Angora Networks

5G SFP's

Increasing processing power and inventions in data communications, need to be supported with matching technologies on transmission networks.

Large data generation rates on data centers first leads to higher I/O rates on storage networks, and requires constantlty increasing speed to reach billions of endpoints via high speed wired links, and now with the introduction of 5G networks via wireless communication infrastructure.

Angora Networks, wide range of 25G and 100G high density and low power consumption, small form pluggables, provides required connectivity for all different applications, such as, Infiniband, High Performance Computing Clusters, High-End Servers, Fiber Channel, Metro Ethernet networks, SONET, 5G Backhaul connectivity, and Data Center connections. We are working with top level manufacturers, to build our own SFP, with highest possible quality.

Optical and copper modules can be used on all industry standard models, with different flavors based on your bandwidth and cabling requirements. All models are RoHS compatible, hot pluggable, have single +3.3V power supply voltage and all-metal housing.

100Gbps QSFP28 SR4 Transceiver

100G QSFP28 SR4 is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP28 SR4 for 100 or 40 Gigabit Ethernet, Infiniband FDR/EDR Applications. This transceiver is a high performance module for short-range multi-lane data communication and interconnect applications. It integrates four data lanes in each direction with 100 Gbps bandwidth. Each lane can operate at 28.05Gbps up to 70 m using OM3 fiber or 100 m using OM4 fiber.

These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 38 contact edge type connector. The optical interface uses an 12 fiber MTP (MPO) connector. This module incorporates Gigalight Technologies proven circuit and VCSEL technology to provide reliable long life, high performance, and consistent service.

- 100GBASE-SR4 Ethernet
- Datacom/Telecom switch & router connections
- Data Aggregation and backplane Applicationgs
- Infiniband transmission at 4ch QDR,FDR and EDR
- 4 channels full-duplex transceiver modules
- Transmission data rate up to 28.05Gbps per channel
- Support 40GE and 56G FDR data rate（4 channel, 4 channels 850nm VCSEL array, 4 channels PIN photo detector array
- Internal CDR circuits on both receiver and transmitter channels
- Support CDR bypass
- Low power consumption <2.5W
- Maximum link length of 70m on OM3 Multimode Fiber (MMF)and 100m on OM4 MMF
- Single MPO connector receptacle
- Operating case temperature 0°C to +70°C
- 3.3V power supply voltage

Ordering Information

ANW-QSFP28-100G	100Gbps QSFP28 SR4 Transceiver
ANW-DAC-100G-2M	2m (7ft) 100G QSFP28 Passive Direct Attach Copper Twinax Cable
ANW-DAC-100G-1M	1m (6ft) 100G QSFP28 Passive Direct Attach Copper Twinax Cable

100G QSFP28 to QSFP28 Passive Direct Copper Cables

100G QSFP28 Passive Copper Cables are high performance, cost effective I/O solutions for 100G LAN, HPC and SAN applications. The QSFP28 passive copper cables are compliant with SFF-8436. It is offer a low power consumption, short reach inter-connect applications. The cable each lane is capable of transmitting data at rates up to 25.78Gb/s, providing an aggregated rate of 100Gb/s.

- 100 Gigabit Ethernet
- Fiber Channel over Ethernet, Data storage and communication industry
- Switch/router/HBA, Enterprise network
- SAN, Data Center Network
- QSFP28 conforms to the Small Form Factor SFF-8665
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support for multi-gigabit data rates :25.78Gb/s (per channel)
- Maximum aggregate data rate: 100Gb/s (4 x 25.78Gb/s)
- Copper link length up to 3m (passive limiting)
- High-Density QSFP 38-PIN Connector
- Power Supply :+3.3V
- Low power consumption: 0.02 W (typ.)
- Temperature Range: 0~ 70 °C

