Prolabs QSFP-4SFP10G-CUxM

QSFP+ to 4 SFP+ Passive Copper Cable Assembly

Key Features

- QSFP+ End: Compliant with QSFP+ MSA specifications
- SFP+ End: Compliant with SFP+ MSA 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

- 10Gigabit Ethernet
- Serial Data Transmission
- Networking
- Storage
- Fiber Channel

Ordering Information

Part number	Description
QSFP-4SFP10G-CUxM	QSFP+ to 4 SFP+ Direct Attach Copper Cable Assembly

Introduction

PROLABS's QSFP-4SFP10G-CUxM QSFP+ (Quad Small Form-factor Pluggable Plus) to 4 SFP+ Copper direct-attach cables are suitable for very short distances and offer a highly cost-effective way to connect QSFP+ and SFP+ equipment. The direct-attach assemblies support 4 lanes of 10Gbps (40Gbps composite). This interconnect system is fully compliant with QSFP+ MSA and SFP+ MSA.

ProLabs (UK) Ltd, Eagle House, Lakeside Business Park, South Cerney, Gloucestershire, GL7 5XL
Registration No 08196598. Vat No GB 135 6227 22

Compatible Ordering Information

OEM Manufacturer	ProLabs SKU	Product Description
Alcatel	QSFP-4X10G-C1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Allied	AT-QSFP-4SFP10G-1CU	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Arista	CAB-Q-S-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
BTN/IBM	49Y7886-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
	BN-QS-SP-CBL-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Cisco	QSFP-4SFP10G-CU1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Dell Force10	CBL-QSFP-4x10GSFP-PASS-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Enterasys	10GB-4-C01-QSFP-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Extreme	10202-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Fortinet	FG-TRAN-QSFP-4XSFP-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Generic	CU1M-QSFP-4SFP10G-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
H3C Huawei	LSWM1QSTK3-H3C-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
HP Comware	JG329A-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Intel	X4DACBL1-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Juniper	QFX-QSFP-DACBO-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
ZTE	QSFP-4SFP+-Cable-1M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 1m
Extreme	10203-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 2m
Generic	CU2M-QSFP-4SFP10G-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 2m
Alcatel	QSFP-4X10G-C3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Allied	AT-QSFP-4SFP10G-3CU	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Arista	CAB-Q-S-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
BTN/IBM	49Y7887-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
	BN-QS-SP-CBL-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Cisco	QSFP-4SFP10G-CU3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Dell Force10	CBL-QSFP-4x10GSFP-PASS-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Enterasys	10GB-4-C03-QSFP-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Extreme	10321-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Fortinet	FG-TRAN-QSFP-4XSFP-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Generic	CU3M-QSFP-4SFP10G-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
H3C Huawei	LSWM1QSTK4-H3C-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
HP Comware	JG330A-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Intel	X4DACBL3-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Juniper	QFX-QSFP-DACBO-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
ZTE	QSFP-4SFP+-Cable-3M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 3m
Alcatel	QSFP-4X10G-C5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Allied	AT-QSFP-4SFP10G-5CU	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Arista	CAB-Q-S-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
BTN/IBM	49Y7888-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
	BN-QS-SP-CBL-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Cisco	QSFP-4SFP10G-CU5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Dell Force10	CBL-QSFP-4x10GSFP-PASS-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Enterasys	10GB-4-C05-QSFP-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Extreme	10322-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Fortinet	FG-TRAN-QSFP-4XSFP-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Generic	CU5M-QSFP-4SFP10G-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
H3C Huawei	LSWM1QSTK5-H3C-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
HP Comware	JG331A-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Intel	X4DACBL5-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
Juniper	QFX-QSFP-DACBO-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m
ZTE	QSFP-4SFP+-Cable-5M-C	40G QSFP to 4x10G SFP+ Passive Breakout Cable 5m

