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OPTICAL SOLUTIONS

Product Data Sheet

Key Highlights:

- **Type**: 100GBASE-SR4 & OTU4 & 128GFC QSFP28
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** 850nm
- **Laser:** VSCEL
- **Fiber Type:** Multi-Mode Fiber (MMF)
- **Connectors:** MTP/MPO
- **Optical Budget:** 1.9 dB
- **Max. Distance:** 100 m (OM4) / 70 m (OM3)
- **Data Rate:** 103.125-112.2 Gbps
- **DDM/DOM:** Supported
- **Power Consumption:** ≤ 3.5W
- **Temperature:** Standard 0°-70°C

Optical Transceiver : 100G-QSFP28-101

Product Description:

100G-QSFP28-101 is Multi-Vendor MSA Compatible 100GBASE-SR4 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 100 m over OM4 multi-mode fiber, or 70 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-QSFP28-101 uses 28Gb/s VSCEL (Vertical Cavity Surface Emitting Laser) (850 nm) transmitters and 28Gb/s PIN photodiode receivers. Module support DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. 100G-QSFP28-101 operates in standard 0°-70°C temperature range and has MTP/MPO connector. 100GBASE-SR4 QSFP28 support 103.125-112.2 Gbps data rates and such applications as 100G Ethernet (103.125Gbps), Optical Transport Network OTU4 4l1-9D1F (112 Gbps) and 128G Fiber Channel (112.2 Gbps). 100G-QSFP28-101 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.

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Transceiver is CE/RoHS certified and is compliant with product safety standards. 100G-QSFP28-101 Transceiver is fully compliant to QSFP28 Multi Source Agreement (MSA), IEEE 802.3bm 100GBASE-SR4, Optical Transport Network OTU4 4l1-9D1F and 128G Generation 6 Fiber Channel standards. 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-SR4 QSFP28 transceiver in order to make it work in almost any brand equipment. We will be glad to know your requirements.

Product Specification:

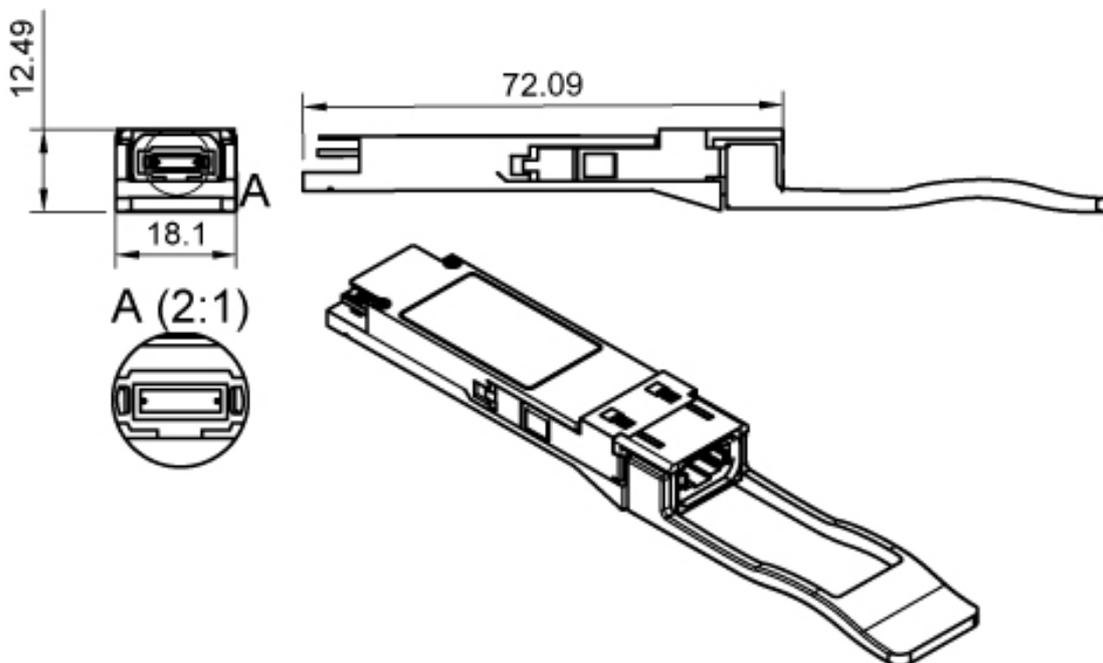| General parameter	Value
Media Type:	4 Lanes of MMF
Connectors:	MTP/MPO
TX Wavelength:	850 nm
RX Wavelength:	850 nm
Minimum Optical Budget:	1.9 dB
Maximum Distance:	100 m (OM4) / 70 m (OM3)
Supported Data Rate:	103.125 - 112.2 Gbps
Data Rate, each Lane up to:	28.05 Gbps
Supported Applications:	100G Ethernet (103.125Gbps), OTU4 4l1-9D1F (112 Gbps), 128GFC (112.2 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:	≤ 3.5W
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	- 3.135 to 3.465V
Chipset:	Macom, Sumitomo, Samtech, Oclaro, Avago, II-IV
Compliance:	QSFP28 MSA, 802.3bm 100GBASE-SR4, OTN OTU4 4l1-9D1F, 128GFC Gen 6, SFF-8636, SFF-8665, CE, RoHS-6, Class 1 FDA, IEC60825-1 Laser Safety Compliant

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):	4.0 dB
Launch Power in OMA minus TDEC (Min) Each Lane:	- 7.3 dBm
Transmitter and Dispersion Eye Closure (Max) Each Lane::	4.3 dB
Extinction Ratio (Min):	3 dB
Optical Return Loss Tolerance (Max):	12 dB
Average Launch Power OFF Transmitter (Max) Each Lane:	- 30 dBm

Receiver 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:	- 9.2 dBm
Stressed Receiver Sensitivity OMA (Max) Each Lane:	- 5.2 dBm
LOS Assert (Min):	- 30 dBm
LOS De-assert (Max):	- 12 dBm
LOS Hysteresis (Min):	0.5 dB

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Mechanical Dimensions

12.49
72.09
18.1
A
A (2:1)

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	**ER** - Ericsson	**IN** - Intel	**RD** - RAD
AD - ADVA	**EX** - Extreme Networks	**JU** - Juniper Networks	**RU** - Ruijie Networks
AL - Alcatel-Lucent	**F5** - F5 Networks	**LI** - Linksys	**SM** - Supermicro
AR - Arista	**FO** - Fortinet	**ML** - Mellanox	**SY** - Synology
AV - Avaya	**FU** - Fujitsu	**ME** - Meraki (Cisco)	**TC** - Telco Systems
BR - Brocade	**H3** - H3C	**MT** - MikroTik	**TP** - TP-LINK
CN - Ciena	**HI** - Hirschmann	**MO** - Moxa	**TN** - Trendnet
CI - Cisco	**HP*** - HP Networking	**MR** - MRV	**WG** - WatchGuard
DL - Dell & Force10	**HS*** - HP Storage	**NG** - Netgear	**ZT** - ZTE
DK - D-Link	**HU** - Huawei	**NS** - NSN	**XX** - Other
EM - EMC2	**IB** - IBM	**PA** - Palo Alto Network	
ET - Enterasys	**IF** - Infinera	**QL** - Qlogic	

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.