Preliminary DATA SHEET

CFORTH-SFP28-H25G-CUxM

SFP28 25Gbps Passive Direct Attach Copper Cable Assembly

CFORTH-SFP28-H25G-CUxM Overview

SFP28 passive cable uses shielded high-speed differential cables,compliant with 25G Ethernet IEEE802.3by standard and SFF-8402 SFP28 standard, it supports 25G transmission rate and can be backward compatible with low-rate applications.The SFP28 passive cable is the preferred solution for 25G rate short-distance applications. It is commonly used for data transmission between data centers and cabinets or adjacent cabinets,its biggest features are low cost, ultra low power consumption (less than 0.1 watt) and high reliability.

Product Features

- Up to 25Gb/s bi-directional data links
- Compliant with SFF-8402
- Hot-pluggable
- AC coupled inputs and outputs
- 100 Ohm differential impedance
- Enhanced EMI design
- Single power supply 3.3V
- RoHS Compliant
- Operating temperature range: 0°C to 70°C

Applications

- 25GBASE Ethernet

Ordering Information

Part Number	Description
CFORTH-SFP28-H25G-CU1M CFORTH-SFP28-H25G-CU2M	SFP28 Passive Direct Attach Copper Cable Assembly,without MCU, 1m (2m)
CFORTH-SFP28-H25G-CU3M	SFP28 Passive Direct Attach Copper Cable Assembly,without MCU, 3m
CFORTH-SFP28-H25G-CU5M	SFP28 Passive Direct Attach Copper Cable Assembly,without MCU, 5m

General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Data Rate	DR		25		Gb/s	1
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_C	0		70	°C	2
Storage Temperature	T_{STO}	-40		85	°C	3
Supply Current	I_{CC}			4	mA	4
Input Voltage	V_{CC}	3.14	3.3	3.46	V	4

Notes:
1.IEEE 802.3by
2.Case temperature
3.Ambient temperature
4.For electrical power interface

Cable Specifications

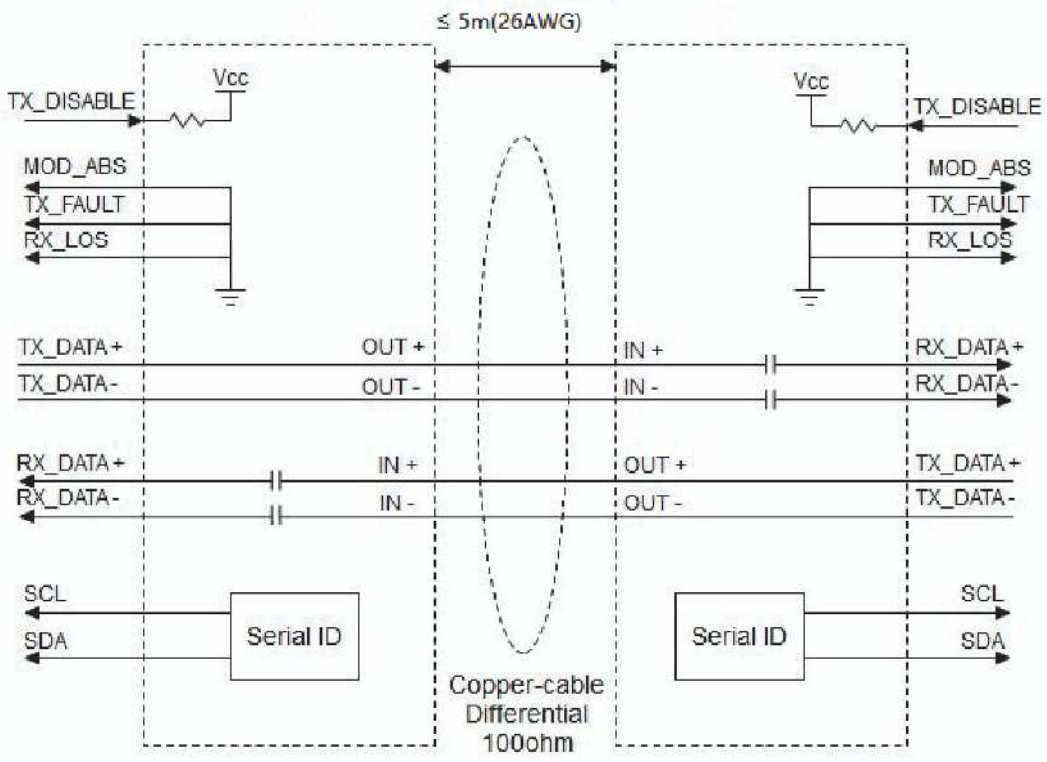
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Wire Gauge		30AWG		26AWG	AWG	
Cable Impedance	Z	90	100	110	Ohm	

