# edge
## OPTICAL SOLUTIONS

# *Product Data Sheet*

## Key Highlights:

- **Type**: 100GBASE-XSR4 QSFP28
- **Compatability**: Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** 850nm
- **Laser:** VSCEL
- **Modulation:** PAM4
- **Fiber Type:** Multi-Mode Fiber (SMF)
- **Connectors:** MTP/MPO
- **Optical Budget:** 1.9 dB
- **Max. Distance:** 300 m (OM4) / 200 m (OM3)
- **Data Rate:** 103.125 Gbps
- **DDM/DOM:** Supported
- **Power Consumption:** ≤3.5 W
- **Temperature:** Standard 0°-70°C

# Optical Transceiver : 100G-QSFP28-300

## Product Description:

100G-QSFP28-300 is Multi-Vendor MSA Compatible 100GBASE-XSR4 QSFP28 (Quad Small Form-Factor Pluggable 28) Transceiver designed for operation over multi-mode optical fiber. Module has minimum guaranteed optical budget of 1.9 dB, which in most cases is enough to reach 300 m over OM4 multi-mode fiber, or 200 m over OM3 multi-mode fiber. 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-QSFP28-300 uses 25Gb/s VSCEL (Vertical Cavity Surface Emitting Laser) (850 nm) transmitters and 25Gb/s PIN photodiode receivers. Module support DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. 100G-QSFP28-300 operates in standard 0°-70°C temperature range and has MTP/MPO connector. 100GBASE-XSR4 QSFP28 support up to 103.125 Gbps data rate and such applications as 100G Ethernet (103.125 Gbps). 100G-QSFP28-300 optical transceiver is multi-purpose module which can be used in various scenarios in today's networking environment. Most popular applications are Internet Service Provider (ISP), Mobile Operator and Data Center Core Networks.

# Product Data Sheet

Transceiver is CE/RoHS certified and is compliant with product safety standards. 100G-QSFP28-300 Transceiver is fully compliant to QSFP28 Multi Source Agreement (MSA), IEEE 802.3bm 100GBASE-SR4 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 firmware's for 100GBASE-XSR4 QSFP28 transceiver in order to make it work in almost any brand equipment. We will be glad to know your requirements.

## Product Specification:

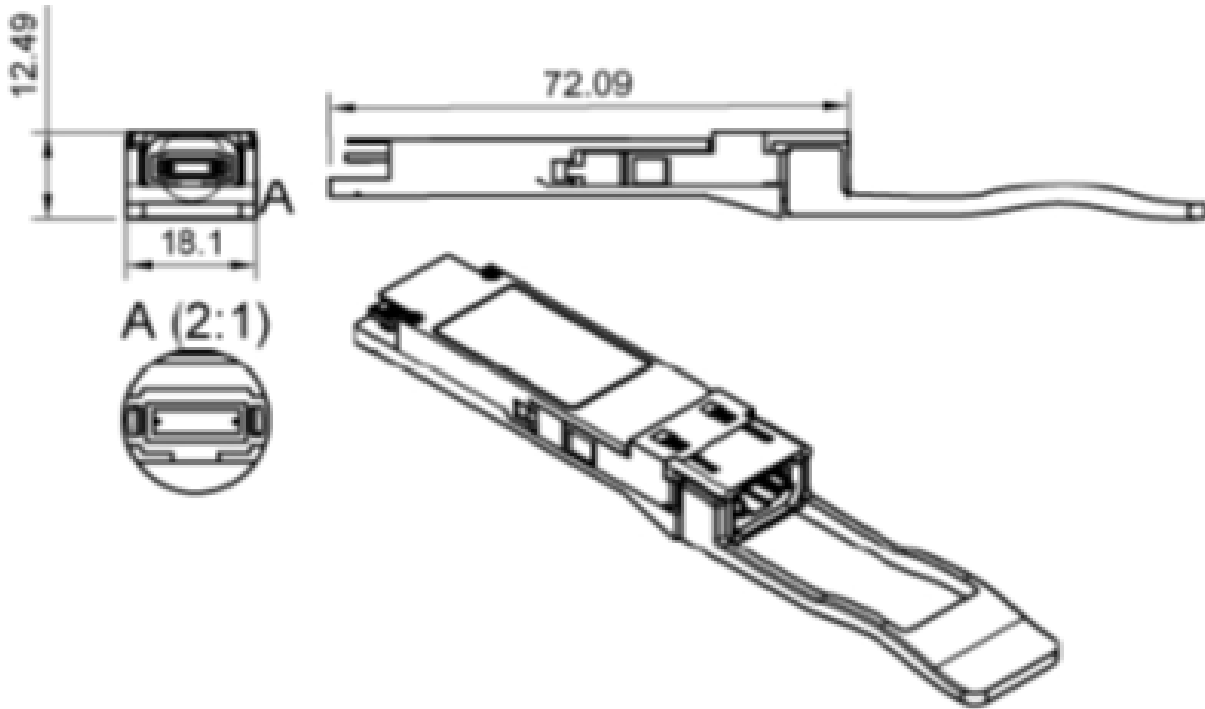| General parameter | Value |
|---|---|
| Media Type: | Multi-Mode Fiber (MMF) |
| Connectors: | MTP/MPO |
| TX Wavelength: | 850nm |
| RX Wavelength: | 850nm |
| Minimum Optical Budget: | 1.9 dB |
| Maximum Distance: | 300 m (OM4) / 200 m (OM3) |
| Supported Data Rate: | 103.125 Gbps |
| Supported Applications: | 100G Ethernet (106.25 Gbps) |
| Digital Diagnostic Monitoring (DDM): | Supported |
| Operating Temperature Range: | Standard 0°-70°C |
| Storage Temperature Range: | - 40° to 85°C |
| Relative Humidity (Non-Condensation): | 15 to 85% |
| Power Consumption: | ≤ 3.5W |
| Power Supply Voltage Typical: | + 3.6V |
| Relative Humidity (Non-Condensation): | 3.135 to 3.465V |
| Compliance: | QSFP28 MSA, 802.3bm 100GBASE-SR4, IEEE 802.3bm, SFF-8636, SFF-8665, CE, RoHS-6, Class 1 FDA, IEC60825-1 Laser Safety Compliant |

