

4L-Q40PLR4-M10

QSFP28 100GBASE-PLR4, 1310nm, SM, DDM, MPO, 10Km



Applications

- Compliant with 40GBASE-PSM4 / PLR4 Ethernet IEEE 802.3bm,
- Up to 40Gbps Bit Rate
- Datacenter backbones
- High-speed servers
- 4 x 10GBASE Ethernet
- 40G BASE-LR4-PSM Ethernet Links
- SAN, Routers, Hubs, Load Balancer
- High-performance Computing Clusters
- Other optical links

Features

- QSFP+ 40G Optical Transceiver
- QSFP+ MSA Compliant
- Up to 10Km links on SMF
- DFB laser transmitter
- MPO-12 receptacles
- Digital Diagnostic Monitoring
- RoHS-6 and Lead Free
- Operating temperature: 0°C ~ +70°C

Description

The 4L-Q40PLR4-M10 is a QSFP+ 40G four channel parallel transceiver module for singlemode (SMF) 40GBASE-PLR4 / 40 Gigabit optical data communications.

This modules are compatible with most switch/router/server brands and designed to operate with single mode fiber (SMF) and MPO connectors, using 4 parallel channels of 10Gb/s with up to 10km reach.

Quick access to other products:

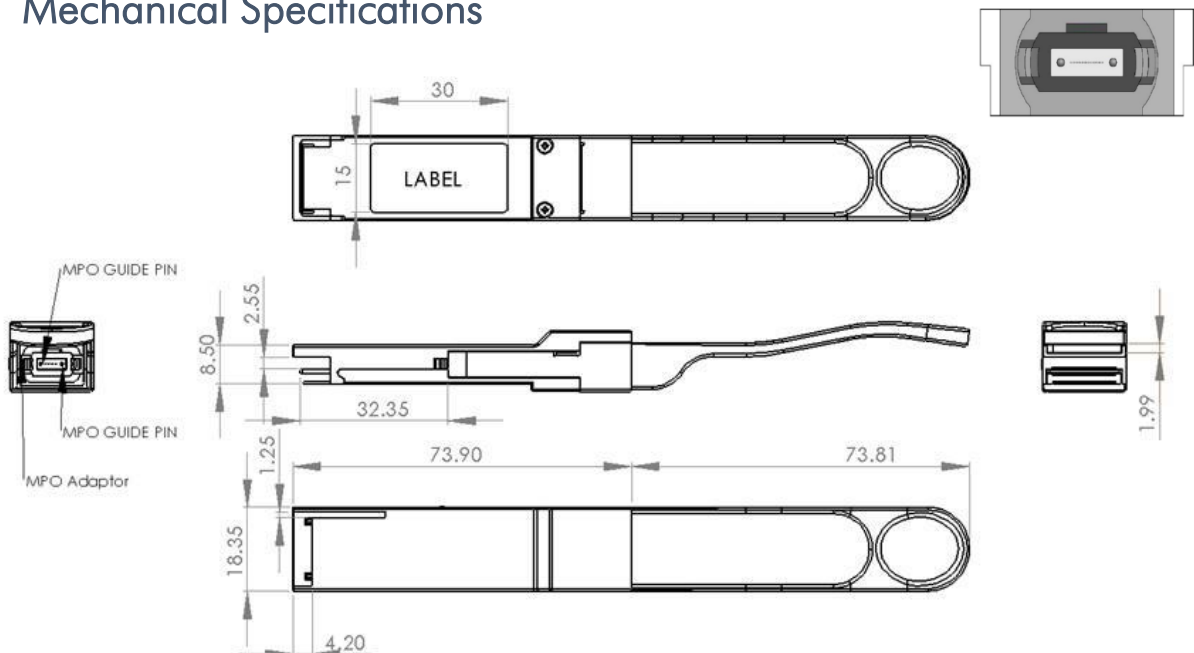
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General Specifications – Absolute Maximum Ratings

| Parameter | Symbol | Min | Typ | Max |
|----------------------------|-----------------|---------|-----|------------------------|
| Max Link Length | Lmax | | | 10Km on SMF *MPO-12 |
| Supply Voltage | Vcc | -0.5 | | 3.8 |
| Storage Temperature | T _s | -40°C | | 85°C |
| Case Operating Temperature | T _{OP} | 0 | | 70°C |
| Relative Humidity | RH | 15 | | 85% |
| Receiver Damage Threshold | pRdmg | +3.3dBm | | |
| Bit Rate (all wavelngths) | BR | | | 40Gb/s |