Insertion loss level

Part Number	Insertion loss level
CFORTH-SFP28-H25G-CU1M	CA-25G-N
CFORTH-SFP28-H25G-CU2M	CA-25G-N
CFORTH-SFP28-H25G-CU3M	CA-25G-L
CFORTH-SFP28-H25G-CU5M	CA-25G-L

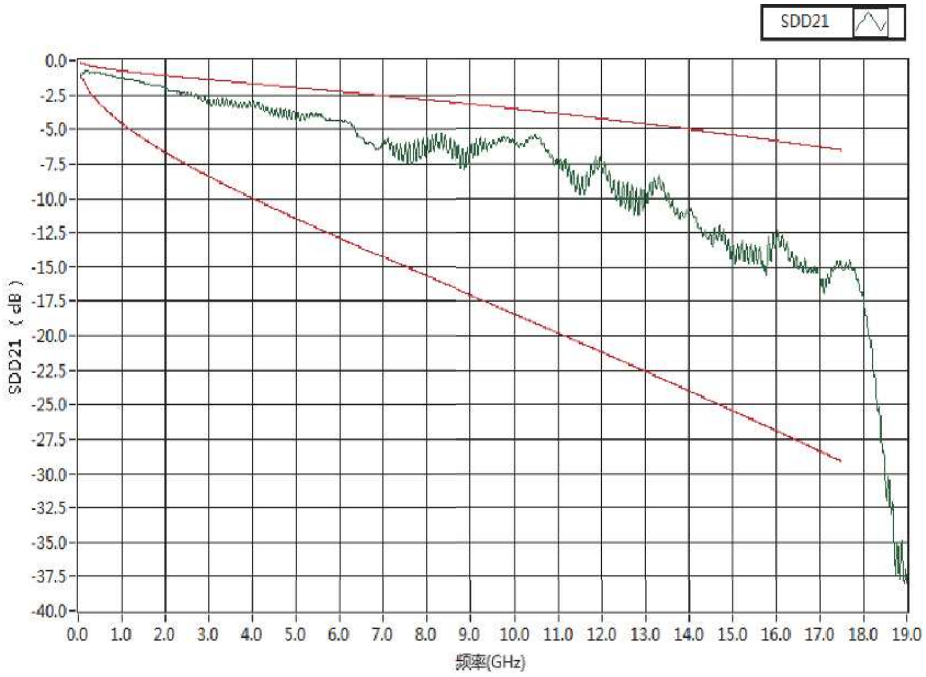
Note:
1. Cable insertion loss classification standard：IEEE 802.3by 110-10

