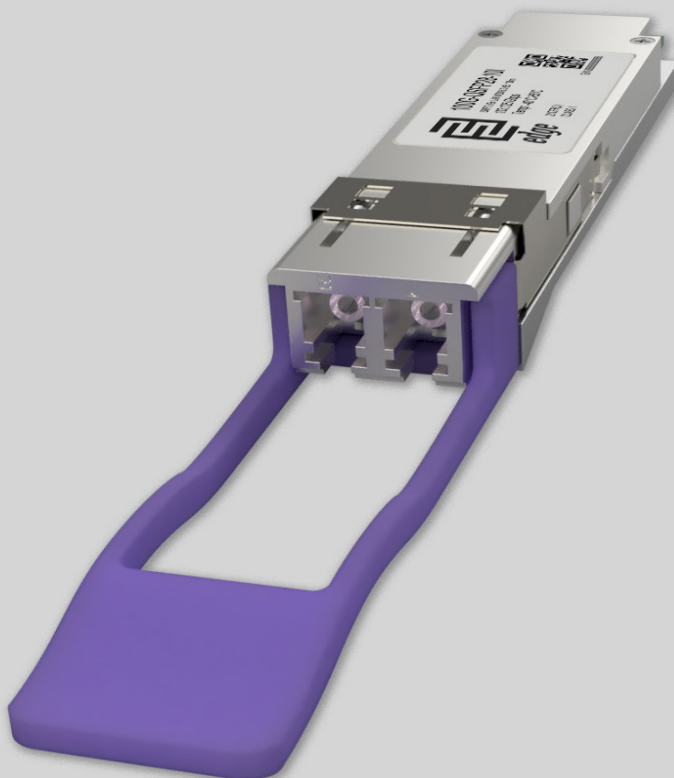


Key Highlights:

- **Type:** 100GBASE-LR4 QSFP28 Industrial Temp
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** 1295.56, 1300.05, 1304.58, 1309.14 nm
- **Laser:** DML LAN WDM TOSA
- **Fiber Type:** Single-Mode Fiber (SMF)
- **Connectors:** Double LC
- **Optical Budget:** 6.3 dB
- **Max. Distance:** 10km
- **Data Rate:** 103.125 Gbps
- **FEC Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** ≤ 3.5W
- **Temperature:** Industrial -40° to 85°C



Optical Transceiver : 100G-QSFP28-10I

Product Description:

100G-QSFP28-10I is Multi-Vendor MSA Compatible 100GBASE-LR4 Industrial Temperature QSFP28 (Quad Small Form-Factor Pluggable 28) Transceiver, operating over pair of single-mode optical fiber with four independent optical communication lanes, separated from each other using LAN WDM technology. Module has minimum guaranteed optical budget of 6.3 dB, which in most cases is enough to reach 10 km distance using single-mode cable. 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-QSFP28-10I uses cooled 4x25Gb/s LAN WDM TOSA (1295.56, 1300.05, 1304.58, 1309.14nm) laser transmitters and 4x25Gb/s PIN ROSA receivers. Module support DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. Additionally module supports FEC (Forward Error Correction) function which will help receiving side detect and correct bit errors and improve the overall quality of the link. 100G-QSFP28-10I operates in Industrial -40° to 85°C temperature range and has double LC connectors.



100GBASE-LR4 Industrial Temperature QSFP28 support up to 103.125 Gbps data rate and such applications as 100G Ethernet (103.125 Gbps). Most popular applications are Internet Service Provider (ISP) Fiber to the Home Aggregation and Backbone, Mobile Operator Core Networks and Mobile Backhaul and Data Center networking site interconnections. Transceiver is CE/RoHS certified and it is Compliant with product safety standards. 100G-QSFP28-10I Transceiver is fully compliant to QSFP28 Multi Source Agreement (MSA), IEEE 802.3ba 100GBASE-LR4 and IEEE 802.3bm standard. 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 firmwares for 100GBASE-LR4 Industrial Temperature QSFP28 transceiver in order to make it work in almost any brand equipment. We will be glad to know your requirements.

Product Specification:

General parameter	Value
Media Type:	Single-Mode Fiber (SMF)
Connectors:	Double LC
TX Wavelength:	1310 nm
RX Wavelength:	1310 nm
Minimum Optical Budget:	6.3 dB
Maximum Distance:	10 km
Supported Data Rate:	103.125 Gbps
Data Rate, each Lane up to:	25.78125 Gbps
Supported Applications:	100G Ethernet (103.125 Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Optical Clock And Data Recovery (CDR):	Supported
Forward Error Correction (FEC):	Supported
Operating Temperature Range:	Industrial - 40° to 85°C
Storage Temperature Range:	-40° to 85°C
Relative Humidity (Non-Condensation):	5 to 95%
Power Consumption:	≤ 3.5W
Power Supply Voltage Typical:	+3.3V



General parameter	Value
Power Supply Voltage Range:	- 3.135 to 3.465V
Chipset:	Macom, Sumitomo, Samtech, Oclaro, Avago, II-IV
Compliance:	QSFP28 MSA, IEEE 802.3ba 100GBASE-LR4, SFF-8636, SFF-8665, CE, RoHS-6, Class 1 FDA, IEC60825-1 Laser Safety Compliant

