3bm for 100 Gigabit Ethernet 100GBASE-SR4 specification and QSFP28 MSA. The transceiver achieves multi-vendor interoperability through adherence to industry MSA standards, though equipment with vendor-specific module validation may require custom EEPROM programming for compatibility. Our 100GBASE-SR4 QSFP28 transceiver is CE/RoHS certified, Class 1 FDA and IEC60825-1 Laser Safety Compliant.

Typical applications include data center top-of-rack to spine connections, high-performance computing clusters, storage area networks, and enterprise backbone infrastructure. The parallel optical design accommodates high-density deployments where port count and power efficiency are critical considerations.

Because our focus is providing top quality service, we are performing serious quality checks before delivery of our products. As a result, we do optical parameter measurements, connector cleanliness tests and QSFP28 transceiver EEPROM memory data validation tests.

Technical Specifications

Specification	Value
Form Factor	QSFP28
Modulation	NRZ (Non-Return to Zero)
Media Type	4 Lanes of Multi-Mode Fiber (MMF)
Connector	MTP/MPO-12 (UPC)
Fiber Count	8 Fibers
Maximum Distance	100 m
Guaranteed Link Budget	1.9 dB

TX Wavelenght	850 nm
RX Wavelenght	4-channel 850 nm
Supported Data Rate	103.125 Gbps
Supportet Ethernet Applications	100G Ethernet (103.125 Gbps)
DDM/DOM	Supported
Forward Error Correction (FEC)	No
Transmitter Type	VSCEL Laser
Tx Wave Bandwidth	20 nm (840-860 nm)
Average Launch Power (Min) Each Lane	3 dBm
Average Launch Power (Max) Each Lane	7.5 dBm
Extinction Ratio (Min)	3 dB
Receiver Type	PIN photodiode
RX Wave Bandwidth	20 nm (840-860 nm)
Average Receiver Sensitivity (Min) Each Lane	-10.3 dBm
Average Receiver Sensitivity (Max) Each Lane	2.4 dBm
Receiver Overload	3.4 dBm
Temperature Range	Standard 0°-70°C
Storage Temperature	-40° to 85°C
Relative Humidity	5 to 85%
Power Consumption (Max)	3.5 W
Power	+3.3V single power supply
Compliance	CE, RoHS, Class 1 FDA and IEC60825-1 Laser Safety Compliant, IEEE 802.3bm, 100GBASE-SR4, QSFP28 MSA, SFF-8636 (Management Interface for 4-lane modules), SFF-8665

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Ordering Info

SKU	Description
100G-QSFP28-100	100GBASE-SR4 QSFP28 Module (Tx/Rx 850/850nm, 103.125 Gbps, Max. 100m (OM4) over MMF, 1.9 dB, Temp. 0-70C, MTP/MPO/UPC)

Warranty

EDGE Optic's provides a limited warranty for **sixty (60) months** from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship.

Compatibility

EDGE Optical transceivers can be provided with custom-encoded firmware, in order to provide compatibility with more than 100 vendor brands in data and telecom communications industry:

MS - General MSA
AD - Adva (Adtran)
AR - Arista
MS - Arris
AG - Avago
BR - Broadcom
QL - Cavium (Qlogic)
MS - Ceragon
CH - Checkpoint
MS - Chelsio
CN - Ciena
CI - Cisco
MS - DCN
DL - Dell
EI - ECI
MS - EdgeCore
MS - EdgeWare
MS - Eltex
ER - Ericsson
EX - Extreme Networks
F5 - F5 Networks
MS - Finisar
FO - Fortinet
MS - Fujitsu
HP - HP
AU - HP Aruba
HU - Huawei
IB - IBM
IF - Infinera
MS - Innolight
IN - Intel
MS - Ixia
MS - JDSU
JU - Juniper
MS - KyLand
LN - Lenovo
ML - Mellanox (NVIDIA)
MS - MikroTik
MS - MRV
MS - NetApp
MS - Netgear
MS - Netinsight
NK - Nokia (Alcatel)
NS - NSN
MS - OE Solutions
MS - Oracle
MS - Palo Alto Network
MS - Planet
QL - Qlogic (Oracle)
MS - QNAP
RD - RAD
MS - RadWare
MS - Raisecom
MS - Ruckus
MS - Ruijie Networks
MS - Sandvine
MS - Silicom
MS - SolarFlare
SW - Sonicwall
MS - Sophos
MS - Sumitomo
MS - Supermicro
MS - Synology
MS - Telco Systems
MS - TP-LINK
TM - Transmode
MS - Trendnet
MS - Ubiquiti Networks
MS - WatchGuard
MS - ZTE
MS - Zyxel
XX - Other

Version Control

Version: 3.0
Updated: November 26, 2025

CERTIFIED
ISO 9001

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