

PROLABS – SFP-H10GB-CUXM

SFP+ Direct Attach Copper Cable Assembly

Key Features

- Up to 11 GBd bi-directional data links
- Compliant with 10GFC
- Compliant with SFF8431
- Hot-pluggable SFP+ footprint
- AC coupled inputs and outputs
- 100 Ohm differential impedance
- Enhanced EMI design
- Single power supply 3.3V
- RoHS Compliance
- Operating temperature range: 0°C to 70°C.

Applications

- 10GBASE Ethernet
- 10GFC
- Serial Data Transmission



Ordering Information

Part Number	Description
SFP-H10GB-CUXM	SFP+ Direct Attach Copper Cable Assembly,xM

Introduction

SFP-H10GB-CUXM Overview

PROLABS's SFP-H10GB-CUXM SFP+ Direct Attach Copper Cable Assembly are based on 10G Ethernet IEEE 802.3ae standard , Fiber Channel and SFF 8431 standard, and the passive SFP+ Cable is a low cost alternative for short reach applications. The passive design has no signal amplification in the cable assembly. Electronic Dispersion Compensation (EDC) is typically used on the host board designs when passive copper cable assemblies are utilized. ProLabs can multi-code some items to suit the user's need. This is especially useful for when a user has multiple vendor equipment to work with.

Compatible Ordering Information

OEM Manufacturer	Prolabs SKU	Product Description
H3C Huawei	LSWM1STK-H3C-C	10G SFP+ Passive Cable 0.65m
HP Comware	JD095C-C	10G SFP+ Passive Cable 0.65m
Alcatel	SFP-10G-C1M-C	10G SFP+ Passive Cable 1m
Allied	AT-SP10TW1-C	10G SFP+ Passive Cable 1m
Arista	CAB-SFP-SFP-1M-C	10G SFP+ Passive Cable 1m
BTN/IBM	90Y9427-C	10G SFP+ Passive Cable 1m
	BN-SP-CBL-1M-C	10G SFP+ Passive Cable 1m
Cisco	SFP-H10GB-CU1M-C	10G SFP+ Passive Cable 1m
Dell Force10	CBL-10GSFP-DAC-1M-C	10G SFP+ Passive Cable 1m
D-Link	DEM-CB100S-C	10G SFP+ Passive Cable 1m
Enterasys	10GB-C01-SFPP-C	10G SFP+ Passive Cable 1m
Extreme	10304-C	10G SFP+ Passive Cable 1m
Generic	CAB-SFP-10G-1M-NC	10G SFP+ Passive Cable 1m
HP ProCurve	J9281B-C	10G SFP+ Passive Cable 1m
Huawei	SFP-H10G-CU1M-C	10G SFP+ Passive Cable 1m
Intel	XDACBL1M-C	10G SFP+ Passive Cable 1m
Juniper	EX-SFP-10GE-DAC-1M-C	10G SFP+ Passive Cable 1m
Netgear	AXC761-C	10G SFP+ Passive Cable 1m
Packetfront	SFP-10GE-CU-1M-C	10G SFP+ Passive Cable 1m
Ruijie	XG-SFP-CU1M-C	10G SFP+ Passive Cable 1m
TP-Link	TXC432-CU1M-C	10G SFP+ Passive Cable 1m
ZTE	SFP+-Cable-1M-C	10G SFP+ Passive Cable 1m
ZyXEL	DAC10G-1M-C	10G SFP+ Passive Cable 1m
H3C Huawei	LSWM2STK-H3C-C	10G SFP+ Passive Cable 1.2m
HP Comware	JD096C-C	10G SFP+ Passive Cable 1.2m
Arista	CAB-SFP-SFP-1.5M-C	10G SFP+ Passive Cable 1.5m
Cisco	SFP-H10GB-CU1.5M-C	10G SFP+ Passive Cable 1.5m
Generic	CAB-SFP-10G-1.5M-NC	10G SFP+ Passive Cable 1.5m
Juniper	EX-SFP-10GE-DAC-1.5M-C	10G SFP+ Passive Cable 1.5m
Arista	CAB-SFP-SFP-2M-C	10G SFP+ Passive Cable 2m
Cisco	SFP-H10GB-CU2M-C	10G SFP+ Passive Cable 2m
Dell Force10	CBL-10GSFP-DAC-2M-C	10G SFP+ Passive Cable 2m
Generic	CAB-SFP-10G-2M-NC	10G SFP+ Passive Cable 2m
Juniper	EX-SFP-10GE-DAC-2M-C	10G SFP+ Passive Cable 2m
Planet	CB-DASFP-2M-C	10G SFP+ Passive Cable 2m
Arista	CAB-SFP-SFP-2.5M-C	10G SFP+ Passive Cable 2.5m
Generic	CAB-SFP-10G-2.5M-NC	10G SFP+ Passive Cable 2.5m
Juniper	EX-SFP-10GE-DAC-2.5M-C	10G SFP+ Passive Cable 2.5m
Multicoded	M-SFP-DAC-CI/HP-3M	

