QSFP28 Passive Copper Cable
QSFP-100G-0xC

Features

- QSFP28 conforms to the Small Form Factor SFF-8665
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support for multi-gigabit data rates :1.0 Gbps - 28.3125 Gbps (per channel)
- Maximum aggregate data rate: 112 Gps (4 x 28.3125Gbit/s)
- Copper link length up to 5m (passive mode limitation)
- High-Density QSFP28 38-PIN Connector
- Power Supply: +3.3V
- Low power consumption: 0.05 W (typ.)
- I2C based two-wire serial interface for EEPROM signature which can be customized
- Temperature Range: 0~ 70 °C

Applications

- 25G/100Gigabit Ethernet
- Switches, Routers, and HBAs
- Data Centers

STANDARDS COMPLIANCE

- IEEE 802.3ba
- SFF-8665
- QDR InfiniBand
- QSFP28 MSA
- RoHS Compliant

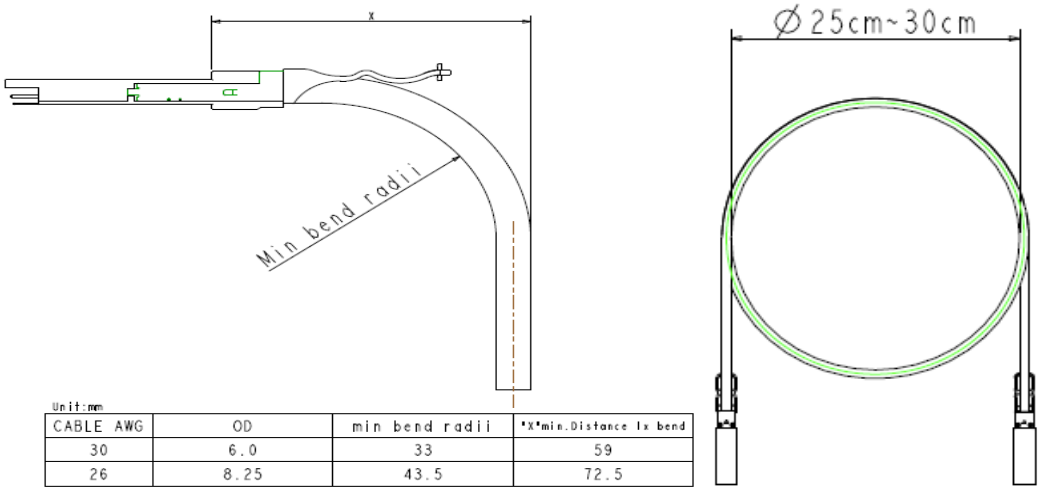
Product Description

The QSFP28 passive cable assemblies are high performance，cost effective I/O solutions for 100G LAN, HPC and SAN applications. The QSFP28 passive copper cables are compliant with SFF-8665 and QSFP28 MSA.　It offers a low power consumption，short reach interconnect application solution. Each lane is capable of transmitting data at rates up to 28Gb/s, providing an aggregated rate of 112Gb/s.

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Tc	0		+70	°C
Power Supply Voltage	V_{CC3}	3.14	3.3	3.47	V
Power Dissipation	PD			0.05	W

