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Product Data Sheet

Key Highlights:

- **Type**: 100GBASE-LX4 QSFP28
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx Wavelength:** 1271, 1291, 1311, 1331 nm
- **Rx Wavelength:** 1271, 1291, 1311, 1331 nm
- **Laser:** DML LAN WDM TOSA
- **Modulation:** NRZ
- **Fiber Type:** SMF/MMF
- **Connector:** Double LC
- **Optical Budget:** 5 dB/8.5 dB with Host FEC enabled
- **Max. Distance:** 100m/70m MMF, 2km SMF
- **Data Rate:** 103.125 Gbps
- **Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** ≤3.5 W
- **Temperature:** Standard 0°-70°C

Optical Transceiver : 100G-QSFP28-2.2

Product Description:

100GBASE-LX4 is Multi-Vendor MSA Compatible 100G LX4 (Quad Small Form-Factor Pluggable 28) Transceiver, operating over pair of single-mode optical fiber. 100GBASE-LX4 adopts CWDM MUX/DEMUX technology with central CWDM4 wavelengths of the lanes at: 1271, 1291, 1311, 1331 nm. On the transmission side 100GBASE LX4 module converts 4 electrical input channels (each up to 28.05Gbps) into 4 lanes with optical signal and multiplexes them into a single channel of 100 Gbps optical transmission, reversely on the receiver side, module optically de-multiplexes 100 Gbps input into 4 lanes signals and converts them to 4 lanes of electrical data (each up to 28.05Gbps). QSFP28 100G LX4 has minimum guaranteed optical budget of 5 dB and 8.5 dB with FEC enabled, which in most cases is enough to reach 2 km distance using single-mode cable and 70m on OM3 or 100m on OM4 MMF. However, distance is just indicative parameter calculated for comfort of identification. Eventually we calculate distance taking in account minimal optical budget and average attenuation of optical cabling in industry. 100G QSFP28 LX4 uses cooled 4x28Gb/s LAN WDM TOSA (CWDM4 wavelengths 1271, 1291, 1311, 1331 nm) laser transmitters and 4x28Gb/s PIN ROSA receivers. 100G QSFP28 LX4 optics module support DDM/DOM optical diagnostics,

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which provide diagnostic information about the present operating conditions. Additionally module supports FEC (Forward Error Correction) function. 100G-QSFP28-2.2 operates in Standard 0°-70°C temperature range and has double LC connector. 100G LX4 QSFP28 support up to 103.125-112.2 Gbps data rate and such applications as 100G Ethernet (103.125Gbps), Optical Transport Network OTU4 4l1-9D1F (112 Gbps) and 128G Fiber Channel (112.2 Gbps). 100G-QSFP28-2.2 optical transceiver is multi-purpose module used in number of different places in today's networking environment. Most popular applications are Internet Service Provider (ISP), Mobile Operator and Data Center Core Networks.

QSFP28 LX4 is CE/RoHS certified and is compliant with product safety standards. 100G-QSFP28-2.2 Transceiver is fully compliant to QSFP28 Multi Source Agreement (MSA), Optical Transport Network OTU4 4l1-9D1F and 128G Generation 6 Fiber Channel standards. Consequently compliance to above standards guarantees that module is compatible and works with majority of networking equipment, where is not implemented special algorithm for protection against third party modules. However – our technical team has accumulated deep expertise in custom-encoded firmware's for LX4 transceiver in order to make it work in almost any brand equipment. We will be glad to know your requirements – Contact Us.

Product Specification:

General parameter	Value
Media Type:	Multi-Mode Fiber (MMF), Single-Mode Fiber (SMF)
Connectors:	Double LC
TX Wavelength:	1271 nm, 1331 nm, 1291 nm, 1311 nm
RX Wavelength:	1271 nm, 1331 nm, 1291 nm, 1311 nm
Minimum Optical Budget:	5 dB
Maximum Distance:	2km
Supported Data Rate:	103.125-112.2 Gbps
Modulation:	NRZ (Non-return-to-zero)
Supported Applications:	100G Ethernet (103.125Gbps), 4x 32G Fiber Channel (112.2Gbps), OTU4 4l1-9D1F (112 Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Forward Error Correction (FEC):	Host FEC Supported
Operating Temperature Range:	Standard 0°- 70°C
Storage Temperature Range:	- 40° to 85°C
Relative Humidity (Non-Condensation):	0 to 85%

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General parameter	Value
Power Consumption:	≤3.5W
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	-3.135 to 3.465V
Compliance:	CAUI-4, IEEE 802.3cu, SFF-8679, CE, QSFP28 MSA, RoHS