Compatible Ordering Information

OEM Manufacturer	Prolabs SKU	Product Description
Alcatel	SFP-10G-C3M-C	10G SFP+ Passive Cable 3m
Allied	AT-SP10TW3-C	10G SFP+ Passive Cable 3m
Arista	CAB-SFP-SFP-3M-C	10G SFP+ Passive Cable 3m
BTN/IBM	90Y9430-C	10G SFP+ Passive Cable 3m
	BN-SP-CBL-3M-C	10G SFP+ Passive Cable 3m
Cisco	SFP-H10GB-CU3M-C	10G SFP+ Passive Cable 3m
Dell Force10	CBL-10GSFP-DAC-3M-C	10G SFP+ Passive Cable 3m
D-Link	DEM-CB300S-C	10G SFP+ Passive Cable 3m
Enterasys	10GB-C03-SFPP-C	10G SFP+ Passive Cable 3m
Extreme	10305-C	10G SFP+ Passive Cable 3m
Generic	CAB-SFP-10G-3M-NC	10G SFP+ Passive Cable 3m
H3C Huawei	LSWM3STK-H3C-C	10G SFP+ Passive Cable 3m
HP Comware	JD097C-C	10G SFP+ Passive Cable 3m
HP ProCurve	J9283B-C	10G SFP+ Passive Cable 3m
Huawei	SFP-H10G-CU3M-C	10G SFP+ Passive Cable 3m
Intel	XDACBL3M-C	10G SFP+ Passive Cable 3m
Juniper	EX-SFP-10GE-DAC-3M-C	10G SFP+ Passive Cable 3m
Netgear	AXC763-C	10G SFP+ Passive Cable 3m
Packetfront	SFP-10GE-CU-3M-C	10G SFP+ Passive Cable 3m
Ruijie	XG-SFP-CU3M-C	10G SFP+ Passive Cable 3m
TP-Link	TXC432-CU3M-C	10G SFP+ Passive Cable 3m
ZTE	SFP+-Cable-3M-C	10G SFP+ Passive Cable 3m
ZyXEL	DAC10G-3M-C	10G SFP+ Passive Cable 3m
Multi-coded	M-SFP-DAC-CI/HP-3M	10G SFP+ Passive Cable 3m
Alcatel	SFP-10G-C5M-C	10G SFP+ Passive Cable 5m
Allied	AT-SP10TW5-C	10G SFP+ Passive Cable 5m
Arista	CAB-SFP-SFP-5M-C	10G SFP+ Passive Cable 5m
BTN/IBM	90Y9433-C	10G SFP+ Passive Cable 5m
	BN-SP-CBL-5M-C	10G SFP+ Passive Cable 5m
Cisco	SFP-H10GB-CU5M-C	10G SFP+ Passive Cable 5m
Dell Force10	CBL-10GSFP-DAC-5M-C	10G SFP+ Passive Cable 5m
Enterasys	10GB-C05-SFPP-C	10G SFP+ Passive Cable 5m
Extreme	10306-C	10G SFP+ Passive Cable 5m
Generic	CAB-SFP-10G-5M-NC	10G SFP+ Passive Cable 5m
H3C Huawei	LSTM1STK-H3C-C	10G SFP+ Passive Cable 5m
HP Comware	JG081C-C	10G SFP+ Passive Cable 5m
HP Server	487655-B21-5M-C	10G SFP+ Passive Cable 5m
Huawei	SFP-H10G-CU5M-C	10G SFP+ Passive Cable 5m
Intel	XDACBL5M-C	10G SFP+ Passive Cable 5m
Juniper	EX-SFP-10GE-DAC-5M-C	10G SFP+ Passive Cable 5m
Ruijie	XG-SFP-CU5M-C	10G SFP+ Passive Cable 5m
ZTE	SFP+-Cable-5M-C	10G SFP+ Passive Cable 5m