Block Diagram of Transceiver

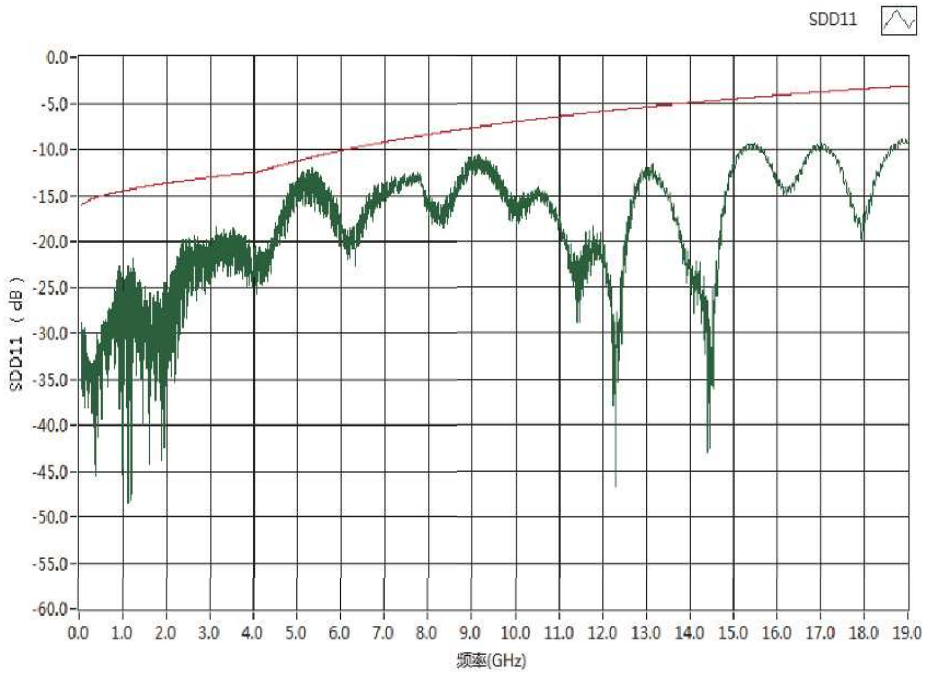


Typical S parameter

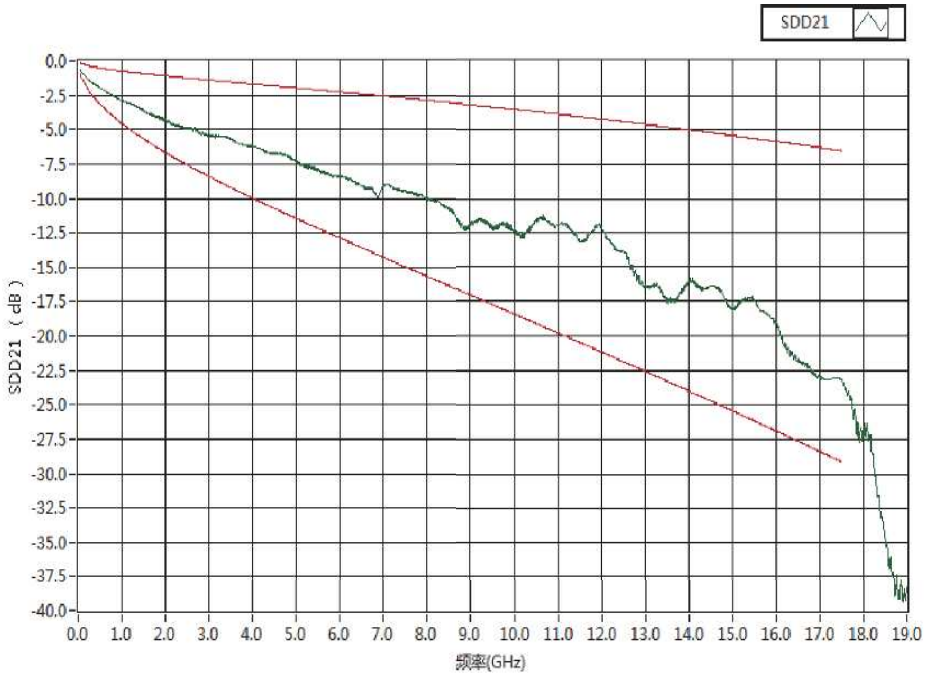
1m 30AWG typical insertion loss curve