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Specifications

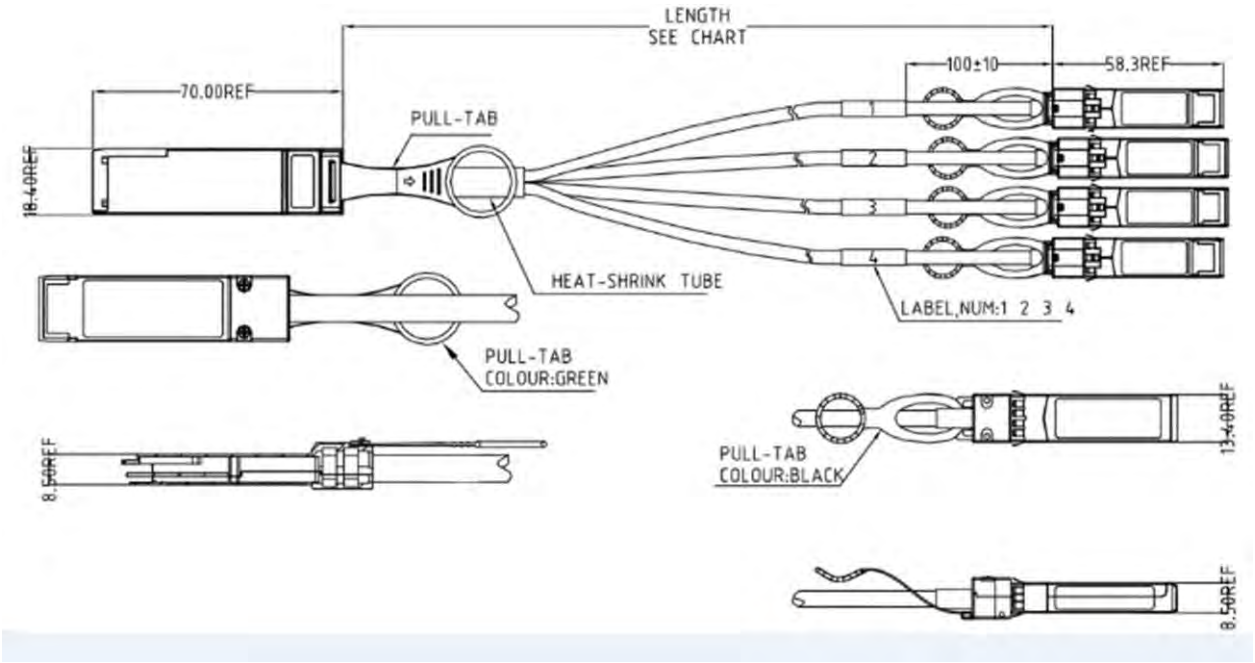
General Specifications

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			30AWG			
Cable Impedance	*Z*	95	100	105	Ohm	

