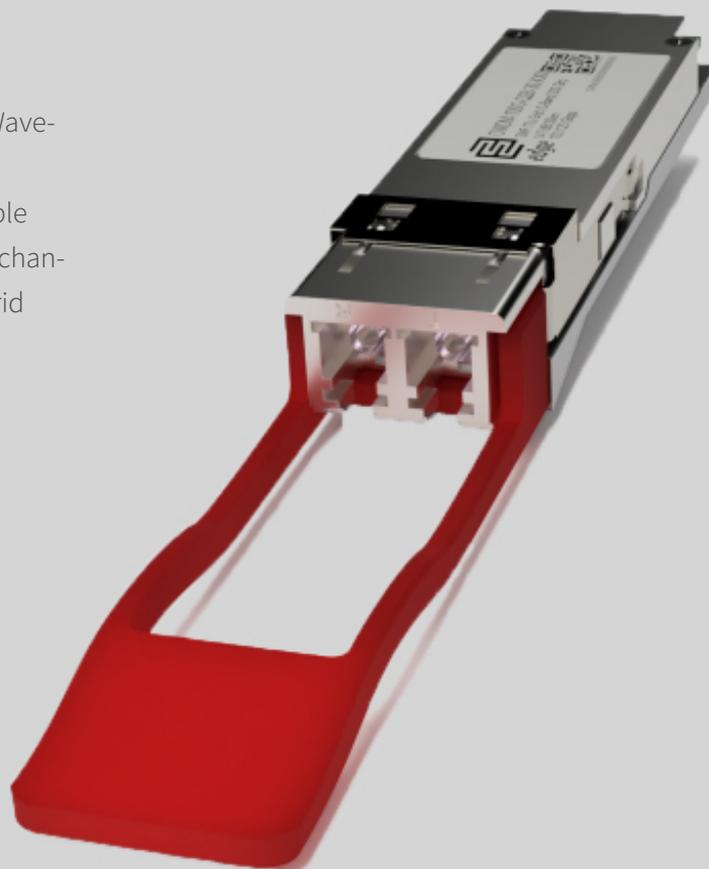


Key Highlights:

- **Type:** 100G QSFP28 O-band xWDM Single Wavelength
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** 16 channels at 200GHz channel spacing aligned to 800GHz LAN-WDM grid
- **Laser:** DFB
- **Modulation:** PAM4
- **Fiber Type:** Single-Mode Fiber (SMF)
- **Connectors:** Double LC
- **Optical Budget:** 14.7 dB
- **Max. Distance:** 30 km
- **Data Rate:** 103.125 Gbps
- **Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** ≤ 5.5 W
- **Temperature:** Standard 0°-70°C



Optical Transceiver : OWDM-100G-Q28-30

Product Description:

The Multi-Vendor MSA Compatible Single-Wavelength 100G QSFP28 (Quad Small Form-Factor Pluggable 28) O-band xWDM Transceiver OWDM-100G-Q28-30 is designed for multiple channel 100G transmission over G.652 Single-Mode Fiber (SMF). Efficient multiple 100G Ethernet signal transmission over double or single fiber is a turning point in the optical communication industry, allowing Data Centers, Mobile Operators, and Fixed Operators to transition from legacy 10G DWDM/CWDM connections to high speed 100G connections.

The OWDM-100G-Q28-30 100G O-band xWDM QSFP28 transceiver has a minimum guaranteed optical budget of 14.7 dB, which is typically enough to reach a distance of 30 km. There is no need for additional DCM (dispersion compensation modules) units or EDFA amplifiers because dispersion for O-Band channels is much lower than for C-Band DWDM channels, which require these extra devices in similar circumstances. We have compiled a list of typical applications for OWDM-100G-Q28-30 transceivers and can provide complete solutions, including custom designed O-Band xWDM filters for either Double Fiber or Single Fiber applications. 100G O-band xWDM transceivers support 16 O-Band xWDM 200GHz spaced chan-



