

PROLABS – QSFP-H40G-CUxM

QSFP+ to QSFP+ 40G Copper Cable Assembly

Key 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

- 40G Ethernet
- Infiniband interconnects



Ordering Information

Part Number	Description
QSFP-H40G-CUxM	40G QSFP+ Direct Attach Copper Cable Assembly, x Meter

Introduction

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) .

Compatible Ordering Information

OEM Manufacturer	Prolabs SKU	Product Description
Arista	CAB-Q-Q-0.5M-C	40G QSFP Passive Cable 0.5m
Enterasys	40GB-C0.5-QSFP-C	40G QSFP Passive Cable 0.5m
Extreme	10311-C	40G QSFP Passive Cable 0.5m
Generic	CU0.5M-QSFP-40G-C	40G QSFP Passive Cable 0.5m
Arista	CAB-Q-Q-1.5M-C	40G QSFP Passive Cable 1.5m
Generic	CU1.5M-QSFP-40G-C	40G QSFP Passive Cable 1.5m
Alcatel	QSFP-40G-C1M-C	40G QSFP Passive Cable 1m
Allied	AT-QSFP1CU-C	40G QSFP Passive Cable 1m
Arista	CAB-Q-Q-1M-C	40G QSFP Passive Cable 1m
BTN/IBM	49Y7890-C	40G QSFP Passive Cable 1m
	BN-QS-QS-CBL-1M-C	40G QSFP Passive Cable 1m
Cisco	QSFP-H40G-CU1M-C	40G QSFP Passive Cable 1m
Dell Force10	CBL-QSFP-40GE-PASS-1M-C	40G QSFP Passive Cable 1m
Enterasys	40GB-C01-QSFP-C	40G QSFP Passive Cable 1m
Extreme	10312-C	40G QSFP Passive Cable 1m
Generic	CU1M-QSFP-40G-C	40G QSFP Passive Cable 1m
H3C Huawei	LSWM1QSTK0-H3C-C	40G QSFP Passive Cable 1m
HP Comware	JG326A-C	40G QSFP Passive Cable 1m
Intel	XLDACBL1-C	40G QSFP Passive Cable 1m
Juniper	QFX-QSFP-DAC-1M-C	40G QSFP Passive Cable 1m
ZTE	QSFP-Cable-1M-C	40G QSFP Passive Cable 1m
Arista	CAB-Q-Q-2.5M-C	40G QSFP Passive Cable 2.5m
Generic	CU2.5M-QSFP-40G-C	40G QSFP Passive Cable 2.5m
Arista	CAB-Q-Q-2M-C	40G QSFP Passive Cable 2m
Generic	CU2M-QSFP-40G-C	40G QSFP Passive Cable 2m
HP Comware	JG326A-2M-C	40G QSFP Passive Cable 2m
Alcatel	QSFP-40G-C3M-C	40G QSFP Passive Cable 3m
Allied	AT-QSFP3CU-C	40G QSFP Passive Cable 3m
Arista	CAB-Q-Q-3M-C	40G QSFP Passive Cable 3m
BTN/IBM	49Y7891-C	40G QSFP Passive Cable 3m
	BN-QS-QS-CBL-3M-C	40G QSFP Passive Cable 3m
Cisco	QSFP-H40G-CU3M-C	40G QSFP Passive Cable 3m
Dell Force10	CBL-QSFP-40GE-PASS-3M-C	40G QSFP Passive Cable 3m
Enterasys	40GB-C03-QSFP-C	40G QSFP Passive Cable 3m
Extreme	10313-C	40G QSFP Passive Cable 3m
Generic	CU3M-QSFP-40G-C	40G QSFP Passive Cable 3m
H3C Huawei	LSWM1QSTK1-H3C-C	40G QSFP Passive Cable 3m
HP Comware	JG327A-C	40G QSFP Passive Cable 3m
Intel	XLDACBL3-C	40G QSFP Passive Cable 3m
Juniper	QFX-QSFP-DAC-3M-C	40G QSFP Passive Cable 3m
Ruijie	40G-QSFP-STACK3M-C	40G QSFP Passive Cable 3m
ZTE	QSFP-Cable-3M-C	40G QSFP Passive Cable 3m