M-SFP-DA

Compatible Ordering Information

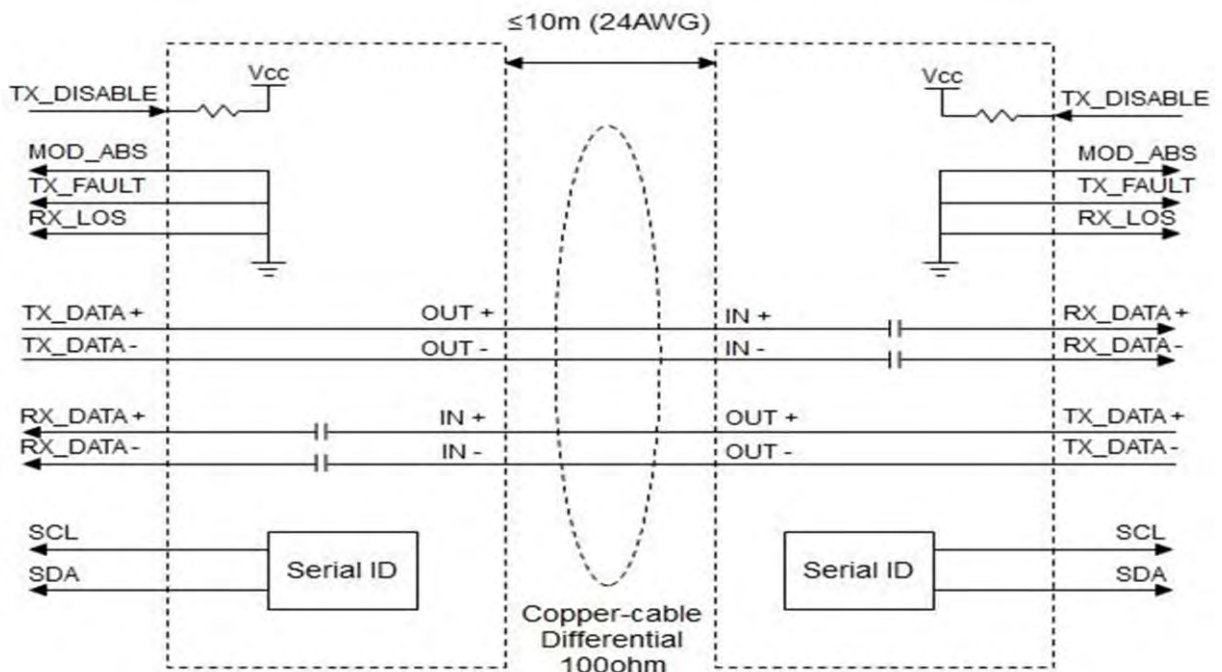
OEM Manufacturer	Prolabs SKU	Product Description
Alcatel	SFP-10G-C7M-C	10G SFP+ Passive Cable 7m
Allied	AT-SP10TW7-C	10G SFP+ Passive Cable 7m
Arista	CAB-SFP-SFP-7M-C	10G SFP+ Passive Cable 7m
BTN/IBM	00D6151-C	10G SFP+ Passive Cable 7m
	BN-SP-CBL-7M-C	10G SFP+ Passive Cable 7m
Cisco	SFP-H10GB-CU7M-C	10G SFP+ Passive Cable 7m
Dell Force10	CBL-10GSFP-DAC-7M-C	10G SFP+ Passive Cable 7m
Enterasys	10GB-C07-SFPP-C	10G SFP+ Passive Cable 7m
Generic	CAB-SFP-10G-7M-NC	10G SFP+ Passive Cable 7m
H3C Huawei	LSTM2STK-H3C-C	10G SFP+ Passive Cable 7m
HP Comware	JC784C-C	10G SFP+ Passive Cable 7m
HP ProCurve	J9285B-C	10G SFP+ Passive Cable 7m
BTN/IBM	BN-SP-CBL-8M5-C	10G SFP+ Passive Cable 8.5m
Alcatel	SFP-10G-C10M-C	10G SFP+ Passive Cable 10m
Cisco	SFP-H10GB-CU10M-C	10G SFP+ Passive Cable 10m
Dell Force10	CBL-10GSFP-DAC-10M-C	10G SFP+ Passive Cable 10m
Enterasys	10GB-C10-SFPP-C	10G SFP+ Passive Cable 10m
Extreme	10307-C	10G SFP+ Passive Cable 10m
Generic	CAB-SFP-10G-10M-NC	10G SFP+ Passive Cable 10m

