

### **SFP56-50GB-PDAC2M-J-C**

Juniper Networks® Compatible TAA 50GBase-CU SFP56 to SFP56 Direct Attached Cable (Passive Twinax, 2m)

#### **Features:**

- Up to 50Gbps Bi-Directional Data Links
- Hot-Pluggable
- Compliant with SFF-8402
- Enhanced EMI Design
- Single 3.3V Power Supply
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



#### **Applications:**

- 50GBase Ethernet

#### **Product Description**

This is an Juniper Networks® compatible 50GBase-CU SFP56 to SFP56 direct attach cable that operates over passive copper with a maximum reach of 2.0m (6.6ft). 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.

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.")



## Absolute Maximum Ratings

| Parameter             | Symbol | Min. | Typ. | Max.       | Unit  | Notes |
|-----------------------|--------|------|------|------------|-------|-------|
| Data Rate             | DR     |      | 50   |            | Gbps  | 1     |
| Bit Error Rate        | BER    |      |      | $10^{-12}$ |       |       |
| Operating Temperature | Tc     | 0    |      | 70         | °C    | 2     |
| Storage Temperature   | Tstg   | -40  |      | 85         | °C    | 3     |
| Supply Voltage        | Vcc    | 3.14 | 3.3  | 3.46       | V     | 4     |
| Supply Current        | Icc    |      |      | 4          | mA    | 4     |
| Product Weight        | GD     |      | 78   |            | g/PCS | 5     |
| Cable Weight          | GC     |      | 32   |            | g/M   |       |
| Dust Cap Weight       | GS     |      | 0.80 |            | g/PCS |       |

### Notes:

1. IEEE 802.3cd.
2. Case temperature.
3. Ambient temperature.
4. For the electrical power interface.
5. The total weight of the cable. For example, the weight of a 3M cable is  $90 + 44*(3-1) + 0.80*2 = 179.6g$ .

## Cable Specifications

| Parameter       | Symbol | Min. | Typ. | Max. | Unit     | Notes |
|-----------------|--------|------|------|------|----------|-------|
| Wire Gauge      |        |      |      | 30   | AWG      |       |
| Cable Impedance | Z      | 90   | 100  | 110  | $\Omega$ |       |

## Cable Dimension and Nominal Length

| Standard Wire Gauge (AWG) | Cable Diameter OD (mm) | Minimum Bending Radius R (mm) | Nominal Length (m) | Tolerance Range $\pm$ (cm) |
|---------------------------|------------------------|-------------------------------|--------------------|----------------------------|
| 30                        | 4.6                    | 26                            | Length $\leq$ 2    | 2                          |

## Pin Descriptions

| Pin | Symbol     | Name/Description                                                                   | Notes |
|-----|------------|------------------------------------------------------------------------------------|-------|
| 1   | VeeT       | Transmitter Ground (Common with Receiver Ground).                                  | 1     |
| 2   | Tx_Fault   | Transmitter Failure Alarm. Not Used.                                               |       |
| 3   | Tx_Disable | The signal turns off the module transmitter when it is “high” or “open.” Not Used. |       |
| 4   | SDA        | Data Line for Serial ID.                                                           | 2     |
| 5   | SCL        | Clock Line for Serial ID.                                                          | 2     |
| 6   | MOD_ABS    | Module Absent. Grounded within the module.                                         | 2     |
| 7   | RS0        | No Connection Required.                                                            |       |
| 8   | LOS        | Loss of Signal Indication. “Logic 0” indicates normal operation.                   |       |
| 9   | RS1        | No Connection Required.                                                            |       |
| 10  | VeeR       | Receiver Ground (Common with Transmitter Ground).                                  | 1     |
| 11  | VeeR       | Receiver Ground (Common with Transmitter Ground).                                  | 1     |
| 12  | RD-        | Receiver Inverted Data Out. AC Coupled.                                            |       |
| 13  | RD+        | Receiver Non-Inverted Data Out. AC Coupled.                                        |       |
| 14  | VeeR       | Receiver Ground (Common with Transmitter Ground).                                  | 1     |
| 15  | VccR       | Receiver Power Supply.                                                             |       |
| 16  | VccT       | Transmitter Power Supply.                                                          |       |
| 17  | VeeT       | Transmitter Ground (Common with Receiver Ground).                                  | 1     |
| 18  | TD+        | Transmitter Non-Inverted Data In. AC Coupled.                                      |       |
| 19  | TD-        | Transmitter Inverted Data In. AC Coupled.                                          |       |
| 20  | VeeT       | Transmitter Ground (Common with Receiver Ground).                                  | 1     |

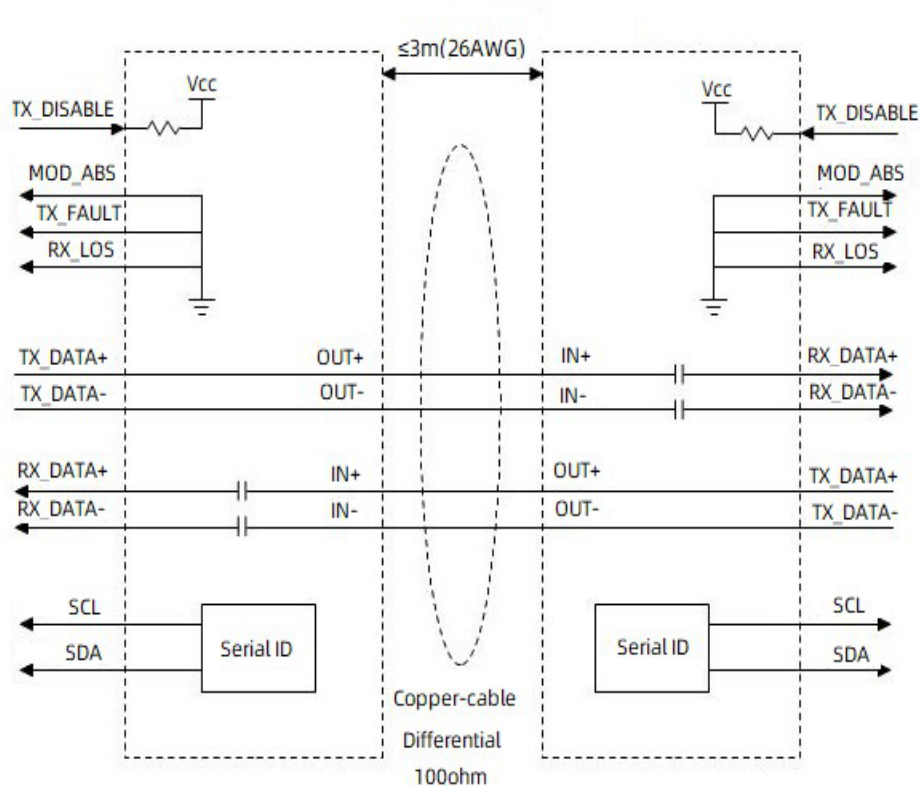
### Notes:

1. The circuit ground is isolated from the chassis ground.
2. SFF-8472 specification for management interface for SFP+.

Electrical Pin-Out Details



Block Diagram of Transceiver



Mechanical Specifications



All dimensions are  $\pm 0.2\text{mm}$  unless otherwise specified.  
Unit: mm

## 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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