GQS-C768-XXC

4 x 10Gbps QSFP+ Direct Attach Cables

Features

- QSFP+ conforms to the Small Form Factor SFF8436
- 4-Channel Full-Duplex Active 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)
- Maximum throughput: 82.5 Gbps (Tx and Rx)
- Copper link length up to 10m (active limiting)
- High-Density QSFP 38-PIN Connector
- Power Supply :+3.3V
- Low power consumption: 1.5 W (typ.)
- Low crosstalk
- I2C based two-wire serial interface for easy control and monitoring
- (management interface acc. SFF-8436)
- Temperature Range: 0~ 70 °C
- ROHS Compatible

Applications

- Local Area Networks (LAN)
  - 10 Gigabit Ethernet
  - 40 Gigabit Ethernet
- High Performance Computing (HPC)
  - InfiniBand SDR, DDR, QDR
  - 2.5 , 5 Gigabit PCI-Express Extension
  - Proprietary Interconnect
- Storage Area Networks (SAN)
  - 2, 4, 8, 10 Gigabit Fibre Channel

Fibre Channel over Ethernet

SAS

Supported Standards

SFF-8436 (SFF Committee QSFP document)

QDR 10G InfiniBand

IEEE P802.3ba (Ethernet)

8GFC & 10GFC (Fibre Channel)

Product Description

The QSFP+ cable assemblies are high performance, cost effective I/O solutions for 40G LAN, HPC and SAN applications. QSFP+ copper modules allow hardware manufactures to achieve high port density, configurability and utilization at a very low cast and reduced power budget. The high speed cable assemblies meet and exceed Gigabit Ethernet , InfiniBand and Fibre Channel industry standard requirements for performance and reliability..

Recommended Operating Conditions

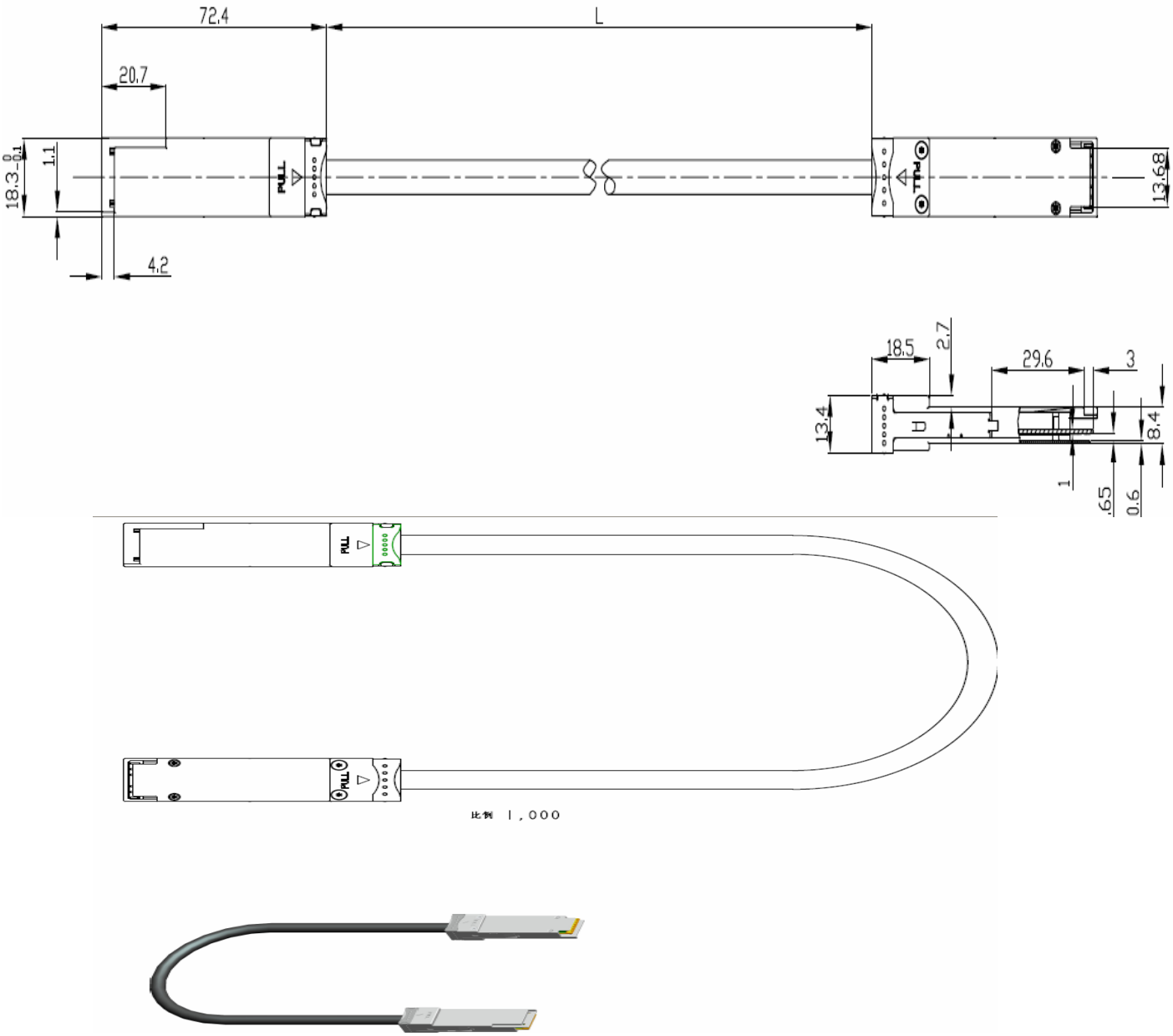
Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Tc	0		+70	°C
Power Supply Voltage	V_{CC3}	3.14	3.3	3.47	V
Power Dissipation	PD			1.5	W

