OPTiFab Fibre Optic

QSFP+ Passive Copper Cable

The QSFP+ passive cable assemblies are high performance, cost effective I/O solutions for 40G LAN, HPC and cost effective I/O solutions for 40G LAN, HPC and SAN applications. The QSFP+ passive copper cables are compliant with SFF-8436, QSFP+ MSA and IEEE P802.3ba 40GBASE-CR4. It is offer a low power consumption, short reach intercon-nect applications.The cable each lane is capable of transmitting data at rates up to 10Gb/s, providing an aggregated rate of 40Gb/s.

FEATURES:

- QSFP+ conforms to the Small Form Factor SFF-8436
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support for multi-gigabit data rates :1.0 Gbps - 10.3125 Gbps (per channel)
- Maximum aggregate data rate: 41.25 Gps (4 x 10.3125Gbit/s)
- Copper link length up to 5m (passive limiting)
- High-Density QSFP 38-PIN Connector
- Power Supply :+3.3V
- Low power consumption: 0.02 W (typ.)
- I2C based two-wire serial interface for EEPROM signature which can be customized
- Temperature Range: 0~ 70 °C

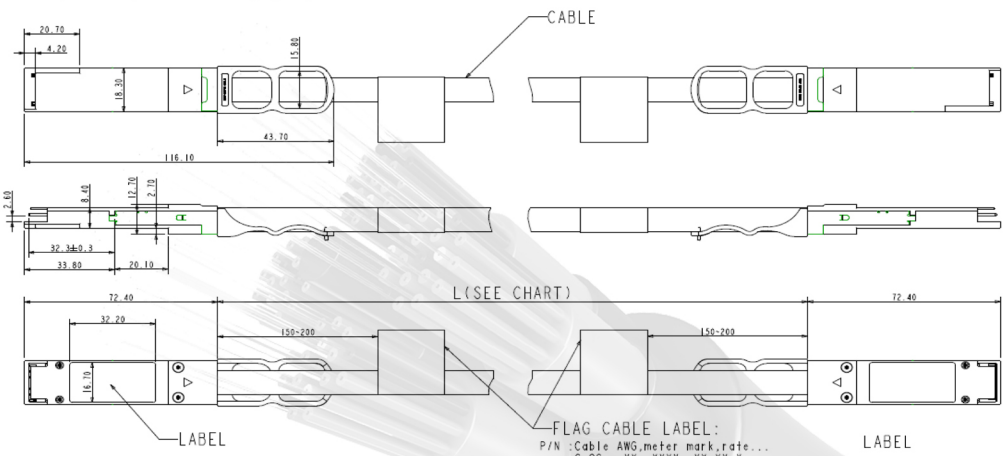
APPLICATIONS:

- 10G / 40Gigabit Ethernet
- InfiniBand 4XSDR, DDR, QDR
- Switches, Routers, and HBAs
- Data Centers
- 2, 4, 8, 10 Gigabit Fibre Channel

STANDARDS COMPLIANCE:

- IEEE 802.3ba
- SFF-8436
- QDR InfiniBand
- QSFP+ MSA
- RoHS Compliant

MECHANICAL DIMENSIONS



	(m)	(cm)
L	L≤0.5	±3
	0.5<L≤5	±5
	5<L≤20	±8
	20<L	±10

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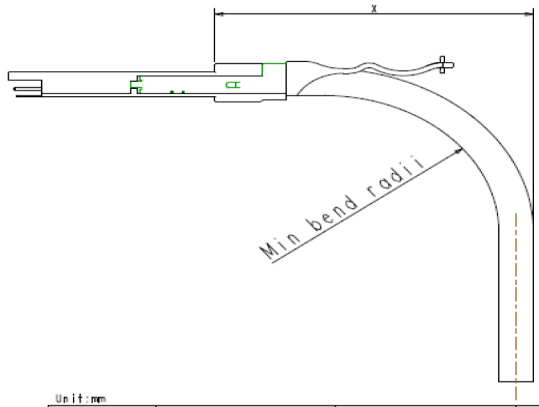
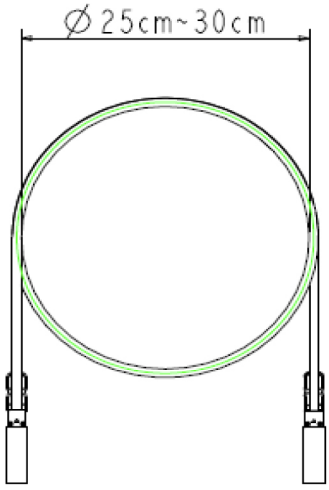
MECHANICAL DIMENSIONS