Specification

General Specifications						
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Data Rate	DR		10.3125		GBd	IEEE 802.3ae
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_{OP}	0		70	°C	Case temperature
Storage Temperature	T_{STO}	-40		85	°C	Ambient temperature
Supply Current	I_S			4	mA	For electrical power interface

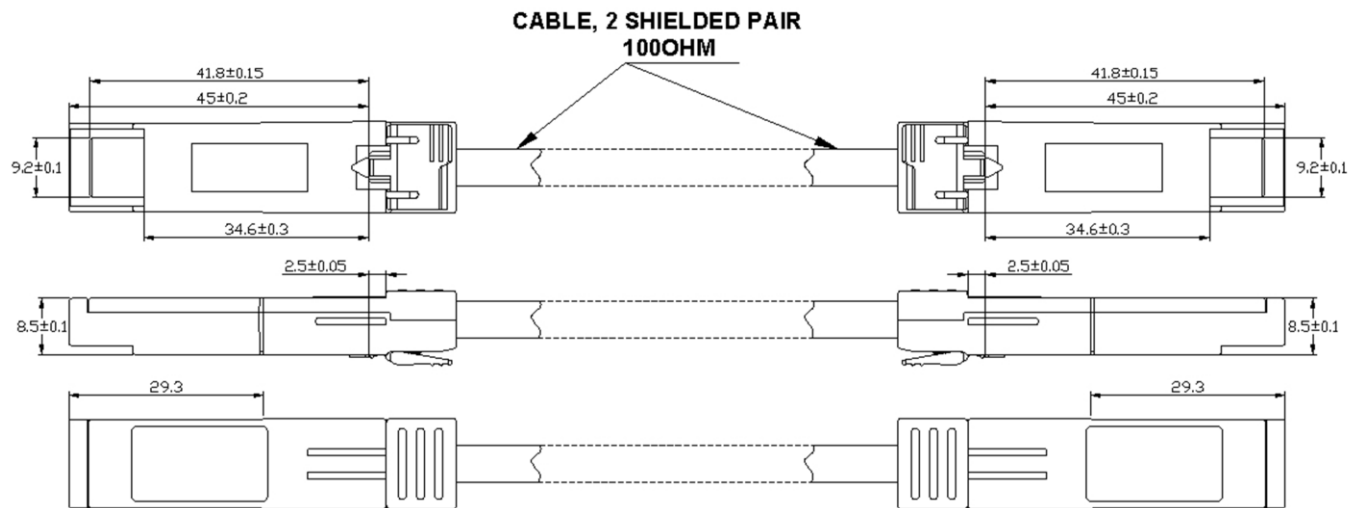
Cable Mechanical Specifications						
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Cable Diameter(24AWG)	D_{IA}		0.255		Inches	
Time Delay Skew(Within Pair)	T_{DS}			100	Ps/10m	
Cable Time Delay	T_d		4.3		ns/m	
Cable Insertion Loss	L_o		10		dB/10m	