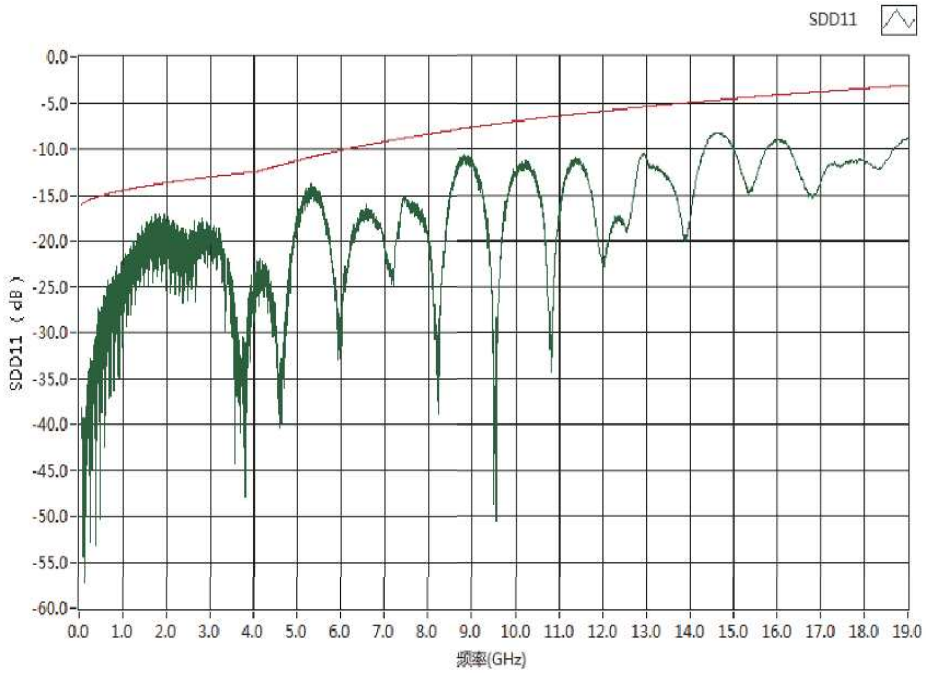
1m 30AWG typical reflection curve



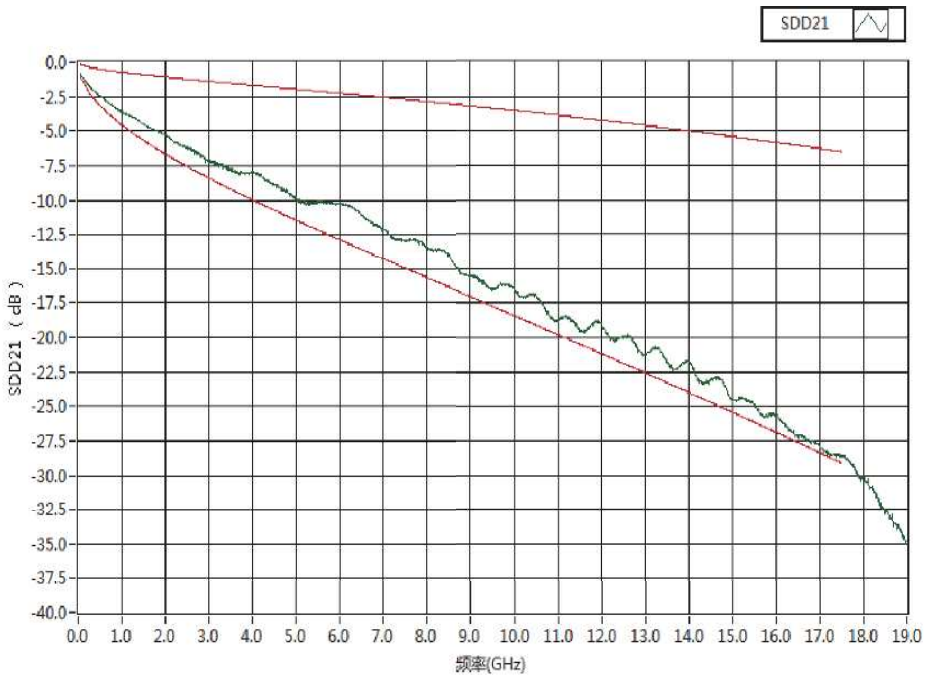
3m 28AWG typical insertion loss curve



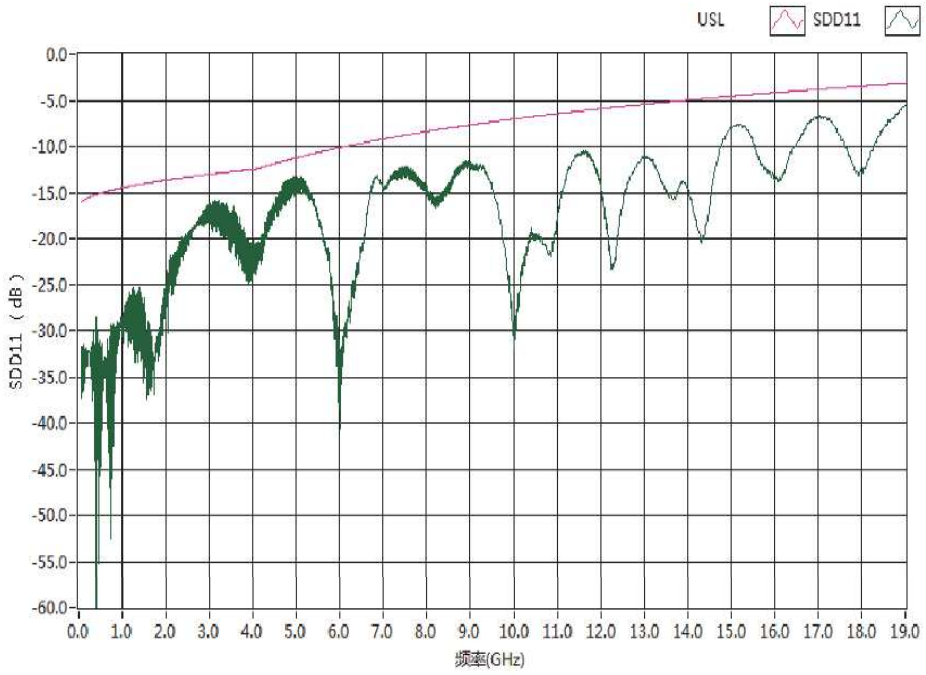
