

MCP7H00-G02AR30L-PRO

Mellanox® Compatible TAA 100GBase-CU QSFP28 to 2xQSFP28 Direct Attach Cable (Passive Twinax, 2.5m, 30AWG)

Features

- QSFP Module Complaint to SFF-8661
- Enable (4x25.78)100Gbps Transmission
- Transmission Data Rate up to 25.78 Gbps per Channel
- Operating Temperature: 0 to 70 Celcius
- RoHS Complaint and Lead-Free
- Built in EEPROM Functions



Applications:

- Switch, Storage, Server

Product Description

This is a Mellanox® Compatible 100GBase-CU QSFP28 to 2xQSFP28 direct attach cable that operates over passive copper with a maximum reach of 2.5m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

Proline’s transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only “U.S. – made or designated country end products.



General Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|-----------------------|--------|------|------|------|------|
| Supply Voltage | Vcc | 3.13 | 3.3 | 3.47 | V |
| Storage Temperature | Tstg | -40 | | 85 | °C |
| Operating Temperature | Tc | 0 | | 70 | °C |
| Relative Humidity | RH | 5 | | 85 | % |
| Data Rate | | | 100 | | Gbps |

Electrical Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|-------------|--------------------------------|--|-------|------|
| Resistance | Rcon | | | 3 | Ω |
| Insulation Resistance | Rins | | | 10 | MΩ |
| Raw Cable Impedance | Zca | 95 | 100 | 105 | Ω |
| Mated Connector Impedance | Zmated | 85 | 100 | 115 | Ω |
| Insertions Loss at 12.89 GHz | SDD21 | 8 | | 22.48 | dB |
| Return Loss at 12.89GHz | SDD11/22 | Return_Loss(f)≥ | $\left\{ \begin{array}{ll} 16.5-2\sqrt{f} & 0.5\leq f<4.1 \\ 10.66-14\log_{10}(f/5.5) & 4.1\leq f\leq 19 \end{array} \right\}$ | | dB |
| Differential to Common-Mode Return Loss | SCD11/22 | Return_Loss(f)≥ | $\left\{ \begin{array}{ll} 22-(20/25.78)f & 0.01\leq f\leq 12.89 \\ 15-(6/25.78)f & 12.89\leq f\leq 19 \end{array} \right\}$ | | dB |
| Differential to Common-Mode Conversion Loss | SCD21-SDD21 | Conversion_Loss(f)≥ -IL(f)≥ | $\left\{ \begin{array}{ll} 10 & 0.01\leq f<12.89 \\ 27-(29/22)f & 0.01\leq f<15.7 \\ 6.3 & 15.7\leq f\leq 19 \end{array} \right\}$ | | dB |
| Minimum COM | COM | 3 | | | dB |

