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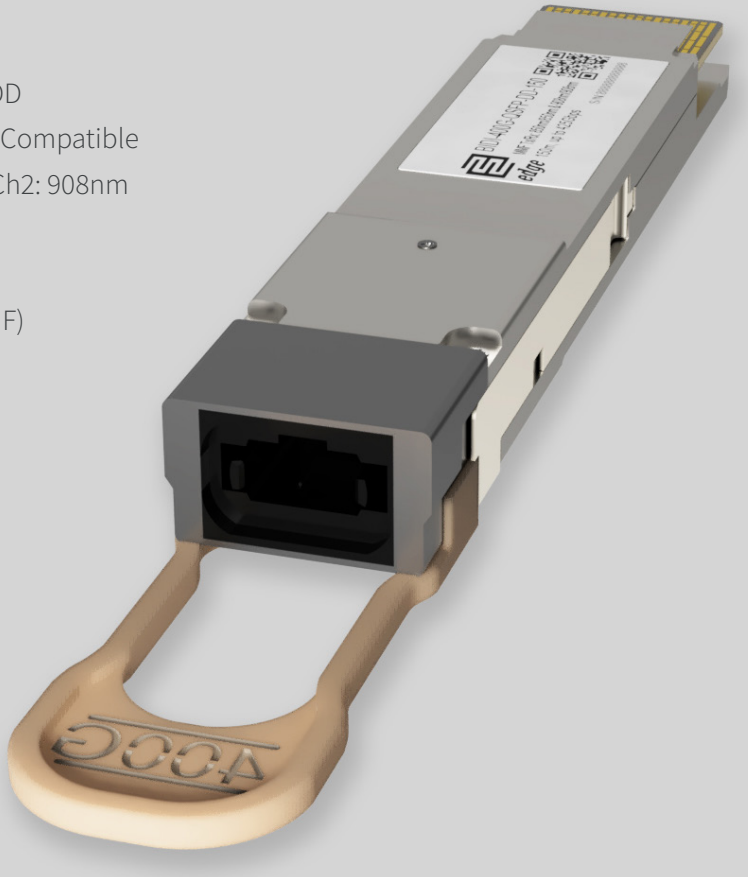
Product Data Sheet

Key Highlights:

- **Type**: BIDI 400GBASE-SR4 QSFP-DD
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** Ch1: 850nm, Ch2: 908nm
- **Laser:** VCSEL
- **Modulation:** PAM4
- **Fiber Type:** Multi-Mode Fiber (MMF)
- **Connectors:** MTP/MPO - 12
- **Optical Budget:** 2dB
- **Max. Distance:** 150m over OM5
- **Data Rate:** 425 Gbps
- **DDM/DOM:** Supported
- **Power Consumption:** ≤ 12W
- **Temperature:** Standard 0° - 70°C



Optical Transceiver :BIDI-400G-QSFP-DD-150

Product Description:

BIDI-400G-QSFP-DD-150 is a 400GBASE-SR4 Multi-Vendor MSA Compatible QSFP-DD (Quad Small Form-Factor Pluggable – Double Density) Bi-Direction optical Transceiver designed for operation over Multi-Mode Fiber (MMF). The module accepts 8x 50G (400GAUI-8) host electrical data and transmits them in two groups of optical Bi-Directional lanes (each group contains 4 pairs of optical lane) to allow optical communication over optical Multi-Mode fibers. Reversely, on the receiver side , the module accepts 8 sets of optical input signal and converts them to 8 channels of electrical data. Module has a minimum guaranteed optical budget of 2 dB, which in most cases is enough to reach 150 m distance over OM5 multi-mode fiber. However, distance is just indicative parameter for comfort of identification that is calculated by taking into account minimal optical budget and average attenuation of optical cabling in industry. BIDI-400G-QSFP-DD-150 uses top quality VCSEL (Vertical Cavity Surface Emitting Laser) transmitter 850nm for first lane and 908nm for second. Modules also uses 400Gb/s PIN photodiode receiver. The BIDI 400GBASE-SR4 supports DDM/DOM optical diagnostics that provide real-time diagnostic information about the present operating conditions. It operates in Standard 0°-70°C temperature range and has MTP/MPO-12

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

interface.

The BIDI 400GBASE-SR4 QSFP-DD support up to 425 Gbps data rate and is designed for 400G Ethernet application, typically used for QSFP-DD SR4.2 to QSFP- DD SR4.2 point to point communication and QSFP-DD SR4.2 (BIDI-400G-QSFP-DD-150) to 4x QSFP28 SR1.2 (BIDI-100G-QSFP28-151) breakout communication. Optical transceiver is multi-purpose module used in number of different places of today's networking. Consequently, most popular use cases are in Internet Service Provider (ISP), Mobile Operator and Data Center Core Networks.

