



100GbE QSFP28 LR4 Optical Transceiver

MMA1L10-CR



Mellanox® 100Gb/s optical transceiver is designed for use in 100 Gigabit Ethernet links on up to 10km of single mode fiber. It is also qualified for use in Mellanox InfiniBand EDR end-to-end systems. The transceiver is compliant with the QSFP28 MSA, IEEE 802.3ba 100GBASE-LR4 and IEEE 802.3bm CAUI-4. Digital diagnostic functions are available via the I²C interface, as specified by the QSFP28 MSA.

The module converts 4 input channels of 25Gb/s electrical data to 4 channels of LAN WDM optical signals and then multiplexes them into a single channel for 100Gb/s optical transmission. Reversely, on the receiver side the module de-multiplexes a 100Gb/s optical LAN WDM input into 4 optical signals and then converts them to 4 output channels of electrical data.

Rigorous production testing ensures the best out-of-the-box installation experience, performance, and durability.

Table 1 - Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage temperature	T _s	-40	85	°C
Operating case temperature	T _{OP}	0	70	°C
Maximum supply voltage	V _{CC}	-0.5	3.6	V
Relative humidity (non-condensation)	RH	15	85	%
Damage threshold, each lane	TH _d	5.5	---	dBm

Table 2 - Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply voltage	V _{CCRx} , V _{CC1} , V _{CCTx}	3.135	---	3.465	V
Data rate, each lane	---	-100 ppm	25.78125	+ 100 ppm	Gbps
Link distance with G.652 rated fiber	L _{max}	---	---	10	km

HIGHLIGHTS

- Hot pluggable QSFP28 MSA form factor
- Compliant to IEEE 802.3ba 100GBASE-LR4 and IEEE 802.3bm CAUI-4
- Up to 10km reach for Single Mode Fiber (SMF)
- Single +3.3V power supply
- Operating case temperature of 0-70°C
- 4x25.78Gb/s DFB-based LAN-WDM transmitter
- 4x25.78Gb/s retimed electrical interface
- Maximum power consumption < 3.5W
- Duplex LC receptacles
- RoHS compliant
- SFF-8636 compliant DDM functions
- Applications:
 - 100GBASE-LR4 100G Ethernet
 - Qualified for Mellanox InfiniBand EDR end-to-end systems

Mechanical Schematics

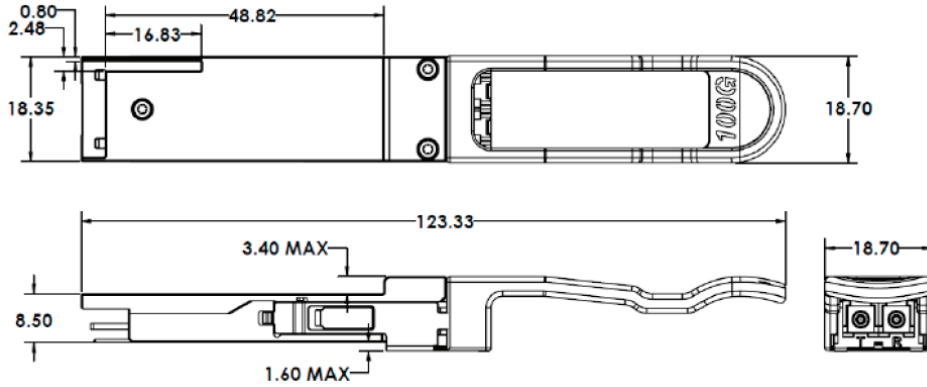


Table 4 - Part Number and Description

OPN	Description
MMA1L10-CR	Mellanox® optical transceiver, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, LR4 up to 10km

Warranty Information

Mellanox LinkX optical transceivers include a 1-year limited hardware warranty, which covers parts repair or replacement.