100G QSFP28 Direct Attach Passive Copper Cable

Features

- QSFP28 conforms to the Small Form Factor SFF8636
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support data rates : 25.78Gb/s (per channel)
- Maximum aggregate data rate: 100Gb/s (4 x 25.78Gb/s)
- IEEE 802.3bj 100GEBASE-CR4 • Copper link x (x=1m, 2m, 3m, 5m)
- Power Supply :+3.3V
- Low crosstalk
- Compatible to QSFP28 MSA
- RoHS Compliant

Applications

- 100 Gigabit Ethernet
- Fiber Channel over Ethernet

Compliance

- Compliant with SFF-8636
- Compliant with IEEE 802.3bj
- BER better than 10-15
- RoHS Compliance

Description

100G QSFP28 to QSFP28 Passive Copper Cable assemblies are high performance, cost effective I/O solutions for LAN, HPC and SAN. The high speed cable assemblies meet and exceed 100 Gigabit Ethernet and temperature requirements for performance and reliability. The cables are compliant with SFF-8436 specifications and provide connectivity between devices using QSFP ports.

Absolute Maximum Ratings

Table1- Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Storage Temperature	TSTG	-40	-	+85	°C	
Relative Humidity (non-condensation)	RH	5	-	85	%	
Data Rate Per Lane		1	-	25.78	Gb/s	

High Speed Characteristics

Table2-High Speed Characteristics

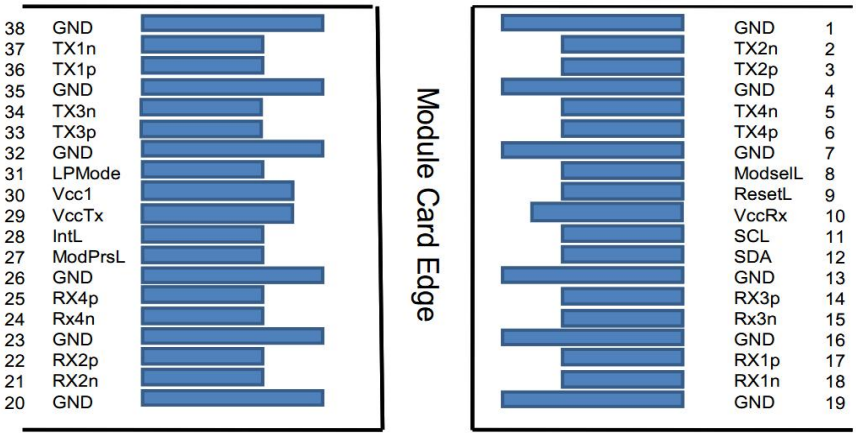
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Differential Impedance	RIN, P	90	100	100	Ω	
3.3V Supply Voltage	VCC	3.135	3.3	3.465	V	At 13.28 GHz
Total Data Rate			103.125		Gbps	
Insertion loss	SDD2	8		22.48	dB	
Differential Return Loss	SDDXX		＜-12+2* SQRT (f) with f in GHz		dB	0.01~4.1GHz
			＜-6.3+13* Log10(f/5.5) with f in GHz		dB	4.1~19GHz
Common-mode to common-mode output return loss	SCCXX		＜ -7+1.6*f with f in GHz		dB	0.01~12.89GHz
				-3		12.89~19GHz

Pin Descriptions

Table3-QSFP28 Pin Function Definition

Pin	Logic	Symbol	Description	Note
1	G	GND	Ground	1
2	S	Tx2n	Transmitter Inverted Data Input	
3	S	Tx2p	Transmitter Non-Inverted Data Input	
4	G	GND	Ground	1

5	S	Tx4n	Transmitter Inverted Data Input	
6	S	Tx4p	Transmitter Non-Inverted Data Input	
7	G	GND	Ground	1
8	IO	ModSelL	Module Select	
9	IO	ResetL	Module Reset	
10	Power	Vcc Rx	+3.3V Power Supply Receiver	2
11	IO	SCL	2-wire serial interface clock	
12	IO	SDA	2-wire serial interface data	
13	G	GND	Ground	1
14	S	Rx3p	Receiver Non-Inverted Data Output	
15	S	Rx3n	Receiver Inverted Data Output	
16	G	GND	Ground	1
17	S	Rx1p	Receiver Non-Inverted Data Output	
18	S	Rx1n	Receiver Inverted Data Output	
19	G	GND	Ground	1
20	G	GND	Ground	1
21	S	Rx2n	Receiver Inverted Data Output	
22	S	Rx2p	Receiver Non-Inverted Data Output	
23	G	GND	Ground	
24	S	Rx4n	Receiver Inverted Data Output	
25	S	Rx4p	Receiver Non-Inverted Data Output	
26	G	GND	Ground	1
27	IO	ModPrsL	Module Present	
28	IO	IntL	Interrupt	
29	Power	Vcc Tx	+3.3V Power supply transmitter	2
30	Power	Vcc1	+3.3V Power supply	2
31	IO	LPMode	Low Power Mode	
32	G	GND	Ground	1
33	S	Tx3p	Transmitter Non-Inverted Data Input	
34	S	Tx3n	Transmitter Inverted Data Input	
35	G	GND	Ground	1
36	S	Tx1p	Transmitter Non-Inverted Data Input	
37	S	Tx1n	Transmitter Inverted Data Input	
38	G	GND	Ground	1



Top Side

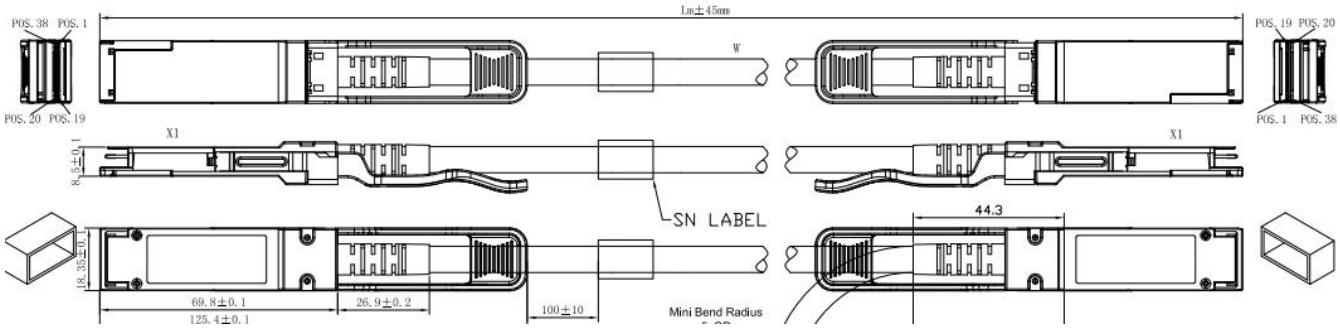
Viewed from Top

Bottom Side

Viewed from Bottom

Mechanical Specifications

The connector is compatible with the SFF-8436 specification.



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