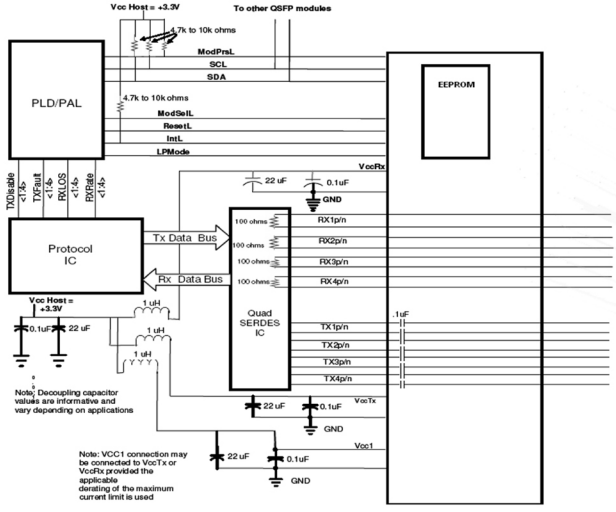
Unit:mm

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

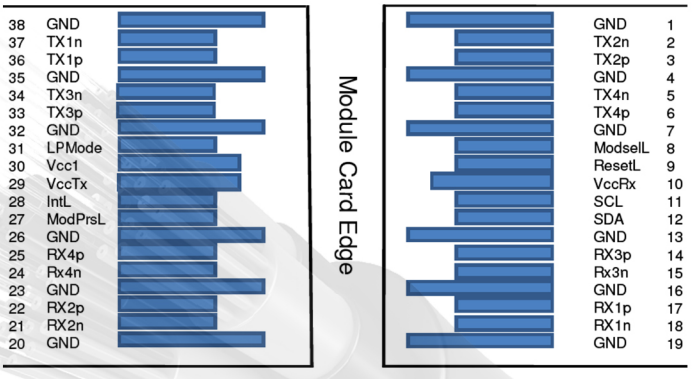
RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Tc	0		+70	°C
Power Supply Voltage	Vcc3	3.14	3.3	3.47	V
Power Dissipation	PD			0.02	W

QSFP+ HOST BOARD SCHEMATIC FOR PASSIVE COPPER CABLES



QSFP+ COPPER MODULE



Top Side
Viewed From Top

Bottom Side
Viewed From Bottom

PIN DESCRIPTIONS

PIN DESCRIPTIONS

Logic	Symbol	Name/Description	Notes
	GND	Ground	1
CML-I	Tx2n	Transmitter Inverted Data Input	
CML-I	Tx2p	Transmitter Non-Inverted Data Input	
	GND	Ground	1
CML-I	Tx4n	Transmitter Inverted Data Input	
CML-I	Tx4p	Transmitter Non-Inverted Data Input	
	GND	Ground	1
LVTTL-I	ModSelL	Module Select	
LVTTL-I	ResetL	Module Reset	
	Vcc Rx	+3.3V Power Supply Receiver	2
LVCMOSI/O	SCL	2-wire serial interface clock	
LVCMOSI/O	SDA	2-wire serial interface data	
	GND	Ground	1
CML-O	Rx3p	Receiver Non-Inverted Data Output	
CML-O	Rx3n	Receiver Inverted Data Output	
	GND	Ground	1
CML-O	Rx1p	Receiver Non-Inverted Data Output	
CML-O	Rx1n	Receiver Inverted Data Output	
	GND	Ground	1
CML-O	Rx2p	Receiver Inverted Data Output	
CML-O	Rx2n	Receiver Non-Inverted Data Output	
	GND	Ground	1
CML-O	Rx4p	Receiver Inverted Data Output	
CML-O	Rx4n	Receiver Non-Inverted Data Output	
	GND	Ground	1
LVTTL-O	ModPrsL	Module Present	
LVTTL-O	IntL	Interrupt	
	Vcc Tx	+3.3V Power supply transmitter	2
	Vcc1	+3.3V Power supply	2
LVTTL-I	LPMode	Low Power Mode	
	GND	Ground	1
CML-I	Tx3p	Transmitter Non-Inverted Data Input	
CML-I	Tx3n	Transmitter Inverted Data Input	
	GND	Ground	1
CML-I	Tx1p	Transmitter Non-Inverted Data Input	
CML-I	Tx1n	Transmitter Inverted Data Input	
	GND	Ground	1

Note 1: GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ 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 concurrent- ly. 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 with- in the QSFP+ Module module in any combination. The connector pins are each rated for a maximum current of 500 mA.