LXP-DAC-xxx

SFP+ Direct Attach Passive Copper Cables,1m,2m,3m,4m,5m,7m,10m

PRODUCT FEATURES

- Up to 10 Gb/s bi-directional data links
- Compliant with 10GFC
- Compliant with SFF-8431
- 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

- 10G Ethernet
- 10G Fiber Channel
- Serial Data Transmission

Product Description

10G SFP+ passive cable uses shielded high-speed differential cables,compliant with 10 Gigabit Ethernet standards and SFP Multi-Source Agreement (MSA) standards, supports 10G trans-mission rates, and is backward compatible with 1G rates.SFP+ passive cable is the preferred solution for short-distance applications. It is widely used for data transmission between data centers and cab- inets or adjacent cabinets. Its biggest feature is low cost, ultra-low power consumption (less than 0.1 watt) and high reliability.

Ordering Information

Part Number	Description	Cable Length (m)	AWG
LXP-DAC-001	SFP+ to SFP+	1	30
LXP-DAC+001	SFP+ to SFP+	1	24
LXP-DAC-002	SFP+ to SFP+	2	30
LXP-DAC+002	SFP+ to SFP+	2	24
LXP-DAC-003	SFP+ to SFP+	3	30
LXP-DAC+003	SFP+ to SFP+	3	24
LXP-DAC-005	SFP+ to SFP+	5	24
LXP-DAC-007	SFP+ to SFP+	7	24
LXP-DAC-010	SFP+ to SFP+	10	24

I. General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Data Rate	DR		10.3125		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
Input Voltage	V_{CC}	3.14	3.30	3.46	V	4

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

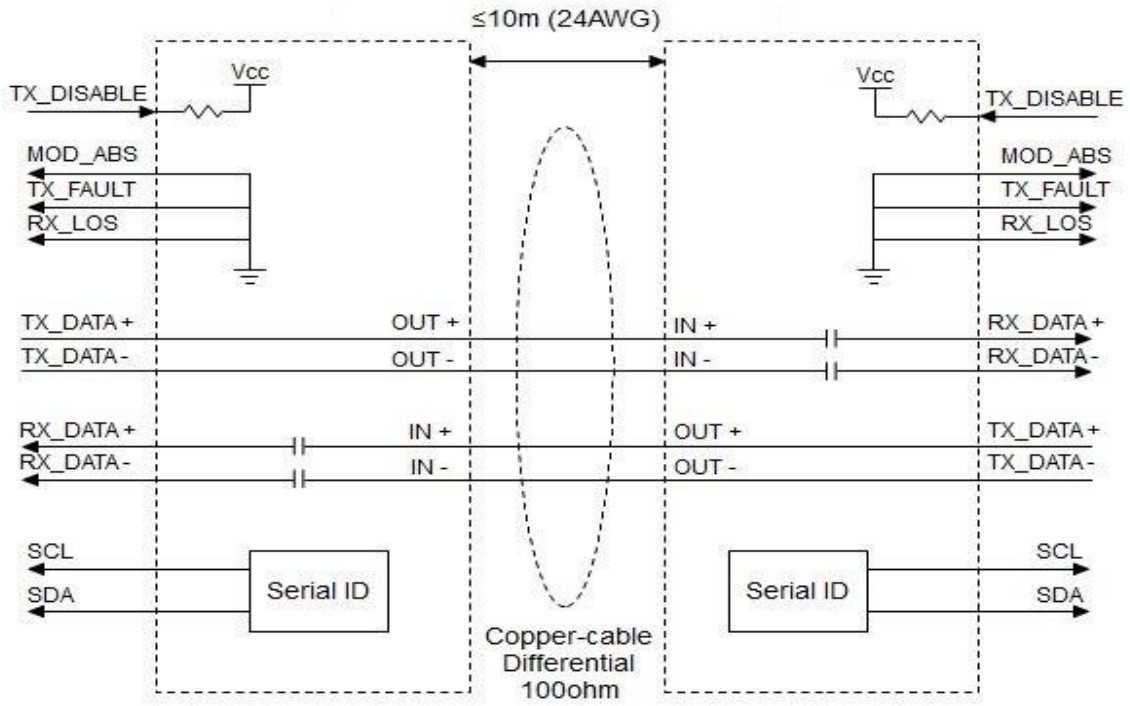
II. Cable Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Wire Gauge		30		24	AWG	
Cable Impedance	Z	90	100	110	Ohm	