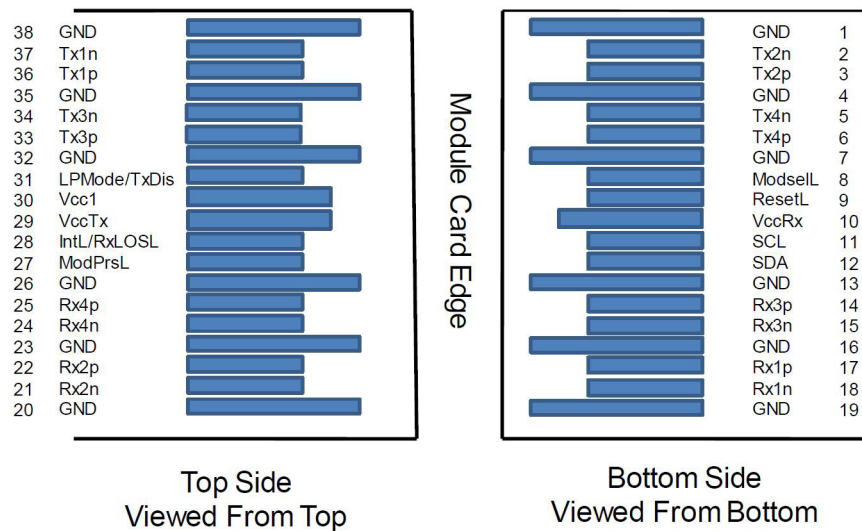
Pin Descriptions

| Pin | Logic | Symbol | Name/Descriptions | Plug Sequence | Ref. |
|-----|-------------|---------|---|---------------|------|
| 1 | | GND | Module Ground. | 1 | 1 |
| 2 | CML-I | Tx2- | Transmitter Inverted Data Input. | 3 | |
| 3 | CML-I | Tx2+ | Transmitter Non-Inverted Data Input. | 3 | |
| 4 | | GND | Module Ground. | 1 | 1 |
| 5 | CML-I | Tx4- | Transmitter Inverted Data Input. | 3 | |
| 6 | CML-I | Tx4+ | Transmitter Non-Inverted Data Input. | 3 | |
| 7 | | GND | Module Ground. | 1 | 1 |
| 8 | LVTTTL-I | MODSEIL | Module Select. | 3 | 2 |
| 9 | LVTTTL-I | ResetL | Module Reset. | 3 | 2 |
| 10 | | VccRx | +3.3V Receiver Power Supply. | 2 | |
| 11 | LVC MOS-I/O | SCL | 2-Wire Serial Interface Clock. | 3 | 2 |
| 12 | LVC MOS-I/O | SDA | 2-Wire Serial Interface Data. | 3 | 2 |
| 13 | | GND | Module Ground. | 1 | 1 |
| 14 | CML-O | Rx3+ | Receiver Non-Inverted Data Output. | 3 | |
| 15 | CML-O | Rx3- | Receiver Inverted Data Output. | 3 | |
| 16 | | GND | Module Ground. | 1 | 1 |
| 17 | CML-O | Rx1+ | Receiver Non-Inverted Data Output. | 3 | |
| 18 | CML-O | Rx1- | Receiver Inverted Data Output. | 3 | |
| 19 | | GND | Module Ground. | 1 | 1 |
| 20 | | GND | Module Ground. | 3 | 1 |
| 21 | CML-O | Rx2- | Receiver Inverted Data Output. | 3 | |
| 22 | CML-O | Rx2+ | Receiver Non-Inverted Data Output. | 1 | |
| 23 | | GND | Module Ground. | 1 | 1 |
| 24 | CML-O | Rx4- | Receiver Inverted Data Output. | 3 | |
| 25 | CML-O | Rx4+ | Receiver Non-Inverted Data Output. | 3 | |
| 26 | | GND | Module Ground. | 1 | 1 |
| 27 | LVTTTL-O | ModPrsL | Module Present. Internally pulled down to the GND. | 3 | |
| 28 | LVTTTL-O | IntL | Interrupt output should be pulled up on the host board. | 3 | 2 |
| 29 | | VccTx | +3.3V Transmitter Power Supply. | 2 | |
| 30 | | Vcc1 | +3.3V Power Supply. | 2 | |
| 31 | LVTTTL-I | LPMode | Low-Power Mode. | 3 | 2 |
| 32 | | GND | Module Ground. | 1 | 1 |
| 33 | CML-I | Tx3+ | Transmitter Non-Inverted Data Input. | 3 | |
| 34 | CML-I | Tx3- | Transmitter Inverted Data Input. | 3 | |
| 35 | | GND | Module Ground. | 1 | 1 |
| 36 | CML-I | Tx1+ | Transmitter Non-Inverted Data Input. | 3 | |
| 37 | CML-I | Tx1- | Transmitter Inverted Data Input. | 3 | |
| 38 | | GND | Module Ground. | 1 | 1 |

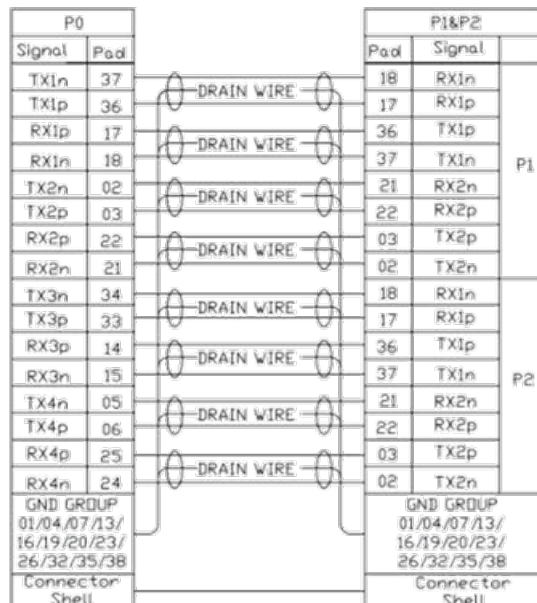
Notes:

1. GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ module and all module voltages are references to this potential unless otherwise noted. Connect the directly to the host board signal-common ground plane.
2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host board power supply filtering is shown in host board figure. VccRx, Vcc1, and VccTx may be internally connected within the QSFP+ module in any combination. The connector pins are each for a maximum current of 500mA.

