C-DSFP2S56NV-P3M

MSA to Nvidia® Compatible TAA 100GBase-CU DSFP to 2xSFP56 Direct Attach Cable (Passive Twinax, 3m)

Features:

- Compliant with DSFP and SFP MSA Specifications
- Compliant with IEEE 802.3cd
- Up to 100Gbps Data Rate on PAM4
- Hot-Pluggable
- Optimized Construction to Minimize Insertion Loss and Crosstalk
- Customized Cable Braid Termination Limits EMI Radiation
- Single 3.3V Power Supply
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free

Applications:

- 100GBase Ethernet

Product Description

This MSA to Nvidia® dual OEM compatible 100GBase-CU DSFP to 2xSFP56 active optical cable has a maximum reach of 3.0m (9.8ft). It is 100% MSA to Nvidia® compatible and has been programmed, uniquely serialized, data-traffic and application tested to ensure that it is compliant and functional. This active optical cable will initialize and perform identically to MSA and Nvidia®'s individual cables and is built to meet or exceed MSA and Nvidia®'s specifications. This product complies with MSA (Multi-Source Agreement) standards and is TAA (Trade Acts Agreement) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' 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.")

Rev. 112425

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc			3.3	V	Nominal
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0		70	°C	
Data Rate	DR		53.125		Gbps	
Wire Gauge			26		AWG	

High Speed Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Differential Impedance	TDR	90	100	110	Ω	Not including gold finger site
Insertion Loss	SDD21	-17.16			dB	At 13.28GHz
Differential Return Loss	SDD11 SDD22			Note 1	dB	At 0.05 to 4.1GHz
				Note 2	dB	At 4.1 to 19GHz
Common-Mode to Common-Mode Output Return Loss	SCC11 SCC22			-2	dB	At 0.2 to 19GHz
Differential to Common-Mode Return Loss	SCD11 SCD22			Note 3	dB	At 0.01 to 12.89GHz
				Note 4	dB	At 12.89 to 19GHz
Differential to Common-Mode Conversion Loss	SCD21-IL			10	dB	At 0.01 to 12.89GHz
				Note 5	dB	At 12.89 to 15.7GHz
				-6.3	dB	At 15.7 to 19GHz

Notes:

1. Reflection Coefficient given by equation SDD11(dB) < -16.5 + 2 × SQRT(f), with f in GHz.
2. Reflection Coefficient given by equation SDD11(dB) < -10.66 + 14 × log10(f/5.5), with f in GHz.
3. Reflection Coefficient given by equation SCD11(dB) < -22 + (20/25.78)*f, with f in GHz.
4. Reflection Coefficient given by equation SCD11(dB) < -15 + (6/25.78)*f, with f in GHz.
5. Reflection Coefficient given by equation SCD21(dB) < -27 + (29/22)*f, with f in GHz.