III. User Mode

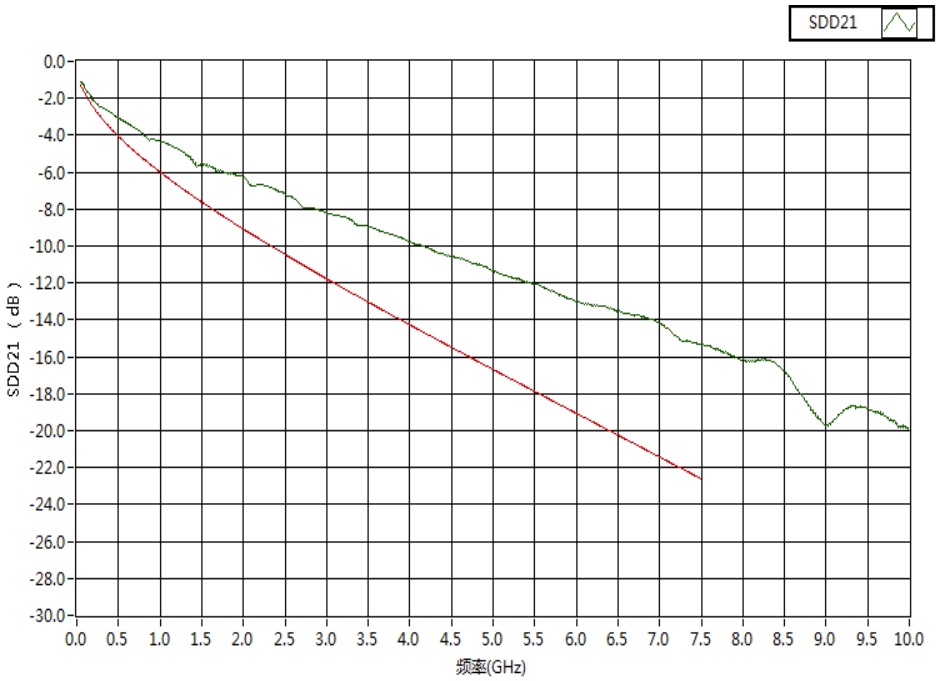
Module	Level 1 Default Password	Password Can Be Changed	Permissions
SFP10-SFP10	00001011	YES(A2 TF0)	1、Read And Write A0、A2 T00/T01
			2、Read A2 T8A
			3、Read And Write A2 TF0

