



ADVANCED INTEGRATION



## Uncompromising Integrity

Shipping 100G & 200G in volume today  
Designing 400G for tomorrow





## Supporting 25G NRZ & 50G PAM4

Mellanox 100Gb/s LinkX cables and transceivers make 100Gb/s deployments as easy as 10Gb/s.

A wide range of products supports Ethernet and InfiniBand applications with reaches from 0.5m to more than 10km. In addition to meeting or exceeding IBTA and IEEE standards, LinkX certified products are 100% tested on Mellanox equipment to ensure optimal signal integrity and the best end-to-end performance.

With Mellanox cables and transceivers, you will experience troublefree installation and long-term operation.

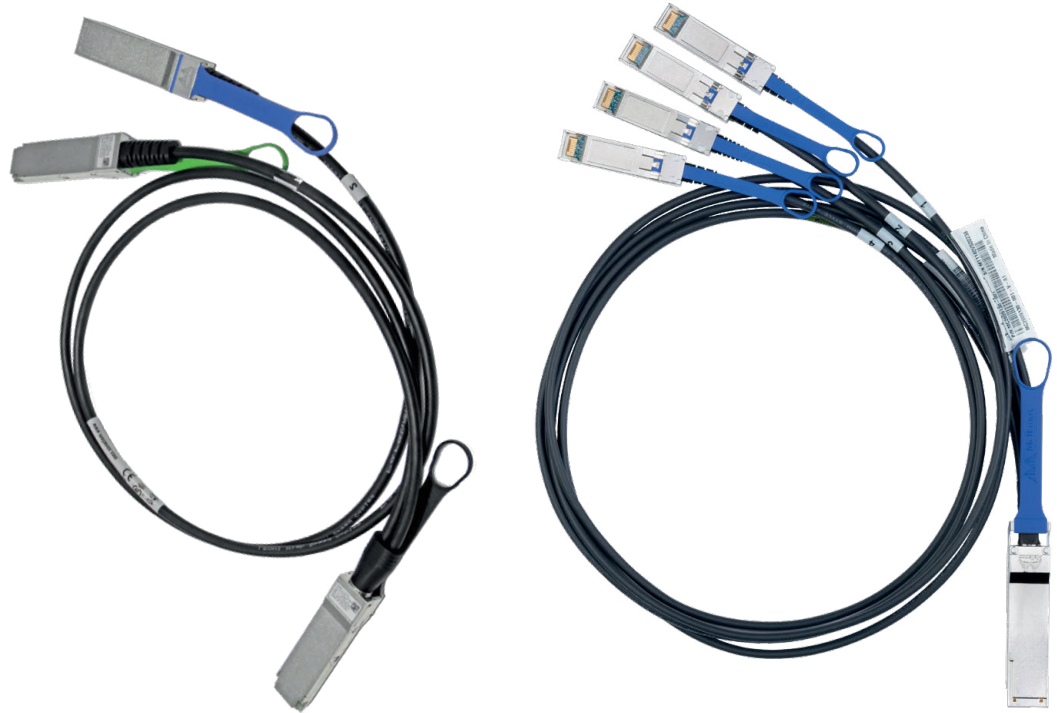
## COMMITMENT TO QUALITY

Mellanox Technologies' commitment to quality extends across every employee and into every aspect of our business including semiconductor, system, cable, and software design and manufacturing. The overarching goal is to supply our customers with the best solutions and guarantee their satisfaction.

## VALUE PROPOSITION

- *Comprehensive portfolio for 10/25/40/50/100/200/400Gb/s applications*
- *Products for reaches from 0.5m to more than 10km*
- *Maximize performance by leveraging high speed expertise innovative interconnect solutions*
- *Comprehensive portfolio to address all needs*
- *Cluster level testing for best BER 1E-15*
- *Interoperability testing - Mellanox and competitors' platforms*
- *Flexible supply chain to ensure availability and cost*
- *High volume manufacturing experience*

Mellanox cables and transceivers are available in Ethernet and InfiniBand protocols in SFP28/56/DD and QSFP28/56/DD form-factors from 10Gb/s to 400Gb/s speeds including the new 50G-PAM4 modulation.