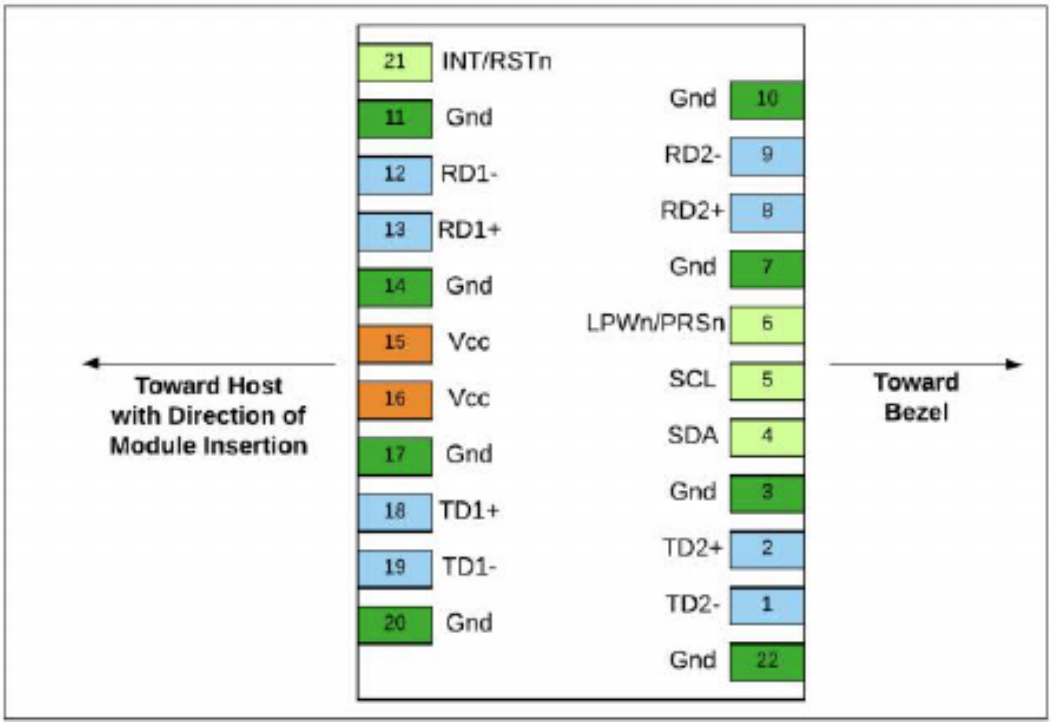
DSFP Pin Descriptions

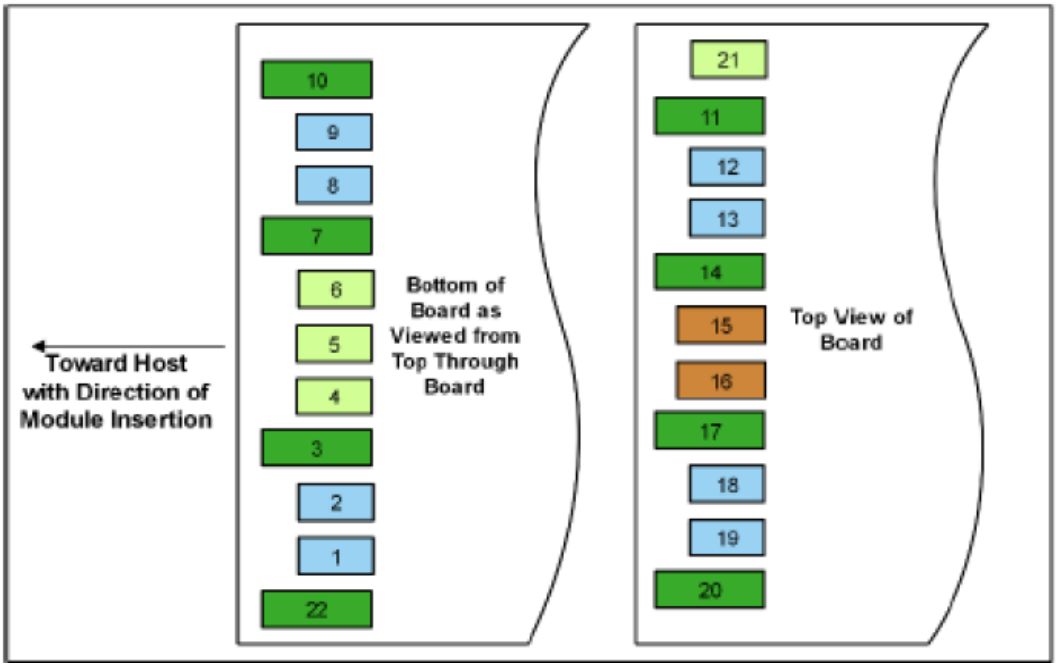
Pin	Logic	Symbol	Name/Description	Notes
1	CML-I	TD2-	Transmitter Inverted Data Input Lane 2.	
2	CML-I	TD2+	Transmitter Data Input Lane 2.	
3		GND	Module Ground.	2
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line.	
5	LVTTL-I/O	SCL	2-Wire Serial Interface Clock Line.	
6	Multi-Level-I/O	LPWn/PRSn	Low-Power Mode/Module Present (MOD_ABS).	
7		GND	Module Ground.	2
8	CML-O	RD2+	Receiver Non-Inverted Data Output Lane 2.	
9	CML-O	RD2-	Receiver Inverted Data Output Lane 2.	
10		GND	Module Ground.	2
11		GND	Module Ground.	2
12	CML-O	RD1-	Receiver Inverted Data Output Lane 1.	1
13	CML-O	RD1+	Receiver Data Output Lane 1.	1
14		GND	Module Ground.	2
15		Vcc	Module +3.3V Power Supply.	
16		Vcc	Module +3.3V Power Supply.	
17		GND	Module Ground.	2
18	CML-I	TD1+	Transmitter Non-Inverted Data Input Lane 1.	1
19	CML-I	TD1-	Transmitter Inverted Data Input Lane 1.	1
20		GND	Module Ground.	2
21	Multi-Level-I/O	INT/RSTn	Dual Function Module Interrupt and Reset Pin.	
22		GND	Module Ground.	2

Notes:

1. Backwards compatible with SFF-8431 SFI Interface.
2. The module ground contacts GND recommended to be isolated from the module case by offering flexibility in the host EMI control strategy.