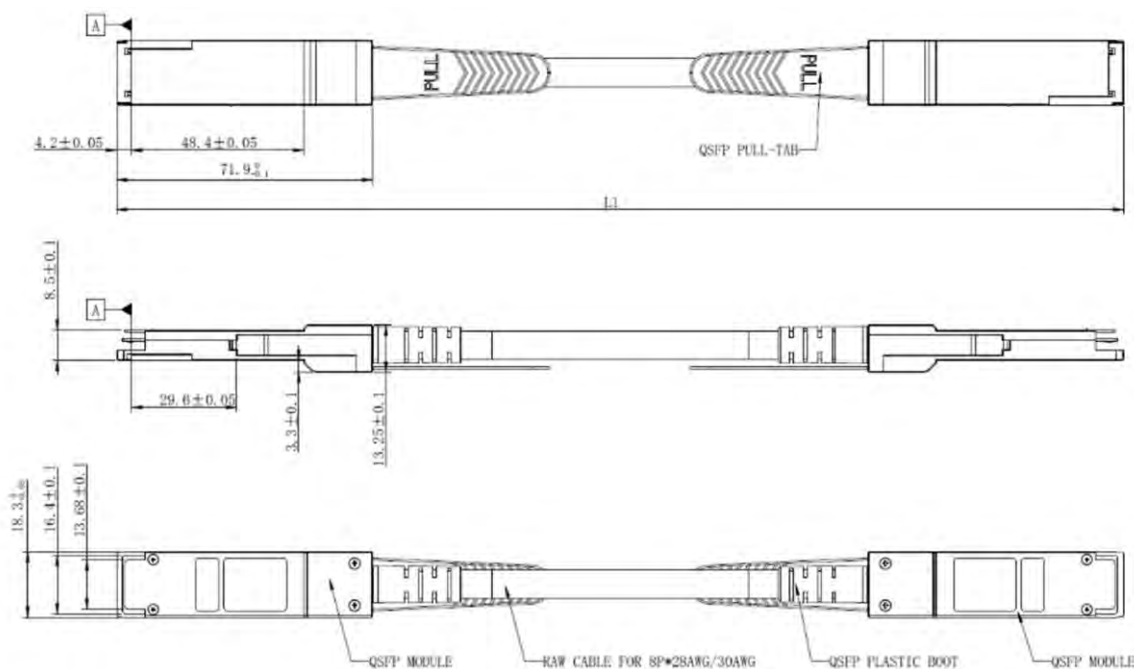
Compatible Ordering Information

OEM Manufacturer	Prolabs SKU	Product Description
Allied	AT-QSFP5CU-C	40G QSFP Passive Cable 5m
Arista	CAB-Q-Q-5M-C	40G QSFP Passive Cable 5m
BTN/IBM	00D5810-C	40G QSFP Passive Cable 5m
	BN-QS-QS-CBL-5M-C	40G QSFP Passive Cable 5m
Cisco	QSFP-H40G-CU5M-C	40G QSFP Passive Cable 5m
Dell Force10	CBL-QSFP-40GE-PASS-5M-C	40G QSFP Passive Cable 5m
Enterasys	40GB-C05-QSFP-C	40G QSFP Passive Cable 5m
Extreme	10323-C	40G QSFP Passive Cable 5m
Generic	CU5M-QSFP-40G-C	40G QSFP Passive Cable 5m
H3C Huawei	LSWM1QSTK2-H3C-C	40G QSFP Passive Cable 5m
HP Comware	JG328A-C	40G QSFP Passive Cable 5m
Intel	XLDACBL5-C	40G QSFP Passive Cable 5m
Juniper	QFX-QSFP-DAC-5M-C	40G QSFP Passive Cable 5m
ZTE	QSFP-Cable-5M-C	40G QSFP Passive Cable 5m

Specification

General Specifications						
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_{OP}	0		70	°C	Case temperature
Storage Temperature	T_{STO}	- 40		85	°C	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

