SFP-25GB-PDAC1MLZ-C-SKY

Cisco® Compatible 25GBase-CU SFP28 to SFP28 Direct Attach Cable (Passive Twinax, 1m, 30AWG, LSZH)

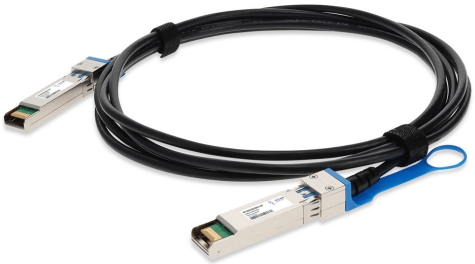
Product Description

This is a Cisco® compatible 25GBase-CU SFP28 to SFP28 direct attach cable that operates over passive copper with a maximum reach of 1.0m (3.3ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is built to comply 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:

- SFF-8431/8432, INF-8074i
- SFP28 to SFP28
- 25.78125Gbps
- Passive copper
- Operating Temperature 0 to 70 Celsius
- 30AWG
- RoHS 2.0 compliant and lead-free



Applications:

- 25GBase-CU

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.

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883 Method 3015.
- ESD to the Duplex LC Receptacle: compatible with IEC 61000-4-2.
- Immunity: compatible with IEC 61000-4-3.
- EMI: compatible with FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B.
- Laser Eye Safety: compatible with FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1, 2.
- RoHS: compliant with 2002/95/EC 4.1&4.2 2005/747/EC.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0		70	°C
Humidity	RH	5		85	%
Data Rate			25.78125		Gbps

Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			1	M
AWG				30	AWG
Jacket Material	LSZH, Black				
Top Shell	Zinc Alloy, Nickel-Plated Over Copper				
Bottom Shell	Zinc Alloy, Nickel-Plated Over Copper				
Pull Tab	Pull Ring, PA66 S1300, Deep Blue				
EMI Shell	Stainless Steel SUS301				

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	MΩ
Raw Cable Impedance	Zca	95	100	110	Ω
Mated Connector Impedance	Zmated	85	100	110	Ω
Insertion Loss at 12.89GHz	SDD21	8		22.48	dB
Return Loss at 12.89GHz	SDD11/22	$\text{Return_Loss(f)} \geq \begin{cases} 16.5 - 2\sqrt{f} & 0.05 \leq f < 4.1 \\ 10.66 - 14log10\left(\frac{f}{5.5}\right) & 4.1 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return_Loss(f)} \geq \begin{cases} 22 - \left(\frac{20}{25.78}\right)\text{f}, & 0.01 \leq \text{f} < 12.89 \\ 15 - \left(\frac{6}{25.78}\right)\text{f} & 12.89 \leq \text{f} \leq 19 \end{cases}$			dB
Differential to Common-Mode Conversion Loss	SCD21-SDD21	$\text{Conversion_Loss(f)} - \text{IL(f)} \geq \begin{cases} 10, & 0.01 \leq \text{f} < 12.89 \\ 27 - \left(\frac{29}{22}\right)\text{f}, & 12.89 \leq \text{f} < 15.7 \\ 6.3, & 15.7 \leq f \leq 19 \end{cases}$			dB
Minimum COM	COM	3			dB
Rise Time (20-80%)				25	ps

