

## 25G SFP28 Direct Attach Passive Copper Cable

SLS28-25PC-XX



### Features

- ◆ Up to 25.78125 Gbps data rate
- ◆ Up to 5 meter transmission
- ◆ Hot-pluggable SFP 20PIN footprint
- ◆ Improved Pluggable Form Factor (IPF) compliant for enhanced EMI/EMC performance
- ◆ Compatible to SFP28 MSA
- ◆ Compatible to SFF-8402 and SFF-8432
- ◆ Temperature Range: 0°C to 70°C
- ◆ RoHS Compatible

### Applications

- ◆ 25GBASE Ethernet

### Overview

The SFP28 passive cable assemblies are high performance, cost effective I/O solutions for 25G Ethernet. SFP28 copper cables allow hardware manufactures to achieve high port density, configurability and utilization at a very low cast and reduced power budget.

### Ordering information

| Part Number   | Product Description                     |
|---------------|---|
| SLS28-25PC-XX | SFP28 25Gbps Direct Attach Copper Cable |
| XX: 01~02,    | 1~2 Length in meters, AWG 30            |
| XX: 03~05,    | 3~5 Length in meters, AWG 26            |

## Datasheet

### Recommended Operating Conditions

| Parameter                   | Symbol | Min  | Typical | Max   | Unit |
|-----------------------------|--------|------|---------|-------|------|
| Operating Case Temperature  | Tc     | 0    |         | +70   | °C   |
| Storage Ambient Temperature |        | -40  |         | +85   | °C   |
| Power Supply Voltage        | Vcc    | 3.14 | 3.3     | 3.47  | V    |
| Data Rate Per Lane          |        | 1    |         | 25.78 | Gb/s |

### High Speed Characteristics

| Parameter                                     | Symbol              | Min | Typical | Max   | Unit | Note                 |
|---|---------------------|-----|---------|-------|------|----------------------|
| Differential Impedance                        | R <sub>IN,P-P</sub> | 90  |         | 110   | Ω    |                      |
| Insertion loss                                | SDD21               |     |         | 22.48 | dB   | At 12.8906 GHz       |
| Differential Return Loss                      | SDD11               |     |         | See 1 | dB   | At 0.05 to 4.1 GHz   |
|   | SDD22               |     |         | See 2 | dB   | At 4.1 to 19 GHz     |
| Common-mode to common-mode output return loss | SCC11               | 2   |         |       | dB   | At 0.2 to 19 GHz     |
|   | SCC22               |     |         |       |      |                      |
| Differential to common-mode return loss       | SCD11               |     |         | See 3 | dB   | At 0.01 to 12.89 GHz |
|   | SCD22               |     |         | See 4 |      | At 12.89 to 19 GHz   |
| Differential to common Mode Conversion Loss   | SCD21               |     |         | 10    | dB   | At 0.01 to 12.89 GHz |
|   |                     |     |         | See 5 |      | At 12.89 to 15.7 GHz |
|   |                     |     |         | 6.3   |      | At 15.7 to 19 GHz    |
| Channel Operating Margin                      | COM                 | 3   |         |       | dB   |                      |

#### 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

### Pin Descriptions

| PIN | Logic      | Symbol   | Name / Description              | Note |
|-----|------------|----------|---------------------------------|------|
| 1   |            | VeeT     | Transmitter Ground              |      |
| 2   | LV-TTL-O   | TX_Fault | N/A                             | 1    |
| 3   | LV-TTL-I   | TX_DIS   | Transmitter Disable             | 2    |
| 4   | LV-TTL-I/O | SDA      | Tow Wire Serial Data            |      |
| 5   | LV-TTL-I   | SCL      | Tow Wire Serial Clock           |      |
| 6   |            | MOD_DEF0 | Module present, connect to VeeT |      |
| 7   | LV-TTL-I   | RS0      | N/A                             | 1    |

Datasheet

|    |          |      |                               |   |
|----|----------|------|-------------------------------|---|
| 8  | LV-TTL-O | LOS  | LOS of Signal                 | 2 |
| 9  | LV-TTL-I | RS1  | N/A                           | 1 |
| 10 |          | VeeR | Receiver Ground               |   |
| 11 |          | VeeR | Receiver Ground               |   |
| 12 | CML-O    | RD-  | Receiver Data Inverted        |   |
| 13 | CML-O    | RD+  | Receiver Data Non-Inverted    |   |
| 14 |          | VeeR | Receiver Ground               |   |
| 15 |          | VccR | Receiver Supply 3.3V          |   |
| 16 |          | VccT | Transmitter Supply 3.3V       |   |
| 17 |          | VeeT | Transmitter Ground            |   |
| 18 | CML-I    | TD+  | Transmitter Data Non-Inverted |   |
| 19 | CML_I    | TD-  | Transmitter Data Inverted     |   |
| 20 |          | VeeT | Transmitter Ground            |   |

Notes:

1. Signals not supported in SFP+ Copper pulled-down to VeeT with 30K ohms resistor
2. Passive cable assemblies do not support LOS and TX\_DIS

Mechanical Dimensions

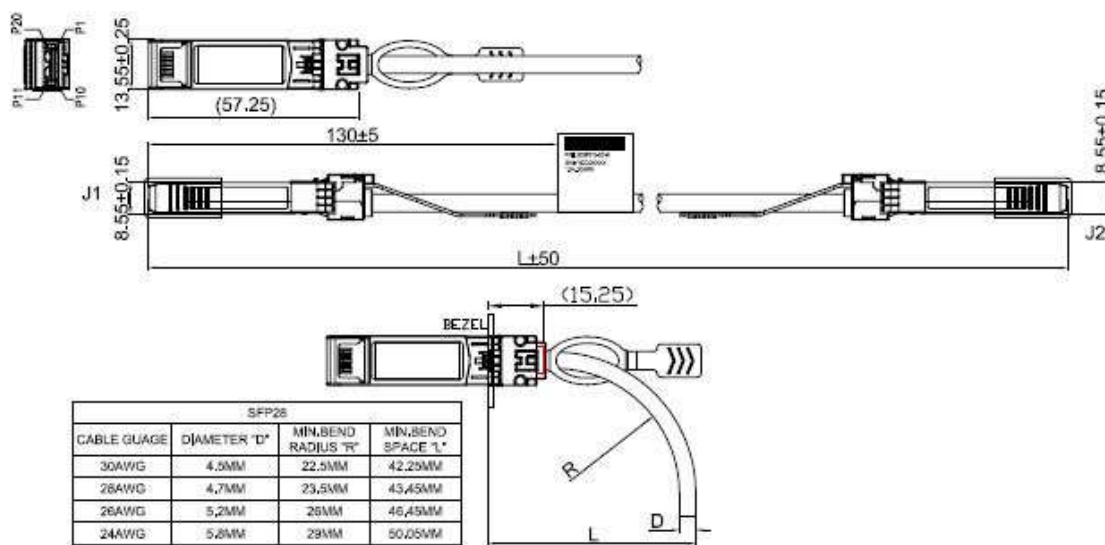


Figure1. Mechanical Specifications

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