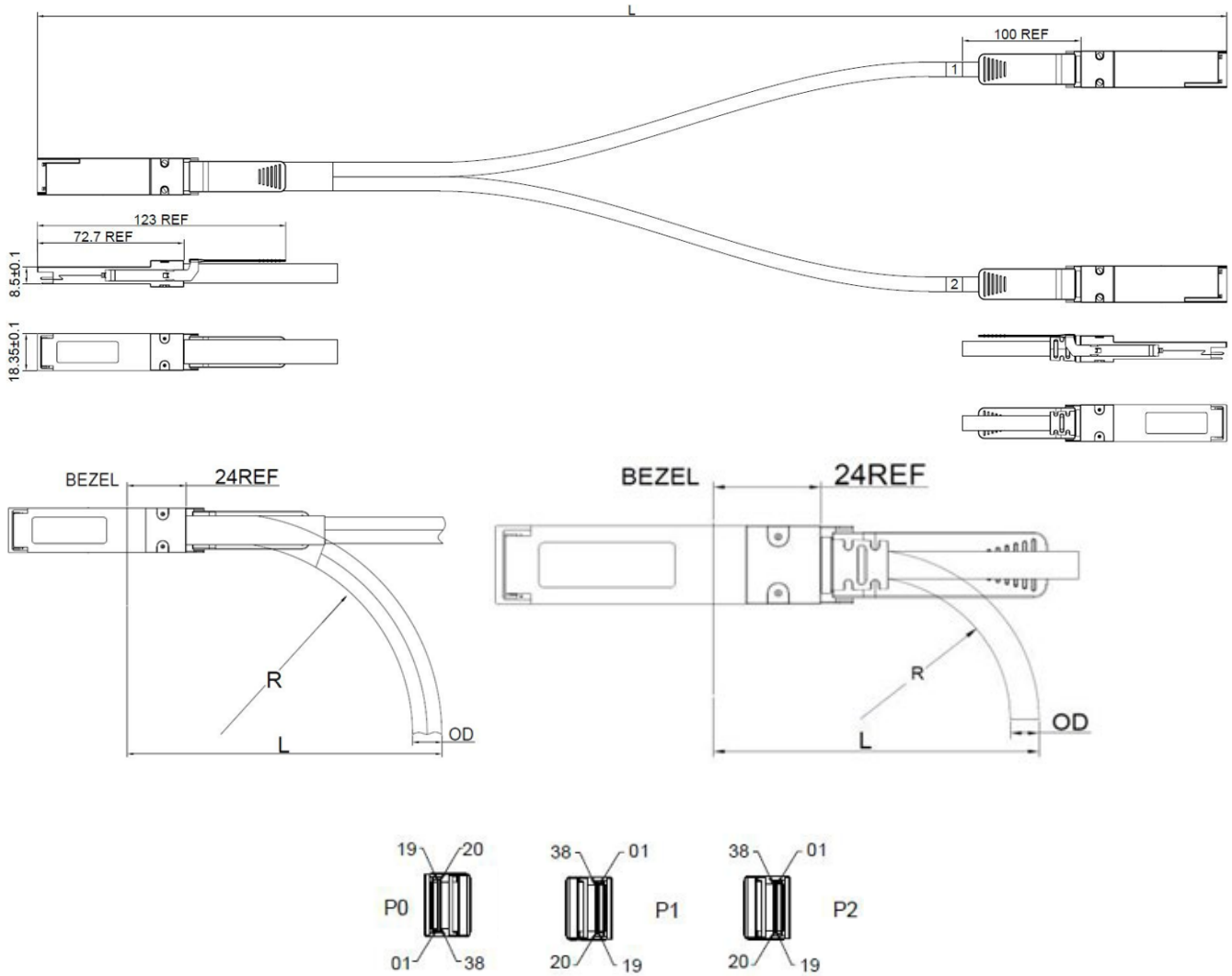
Electrical Pin-out Details



Wire Diagram



Mechanical Specifications



Cable Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---------------------|---------|-------------------------------|------|------|------|
| Length | L | 0.5 | | 5.0 | M |
| AWG | | | 30 | | AWG |
| Jacket Material | | PVC, Black (or Customization) | | | |
| OD | P0 | | 12MM | | |
| | P1 & P2 | | 6MM | | |
| Bend Radius | P0 | R | 60MM | | |
| | P1 & P2 | | 30MM | | |
| Minimum Bend Radius | P0 | L | 96MM | | |
| | P1 & P2 | | 60MM | | |

About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



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