# Product Data Sheet

## Product Specification:

| Transmitter Parameters: | Value |
|---|---|
| Transmitter Type: | VSCEL Laser |
| Tx Wavelength Bandwidth: | 20 nm (840-860 nm) |
| Average Launch Power (Min) Each Lane: | - 8.4 dBm |
| Average Launch Power (Max) EachLane: | 2.4 dBm |
| Optical Modulation Amplitude OMA (Min) Each Lane: | - 6.4 dBm |
| Optical Modulation Amplitude OMA (Max) Each Lane: | 3.0 dBm |
| Difference in Launch Power between any Two Lanes OMA(Max): | 3.0 dBm |
| Extinction Ratio (Min): | 2 dB |
| Optical Return Loss Tolerance (Max): | 12 dB |
| Average Launch Power OFF Transmitter (Max) Each Lane: | - 30 dBm |

| Transmitter Parameters: | Value |
|---|---|
| Receiver Type: | PIN photodiode |
| Rx Wavelength Bandwidth: | 20 nm (840-860 nm) |
| Average Receiver Sensitivity (Min) Each Lane: | - 10.3 dBm |
| Average Receiver Sensitivity (Max) Each Lane: | 2.4 dBm |
| Receiver Overload: | 3.4 dBm |
| Receiver Reflectance (Max) Each Lane: | - 12 dB |
| Receive Power OMA (Max) Each Lane: | 3.0 dBm |
| Receiver Sensitivity OMA (Max) Each Lane: | - 7.2 dBm |
| LOS Assert (Min): | - 30 dBm |
| LOS De-assert (Max): | - 13 dBm |
| LOS Hysteresis (Min): | 0.5 dB |

# Product Data Sheet

## Mechanical Drawing

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# 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 | **DZ -** DZS(Dasan-Zhone) | **KY -** KyLand | **SV -** Sandvine |
| **AD -** ADVA | **EI -** ECI | **LN -** Lenovo | **SC -** Silicom |
| **AE -** Advantech | **EC -** EdgeCore | **ML -** Mellanox | **SF -** SolarFlare |
| **AL -** Alcatel (Nokia) | **EW -** EdgeWare | **ME -** Meraki (Cisco) | **SW -** Sonicwall |
| **AT -** Allied Telesis | **EL -** Eltex | **MT -** MikroTik | **SM -** Supermicro |
| **AR -** Arista | **EM -** EMC2 | **MO -** Moxa | **SY -** Synology |
| **AS -** Arris | **EN -** Enterasys | **MR -** MRV | **TC -** Telco Systems |
| **AV -** Avaya | **ER -** Ericsson | **NC -** NEC | **TP -** TP-LINK |
| **BC -** Barracuda | **EF -** EXFO | **NG -** Netgear | **TN -** Trendnet |
| **BR -** Broadcom | **EX -** Extreme Networks | **NK -** Nokia | **UN -** Ubiquiti Networks |
| **QL -** Cavium (Qlogic) | **F5 -** F5 Networks | **NT -** Nortel | **VX -** VeEx |
| **CR-** Ceragon | **FI -** Finisar | **NS -** NSN | **WG -** WatchGuard |
| **CP -** Checkpoint | **FO -** Fortinet | **OR -** Oracle | **WS -** Waystream |
| **CH -** Chelsio | **FU -** Fujitsu | **PA -** Palo Alto Network | **WT -** Westermo |
| **CN -** Ciena | **H3 -** H3C | **PL -** Planet | **ZT -** ZTE |
| **CI -** Cisco | **HI -** Hirschmann | **QC -** QCT(Quanta) | **ZX -** Zyxel |
| **LI -** Cisco (Linksys) | **HU -** Huawei | **QN -** QNAP | **HP -** HP |
| **CE -** Comnet | **IB -** IBM | **RD -** RAD | **AG -** Avago |
| **CO -** Coriant | **IF -** Infinera | **RW -** RadWare | **OC -** Oclaro |
| **DH -** Dahua | **IN -** Intel | **RC -** Raisecom | **EU -** Emulex |
| **DC -** DCN | **IX -** Ixia | **RK -** Ruckus | **TM -** Transmode |
| **DL -** Dell & Force10 | **JU -** Juniper Networks | **RU -** Ruijie Networks | **AU -** HP Aruba |
| **DK -** D-Link | **KM -** KeyMile | **SG -** Samsung | **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. Warranty does not cover damage caused by improper deployment, misuse and accidents.

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