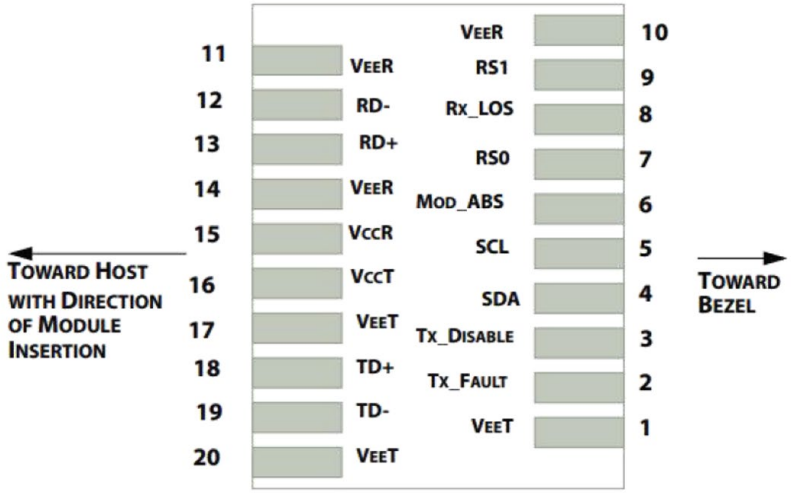
Pin Descriptions

Pin	Logic	Symbol	Name/Description	Plug Sequence	Note
Case		Case	Module Case.	See 2	
1		VeeT	Module Transmitter Ground.	1	3
2	LVTTL-O	Tx_Fault	Module Transmitter Fault.	3	4
3	LVTTL-I	Tx_Disable	Transmitter Disable. Turns off the transmitter laser output.	3	5
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data (Same as MOD_DEF2 in INF-8074i).	3	
5	LVTTL-I/O	SCL	2-Wire Serial Interface Clock (Same as MOD_DEF1 in INF-8074i).	3	
6		MOD_ABS	Module Absent. Connected to the VeeT or VeeR in the module.	3	
7	LVTTL-I	RS0	Rate Select 0. Optionally controls the SFP+ module receiver.	3	6
8	LVTTL-O	Rx_LOS	Receiver Loss of Signal Indication. In FC, designated as Rx_LOS. In Ethernet, designated as Signal Detect.	3	4
9	LVTTL-I	RS1	Rate Select 1. Optionally controls the SFP+ module transmitter.	3	6
10		VeeR	Module Receiver Ground.	1	3
11		VeeR	Module Receiver Ground.	1	3
12	CML-O	RD-	Receiver Inverted Data Output.	3	
13	CML-O	RD+	Receiver Non-Inverted Data Output.	3	
14		VeeR	Module Receiver Ground.	1	3
15		VccR	+3.3V Receiver Power Supply.	2	
16		VccT	+3.3V Transmitter Power Supply.	2	
17		VeeT	Module Transmitter Ground.	1	3
18	CML-I	TD+	Transmitter Non-Inverted Data Input.	3	
19	CML-I	TD-	Transmitter Inverted Data Input.	3	
20		VeeT	Module Transmitter Ground.	1	3

Notes:

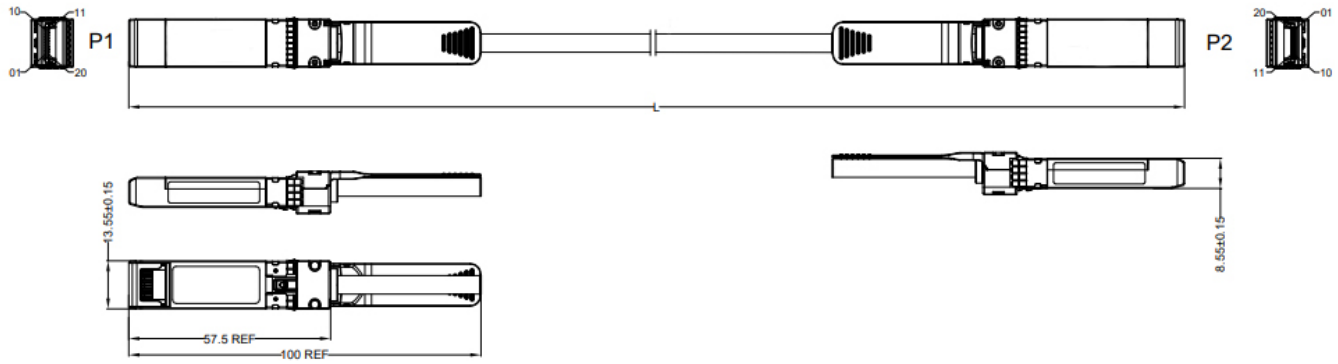
1. Labelling as inputs (I) and outputs (O) are from the perspective of the module.
2. The case makes electrical contact to the cage before any of the board edge contacts are made.
3. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
4. This contact is an open collector/drain output contact and shall be pulled up on the host. Pull-ups can be connected to one of several power supplies; however, the host board design shall ensure that no module contact has a voltage exceeding the module VccT/R+0.5V.
5. Tx_Disable is an input contact with a 4.7kΩ to 10Ω pull-up to the VccT inside the module.
6. If implementing SFF-8079, contacts 7 and 9 in SFF-8431 are used for AS0 and AS1, respectively.

Electrical Pin-Out Details



Electrical Pin-out Details for SFP

Mechanical Specifications



Notes:

1. 2 pairs.
2. 100% conductor test conditions: 5V, insulation resistance of 10MΩ, and conduction resistance maximum of 3Ω. IEEE802.3bj standard.

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.