PROLABS – QSFP-H40G-CUxM-C

QSFP+ to QSFP+ 40G Copper Cable Assembly

Overview

PROLABS's QSFP+ (Quad Small Form-factor Pluggable Plus) Copper direct-attach cables are suitable for very short distances and offer a highly cost-effective way to establish a 40-Gigabit link between QSFP+ ports. QSFP+ are designed for a high density cabling interconnect system capable of delivering an aggregate data bandwidth of 40Gbps. This interconnect system is fully compliant with QSFP+ MSA. The QSFP+ cables support the bandwidth transmission requirements as defined by IEEE802.3ba(40Gbps) .

Product Features

- Up to 40 GBd bi-directional data links
- Compliant with QSFP+ MSA specifications
- Fully Compliant with IEEE802.3ba and Infiniband QDR specifications
- 4 independent duplex channels operating at 10Gbps,also support for 2.5Gbps,5Gbps data rates
- AC coupled inputs and outputs
- 100 Ohm differential impedance
- All-metal housing for superior EMI performance
- Single power supply 3.3V, low power consumption
- RoHS Compliance
- Operating temperature range: 0℃ to 70℃.

Applications

- 40Gigabit Ethernet
- Serial Data Transmission

Ordering Information

Part Number	*Description*
QSFP-H40G-CU1M-C	40G QSFP+ Direct Attach Copper Cable Assembly, 1 Meter
QSFP-H40G-CU3M-C	40G QSFP+ Direct Attach Copper Cable Assembly, 3 Meter
QSFP-H40G-CU5M-C	40G QSFP+ Direct Attach Copper Cable Assembly, 5 Meter

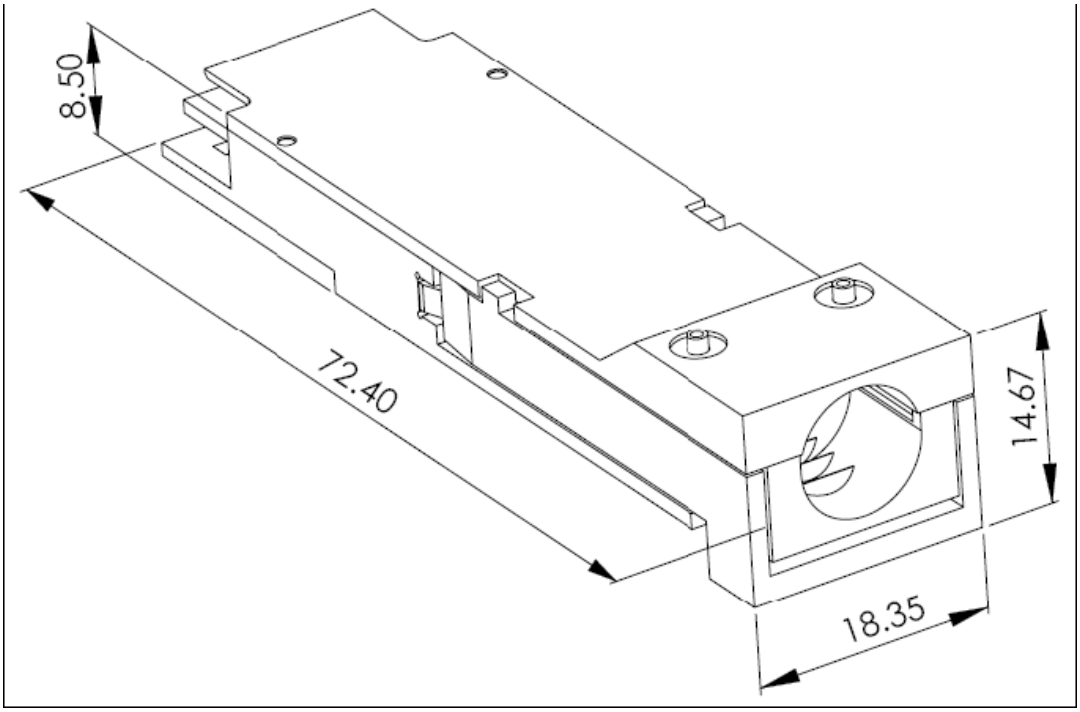
General Specifications

Parameter	*Symbol*	*Min*	*Typ*	*Max*	*Unit*	*Remarks*
Bit Error Rate	*BER*			10^{-12}		
Operating Temperature	T_{OP}	0		70	℃	Case temperature
Storage Temperature	T_{STO}	– 40		85	℃	Ambient temperature
Input Voltage	V_{CC}	3	3.3	3.6	V	
Maximum Voltage	V_{MAX}	– 0.5		4	V	For electrical power interface