nels that are aligned to an 800GHz LAN-WDM grid. Supported channels are starting from 1295.56 nm up to 1312.58 nm. The 100G O-band xWDM QSFP28 transceiver module supports DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. The 100G O-band xWDM QSFP28 transceiver operates in the standard 0°-70°C temperature range and has a duplex LC optical connector and on the electrical side supports 4x25.78 Gbps CAUI-4 host interface which is compatible with standard 100G Ethernet switches. 100G O-band xWDM QSFP28 transceiver has integrated PAM4 (Pulse Amplitude Modulation 4-level) DSP (Digital Signal Processor) chip and module uses a PAM4 gearbox to convert the 4x25.78 Gbps CAUI-4 electrical signals to a single lane PAM4 100G optical signal. The module's optical interface utilizes a single wavelength in the O-band with wavelengths aligned to the LAN-WDM grid with 200GHz channel spacing while the receiver section uses a wideband APD detector and is WDM channel independent. Module has an integrated FEC, while FEC on the host platform needs to be disabled.

100G O-band xWDM QSFP28 transceivers are certified and are compliant with product safety standards. Transceivers are fully compliant to QSFP28 Multi Source Agreement [SFF-8636](#), QSFP28 MSA digital monitoring functions and are Laser Class 1 compliant according to International Safety Standard IEC-60825. 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.

100G O-band xWDM QSFP28 transceivers can be used in Cisco, Juniper, Nokia, HP, Huawei and other manufacturers equipment which have 100G QSFP28 port capabilities. So far originally almost none of these manufacturers have 100G O-band xWDM QSFP28 transceivers in their portfolio, however we have accumulated deep expertise in custom-encoded firmware for O-band xWDM QSFP28 in order to make these modules work in almost any brand of equipment. If you would like to receive help with total solutions - we will be glad to know your requirements and help – [Contact Us](#).

Product Specification:

General parameter	Value
Media Type:	Single-Mode Fiber (SMF)
Connectors:	Double LC
TX Wavelength:	1295.56 nm to 1312.58 nm
RX Wavelength:	1290nm to 1325 nm
Minimum Optical Budget:	14.7 dB
Maximum Distance:	30km
Supported Data Rate:	103.125 Gbps
Modulation:	PAM4
Supported Applications:	100G Ethernet (103.125 Gbps)



General parameter	Value
Digital Diagnostic Monitoring (DDM):	Supported
Forward Error Correction (FEC):	Supported
Operating Temperature Range:	Standard 0°- 70°C
Storage Temperature Range:	- 40° to 85°C
Relative Humidity (Non-Condensation):	5 to 85%
Power Consumption MAX (FEC On):	≤5.5W
Power Consumption Typical (FEC On):	≤4.7W
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	-3.135 to 3.47V
Compliance:	Class 1 laser product IEC-60825, QSFP28 MSA SFF-8636, QSFP28 MSA

