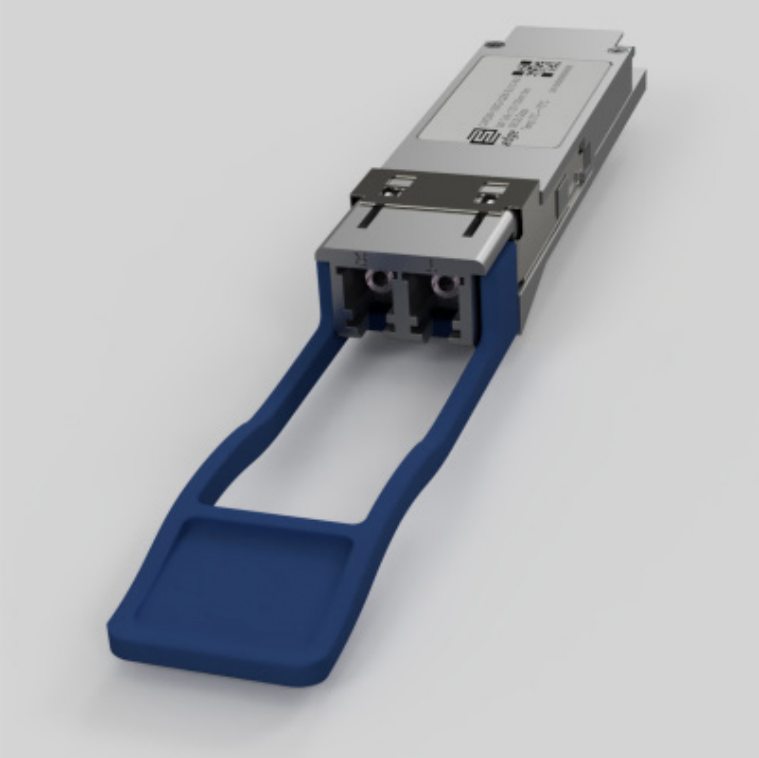
edge OPTICAL SOLUTIONS

Product Data Sheet

Key Highlights:

- **Type**: 100G CWDM PAM4 QSFP28 Single Wavelength
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** Ch. 27-33 ITU-T G.694.2 standard
- **Laser:** DFB Laser
- **Modulation:** PAM4
- **Fiber Type:** Single-Mode Fiber (SMF)
- **Connector:** Double LC
- **Optical Budget:** 15.8 dB
- **Max. Distance:** 1270nm/30km; 1290-1330nm/40km
- **Data Rate:** 106.25 Gbps (53.125 Gbps baud rate)
- **Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** ≤4.5 W
- **Temperature:** Standard 0°-70°C



Optical Transceiver : CWDM-100G-Q28-SL40-XX

Product Description:

100G CWDM transceiver CWDM-100G-Q28-SL40 is a Multi-Vendor MSA Compatible 100G CWDM QSFP28 (Quad Small Form-Factor Pluggable 28) Transceiver designed for multiple channel 100G transmission over G.652 Single-Mode Fiber (SMF).

100G CWDM QSFP28 transceiver CWDM-100G-Q28-SL40 has a minimum guaranteed optical budget of 15.8 dB, which in most cases is enough to reach 40 km distance. 100G CWDM QSFP28 transceivers support 4 CWDM channels. Supported channels are starting from Channel 27 (1271 nm) up to Channel 33 (1331 nm). Additional channels are available upon request and can be offered as customized products. The 100G CWDM QSFP28 module supports DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. The 100G DWDM optics transceiver operates in the standard 0°-70°C temperature range and has a duplex LC optical connector and on the electrical side supports 4×25.78 Gbps CAUI-4 host interface which is compatible with standard 100G Ethernet switches. 100G CWDM Transceiver has integrated QSFP28 PAM4 (Pulse Amplitude Modulation 4-level) DSP (Digital Signal Processor) chip and module uses a PAM4 gearbox to convert the 4×25.78 Gbps CAUI-4 electrical signals to a single lane PAM4 100G optical signal. Transceiver uses DFB (Distributed

edge
EDGE Technologies Ltd.
Plienciema Street 33, Marupe
Latvia, LV-2167
sales@edgeoptic.com
www.edgeoptic.com

edge OPTICAL SOLUTIONS

Product Data Sheet

Feedback Laser), Silicon Photonics external modulator and receiver use wideband PIN-Photodiode and is CWDM channel independent. Module has an integrated FEC, while FEC on the host platform needs to be disabled.

100G CWDM transceivers CWDM-100G-Q28-SL40 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 SFF-8636 Rev 2.10a compliant. 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.