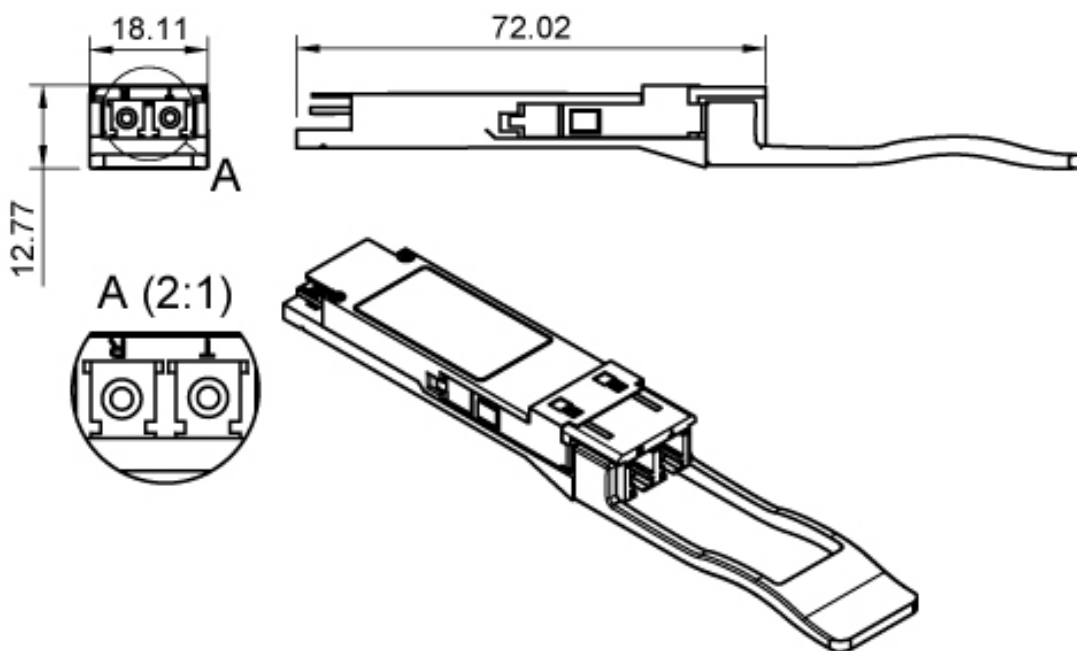
Transmitter Parameters:	Value
Transmitter Type:	DML LAN WDM TOSA
Tx Wavelength Bandwidth:	4 LAN WDM Separated 1310 nm Lanes (15.66 nm 1294.53 – 1310.19nm) (L0 Tx center 1295.56nm, L1 Tx center 1300.05nm, L2 Tx center 1304.58nm, L3 Tx center 1309.14nm)
Total Average Launch Power (Max)	10.5 dBm
Average Launch Power (Min) Each Lane:	4.3 dBm
Average Launch Power (Max) Each Lane:	4.5 dBm
Optical Modulation Amplitude OMA (Min) Each Lane:	- 1.3 dBm
Optical Modulation Amplitude OMA (Max) Each Lane:	4.5 dBm
Difference in Launch Power between any Two Lanes OMA (Max):	5 dBm
TDP Each Lane:	2.2 dB
Extinction Ratio (Min):	4 dB
Optical Return Loss Tolerance (Max):	20 dBm
Transmitter Reflectance:	- 12 dB
Relative Intensity Noise:	- 130 dB/HZ
Side-mode Suppression Ratio:	30 dB
Average Launch Power OFF Transmitter (Max) Each Lane:	- 30 dBm



Receiver Parameters:	Value
Receiver Type:	PIN ROSA
Rx Wavelength Bandwidth:	4 LAN WDM Separated 1310 nm Lanes (15.66 nm 1294.53 – 1310.19nm) (L0 Tx center 1295.56nm, L1 Tx center 1300.05nm, L2 Tx center 1304.58nm, L3 Tx center 1309.14nm)
Average Receiver Sensitivity (Min) Each Lane:	-10.6 dBm
Average Receiver Sensitivity (Max) Each Lane:	4.5 dBm
Receiver Overload:	5.5 dBm
Receiver Reflectance (Max) Each Lane:	- 26 dB
Receive Power OMA (Max) Each Lane:	4.5 dBm
Receiver Sensitivity OMA (Max) Each Lane:	- 8.6 dBm
Difference in Receive Power between any Two Lanes OMA:	5.5 dB
Stressed Receiver Sensitivity OMA (Max) Each Lane:	- 6.8 dBm
LOS Assert (Min):	-18 dBm
LOS De-assert (Max):	-15 dBm
LOS Hysteresis (Min):	0.5 dB



Mechanical Dimensions:



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
AL - Alcatel-Lucent
AR - Arista
AV - Avaya
BR - Brocade
CN - Ciena
CI - Cisco
DL - Dell & Force10
DK - D-Link
EM - EMC2
ET - Enterasys

ER - Ericsson
EX - Extreme Networks
F5 - F5 Networks
FO - Fortinet
FU - Fujitsu
H3 - H3C
HI - Hirschmann
HP* - HP Networking
HS* - HP Storage
HU - Huawei
IB - IBM
IF - Infinera

IN - Intel
JU - Juniper Networks
LI - Linksys
ML - Mellanox
ME - Meraki (Cisco)
MT - MikroTik
MO - Moxa
MR - MRV
NG - Netgear
NS - NSN
PA - Palo Alto Network
QL - Qlogic

RD - RAD
RU - Ruijie Networks
SM - Supermicro
SY - Synology
TC - Telco Systems
TP - TP-LINK
TN - Trendnet
WG - WatchGuard
ZT - ZTE
XX - Other

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.