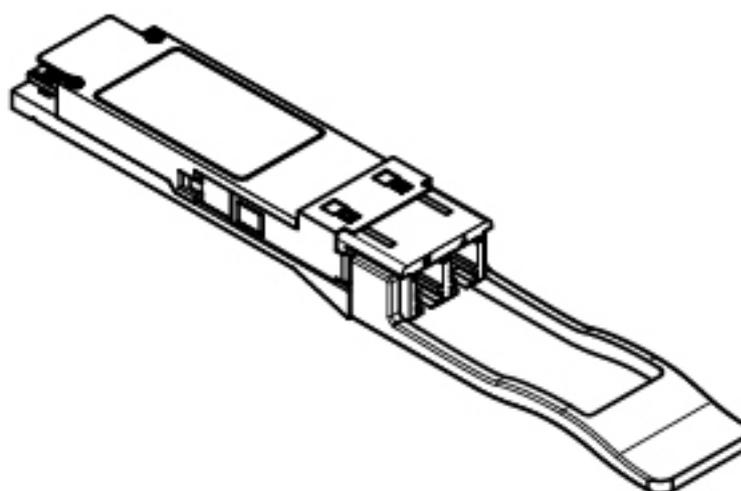
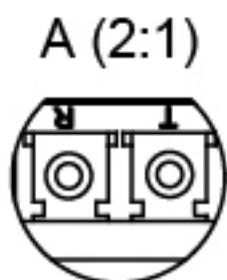
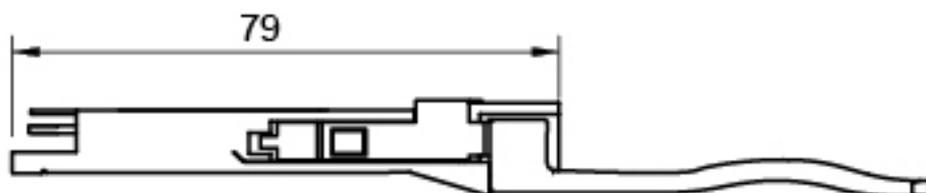
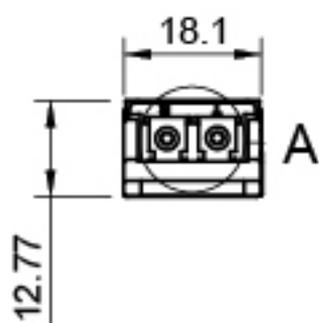
Transmitter Parameters:	Value
Transmitter Type:	DFB Laser
Tx Wavelength Bandwidth:	$\lambda_C \pm 0.1\text{nm}$
Average Launch Power (Max):	5.6 dBm
Average Launch Power (Min):	0 dBm
Extinction Ratio (Min):	6 dB
Transmitter Reflectance (Max):	-26 dB
Transmitter and dispersion penalty eye closure for PAM4 (TDECQ) (Max):	3.6 dB
Average output power, TX: OFF (Max):	-20 dBm

Receiver Parameters:	Value
Receiver Type:	APD
Rx Wavelength Bandwidth:	1290-1325nm
Average Receive Power (Min):	-3 dBm



Receiver Parameters:	Value
Average Receive Power (Max):	-14.7 dBm
Damage Threshold Each Lane:	-2.4 dBm
Receiver Reflectance (Max):	-26 dBm
LOS Assert (Min):	-19 dBm
LOS De-Assert (Max):	-15 dBm
LOS Hysteresis (Typical):	1 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
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

Ordering Info:

Part Number	Wavelength	Frequency
OWDM-100G-Q28-30-014	1295.56 nm	231400 Ghz
OWDM-100G-Q28-30-012	1296.68 nm	231200 Ghz
OWDM-100G-Q28-30-010	1297.80 nm	231000 Ghz
OWDM-100G-Q28-30-008	1298.93 nm	230800 Ghz
OWDM-100G-Q28-30-006	1300.05 nm	230600 Ghz
OWDM-100G-Q28-30-004	1301.18 nm	230400 Ghz
OWDM-100G-Q28-30-002	1302.31 nm	230200 Ghz



Part Number	Wavelength	Frequency
OWDM-100G-Q28-30-000	1303.45 nm	230000 Ghz
OWDM-100G-Q28-30-098	1304.58 nm	229800 Ghz
OWDM-100G-Q28-30-096	1305.72 nm	229600 Ghz
OWDM-100G-Q28-30-094	1306.85 nm	229400 Ghz
OWDM-100G-Q28-30-092	1308.00 nm	229200 Ghz
OWDM-100G-Q28-30-090	1309.14 nm	229000 Ghz
OWDM-100G-Q28-30-088	1310.28 nm	228800 Ghz
OWDM-100G-Q28-30-086	1311.43 nm	228600 Ghz
OWDM-100G-Q28-30-084	1312.58 nm	228400 Ghz

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.