Product Specification:

General parameter	Value
Media Type:	Single-Mode Fiber (SMF)
Connectors:	Duplex LC
TX Wavelength:	1271 nm, 1331 nm, 1291 nm, 1311 nm
RX Wavelength:	1271 nm, 1331 nm, 1291 nm, 1311 nm
Minimum Optical Budget:	15.8 dB
Maximum Distance:	40km
Supported Data Rate:	106.25 Gbps
Modulation:	PAM4 (Pulse Amplitude Modulation 4-level)
Supported Applications:	100G Ethernet (106.25 Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Forward Error Correction (FEC):	Integrated in DSP
Operating Temperature Range:	Standard 0°- 70°C
Storage Temperature Range:	- 40° to 85°C
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, CAUI-4, RoHS-6, SFF-8636 Rev 2.10a, CE, QSFP28 MSA

EDGE Technologies Ltd.
Plienciema Street 33, Marupe
Latvia, LV-2167
sales@edgeoptic.com
www.edgeoptic.com

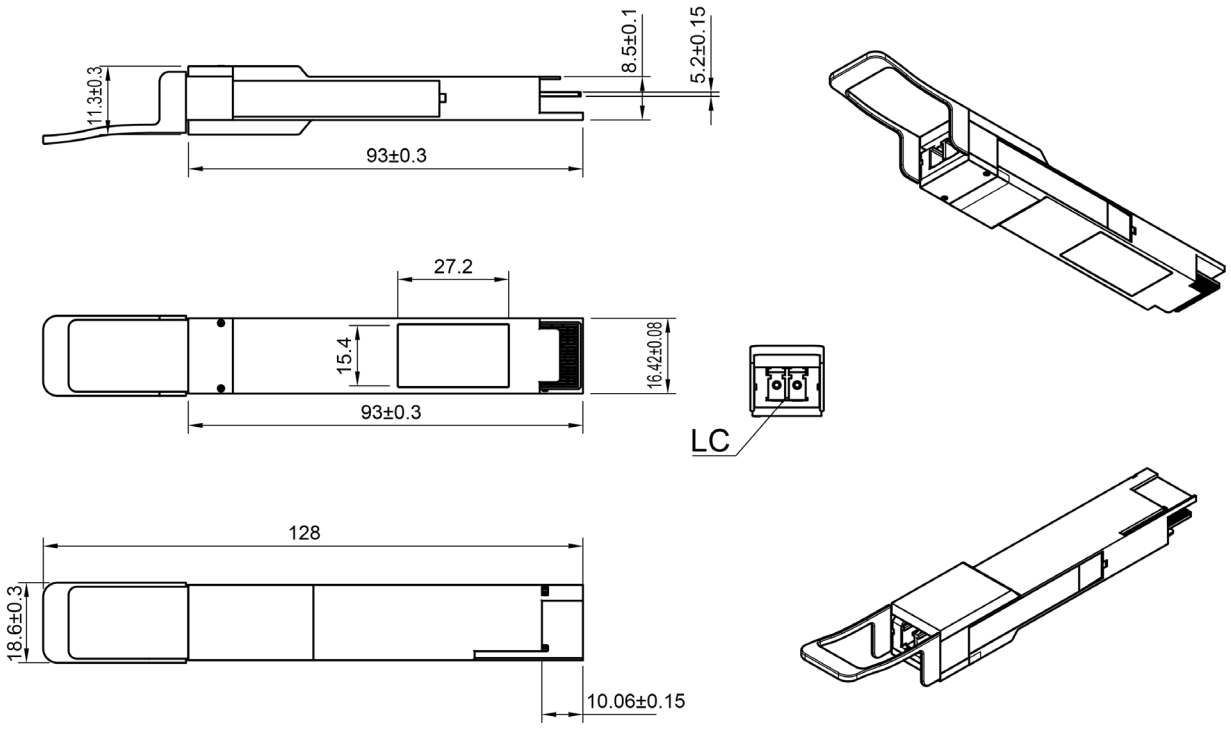
edge OPTICAL SOLUTIONS

Product Data Sheet

Transmitter Parameters:	Value
Transmitter Type:	4 x CWDM DFB Laser
Tx Wavelength Bandwidth:	20 nm
Average Launch Power, Each Lane (Min):	2 dBm
Average Launch Power, Each Lane (Max):	5.6 dBm
Extinction Ratio (Min):	5 dB

Receiver Parameters:	Value
Receiver Type:	PIN Photodiode Array
Rx Wavelength Bandwidth:	20 nm
Average Receive Power Each Lane (Min):	-13.8 dBm
Average Receive Power Each Lane (Max):	-3.4 dBm
Receiver Overload:	-2.4 dBm

Mechanical Drawing



EDGE Technologies Ltd.
Plienciema Street 33, Marupe
Latvia, LV-2167
sales@edgeoptic.com
www.edgeoptic.com

edge OPTICAL SOLUTIONS

Product Data Sheet

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

Ordering info:

Part Number	Data Rate	Applications	Temperature Range	Available DWDM Channels
CWDM-100G-Q28-SL40-XX	100 Gbps	Up to 40 km	0°- 70°C	27 to 33 1271 nm to 1330 nm

XX represents the chosen channel, thus Ch.27 would be CWDM-100G-Q28-SL4 0-**27**.

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.

edge
EDGE Technologies Ltd.
Plienciema Street 33, Marupe
Latvia, LV-2167
sales@edgeoptic.com
www.edgeoptic.com