

25G-SFP28-10

Optical Transceiver



Key Features

- Media Type: **Single-Mode Fiber (SMF)**
- Fiber Count: **Duplex**
- Connector: **Double LC/UPC**
- Maximum Distance: **10 km**
- Guaranteed Link Budget: **5 dB**
- Tx Wavelength: **1310 nm**
- Supported Data Rate: **8.5 Gbps - 25.78 Gbps**
- DDM/DOM: **Supported**

Product Description

Our EDGEOPTIC 25G-SFP28-10 is a multi-vendor compatible 25GBASE-LR SFP28 dual-fiber optical module designed for 25 Gigabit Ethernet applications operating over single-mode fiber cabling. The 25G-SFP28-10 module operates at 1310nm wavelength for both transmission and reception, with data rates from 8.5 to 25.78 Gbps supporting multiple protocol standards and applications. Our 25GBASE-LR SFP28 transceiver utilizes DML (Directly Modulated Laser) technology for transmission and PIN photodiode for receiving, delivering reliable long-reach connectivity for metropolitan and campus network deployments.

The transceiver ensures an 5 dB guaranteed optical link budget with host-based Forward Error Correction (FEC) support, which determines the maximum transmission distance capabilities. Over standard single-mode fiber (SMF), the module achieves reliable transmission up to 10 kilometers, making it ideal for interconnecting buildings within campus environments or extending reach in metropolitan area networks. However, distance is just an indicative parameter calculated for convenience of identification – eventually we calculate distance taking into account minimal optical budget and average attenuation of optical cabling in industry standards. The FEC support enhances signal integrity and maintains error-free transmission across the full 10km reach.

25G-SFP28-10 compatible 25GBASE-LR module is hot-pluggable SFP28 with duplex LC/UPC connectors as an optical interface. The electrical interface conforms to SFF-8431 and SFF-8432 MSA (Multi-Source Agreement) specifications, ensuring compatibility with standard SFP28 host systems supporting multiple vendor equipment platforms. Our 25GBASE-LR SFP28 transceiver can be encoded to be compatible and successfully operate in different 80+ brands of equipment. The module incorporates comprehensive 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 EEPROM interface per SFF-8472 specifications, enabling continuous monitoring of transceiver operational parameters.

The module operates within a 0 to 70°C temperature range with maximum power consumption of 1.2W, optimized for deployment in controlled environment data centers and telecom facilities. Standards compliance includes IEEE 802.3cc specifications for 25 Gigabit Ethernet, supporting both 10G Ethernet (10.31 Gbps) and 25G Ethernet (25.78 Gbps) applications. The DML laser technology provides excellent spectral characteristics with minimum extinction ratio of 3.5 dB, ensuring stable signal quality across varying environmental conditions. The transceiver achieves multi-vendor interoperability through adherence to SFP28 MSA standards, though equipment with vendor-specific module validation may require custom EEPROM programming for compatibility.

Our 25G SFP28 LR transceiver is CE/RoHS certified and compliant with Class 1 FDA and IEC60825-1 laser safety standards. Typical applications include data center interconnects, campus backbone connections, metropolitan area networks, and service provider edge deployments. The multi-rate capability accommodates legacy 10 Gigabit Ethernet operation alongside native 25 Gigabit rates, providing operational flexibility for mixed-speed network deployments and seamless migration paths. Because our focus is providing top quality service, we perform rigorous quality checks before delivery including optical parameter measurements, connector cleanliness tests, and SFP28 transceiver EEPROM memory data validation tests, ensuring each module meets stringent performance specifications.

Technical Specifications

Specification	Value
Form Factor	SFP28
Media Type	Single-Mode Fiber (SMF)
Fiber Count	Duplex
Connector	Double LC/UPC
Maximum Distance	10 km
Guaranteed Link Budget	5 dB
TX Wavelength	1310 nm
RX Wavelength	1310 nm



Supported Data Rate	8.5 Gbps - 25.78 Gbps
Supportet Ethernet Applications	10G Ethernet (10.31Gbps), 25G Ethernet (25.78Gbps)
DDM/DOM	Supported
Forward Error Correction (FEC)	Host FEC Supported
Transmitter Type	DML Laser
Average Launch Power (Min) Each Lane	-7 dBm
Average Launch Power (Max) Each Lane	2 dBm
Extinction Ratio (Min)	3.5 dB
Receiver Type	PIN photodiode
Rx Wavelength Bandwidth	40 nm
Average Receiver Sensitivity (Min) Each Lane	-12 dBm
Average Receiver Sensitivity (Max) Each Lane	2 dBm
Receiver Overload	3 dBm
Temperature Range	Standard 0°-70°C
Storage Temperature	-40° to 85°C
Relative Humidity	5 to 85%
Power Consumption (Max)	1.2 W
Power	+3.3V single power supply
Compliance	CE, Class 1 FDA and IEC60825-1 Laser Safety Compliant, RoHS, SFF-8431, SFF-8472, IEEE 802.3cc, SFF-8432, SFP28 MSA

Ordering Info

SKU	Description
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25G-SFP28-10

Double Fiber 25G SFP28 Module (Tx/Rx 1310/1310nm, 8.5 - 25.78 Gbps, Max. 10km over SMF, 5 dB, Temp. 0-70C, LC/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	MS - Emulex	ML - Mellanox (NVIDIA)	MS - Ruckus
MS - Allied Telesis	ER - Ericsson	ME - Meraki (Cisco)	MS - Ruijie Networks
AR - Arista	MS - EXFO	MS - MikroTik	MS - Sandvine
AU - Aruba	EX - Extreme Networks	NC - NEC	MS - Silicom
AG - Avago	F5 - F5 Networks	MS - NetApp	MS - SolarFlare
BR - Broadcom	MS - Finisar	MS - Netgear	SW - Sonicwall
QL - Cavium (Qlogic)	FO - Fortinet	MS - Netinsight	MS - Sophos
MS - Ceragon	MS - Fujitsu	NK - Nokia (Alcatel)	MS - Sumitomo
CH - Checkpoint	HP - HP	NS - NSN	MS - Supermicro
MS - Chelsio	HU - Huawei	MS - OE Solutions	MS - Synology
CI - Cisco	IB - IBM	MS - Oracle	MS - Telco Systems
MS - D-link	IF - Infinera	MS - Palo Alto Network	MS - TP-LINK
MS - DCN	MS - Innolight	MS - Planet	TM - Transmode
DL - Dell	IN - Intel	QL - Qlogic (Oracle)	MS - Trendnet
MS - DZS(Dasan-Zhone)	MS - JDSU	MS - QNAP	MS - Ubiquiti Networks
MS - EdgeCore	JU - Juniper	RD - RAD	MS - WatchGuard
MS - EdgeWare	MS - KyLand	MS - RadWare	MS - Zyxel
MS - Eltex	LN - Lenovo	MS - Raisecom	XX - Other

Version Control

Version: 4.0

Updated: April 7, 2026

CERTIFIED
ISO 9001



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