DSFP Electrical Pin-Out Details





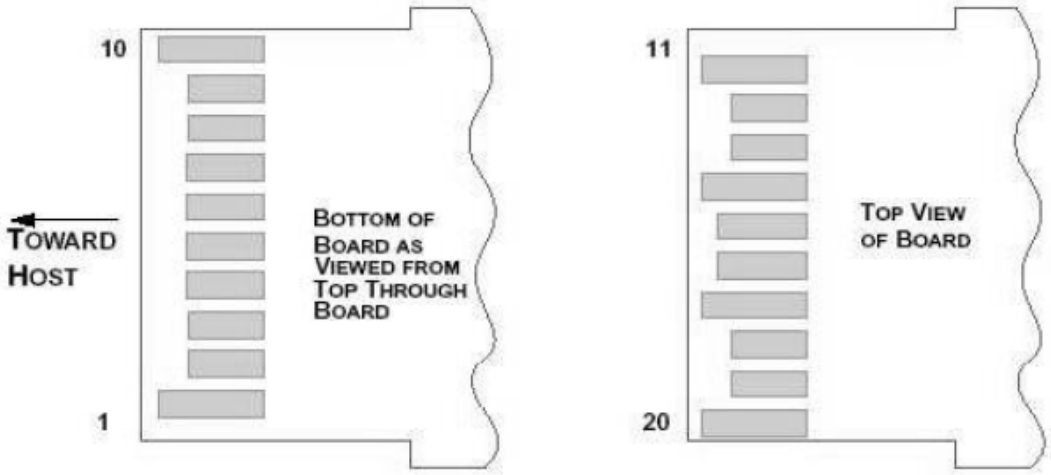
SFP Pin Descriptions

Pin	Logic	Symbol	Name/Description	Notes
1		VeeT	Transmitter Ground.	
2	LVTTL-O	Tx_Fault	Not Connected.	1
3	LVTTL-I	Tx_Disable	Transmitter Disable.	2
4	LVTTL-I/O	SDA	2-Wire Serial Data.	
5	LVTTL-I	SCL	2-Wire Serial Clock.	
6		MOD_DEF0	Module Present. Connected to the VeeT.	
7	LVTTL-I	RS0	Not Connected.	1
8	LVTTL-O	LOS	Loss of Signal.	2
9	LVTTL-I	RS1	Not Connected.	1
10		VeeR	Receiver Ground.	
11		VeeR	Receiver Ground.	
12	CML-O	RD-	Receiver Data Inverted.	
13	CML-O	RD+	Receiver Data.	
14		VeeR	Receiver Ground.	
15		VccR	Receiver Power Supply 3.3V.	
16		VccT	Transmitter Power Supply 3.3V.	
17		VeeT	Transmitter Ground.	
18	CML-I	TD+	Transmitter Data.	
19	CML-I	TD-	Transmitter Data Inverted.	
20		VeeT	Transmitter Ground.	

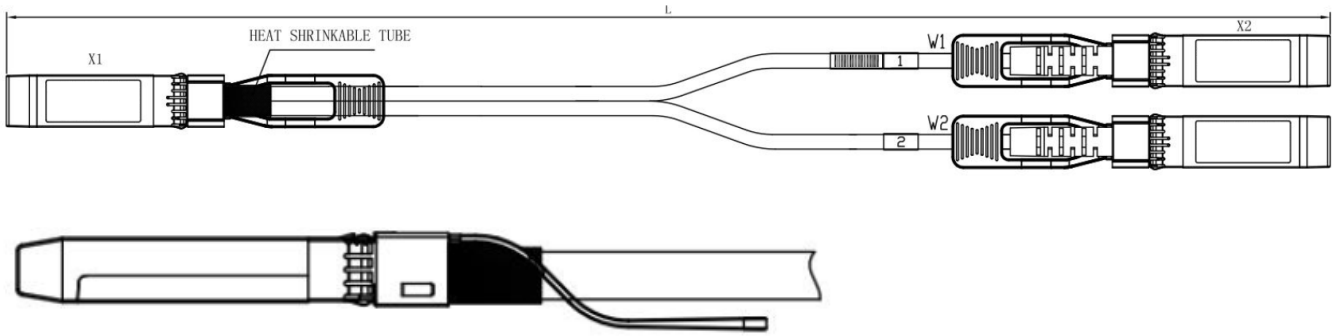
Notes:

1. Signals not supported in SFP+ copper pulled down to the VeeT with a 30kΩ resistor.
2. Passive cable assemblies do not support LOS and Tx_Disable.

SFP Electrical Pin-Out Details



Mechanical Specifications



About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

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