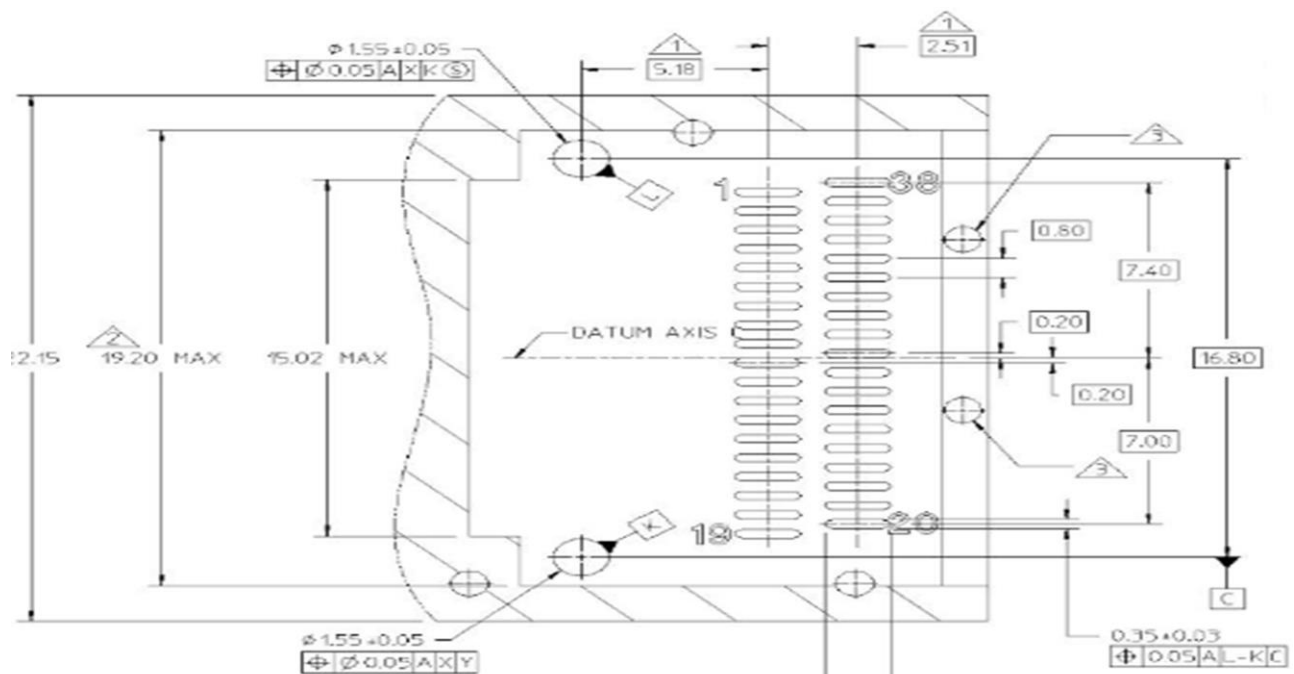
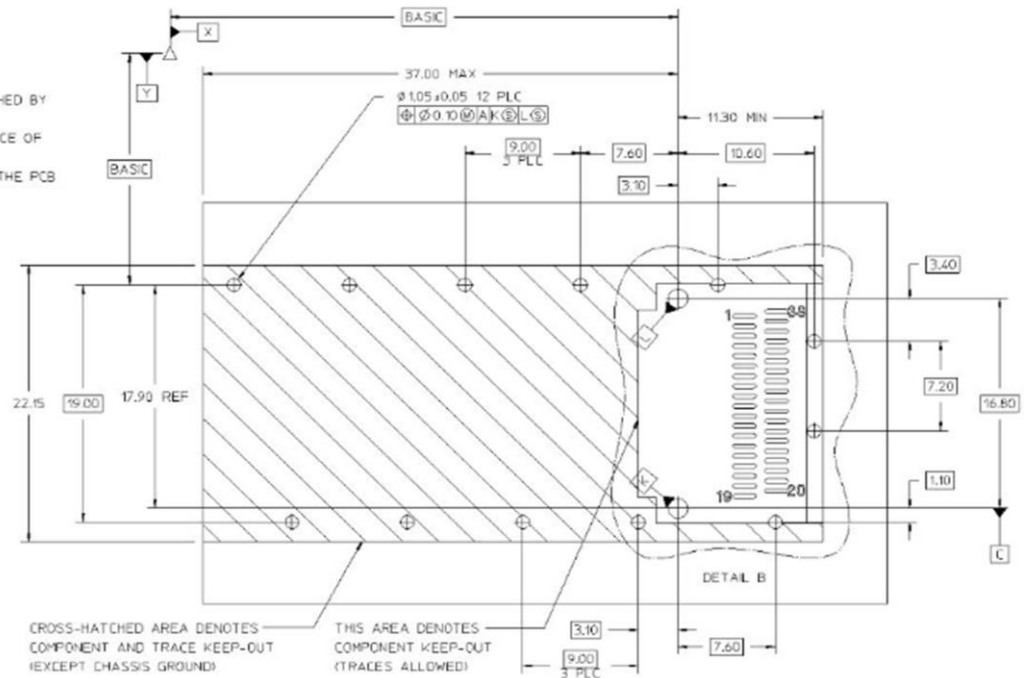
UNIT: mm