3 m 28AWG typical reflection curve



5m 26AWG typical insertion loss curve



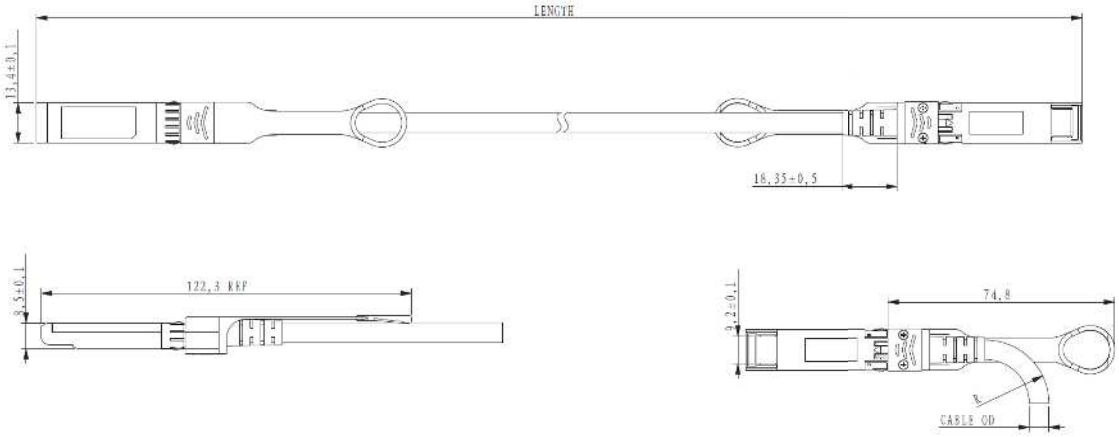
5m 26AWG typical reflection curve



Notes:

