25G SFP28 Direct Attach Passive Copper Cable

Features

- Up to 25Gb/s data rate
- Single 3.3V supply voltage
- BER better than 10-15
- Hot pluggable
- Power consumption less than 0.1W
- Operating case temperature: 0~+70°C

Applications

- 25G Ethernet
- Data Center

Compliance

- Supports IEEE 802.3by
- RoHS compliance

Description

The 25G SFP28 passive copper cable is a high speed, cost-effective 25Gbp/s Ethernet connectivity solution designed to meet the growing needs for higher bandwidth in data centers.

The 25G SFP28 passive copper cable contains a single high-speed copper pair, operating at data rates of up to 25Gb/s.The cables are compliant with IEEE 802.3by Ethernet standard and SFF-8402 SFP28 standard. Each SFP28 connector comprises an EEPROM providing product information which can be read by the host system.

Product Specifications

Table1- Product Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit
Storage	TS	-40		+85	℃
Operating Case	Tc	0		70	℃
Power Supply	VCC3	3.14	3.3	3.47	V

Product Specifications

Table2- Product Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Characteristic Impedance		90	100	110	Ω	
Time Delay				4.5	ns/m	
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
Differential to	SCD11	12		See 3	dB	At 0.01 to 12.89 GHz
return loss	SCD22	10.58		See 4	dB	At 12.89 to 19 GHz

High Speed Characteristics

Table3-High Speed Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Differential Impedance	RIN,P-P	90	100	110	Ω	
Insertion loss	SDD21	8		22.48	dB	At 12.8906 GHz

Differential Input Return Loss	SDD11	12.45		See1	dB	At 0.05 to 4.1 GHz
	SDD22	3.12		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	12		See3	dB	At 0.01 to 12.89 GHz
	SCD22	10.58		See4		At 12.89 to 19 GHz
Differential to common Mode Conversion Loss	SCD21-IL	10		See5	dB	At 0.01 to 12.89 GHz
						At 12.89 to 15.7 GHz
		6.3				At 15.7 to 19 GHz
Channel Operating Margin	COM	3			dB	

Notes:

Reflection Coefficient given by equation SDD11(dB) ← 16.5 - 2 × SQRT(f), with f in GHz

Reflection Coefficient given by equation SDD11(dB) ← 10.66 - 14 × log10(f/5.5), with f in GHz

Reflection Coefficient given by equation SCD11(dB) ← 22 - (20/25.78)*f, with f in GHz

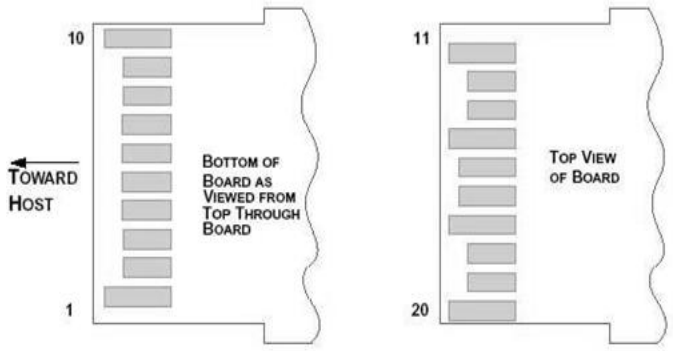
Reflection Coefficient given by equation SCD11(dB) ← 15 - (6/25.78)*f, with f in GHz

Reflection Coefficient given by equation SCD21(dB) ← 27 - (29/22)*f, with f in GHz

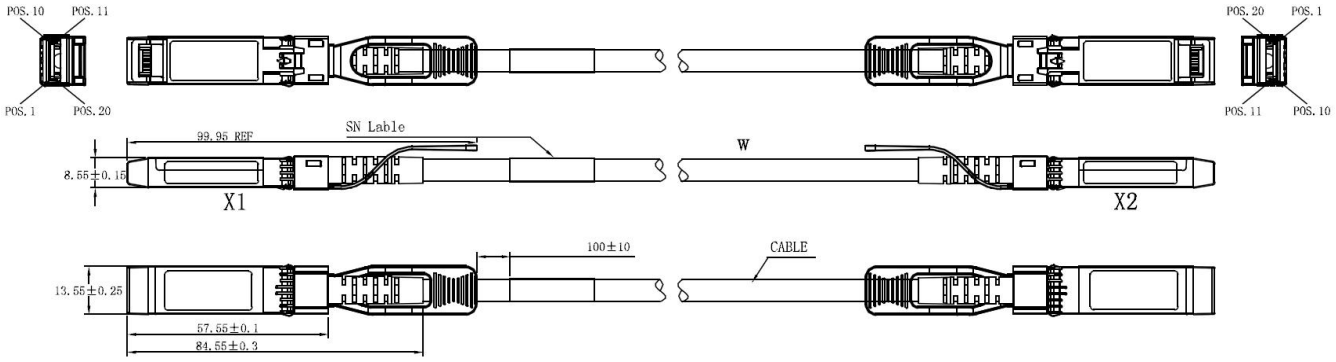
Pin Descriptions

Table4-SFP28 Pin Function Definition

Pin	Logic	Symbol	Description	Notes
1		VeeT	Transmitter Ground	
2	LVTTL-O	Tx_Fault	N/A	1
3	LVTTL-I	Tx_Disable	Transmitter Disable	2
4	LVTTL-I/O	SDA	Tow Wire Serial Data	
5	LVTTL-I/O	SCL	Tow Wire Serial Clock	
6		Mod_ABS	Module present, connect to VeeT	
7	LVTTL-I	RS0	N/A	1
8	LVTTL-O	Rx_LOS	LOS of Signal	2
9	LVTTL-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		VeeT	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	



Mechanical Specifications



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

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 Swept from 80 to 1000MHz
RoHS Compliance	RoHS Directive 2011/65/EU and it's Amendment Directives 6/6	RoHS 6/6 compliant

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Disclaimer

1. We are committed to continuous product improvement and feature upgrades, and the contents contained in this manual are subject to change without notice.

2. Nothing herein should be construed as constituting an additional warranty.

3. NADDOD assumes no responsibility for the use or reliability of equipment or software not provided by NADDOD.