SFP-10GB-PDAC1M-I-J-OPC

Juniper Networks® Compatible TAA 10GBase-CU SFP+ to SFP+ Direct Attach Cable (Passive Twinax, 1m, -40 to 85C)

Features

- • Compliant to SFF-8431/8432 and INF-8074
- • Up to 10.3125Gbps
- • Passive copper
- • Built-in EEPROM function
- • 30AWG Wire Gauge
- • Industrial Temperature -40 to 85 Celsius
- • Metal with Lower EMI
- • RoHS Compliant and Lead Free

Applications:

- • 10GBase Ethernet

Product Description

This is a Juniper Networks® compatible 10GBase-CU SFP+ to SFP+ direct attach cable that operates over passive copper with a maximum reach of 1m. 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 TAA (Trade Agreements Act) compliant, and 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.

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

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.

General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Storage Temperature	Tstg	-40		85	ºC
Operating Case Temperature	Tc	-40		85	ºC
Humidity	RH	5		85	%
Data Rate			10		Gbps

Cable Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			1	M
AWG		30			AWG
Jacket Material	PVC, Black (Or Customization)				

Electrical Specifications

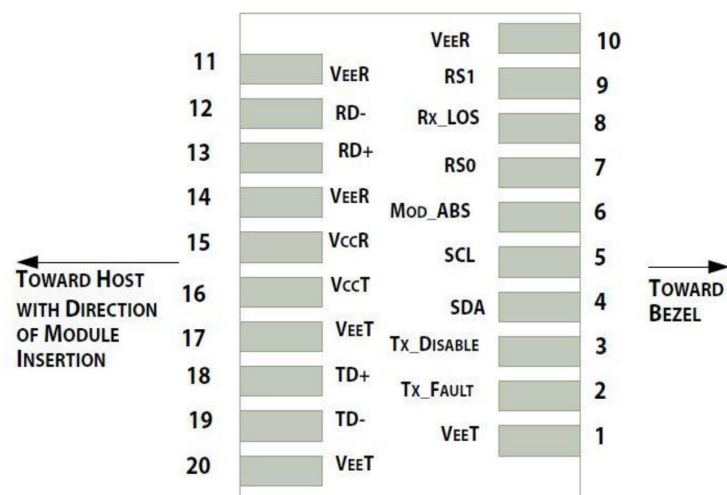| Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	MΩ
Raw Cable Impedance	Zca	95	100	110	Ω
Mated Connector Impedance	Zmated	85	100	110	Ω
Insertion Loss at 5.16GHz	SDD21			17.04	dB
Return Loss	SDD11/22	Return_loss(f)≥ $\begin{cases} 12-2\sqrt{f} & 0.05 \le f < 4.1 \\ 6.3-13\log_{10}(f/5.5) & 4.1 \le f \le 10 \end{cases}$			dB

Pin Descriptions

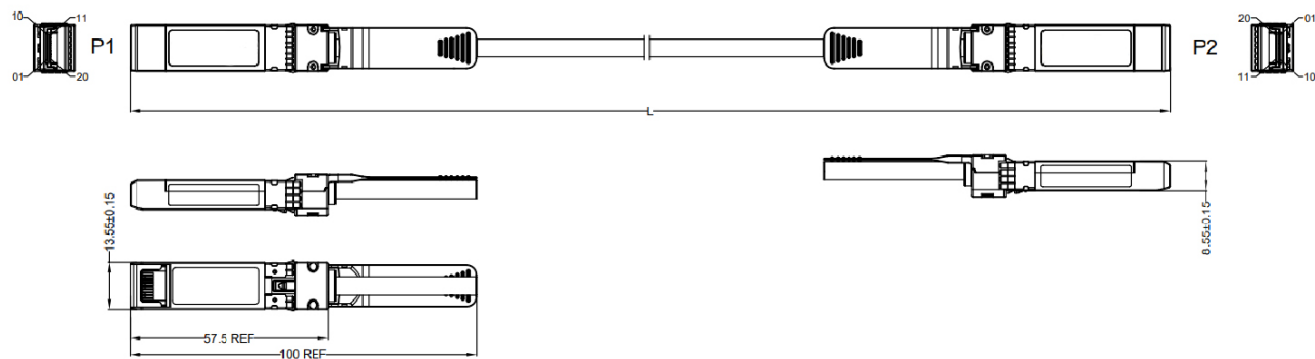| Pin	Logic	Symbol	Power Sequence Order	Name/Description	Note
1		VeeT	1st	Module Transmitter Ground.	3
2	LVTTL-O	Tx_Fault	3rd	Module Transmitter Fault.	4
3	LVTTL-I	Tx_Disable	3rd	Transmitter Disable. Turns off the transmitter laser output.	5
4	LVTTL-I/O	SDA	3rd	2-Wire Serial Interface Data (Same as MOD_DEF2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

Notes:

1. Labeling as inputs (I) and outputs (O) are from the perspective of the module.
2. The case makes electrical contact with 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 board. 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 10kΩ pull-up to the VccT inside the module.
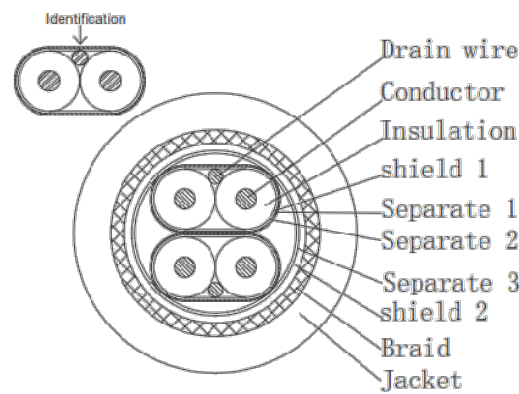
Electrical Pin-Out Details for SFP

		VeeR	10	
11	VeeR	RS1	9	
12	RD-	Rx_LOS	8	
13	RD+	RS0	7	
14	VeeR	Mod_ABS	6	
15	VccR	SCL	5	
16	VccT	SDA	4	
17	VeeT	Tx_Disable	3	
18	TD+	Tx_Fault	2	
19	TD-	VeeT	1	
20	VeeT			

TOWARD HOST WITH DIRECTION OF MODULE INSERTION ←

→ TOWARD BEZEL

Mechanical Specifications

P1   P2

13.55±0.15

0.55±0.15

57.5 REF

100 REF

Cable Cross Section

Identification

Drain wire
Conductor
Insulation
shield 1
Separate 1
Separate 2
Separate 3
shield 2
Braid
Jacket

OptioConnect
Innovation for the Future of High-Speed Networking

Who We Are
OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do
At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design
Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team
Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission
To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect
Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.
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