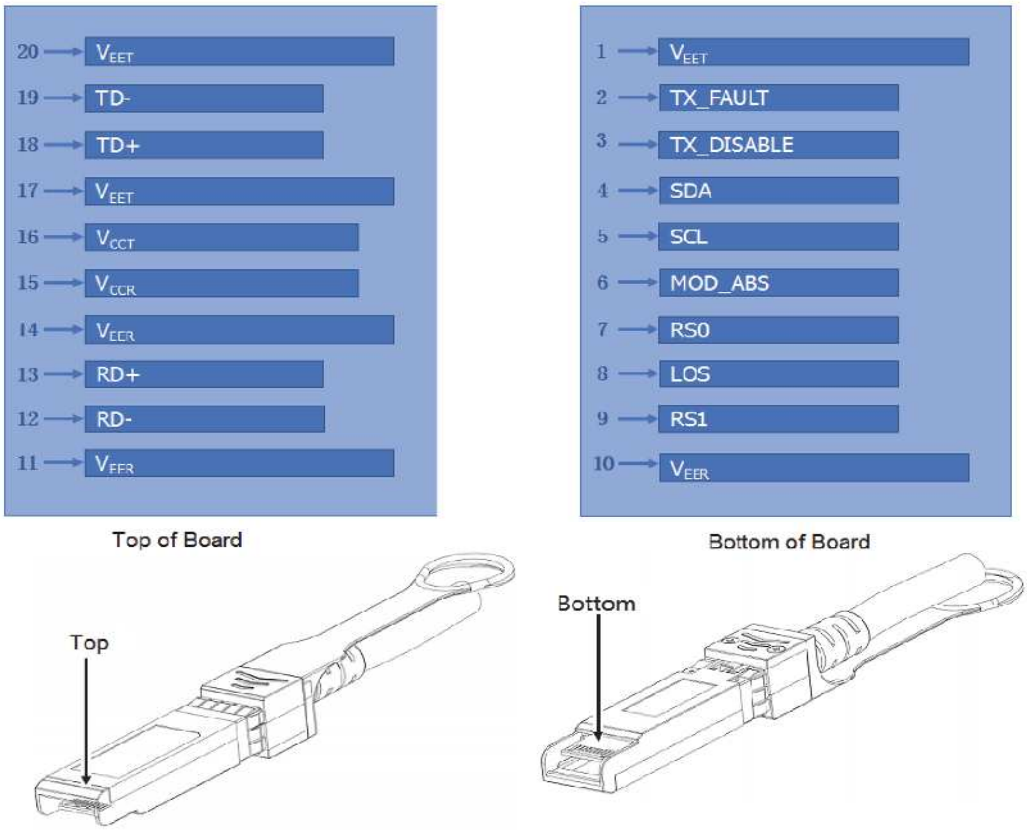
1. Insertion loss standard reference IEEE802.3bj 92.10.2：IL<22.48dB@12.89 GHz
2. Reflection curve standard reference IEEE802.3bj 92.10.3：SDDxx(dB)=16.5 - 2 × SQRT(f), 0.05≤f<4.1GHz.
3. Reflection curve standard reference IEEE802.3bj 92.10.3：SDDxx(dB)=10.66 - 14 × log10(f/5.5), 4.1≤f≤19GHz.

Dimensions



ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

Electrical Pad Layout



Pin Assignment

PIN #	Symbol	Description	Remarks
1	V_{EET}	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	V_{EER}	Receiver ground (common with transmitter ground)	1
11	V_{EER}	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	V_{EER}	Receiver ground (common with transmitter ground)	1
15	V_{CCR}	Receiver power supply	
16	V_{CCT}	Transmitter power supply	
17	V_{EET}	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	V_{EET}	Transmitter ground (common with receiver ground)	1

Notes:
1. Circuit ground is isolated from chassis ground
2. Should Be pulled up with 4.7k - 10k ohm on host board to a voltage between 2V and 3.6V

References

1. IEEE standard 802.3by. IEEE Standard Department.
2. IEEE standard 802.3bj. IEEE Standard Department.