Block Diagram of Transceiver

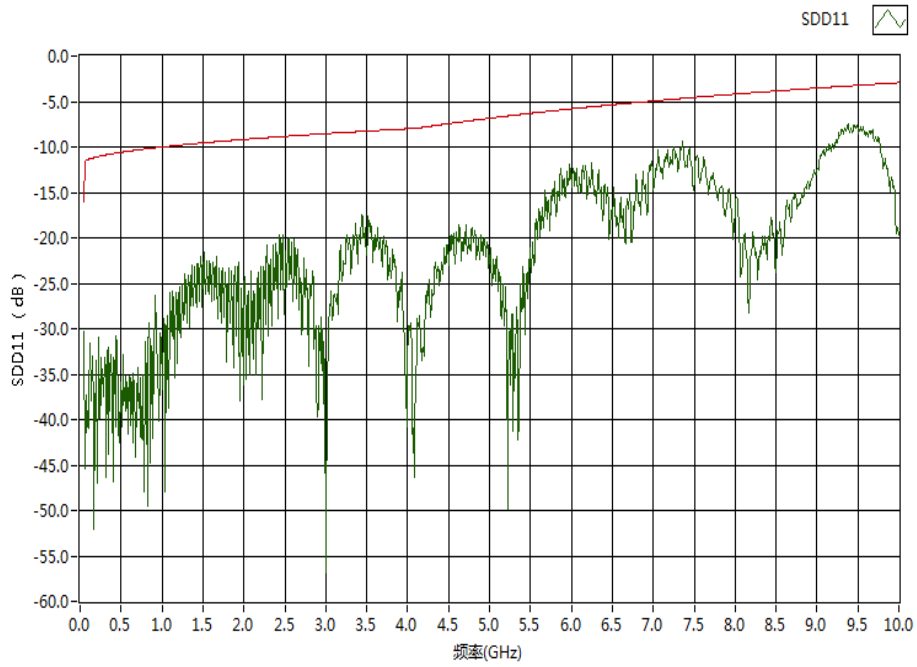


IV. Typical S parameter

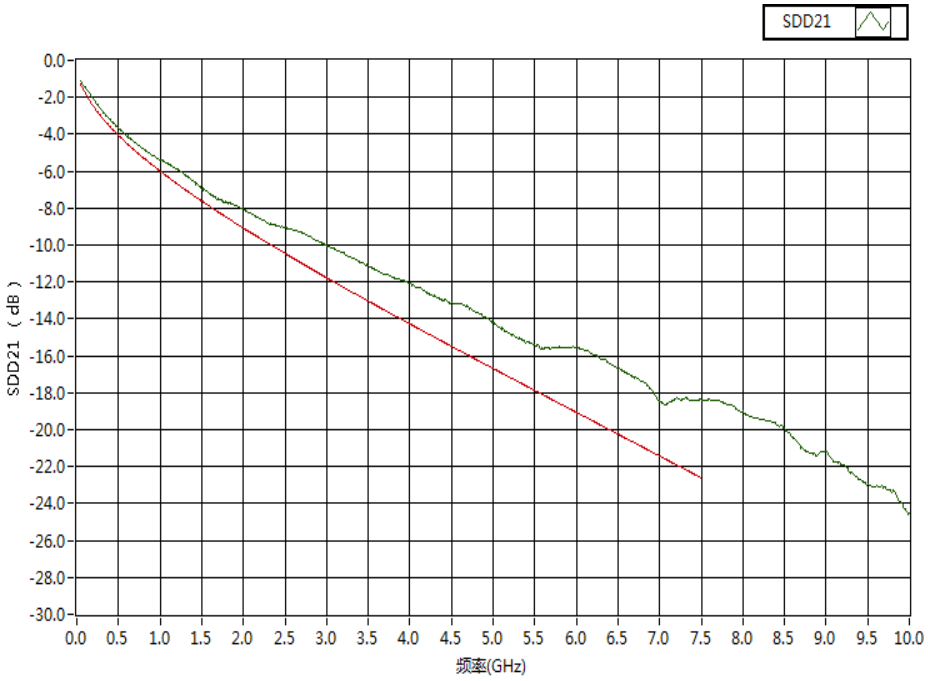
3m 30AWG typical insertion loss curve



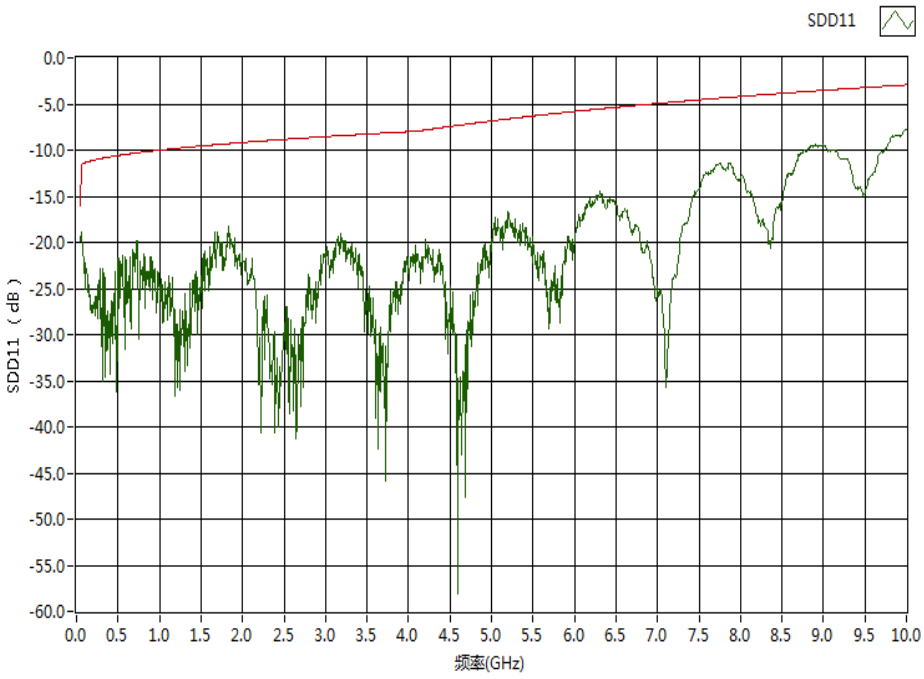
3m 30AWG typical reflection curve



5m 24AWG typical insertion loss curve

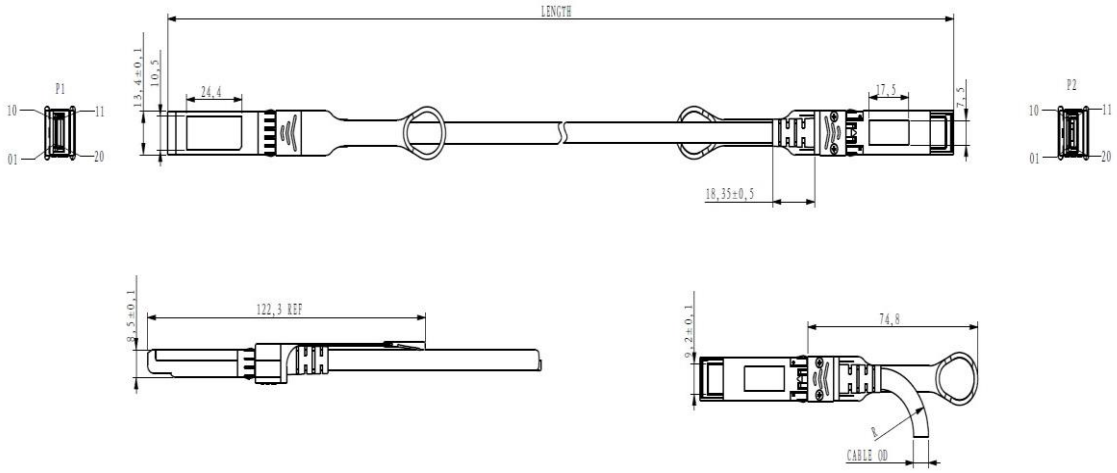


5m 24AWG typical reflection curve



Notes:
1. Insertion loss standard reference IEEE802.3ba 85.10.2：IL<17.04dB@5.15625 GHz
2. Reflection curve standard reference IEEE802.3ba 85.10.4：SDDxx(dB)=12 - 2 × SQRT(f), 0.05≤f<4.1GHz.
3. Reflection curve standard reference IEEE802.3ba 85.10.4：SDDxx(dB)=6.3 - 13 × log10(f/5.5), 4.1≤f≤10GHz.