Mechanical Specifications

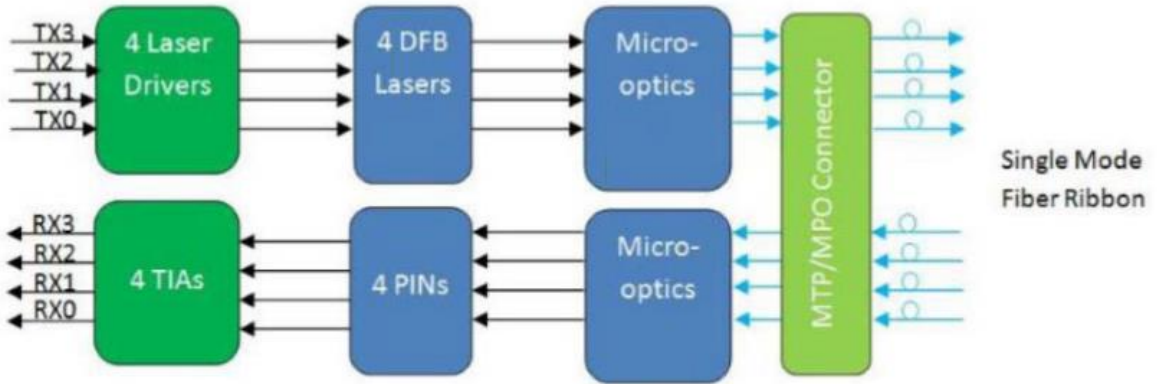


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Transceiver Diagram



Optical Specifications - Transmitter

| Parameter | Symbol | Min | Typ | Max | Unit |
|----------------------------------|----------|-----------------------------|------|------|-------|
| Signaling Speed per lane | | | 10 | | Gb/s |
| Wavelength | | 1260 | 1310 | 1355 | nm |
| Total Output Optical Power | P_T | | | | |
| Average Launch Power (Each Lane) | P_{TX} | -5.0 | | +1 | dBm |
| Extinction Ratio | ER | 3.5 | | | dB |
| Side Mode Suppression Ratio | SMSR | 30 | | | dB |
| Relative Intensity Noise | RIN | | | -128 | dB/Hz |
| Transmitter Dispersion Penalty | TDP | | | 2.2 | dB |
| Optical Return Loss Tolerance | | | | 20 | dB |
| Transmitter Eye Mask | | Compliant with IEEE 802.3ba | | | |

Optical Specifications – Receiver

| Parameter | Symbol | Min | Typ | Max | Unit |
|----------------------------------|------------------|-------|------|------|------|
| Signaling Speed per lane | | | 10 | | Gb/s |
| Wavelength | λ_C | 1260 | 1310 | 1355 | nm |
| Optical Input Power, each lane | PRX | -12.6 | | -2 | dBm |
| Receiver Sensitivity , each Lane | RX_SEN1 | -12.6 | | | dBm |
| Receiver Overload | PIN-OL | +3 | | | dBm |
| LOS Assert | LOS _A | -30 | | | dBm |
| LOS De-Assert | LOS _D | | | -15 | dBm |
| LOS Hysteresis | LOS _H | 0.5 | | 6 | dB |
| Optical Return Loss | ORL | | | -12 | dBm |

Electrical Specifications - Transmitter

| Parameter | Symbol | Min | Typ | Max | Unit |
|-------------------------------|----------------|----------------------|-----|----------------------|------|
| Signaling Rate per lane | | | 10 | | Gb/s |
| Differential data input swing | vIN_PP | 190 | | 700 | mV |
| Transmit disable voltage | V _D | V _{CC} -1.0 | | vCC | V |
| Transmit enable voltage | vEN | vEE | | V _{EE} +0.8 | V |

Electrical Specifications - Receiver

| Parameter | Symbol | Min | Typ | Max | Unit |
|---------------------------------|------------------|----------------------|-----|----------------------|------|
| Signaling Rate per lane | | | 10 | | Gb/s |
| Differential data output swing | vOUT_PP | 300 | | 850 | mV |
| Data output rise time (20%-80%) | t _r | | 12 | | ps |
| Data output fall time (20%-80%) | t _f | | 12 | | ps |
| LOS Fault | LOS _A | V _{CC} -1.0 | | vCC_HOST | V |
| LOS Normal | LOS _D | vEE | | V _{EE} +0.8 | V |

Ordering Information

| Part Number | Description |
|----------------|--|
| 4L-Q40SR4-M100 | QSFP+ 40GBASE-SR4, 850nm, MM, DDM, MPO/MTP, 100m |
| 4L-Q40BSR4-001 | QSFP+ 40GBASE-SR4, 850/900nm, BiDi MM, DDM, LC, 150m |
| 4L-Q40BLX4-02 | QSFP+ 40GBASE-LX4, CWDM, LC, MM 150m, SM 2km. |
| 4L-Q40PLR4-M10 | QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 10Km |
| 4L-Q40LR4-10 | QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 10Km |
| 4L-Q40LR4-20 | QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 20Km |
| 4L-Q40ER4-40 | QSFP+ 40GBASE-ER4, 1310nm, SM, DDM, Duplex LC, 40Km |
| 4L-Q40ZR4-60 | QSFP+ 40GBASE-ZR4 Lite, 1310nm, SM, DDM, Duplex LC, 60Km |
| 4L-Q40ZR4-80 | QSFP+ 40GBASE-ZR4, 1310nm, SM, DDM, Duplex LC, 80Km |

Note

This modules have been tested by 4LAN on equipment like Cisco, Juniper, Dell, HP, Mikrotik, Huawei, and other brands. The equipment brand must be informed before shipping the order, so the transceivers are reprogrammed to the corresponding brand.

Contact Information

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