Cable Mechanical Specifications

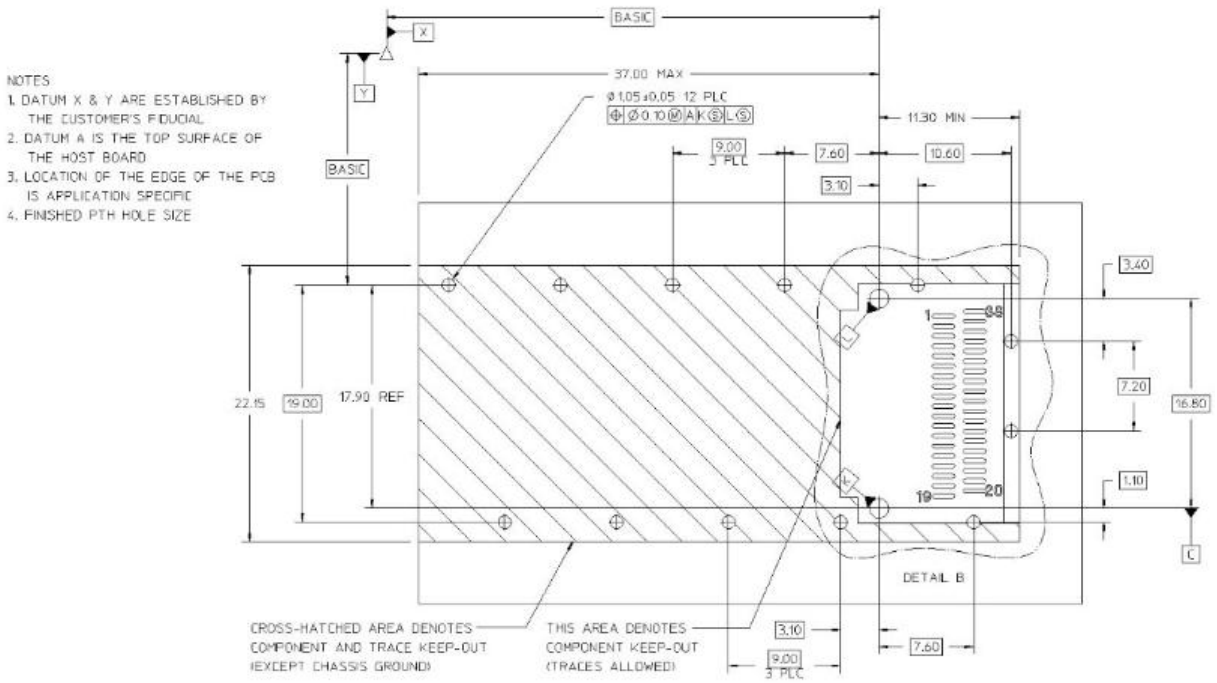
Parameter	*Symbol*	*Min*	*Typ*	*Max*	*Unit*	*Remarks*
Wire Gauge		24AWG		30AWG		
Cable Impedance	*Z*	95	100	105	Ohm	