## Direct Attach Copper (DAC) Cables

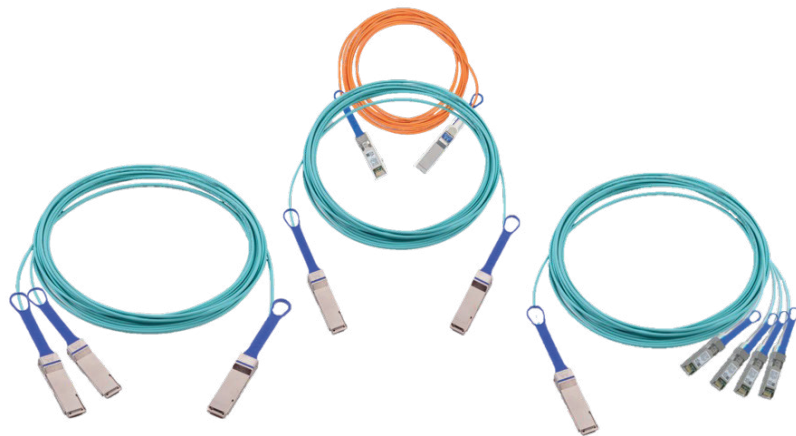
- LinkX DAC cables offer near zero signal latency and power consumption
- DAC cables are the lowest-cost, high-speed interconnect solution for inside rack applications
- New increased reach up to 5 meters using LSZH, low-loss cable



- Ethernet 100G AOCs support dual-50G and quad-25G splitters for servers and storage links. Also 40G and quad 10G configurations.
- Ethernet and InfiniBand 200G DACs are available in dual 100G splitter configurations
- New 200Gb/s *Active DACs* and dual-100G splitters support reaches 3 and 4 meters in both Ethernet and InfiniBand protocols

## Active Optical Cables (AOC)

- LinkX AOC cables offer the industry's lowest power consumption at 4.3 Watts for 200Gb/s, 2.2 Watts for 100Gb/s and 0.5W for 25Gb/s
- AOCs enable plug & play cabling like DAC cables but without the hassle of transceiver optical connector cleaning and maintenance
- Available in reaches up to 100 meters, in straight and splitter configurations at 10G/40G and 25G/100G and the new 50G PAM4 line rates for 100G/200G/400G.



# Optical Transceivers

## 25Gb/s SR SFP28 850nm 100m Multi-mode Transceiver

A low-power 0.5 Watt, VCSEL-based transceiver utilizing Mellanox ICs supports reaches up to 100m on OM4 multi-mode fibers using a duplex LC optical connector.

## 40G/100Gb/s SR4 QSFP28 850nm 100m Multi-mode Transceiver

A low-power 1.8/2.2 Watt, 4-channel VCSEL-based transceiver utilizing Mellanox ICs supporting reaches up to 100m on OM4 multi-mode fiber and MPO optical connectors. Can be split into 4 separate channels using 25G SR transceivers.

## 100Gb/s PSM4 QSFP28 1310nm 500m Single-mode Transceiver

Parallel Single Mode 4-channel (PSM4) is the lowest-cost, single-mode, 4-channel 25G NRZ solution with reaches up to 500m. Can be split into 4 separate channels using 25G LR transceivers. Uses MPO/APC optical connectors.

## 100Gb/s CWDM4 QSFP28 1310nm 2km Single-mode Transceiver

A serial 2-fiber transceiver that multiplexes four independent 25G NRZ channels into a single mode fiber with a duplex LC optical connector supporting reaches up to 2 km. Based on a uncooled laser array with 20nm channel separation in the CWDM grid. Designed as a low-cost 2km WDM alternative to the LR4.

## 100Gb/s LR4 QSFP28 1310nm 10km Single-mode Transceiver

A serial 2-fiber transceiver that multiplexes four independent channels into a single mode fiber using a duplex LC optical connector and supporting reaches up to 10km. Based on the narrow spaced, LAN-WDM grid.