Block Diagram of Transceiver



Specification

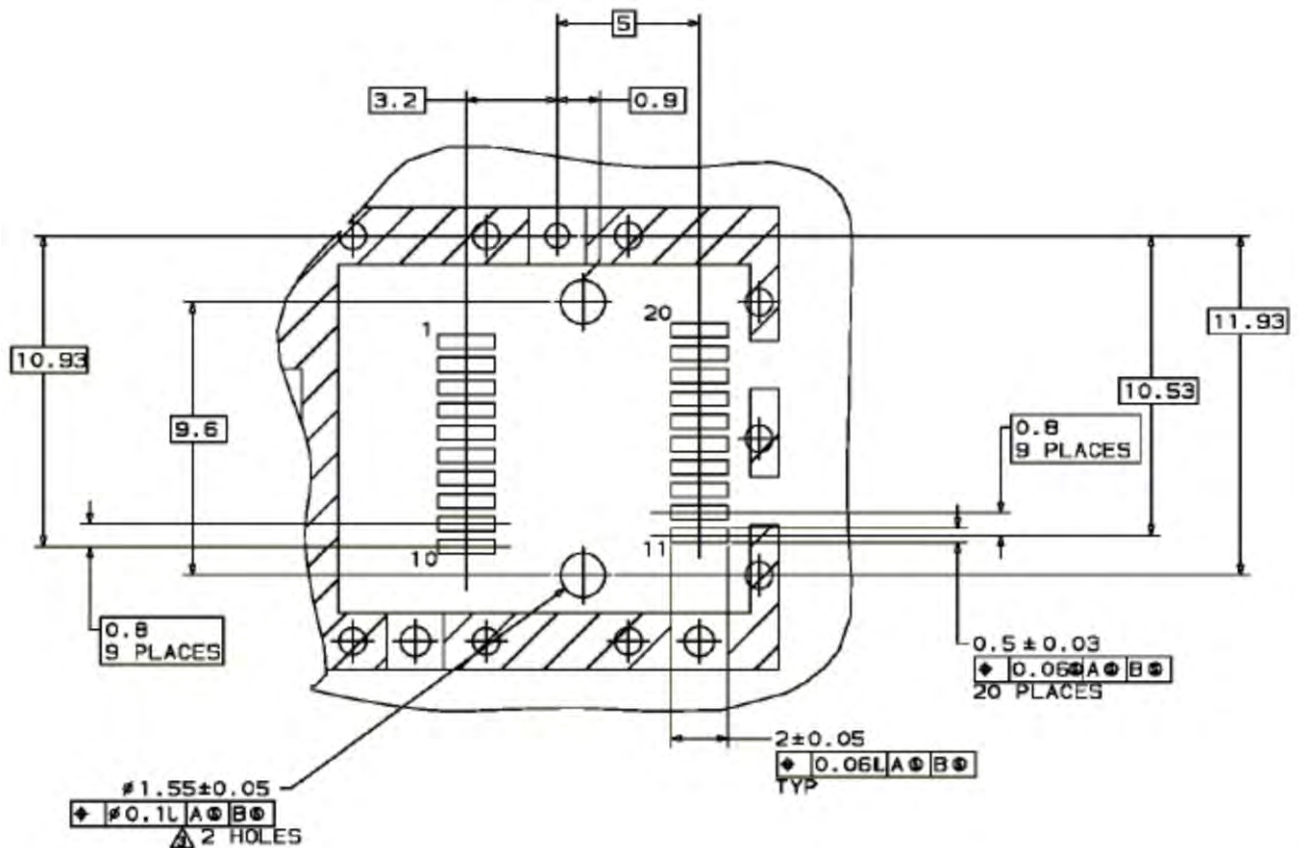
Dimensions



ALL DIMENSIONS ARE $\pm 0.2\text{mm}$ UNLESS OTHERWISE SPECIFIED

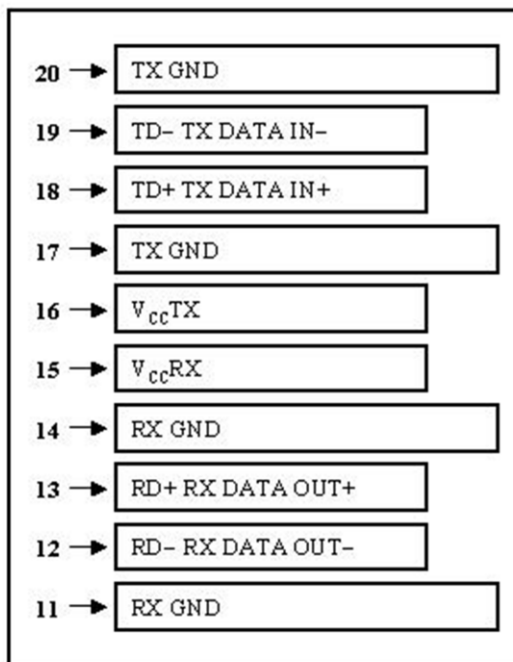
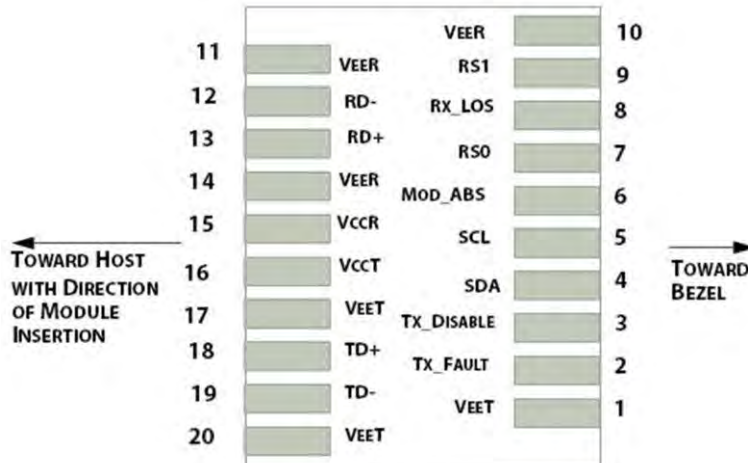
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PCB Layout Recommendation

