

100G QSFP28 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

Parameter	Symbol	Min	Typical	Max	Unit	Notes
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

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Differential Impedance	RIN, P	90	100	100	Ω	
3.3V Supply Voltage	VCC	3.135	3.3	3.465	V	
Total Data Rate			103.125		Gbps	
Insertion loss	SDD2	8		22.48	dB	
Differential Return Loss	SDDXX	$< -12 + 2 * \text{SQRT}(f)$ with f in GHz			dB	0.01~4.1GHz
		$< -6.3 + 13 * \text{Log}_{10}(f/5.5)$ with f in GHz				4.1~19GHz
Common Mode Output Return Loss	SCCXX	$< -7 + 1.6 * f$ with f in GHz			dB	0.01~12.89GHz
				-3		12.89~19GHz

Pin Description

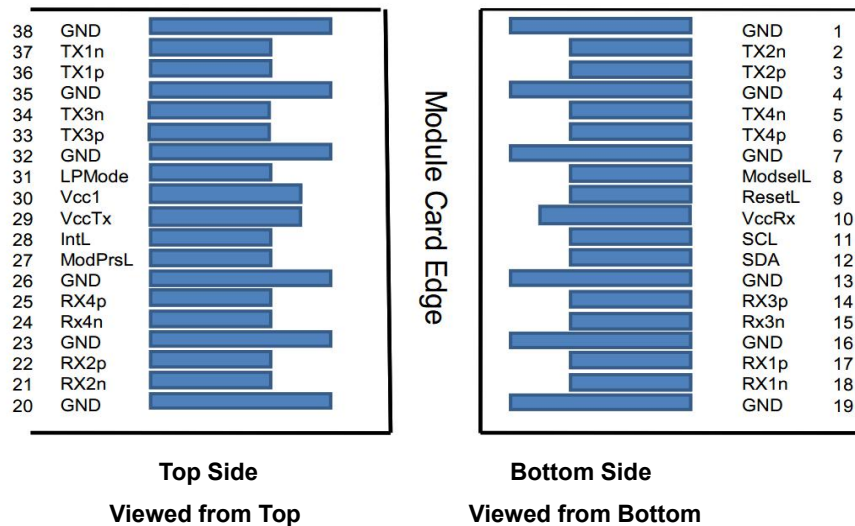


Figure1 Pin view

Table3-Pin Function Definitions				
Pin	Logic	Symbol	Name/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	VccTx	+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

Notes:

[1] GND is the symbol for signal and supply (power) common for the QSFP28 module. All are common within the QSFP28 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.

[2] Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Recommended host board power supply filtering is shown in Figure 7. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP28 Module in any combination. The connector pins are each rated for a maximum current of 500 mA.

Monitoring Specification



Figure2 Memory map

Caution

All adjustments have been done at the factory before the shipment of the devices. No maintenance and user serviceable part is required. Tampering with and modifying the performance of the device will result in voided product warranty.

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