The Physical Layer Connectivity Challenge

The explosive growth in demand for bandwidth has dramatically changed data center architectures driving higher port counts to scale the server connectivity and the leaf-spine architectures. One of the challenges facing the network architects is the physical connectivity of the switches and servers. There is no single copper or fiber solution that can solve the data center connectivity problem. Data rate, interoperability and cost are some of the key factors in determining the optimal physical layer device. Arista Networks offers a wide range of optical transceivers and cables with guaranteed plug and play operation with Arista switches providing cost optimized solutions and ultimate deployment flexibility

Why Arista Transceivers & Cables?

B

Broadest portfolio of transceivers and cables

With a mix of speeds in the data center and the need for different type of transceiver for different parts of the network, procurement of transceivers and cables can be challenging. Arista's broad portfolio of 1Gbps to 100Gbps transceivers and cables along with a comprehensive roadmap enables procurement simplification. With innovative solutions in transceivers, like the 40G Universal optics, Arista enables optimized and flexible solutions that go beyond industry standards.

E

Extensive qualification process

Arista performs full system level qualification, optical and electrical parametric testing under voltage and temperature stress conditions and regulatory compliance testing to ensure true "Plug and Play" with guaranteed interoperability with Arista switches.

S

### Service, Support and Supply chain

With Arista's A-care support that includes 24/7 TAC support, online case management, worldwide RMA support and warranty repair, troubleshooting Transceivers and cables is hassle free. Arista's strong collaboration with component suppliers ensures short lead times and continuity of supply which can be critical in bringing up new data centers or servicing existing ones.

T

### Testing with focus on quality and reliability

Arista Transceivers and cables have low failure rates because of stringent quality control and failure analysis which addresses the operational challenge of network down-time

Arista Transceivers & Cables portfolio
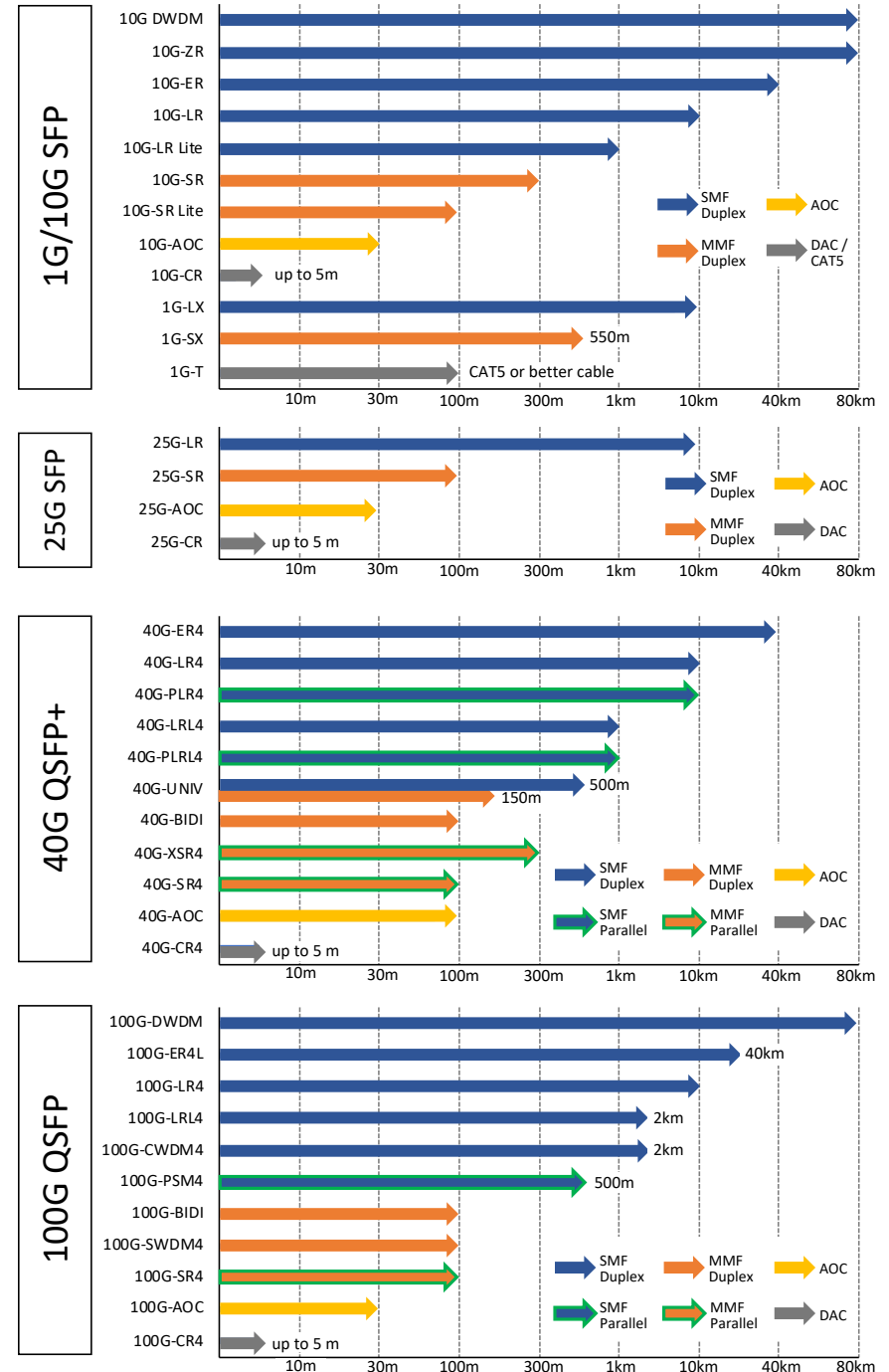
100G QSFP Transceivers

