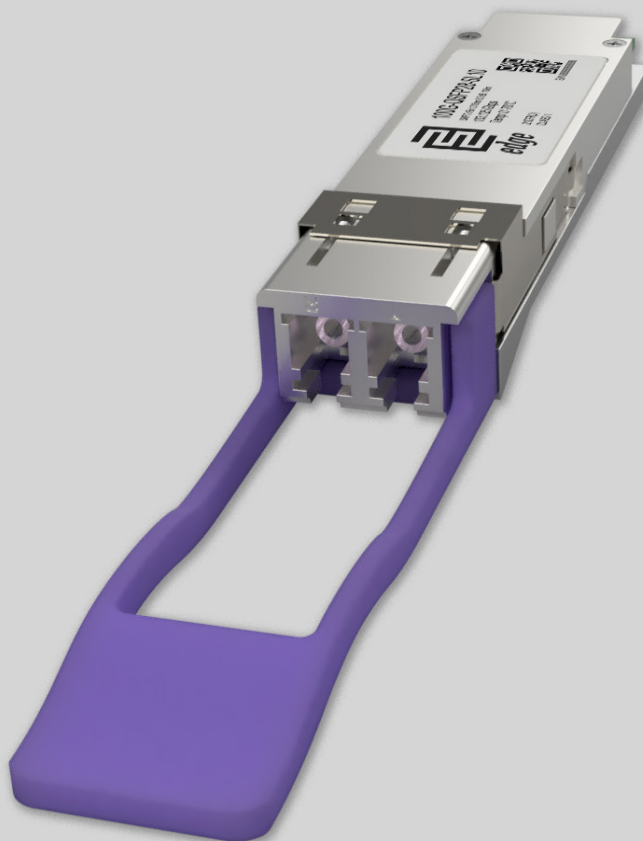


Key Highlights:

- **Type:** 100G-LR Single Lambda PAM4 QSFP28
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** 1304.5- 1317.5 nm
- **Laser:** EML
- **Fiber Type:** Single-Mode Fiber (SMF)
- **Connectors:** Double LC
- **Optical Budget:** 6.3 dB
- **Max. Distance:** 10km
- **Optical Data Rate / Baud Rate:** 53.125 Gbps
- **Modulation format:** PAM4
- **Data Rate:** 106.25 Gbps
- **FEC Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** $\leq 4.5W$
- **Temperature:** Standard 0° - 70°C



Optical Transceiver : 100G-QSFP28-SL10

Product Description:

100G-QSFP28-SL10 is Multi-Vendor MSA Compatible 100G-LR Single Lambda PAM4 QSFP28 (Quad Small Form-Factor Pluggable 28) Transceiver, operating over pair of single-mode optical fiber. On the transmission side module converts 4x 25G NRZ (Non-return-to-zero) electrical input channels (each 25.78125Gbps) into 1 Single Lambda 100G PAM4 optical signal using PAM4 modulation with baud rate of 53.125 Gbps. Reversely the opposite is done on the receiving side, module converts 1 Single Lambda 100G PAM4 optical signal into 4x 25G NRZ (Non-return-to-zero) electrical inputs using PAM4 modulation with baud rate of 53.125 Gbps. 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-SL10 uses EML (which operates over 1304.5- 1317.5 nm range) laser transmitters and 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-SL10 operates in Standard 0°-70°C temperature range and has double LC connectors. 100G-LR Single Lambda PAM4 QSFP28 support up to 106.25 Gbps data rate and such applications as 100G Ethernet (103.125 Gbps). 100G-QSFP28-SL10 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.

Transceiver is CE/RoHS certified and it is Compliant with product safety standards. 100G-QSFP28-SL10 Transceiver is fully compliant to QSFP28 Multi Source Agreement (MSA) and 100G Lambda MSA. 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 100G-LR Single Lambda PAM4 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:	1304.5 - 1317.5 nm
RX Wavelength:	1304.5 - 1317.5 nm
Minimum Optical Budget:	6.3 dB
Maximum Distance:	10 km
Supported Data Rate:	106.25 Gbps
Optical Data Rate / Baud Rate:	53.125 Gbps
Modulation format:	PAM4
Electrical Data Rate, Each Lane:	25.78125 Gbps (NRZ)
Supported Applications:	100G Ethernet (103.125Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Optical Clock And Data Recovery (CDR):	Supported
Forward Error Correction (FEC):	Supported
Operating Temperature Range:	Standard 0° - 70°C
Storage Temperature Range:	- 40° to 85°C