## 200Gb/s SR4 QSFP56 850nm 100m Multi-mode Transceiver

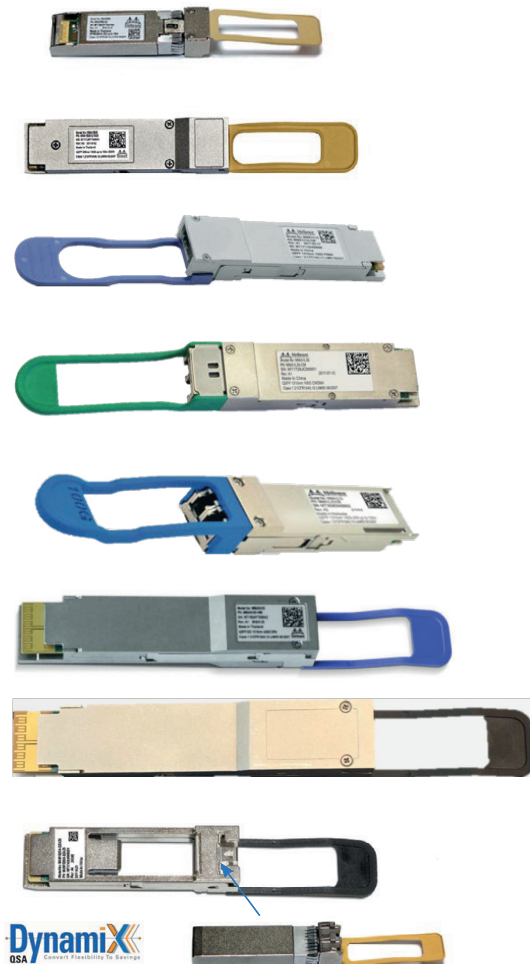
A low-power 4.5 Watt, 4-channel, 50G PAM4 VCSEL-based transceiver supporting reaches up to 100m on OM4 multi-mode fiber using an 8-fiber MPO optical connector.

## 400Gb/s DR4 QSFP-DD 1310nm 500m Single-mode Transceiver

An EML-based transceiver supporting reaches up to 500m on single-mode fibers using a 8-fiber MPO/APC and other new optical connectors in development. 8-channel 50G PAM4 electrical to 4-channel 100G PAM4 optical configuration.

## DynamiX QSA™ Quad-to-Serial Adapter

Mellanox's DynamiX QSA™ adapter enables connecting single-channel SFP+ to SFP56 DAC/AOC cables and multi-mode or single-mode transceivers into a 4-channel QSFP port in a switch or network adapter. Supports 10/25/56Gb/s.



## FEATURE SUMMARY

- IEEE 802.3 compliant with 10/25/40/100/200/400G copper, multi-mode and single-mode optical specifications: ba, bm, by, bs.
- Mellanox is a founding member of the SFP-DD, QSFP-DD, OSFP standards groups, 100G Lambda, COBO, and is active in the SFF-8436 and IBTA standards bodies.
- 100% production tested on Mellanox adapters and network switches
- Superior signal integrity
- Bit Error Rate (BER) better than  $1E-15$
- Low crosstalk
- Low insertion loss
- Matched impedance
- Secure latching mechanism
- Serial numbers printed at each end
- RoHS-6 compliant
- 1-year warranty

### For more information:

[www.mellanox.com/products/interconnect](http://www.mellanox.com/products/interconnect)

### DAC Cables

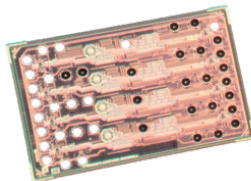


### AOC Cables

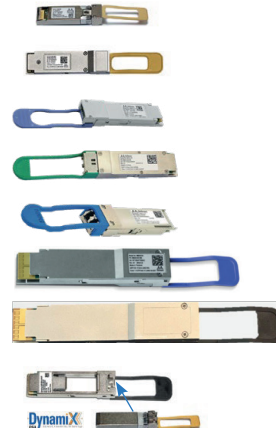


### Mellanox-designed Transceiver Control ICs

TIAs, Laser and modulator drivers



### Optical Transceivers



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