Outline Dimensions

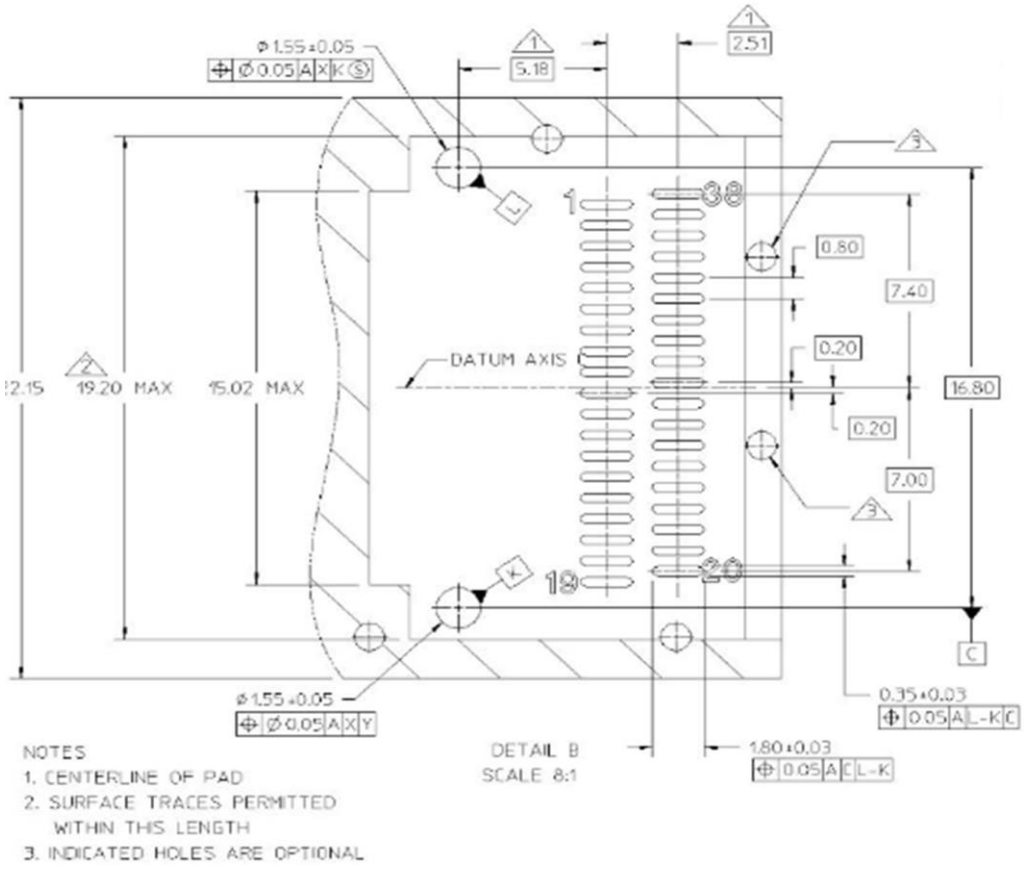


ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED

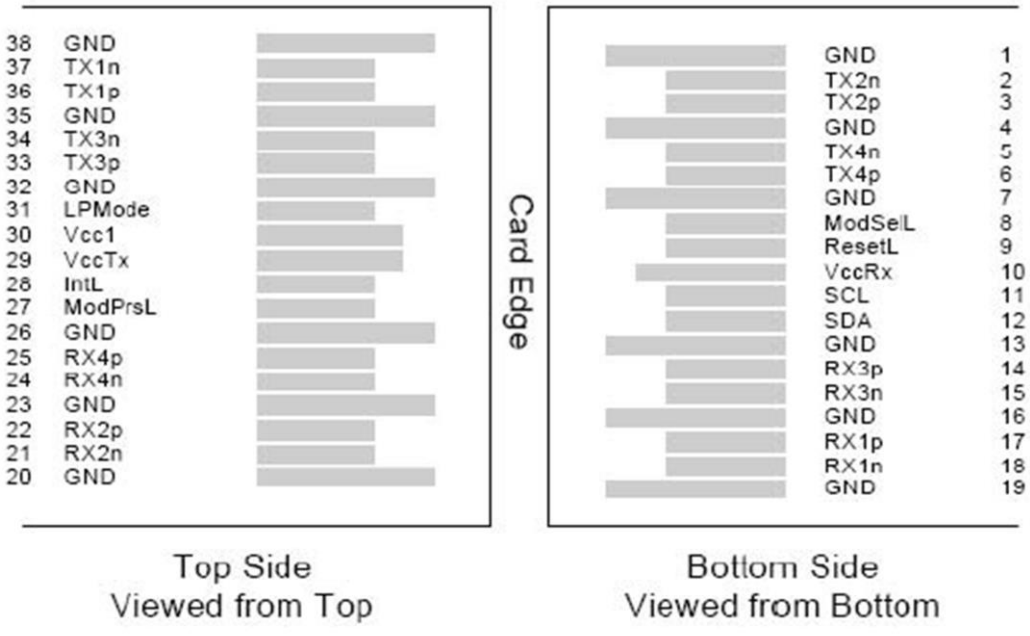
UNIT: mm

Specifications

PCB Layout Recommendation (QSFP+ END)

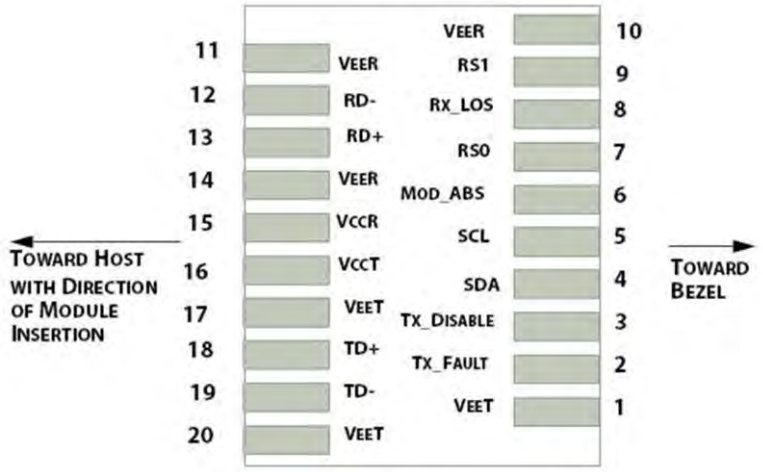


Electrical Pad Layout (QSFP+ END)



Specifications

Electrical Pad Layout (SFP+ END)



Pin Assignment (QSFP+ END)

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	

Specifications

Pin Assignment (SFP+ END)

PIN #	*Symbol*	*Description*	*Remarks*
1	V_{EET}	Transmitter ground (common with receiver ground)	
2	T_{FAULT}	Transmitter Fault.	
3	T_{DIS}	Transmitter Disable. Laser output disable on high or open	
4	SDA	Data line for serial ID	
5	SCL	Clock line for serial ID	
6	MOD_ABS	Module Absent. Grounded within the module	
7	RS0	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation	
9	RS1	No connection required	
10	V_{EER}	Receiver ground (common with transmitter ground)	
11	V_{EER}	Receiver ground (common with transmitter ground)	
12	RD–	Receiver Inverted DATA out. AC coupled	
13	RD+	Receiver Non-inverted DATA out. AC coupled	
14	V_{EER}	Receiver ground (common with transmitter ground)	
15	V_{CCR}	Receiver power supply	
16	V_{CCT}	Transmitter power supply	
17	V_{EET}	Transmitter ground (common with receiver ground)	
18	TD+	Transmitter Non-Inverted DATA in. AC coupled	
19	TD–	Transmitter Inverted DATA in. AC coupled	
20	V_{EET}	Transmitter ground (common with receiver ground)	

References

1. Enhanced 8.5 and 10 Gigabit Small Form Factor Pluggable Module “SFP+” – SFF-8431
2. IEEE standard 802.3ae. IEEE Standard Department, 2008.
3. QSFP+ 10 Gbs 4X PLUGGABLE TRANSCEIVER –SFF-8436