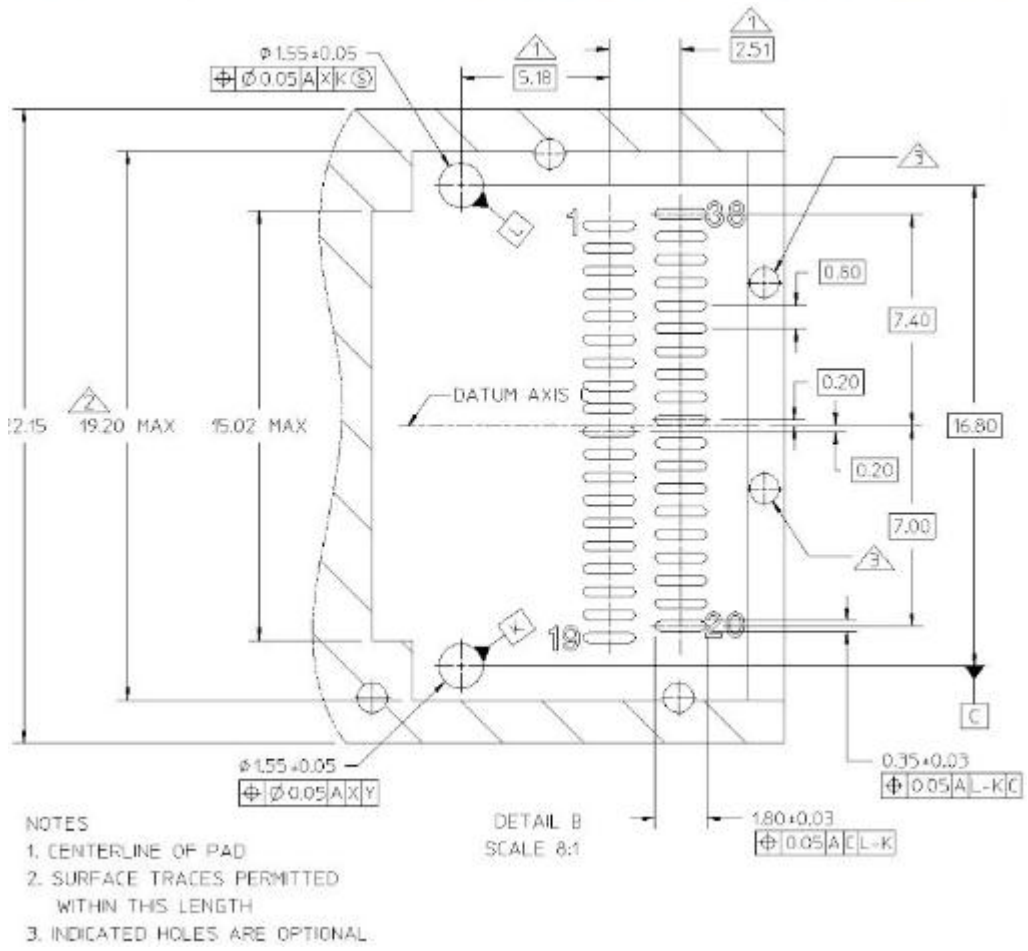
QSFP+ Outline Dimensions



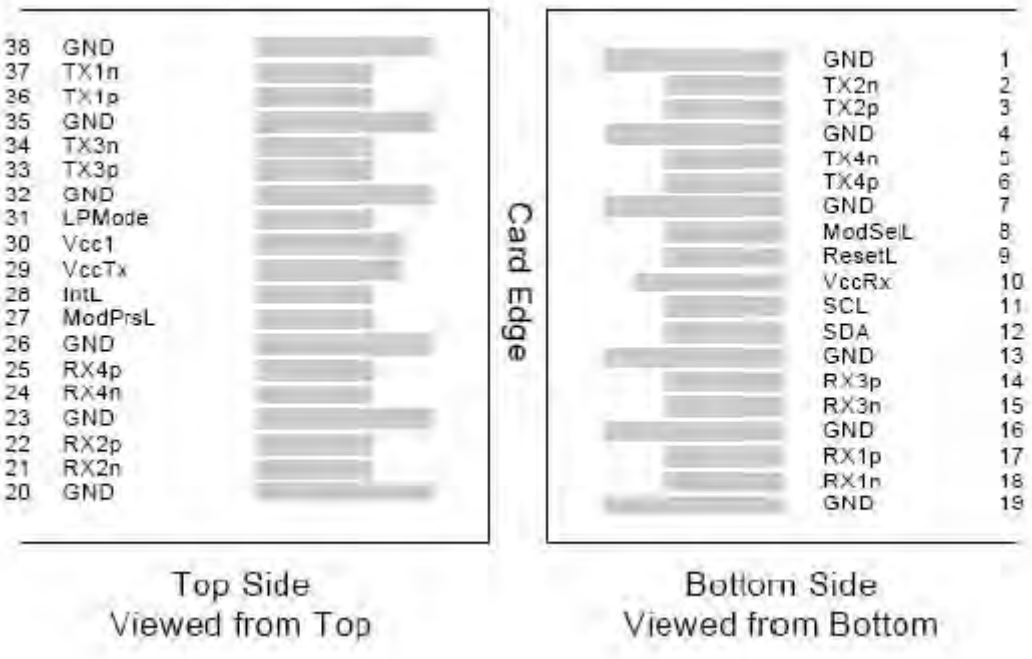
ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

PCB Layout Recommendation





Electrical Pad Layout



Pin Assignment

PIN #	*Symbol*	*Description*	*Remarks*
1	GND	Ground	
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	V_{cc} RX	+3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	V_{cc} TX	+3.3V Power Supply transmitter	
30	V_{cc1}	+3.3V Power Supply	
31	LPMode	Low Power Mode	
32	GND	Ground	
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmiiter Inverted Data Input	
35	GND	Ground	
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmiiter Inverted Data Input	
38	GND	Ground	

References

1. IEEE standard 802.3ba. IEEE Standard Department.
2. QSFP+ 10 Gbs 4X PLUGGABLE TRANSCEIVER –SFF-8436