BIDI-400G-QSFP-DD-150 transceiver is CE/RoHS certified and is compliant with product safety standards. It is fully compliant to QSFP-DD Multi Source Agreement (MSA), CMIS 4.0, IEEE 802.3bs 400 Gbps specification and 400GBASE-SR4. 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 BIDI 400GBASE-SR4 QSFP-DD 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)
Connectors:	MTP/MPO - 12
TX Wavelength:	Ch1: 850nm, Ch2: 908nm
RX Wavelength:	Ch1: 850nm, Ch2: 908nm
Minimum Optical Budget:	2dB
Maximum Distance:	150m
Supported Data Rate:	425 Gbps
Data Rate, each Lane up to:	26.5625 Gbps
Modulation:	PAM4
Supported Applications:	Ethernet (412.5 Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Optical Clock And Data Recovery (CDR):	Supported
Operating Temperature Range:	Standard 0°- 70°C
Storage Temperature Range:	- 40° to 85°C
Relative Humidity (Non-Condensation):	0 to 85%
Power Consumption:	≤ 12W

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Product Data Sheet

General parameter	Value
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	-3.135 to 3.465V
Compliance:	QSFP-DD MSA, IEEE 802.3bs MSA 400G-SR4, CE, RoHS-6, IEC60825-1 Laser Safety Compliant

Transmitter Parameters:	Value
Transmitter Type:	VCSEL Laser
Tx Wavelength Bandwidth:	Ch1: 18nm (900 – 918nm) Ch2: 19nm (844 – 863nm)
Average Launch Power Each Lane (Min):	-6.5 dBm
Average Launch Power Each Lane (Max):	4 dBm
Outer Optical Modulation Amplitude OMA (Min) Each Lane:	- 4.5 dBm
Outer Optical Modulation Amplitude OMA (Max) Each Lane:	3 dBm
Launch Power in OMA minus TDECQ (Min) Each Lane:	- 5.9dBm
Extinction Ratio (Min):	3 dB
Average Launch Power OFF Transmitter (Max) Each Lane:	- 30 dBm
Optical Return Loss Tolerance:	12 dB
Transmitter and Dispersion Eye Closure for PAM4, Each Lane:	4.5 dB

Receiver Parameters:	Value
Receiver Type:	PIN Photodiode Array
Rx Wavelength Bandwidth:	Ch1: 18nm (900 – 918nm) Ch2: 19nm (844 – 863nm)
Average Receive Power Each Lane (Min):	-8.5 dBm
Average Receive Power Each Lane (Max):	4 dBm

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

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Receiver Parameters:	Value
Damage Threshold Each Lane:	5 dBm
Receiver Sensitivity (OMA) Each Lane:	-6.6 dB
Receiver Reflectance (Max):	-12 dB
LOS Assert (Min):	- 30 dBm
LOS De-assert (Max):	- 12 dBm
LOS Hysteresis (Min):	0.5 dB

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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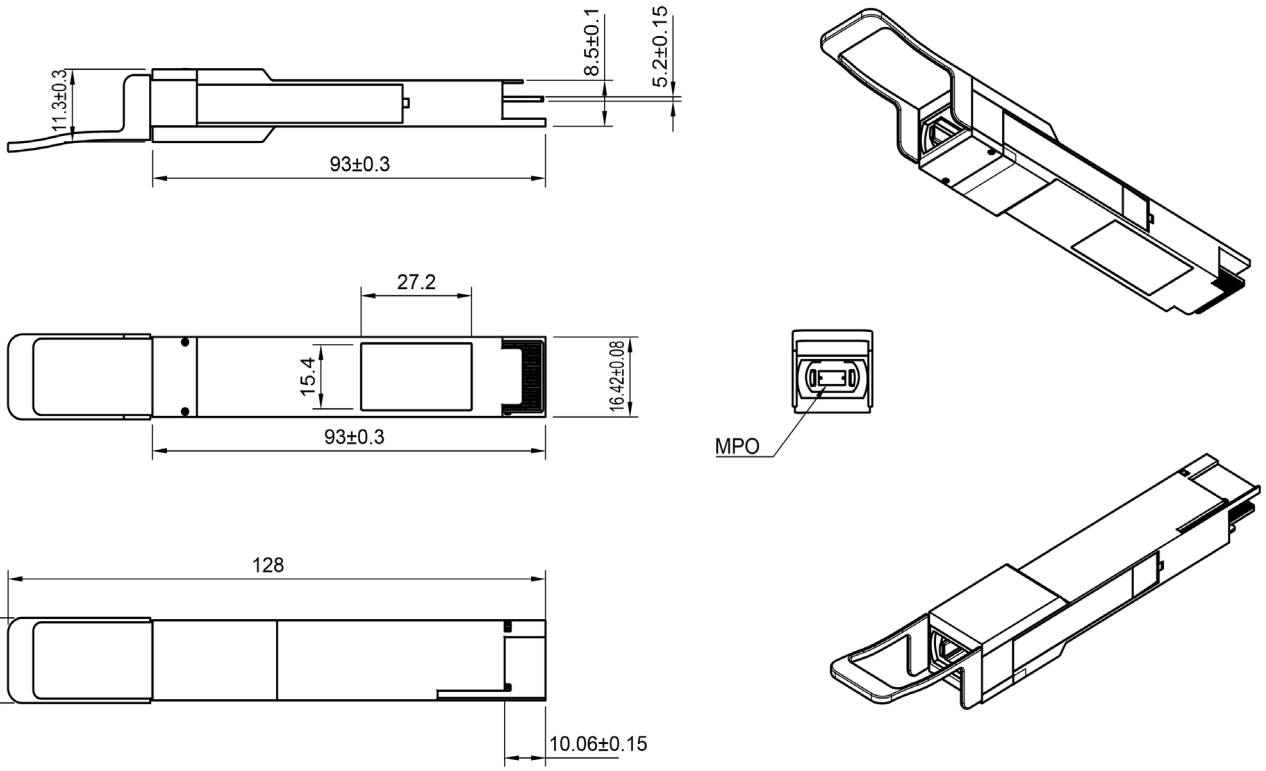
Mechanical drawings:



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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