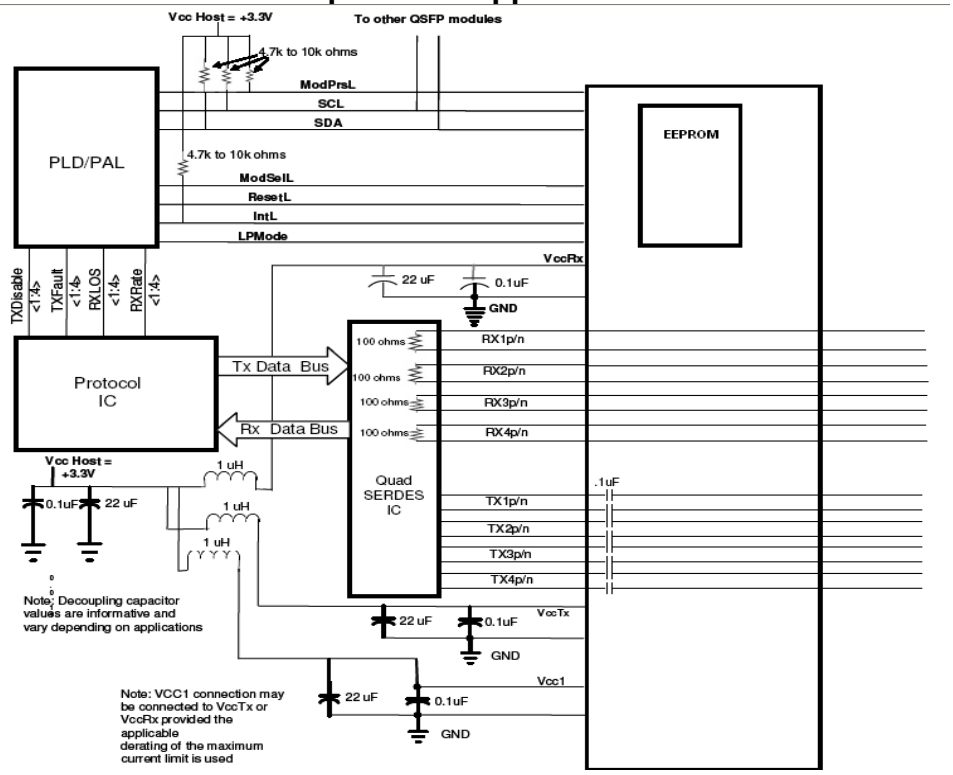
Mechanical Dimensions



Unit:mm

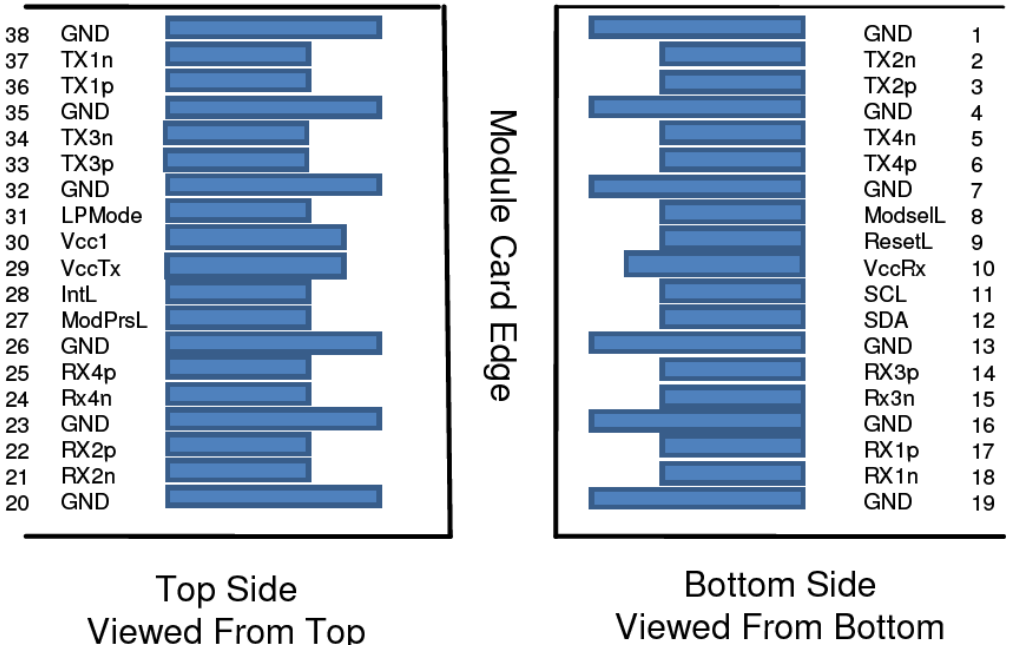
CABLE AWG	OD	min bend radii	"X"min.Distance lx bend
30	6.0	33	59
26	8.25	43.5	72.5

QSFP28 Host Board Schematic for passive copper cables



QSFP28 Copper Module

Pin Descriptions



Pin	Logic	Symbol	Name/Description	Notes
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		Vcc Rx	+3.3V Power Supply Receiver	2
11	LVCMOSI/O	SCL	2-wire serial interface clock	
12	LVCMOSI/O	SDA	2-wire serial interface data	
13		GND	Ground	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	
18	CML-O	Rx1n	Receiver Inverted Data Output	
19		GND	Ground	1
20		GND	Ground	1
21	CML-O	Rx2n	Receiver Inverted Data Output	
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	
23		GND	Ground	1
24	CML-O	Rx4n	Receiver Inverted Data Output	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	
26		GND	Ground	1
27	LVTTL-O	ModPrsL	Module Present	
28	LVTTL-O	IntL	Interrupt	
29		Vcc Tx	+3.3V Power supply transmitter	2
30		Vcc1	+3.3V Power supply	2
31	LVTTL-I	LPMode	Low Power Mode	
32		GND	Ground	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	

34	CML-I	Tx3n	Transmitter Inverted Data Input	
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	
37	CML-I	Tx1n	Transmitter Inverted Data Input	
38		GND	Ground	1

Note 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.
Note 2: Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figure 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP28 Module module in any combination. The connector pins are each rated for a maximum current of 500 mA.

Ordering information

Part Number	Product Description
QSFP-100G-01C	4 x 25Gbps QSFP28 Direct Attach Cable, 1m (30AWG),0ºC ~ +70ºC
QSFP-100G-03C	4 x 25Gbps QSFP28 Direct Attach Cable, 3m (28AWG),0ºC ~ +70ºC
QSFP-100G-05C	4 x 25Gbps QSFP28 Direct Attach Cable, 5m (26AWG),0ºC ~ +70ºC

E-mail: sales@robofiber.com