



SKY-DSFP2S56NV-P2M

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

Product Description

This MSA to Nvidia® dual OEM compatible 100GBase-CU DSFP to 2xSFP56 active optical cable has a maximum reach of 2.0m (6.6ft). 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. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Skylane's transceivers are RoHS compliant and lead-free.

Features:

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



Applications:

- 100GBase Ethernet

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

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			28		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			Note 1	dB	At 0.05 to 4.1GHz
	SDD22			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			Note 3	dB	At 0.01 to 12.89GHz
	SCD22			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 $SDD11(dB) < -16.5 + 2 \times \sqrt{f}$, with f in GHz.
2. Reflection Coefficient given by equation $SDD11(dB) < -10.66 + 14 \times \log_{10}(f/5.5)$, with f in GHz.
3. Reflection Coefficient given by equation $SCD11(dB) < -22 + (20/25.78) \times f$, with f in GHz.
4. Reflection Coefficient given by equation $SCD11(dB) < -15 + (6/25.78) \times f$, with f in GHz.
5. Reflection Coefficient given by equation $SCD21(dB) < -27 + (29/22) \times f$, with f in GHz.

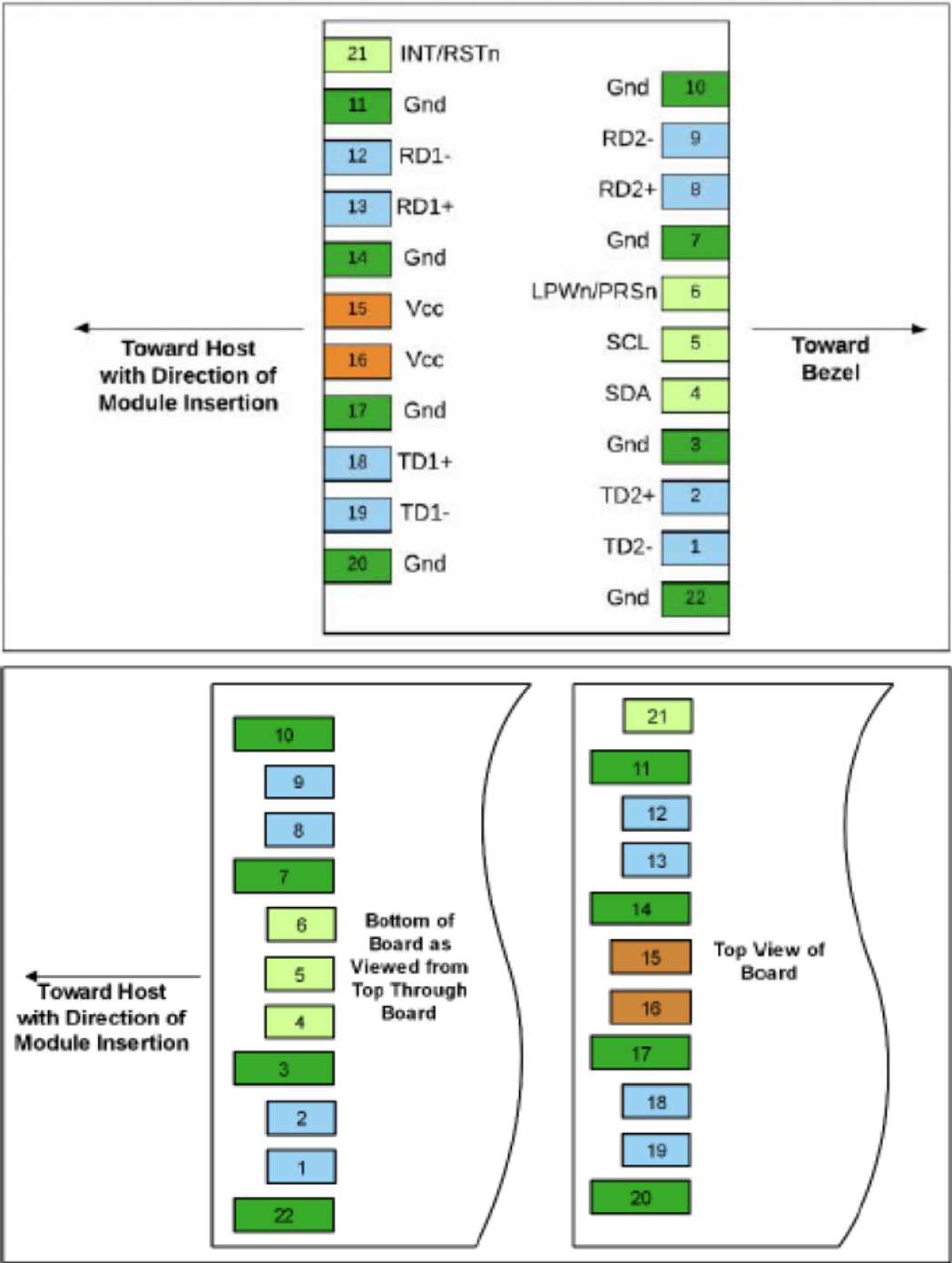
DSFP Pin Descriptions

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



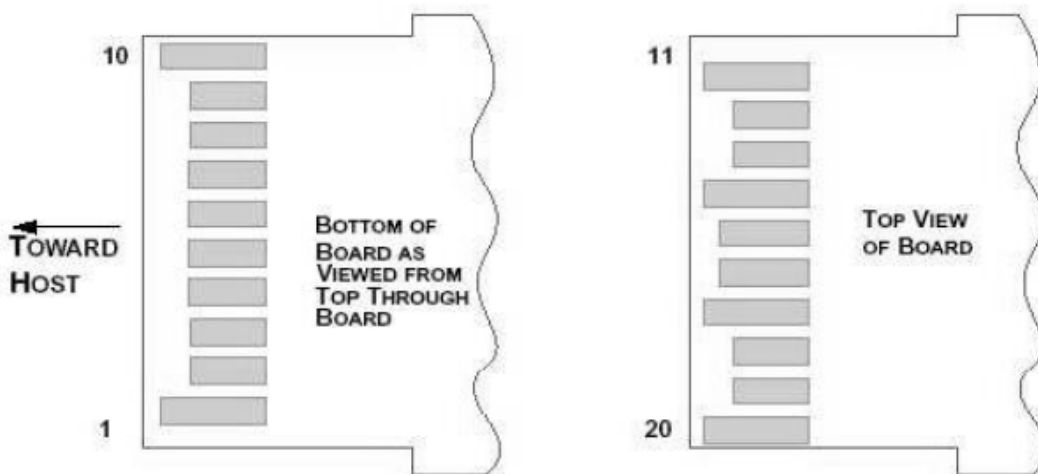
SFP Pin Descriptions

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.	

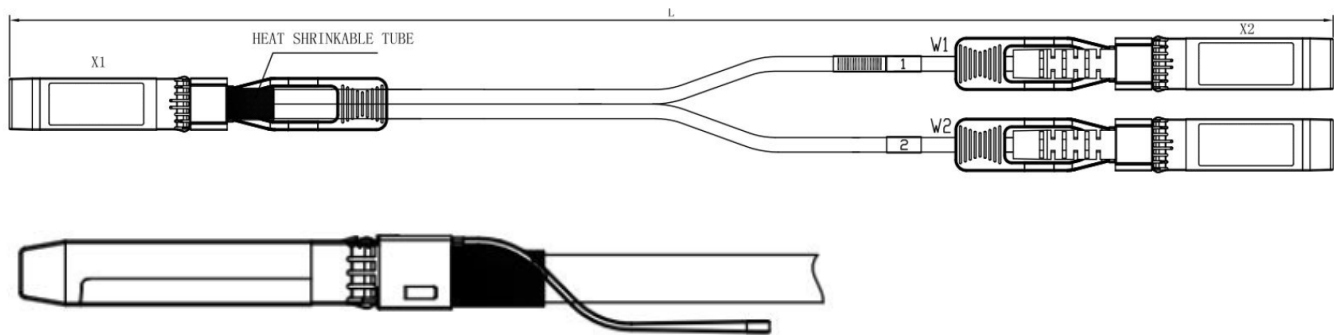
Notes:

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 Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