Transmitter Parameters:	Value
Transmitter Type:	DML LAN WDM TOSA
Tx Wavelength Bandwidth:	4 CWDM Lanes (73 nm 1264.50 – 1337.50nm) (L0 Tx center 1271nm, L1 Tx center 1291nm, L2 Tx center 1311nm, L3 Tx center 1331nm)
Average Launch Power, Each Lane (Min):	-3 dBm
Average Launch Power, Each Lane (Max):	3.5 dBm
Extinction Ratio (Min):	3.5 dBm

Receiver Parameters:	Value
Receiver Type:	PIN ROSA
Rx Wavelength Bandwidth:	4 CWDM Lanes (73 nm 1264.50 – 1337.50nm) (L0 Tx center 1271nm, L1 Tx center 1291nm, L2 Tx center 1311nm, L3 Tx center 1331nm)
Average Receive Power Each Lane (Min):	-11.5 dBm
Average Receive Power Each Lane (Max):	0 dBm
Receiver Overload:	6 dBm

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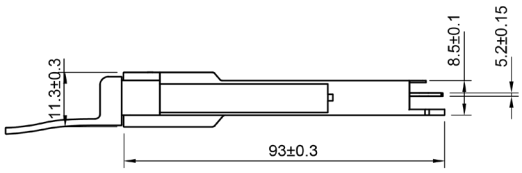
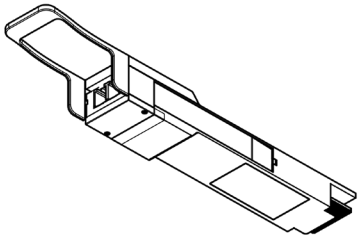
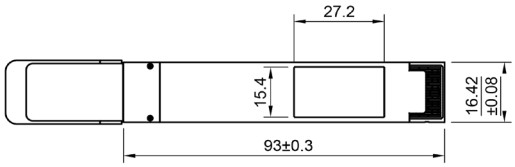
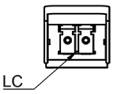
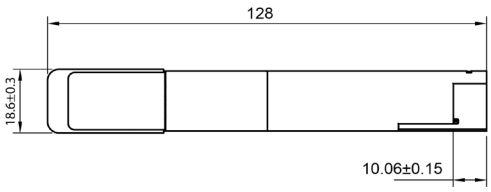
Mechanical Drawing

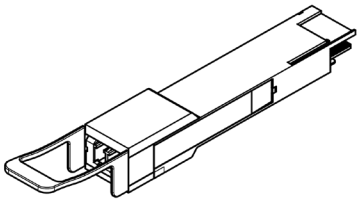












Compatibility:

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

MS - General MSA
AD - ADVA
AE - Advantech
AL - Alcatel (Nokia)
AT - Allied Telesis
AR - Arista
AS - Arris
AV - Avaya
BC - Barracuda
BR - Broadcom
QL - Cavium (Qlogic)
CR- Ceragon
CP - Checkpoint
CH - Chelsio
CN - Ciena
CI - Cisco
LI - Cisco (Linksys)
CE - Comnet
CO - Coriant
DH - Dahua
DC - DCN
DL - Dell & Force10
DK - D-Link

DZ - DZS(Dasan-Zhone)
EI - ECI
EC - EdgeCore
EW - EdgeWare
EL - Eltex
EM - EMC2
EN - Enterasys
ER - Ericsson
EF - EXFO
EX - Extreme Networks
F5 - F5 Networks
FI - Finisar
FO - Fortinet
FU - Fujitsu
H3 - H3C
HI - Hirschmann
HU - Huawei
IB - IBM
IF - Infinera
IN - Intel
IX - Ixia
JU - Juniper Networks
KM - KeyMile

KY - KyLand
LN - Lenovo
ML - Mellanox
ME - Meraki (Cisco)
MT - MikroTik
MO - Moxa
MR - MRV
NC - NEC
NG - Netgear
NK - Nokia
NT - Nortel
NS - NSN
OR - Oracle
PA - Palo Alto Network
PL - Planet
QC - QCT(Quanta)
QN - QNAP
RD - RAD
RW - RadWare
RC - Raisecom
RK - Ruckus
RU - Ruijie Networks
SG - Samsung

SV - Sandvine
SC - Silicom
SF - SolarFlare
SW - Sonicwall
SM - Supermicro
SY - Synology
TC - Telco Systems
TP - TP-LINK
TN - Trendnet
UN - Ubiquiti Networks
VX - VeEx
WG - WatchGuard
WS - Waystream
WT - Westermo
ZT - ZTE
ZX - Zyxel
HP - HP
AG - Avago
OC - Oclaro
EU - Emulex
TM - Transmode
AU - HP Aruba
XX - Other

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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. Warranty does not cover damage caused by improper deployment, misuse and accidents.

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