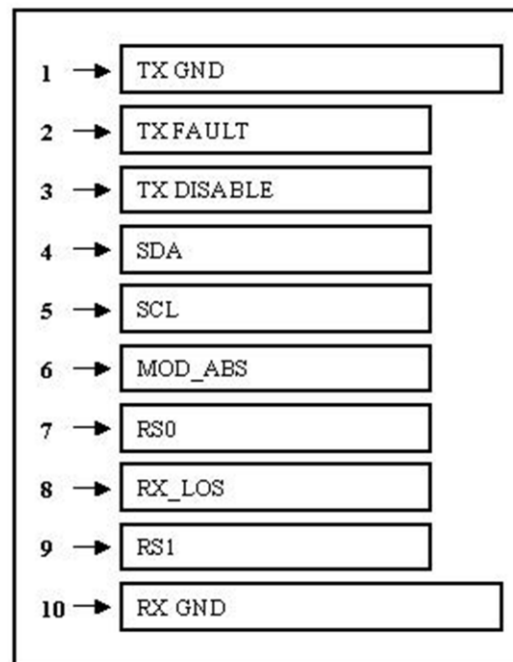


Specification

Electrical Pad Layout



Top of Board



Bottom of Board

Specification

Pin Assignment			
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. IEEE standard 802.3ae. IEEE Standard Department, 2005.
2. Enhanced 8.5 and 10 Gigabit Small Form Factor Pluggable Module "SFP+" – SFF-8431 (FC-PH/PH2/PH3).