V. Dimensions(unit :mm)



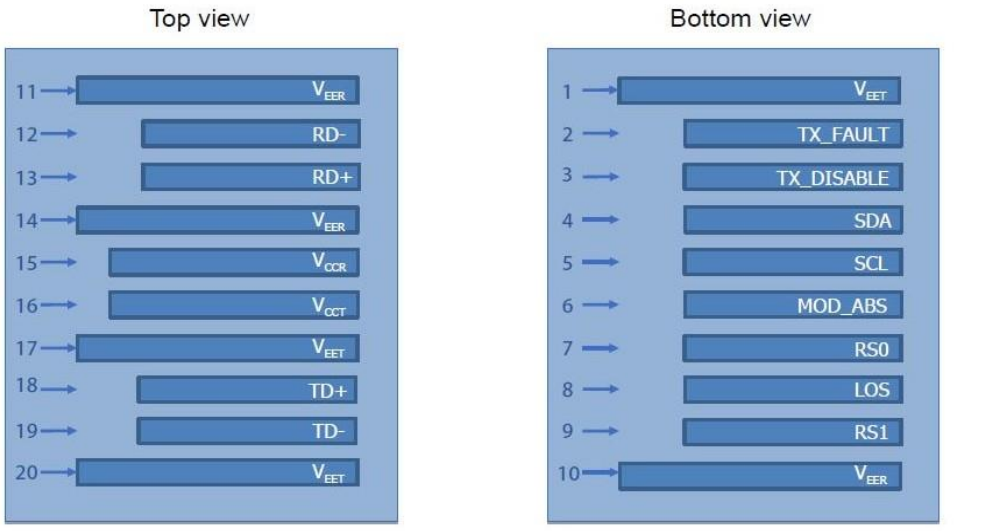
VI. Cable Dimension

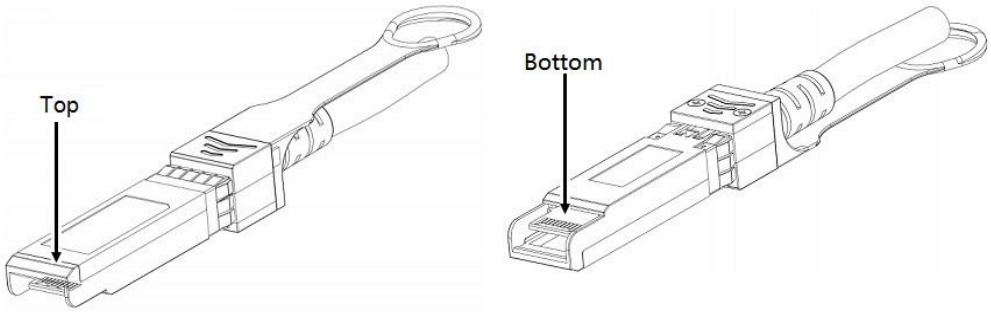
serial number	Standard Wire Gauge AWG	Cable diameter OD (mm)	Minimum bending radius R (mm)
1	30	4.2	25
2	28	4.7	26
3	24	6.0	28

VII. Length Tolerance

Serial number	Nominal length (m)	Tolerance range ±(cm)
1	Length≤2	2
2	2<Length≤4	4
3	4<Length≤6	6
4	6<Length	8

VIII. Electrical Pad Layout





IX. 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

Revision History

Version No.	Date	Description
1.0	June 24, 2021	Preliminary datasheet