

## CAB-25GSFP28-PxM

### 25G SFP28 Direct Attach Cable Datasheet

#### 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~ 70 °C
- RoHS Compatible



#### Benefits

- Cost-effective copper solution
- Lowest total system power solution
- Lowest total system EMI solution
- Optimized design for Signal Integrity

#### Applications

- 25G Ethernet

#### Product Description

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 cost and reduced power budget

## General Description

SFP28 Direct Attach Cables are compliant with SFF-8432 and SFF-8402 specifications. Various choices of wire gauge are available from 30 to 26 AWG with various choices of cable length (up to 5m).

## Regulatory Compliance

| Feature  | Test Method   | Performance  |
|--|---|--|
| Electrostatic Discharge (ESD) to the Electrical Pins | MIL-STD-883C Method 3015.7                                  | Class 1(>2000 Volts)   |
| Electromagnetic Interference(EMI)                    | FCC Class B   | Compliant with Standards                                     |
|  | CENELEC EN55022 Class B                                     |  |
|  | CISPR22 ITE Class B   |  |
| RF Immunity(RFI)                                     | IEC61000-4-3  | Typically Show no Measurable Effect from a 10V/m Field Sweep |
| RoHS Compliance                                      | RoHS Directive 2011/65/EU and it's Amendment Directives 6/6 | RoHS 6/6 compliant   |

## High Speed Characteristics

| Parameter                   | Symbol   | Min   | Typical | Max   | Unit     | Notes                |
|-----------------------------|----------|-------|---------|-------|----------|----------------------|
| Differential Impedance      | RIN,P-P  | 90    | 100     | 110   | $\Omega$ |                      |
| Insertion loss              | SDD21    | 8     |         | 22.48 | dB       | At 12.8906 GHz       |
| Differential Return Loss    | SDD11    | 12.45 |         | See 1 | dB       | At 0.05 to 4.1 GHz   |
|                             | SDD22    | 3.12  |         | See 2 | dB       | At 4.1 to 19 GHz     |
| Common-mode to              | SCC11    |       |         |       | dB       | At 0.2 to 19 GHz     |
| common-mode                 |          | 2     |         |       |          |                      |
| output return loss          | SCC22    |       |         |       |          |                      |
|                             |          |       |         |       |          |                      |
| Differential to common-mode | SCD11    | 12    |         | See 3 | dB       | At 0.01 to 12.89 GHz |
|                             |          |       |         |       |          |                      |
| return loss                 | SCD22    | 10.58 |         | See 4 |          | At 12.89 to 19 GHz   |
|                             |          |       |         |       |          |                      |
|                             |          | 10    |         |       |          | At 0.01 to 12.89 GHz |
| Differential to common Mode | SCD21-IL |       |         | See 5 | dB       | At 12.89 to 15.7 GHz |
| Conversion Loss             |          |       |         |       |          |                      |
|                             |          | 6.3   |         |       |          | At 15.7 to 19 GHz    |
| Channel Operating Margin    | COM      | 3     |         |       | dB       |                      |

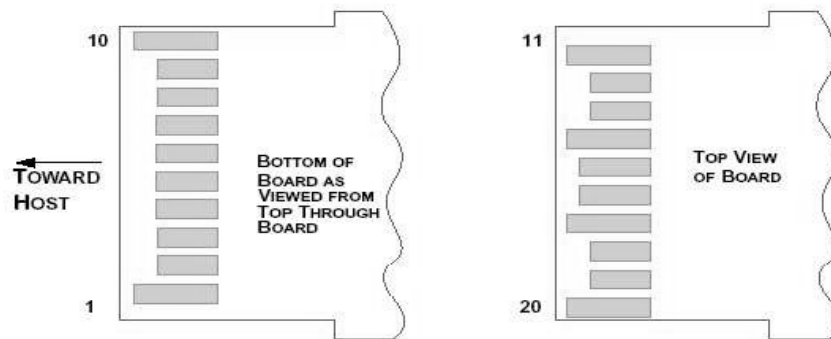
### Notes:

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  $SCD11(dB) < 22 - (20/25.78)*f$ , with f in GHz
4. Reflection Coefficient given by equation  $SCD11(dB) < 15 - (6/25.78)*f$ , with f in GHz
5. Reflection Coefficient given by equation  $SCD21(dB) < 27 - (29/22)*f$ , with f in GHz

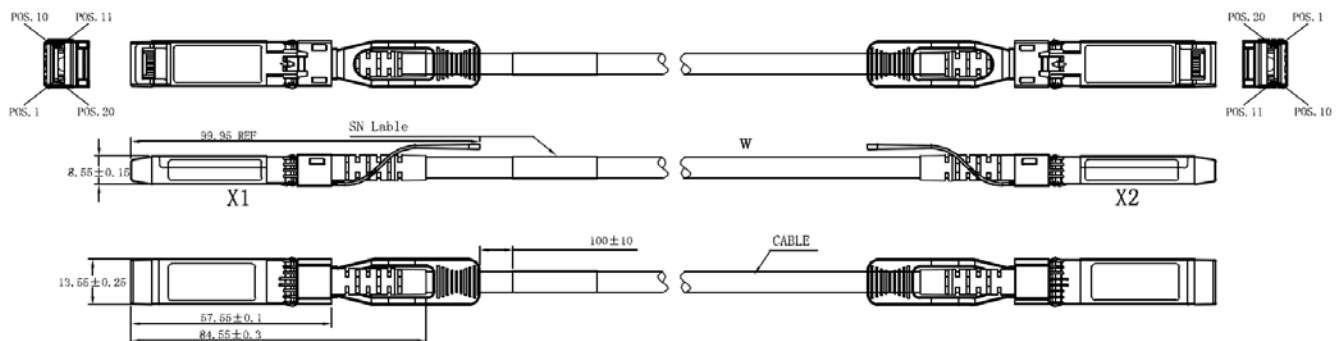
## Pin Descriptions

| Pin | Logic      | Symbol   | Name/Description                | Notes |
|-----|------------|----------|---------------------------------|-------|
| 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     |
| 8   | LV-TTL-O   | LOS      | LOS of Signal                   | 2     |
| 9   | LV-TTL-I   | RS1      | N/A                             | 1     |
| 10  |            | VeeR     | Reciever Ground                 |       |
| 11  |            | VeeR     | Reciever Ground                 |       |
| 12  | CML-O      | RD-      | Reciever Data Inverted          |       |
| 13  | CML-O      | RD+      | Reciever Data Non-Inverted      |       |
| 14  |            | VeeR     | Reciever Ground                 |       |
| 15  |            | VccR     | Reciever 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              |       |

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



## Mechanical Specifications



| Length (m) | Cable AWG |
|------------|-----------|
| 1          | 30        |
| 2          | 30        |
| 3          | 30/26     |
| 4          | 26        |
| 5          | 26        |

## Ordering information

| Part Number      | Product Description   |
|------------------|---|
| CAB-25GSFP28-PxM | 25G SFP28 Copper Twinax cable x Meter, passive, 0°C ~ +70°C |

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