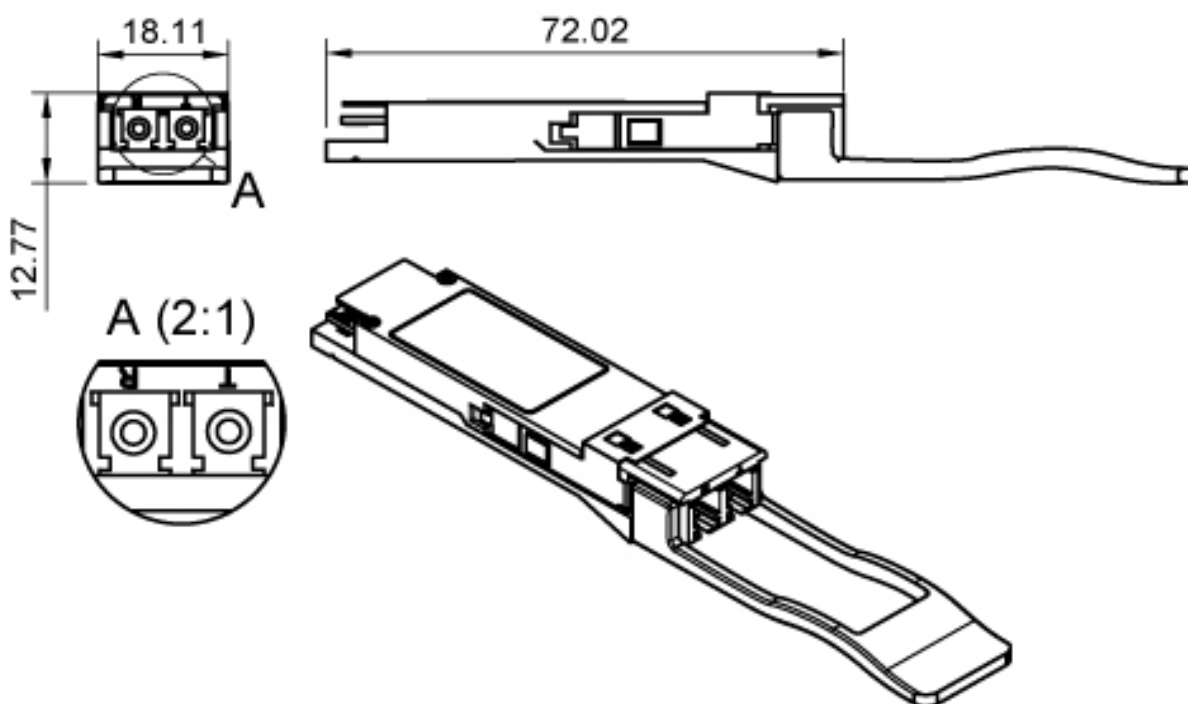
General parameter	Value
Relative Humidity (Non-Condensation):	0 to 85%
Power Consumption:	≤ 4.5W
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	- 3.135 to 3.465V
Compliance:	100G Lambda MSA, QSFP28 MSA, SFF-8636, SFF-8665, CE, RoHS-6, Class 1 FDA, IEC60825-1 Laser Safety Compliant

Transmitter Parameters:	Value
Transmitter Type:	EML
Tx Wavelength Bandwidth:	1304.5 - 1317.5 nm
Total Average Launch Power (Min)	- 1.4 dBm
Total Average Launch Power (Max)	4.5 dBm
Optical Modulation Amplitude OMA (Min) Each Lane:	0.7 dBm
Optical Modulation Amplitude OMA (Max) Each Lane:	4.7 dBm
Launch Power in OMA minus TDEC (Min) Each Lane:	- 0.7 dBm
Transmitter and Dispersion Eye Closure (Max) Each Lane:	3.4 dB
Extinction Ratio (Min):	3.5 dB
Optical Return Loss Tolerance (Max):	15.6 dB
Transmitter Reflectance:	- 26 dB
Relative Intensity Noise:	- 136 dB/HZ
Side-mode Suppression Ratio:	30 dB
Average Launch Power OFF Transmitter (Max) Each Lane:	-15 dBm



Receiver Parameters:	Value
Receiver Type:	PIN ROSA
Rx Wavelength Bandwidth:	1304.5 - 1317.5 nm
Average Receive Power (Min):	- 7.7 dBm
Average Receive Power (Max):	4.5 dBm
Receiver Overload:	5.5 dBm
Receiver Reflectance (Max) Each Lane:	- 26 dB
Receive Power OMA (Max) Each Lane:	4.7 dBm
LOS Assert (Min):	- 30 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.