Specification

PCB Layout Recommendation

NOTES

1. DATUM X & Y ARE ESTABLISHED BY THE CUSTOMER'S FIDUCIAL
2. DATUM A IS THE TOP SURFACE OF THE HOST BOARD
3. LOCATION OF THE EDGE OF THE PCB IS APPLICATION SPECIFIC
4. FINISHED PTH HOLE SIZE

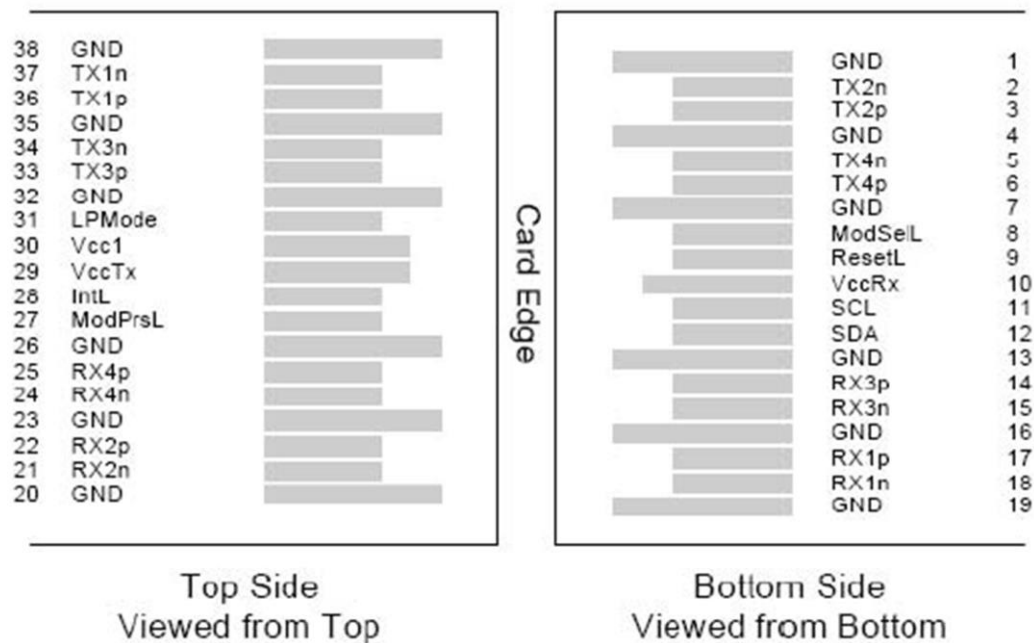


NOTES

1. CENTERLINE OF PAD
2. SURFACE TRACES PERMITTED WITHIN THIS LENGTH
3. INDICATED HOLES ARE OPTIONAL

Specification

Electrical Pad Layout



Specification
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	Transmitter Inverted Data Input	
35	GND	Ground	
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	

References

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