100G QSFP28 to 4xSFP28 Passive Direct Copper Cables

- 100/25 Gigabit Ethernet
- Switches, Routers, and HBAs
- Data Center Network
- Supporting 100 Gbps to 4 x 25 Gbps
- Support data rates: 25.78Gb/s (per channel)
- IEEE 802.3bj 100GEBASE-CR4 and P802.3by compliant
- Compatible to SFP28 MSA and QSFP28 MSA
- Compatible to SFF-8402, SFF-8432 and SFF8665
- Maximum aggregate data rate: 100 Gb/s (4 x25Gb/s)
- High-Density QSFP28 38-PIN and 4x SFP28 20-PIN Connector
- Temperature Range: 0~ 70 °C
- Copper link length up to 2m
- Power Supply :+3.3V
- Low crosstalk
- I2C based two-wire serial interface for EEPROM signature which can be customized
- Operating Temperature: 0~ 70 °C
- ROHS Compliant
- Belden brand cable: AWG30#, AWG26#

100Gbps QSFP28 Active Optical Cable

100Gbps QSFP28 series are active optical cables (AOC) that allows bi-directional 100Gbps transmission suitable for high performance computing (HPC) clustering and other high-throughput data network, with advantages such as high speed, high density, low latency, low power consumption and light weight.

- Low-latency and high-speed interconnections for high performance computing(HPC)
- 100G Ethernet
- Other high-throughput data transmission network
- Quad Small Form-factor Pluggable (QSFP)
- Maximum Aggregate Data Rate 100Gbps
- EDR, FDR, QDR, DDR, SDR (Infiniband)
- 10/25/40/100G Ethernet
- Bi-directional parallel link
- BER<1e-12 From 0 to 50 degree case temp
- CDR no/off automatically
- 10/14/25/28Gb/s per lane, x4 channels
- Low power consumption
- Round multi-mode fiber array
- 850nm VCSEL four array
- PIN diode four array
- Hot-Pluggable

- I2C management interface
- 3.3V power supply voltage
- Maximum 2W power consumption
- I2C based two-wire serial interface for EEPROM signature which can be customized
- Operating Temperature: 0~ 70 °C
- ROHS Compliant
- Belden brand cable: AWG30#, AWG26#

100Gbps QSFP28 to 4xSFP28 Active Optical Cable

100Gbps QSFP28 to 4*SFP28 AOC Cable allows bi-directional 100Gbps to 25Gbps transmission suitable for high performance computing (HPC) clustering and other high-throughput data network, with advantages such as high speed, high density, low latency, low power consumption and light weight.

- Network Switch Manufacturers supporting 100/25 G
- Server Manufacturers supporting 100/25 G
- Data Centers with 25G requirements with Aggregation Architectures
- Supports 100G to 25G Ethernet interoperability
- Aggregate 4 discrete SFP28 25G channels into single parallel QSFP28 100G interface
- Electrically hot-pluggable
- Electrical interface compliant to QSFP28 connector (SFF-8679&8436)
- and SFP28 connectors (SFF-8431&8432)
- Low profile connectors
- Low power consumption
- Bundle multi-mode fiber array
- 850nm VCSEL four array
- PIN diode four array
- Hot-Pluggable
- I2C management interface
- From 0 to 70 degree case temperature
- 3.3V power supply voltage
- Electrical 38-pin connector

General Specifications

SFP Model	SFP Type	Connector Type	Max Bandwidth	Cable Type
ANW-QSFP28-100G	100GBASE-SR4	LC	100 Gbps	Multi mode fiber
ANW-DAC-100G	100 Gb Ethernet	Direct Attach	100 Gbps	Copper
100G QSFP28 4x	100/25 Gigabit Eth	LC	100/25 Gbps	Copper
QSFP28 100G AOC	100 Gb Ethernet	Direct Attach	100 Gbps	Multi mode fiber
QSFP28 100G AOC 4x	100/25 Gigabit Eth	Direct Attach	100/25 Gbps	Multi mode fiber

Optical Specification

SFP Model	Wavelength (nm)	Fiber Type	Distance(m)
ANW-QSFP28-100G	850	Multi Mode	100
ANW-DAC-100G	-	Copper	3
100G QSFP28 4x	-	Copper	2
QSFP28 100G AOC	850	Multi mode	Max 10
QSFP28 100G AOC 4x	850	Multi mode	Max 10

Dimensions & Environmental Conditions

Dimensions (H x W x D): 10.8 x 13.7 x 56.6 mm.
Weight: 70 grams
Commercial temperature range (COM): 0 to 70°C (32 to 158°F)

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