QSFP100 (a.k.a QSFP28) is the preferred form factor for 100Gigabit Ethernet Data Center applications because of its small size and low power consumption which enables highest port density. With the advent of several Multi-source agreements and silicon photonics based Optical transceivers QSFP100 form factor offers cost effective solutions for legacy fiber deployments as well as green field deployments. Arista offers a broad range of QSFP100 transceivers and cables to support various link lengths and fiber types for 100G switch to switch and 25G/50G switch to server connectivity.
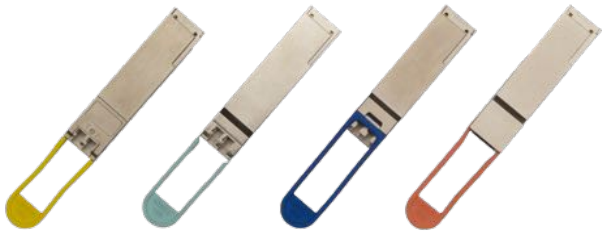
40G-UNIV/100G-SWDM4 Transceivers for Duplex Multi-mode Fiber

One of the challenges in migrating from 10G to 40G or 100G network has been the deployed multi-mode fiber infrastructure. 10GBASE-SR optics operated on duplex fiber (one for transmit and one for receive). However, 40GBASE-SR4 and 100GBASE-SR4 were defined to operate over parallel fiber (four fibers for transmit and four for receive). This increase in fiber count requires deployment of additional fiber to migrate from 10G to 40G and 100G. Arista addresses this challenge with the 40G Universal and 100G SWDM4 transceivers.

- The Arista QSFP-40G Universal transceiver is a pluggable optical transceiver in an industry standard QSFP+ form factor that can operate up to 150m over existing duplex multi-mode fiber. It can also be used with single-mode fiber for distances up to 500m which provides investment protection when migrating from multi-mode fiber to single-mode fiber infrastructure. Arista 40G UNIV is based on industry standard IEEE 40GBASE-LR4 and is 100% interoperable with any IEEE 40GBASE-LR4 or LRL4 optics making it easy to connect to other routers and switches. It supports full Digital Optical Monitoring (DOM) and passive Network Taps for link quality monitoring and passive data analysis

- The Arista QSFP-100G-SWDM4 transceiver is based on the SWDM4 industry standard multi-source agreement and can operate over duplex Multi-mode fiber for distances up to 70m over OM3 and 100m over OM4 fiber. It provides an easy migration path to 100G without having to go through expensive fiber replacement/installation. It supports full Digital Optical Monitoring (DOM) and passive Network Taps for link quality monitoring and passive data analysis

Break-out mode and Interoperability

Several Arista transceivers support break-out mode which offers ultimate deployment flexibility, provides investment protection and enables staged migration to higher speeds. They are interoperable with relevant industry standards when used in the break-out mode as summarized in the below table

Table 1: Break-out mode Interoperability matrix for Arista transceivers

QSFP-100G-SR4	4x 25G SFP SR (SFP-25G-SR): 70m/100m (OM3/OM4)
QSFP-100G-PSM4	4x 25G SFP LR (SFP-25G-LR): 500m/SMF
QSFP-40G-SR4	4x SFP+ SRL (SFP-10G-SRL): 100m/OM3 4x SFP+ SR (SFP-10G-SR): 100m/OM3, 150m/OM4
QSFP-40G-XSR4	4x SFP+ SRL (SFP-10G-SRL): 100m/OM3 4x SFP+ SR (SFP-10G-SR): 300m/OM3, 400m/OM4
QSFP-40G-PLRL4	4x SFP+ LRL (SFP-10G-LRL): 1km/SMF 4x SFP+ LR (SFP-10G-LR): 1km/SMF
QSFP-40G-PLR4	4x SFP+ LRL (SFP-10G-LRL): 1km/SMF 4x SFP+ LR (SFP-10G-LR): 10km/SMF

Additional Information

Additional documentation and detailed specifications on Arista Transceivers and Cables can be found at www.arista.com

- Arista transceivers and cables Datasheet
- Arista transceivers and cable Guide
- 100G FAQ
- 25G FAQ
- 25G Ethernet Whitepaper
- Arista 40G Universal Transceiver: Whitepaper, FAQ, Loss Budget and Design considerations, Partner application note
- 40G FAQ

Warranty, Service and Support

Arista transceivers and cables include a one-year limited hardware warranty, which covers parts, repairs, or replacement with a 10 business day turn-around after the unit is received. Support services including next business day and 4-hour advance hardware replacement are available.