Systems

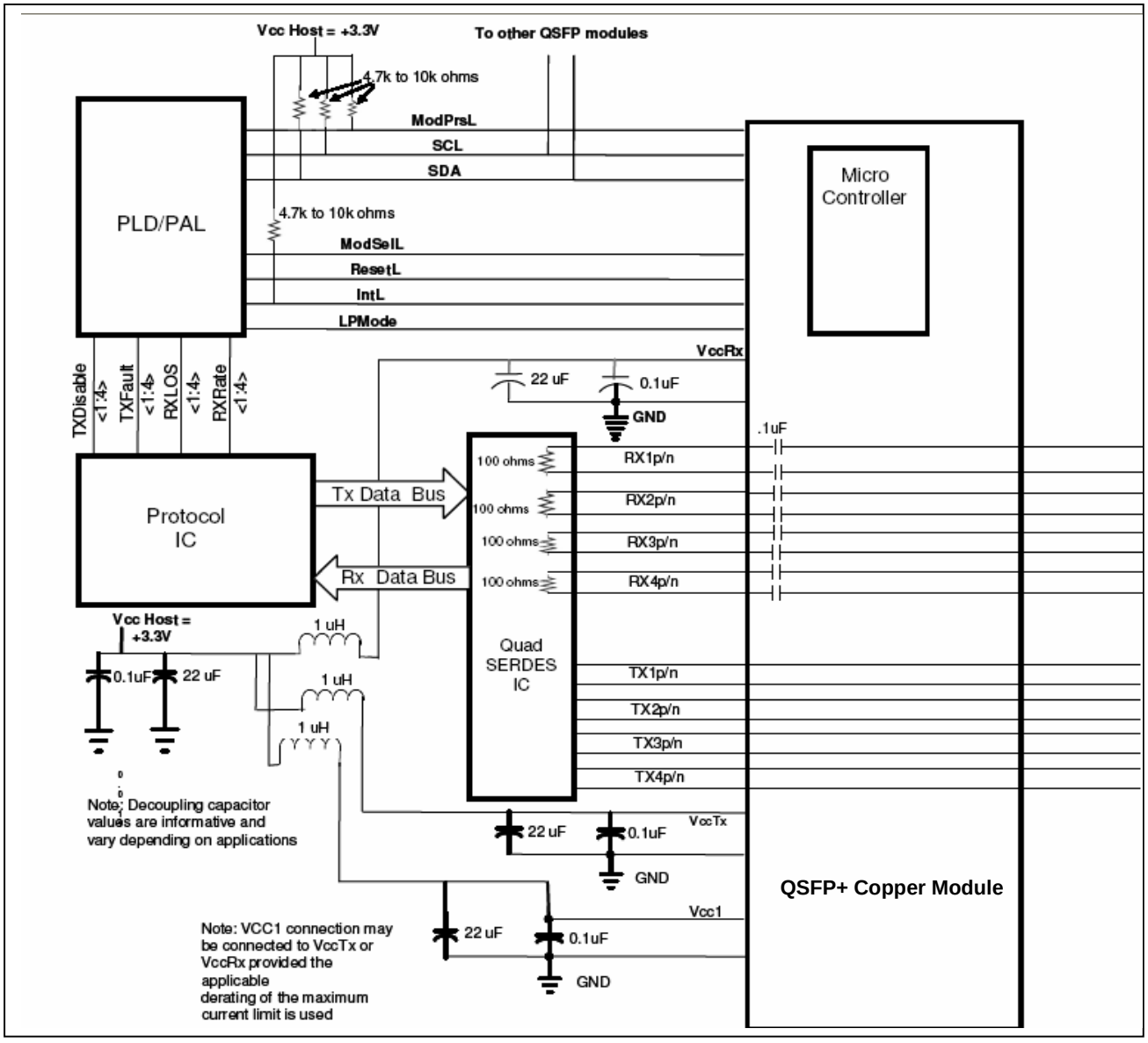
Performance	10.3125 Gpbs(per channel) line speed, full duplex Bit error rate: better than 10E-12
Media	Hot-pluggable, industry-standard Small Form-Factor Pluggable(QSFP+) copper cable, available up to 10m
Operating parameters	Supply voltage: 3.3V Power consumption(per end): max 1.5W

Supported Length

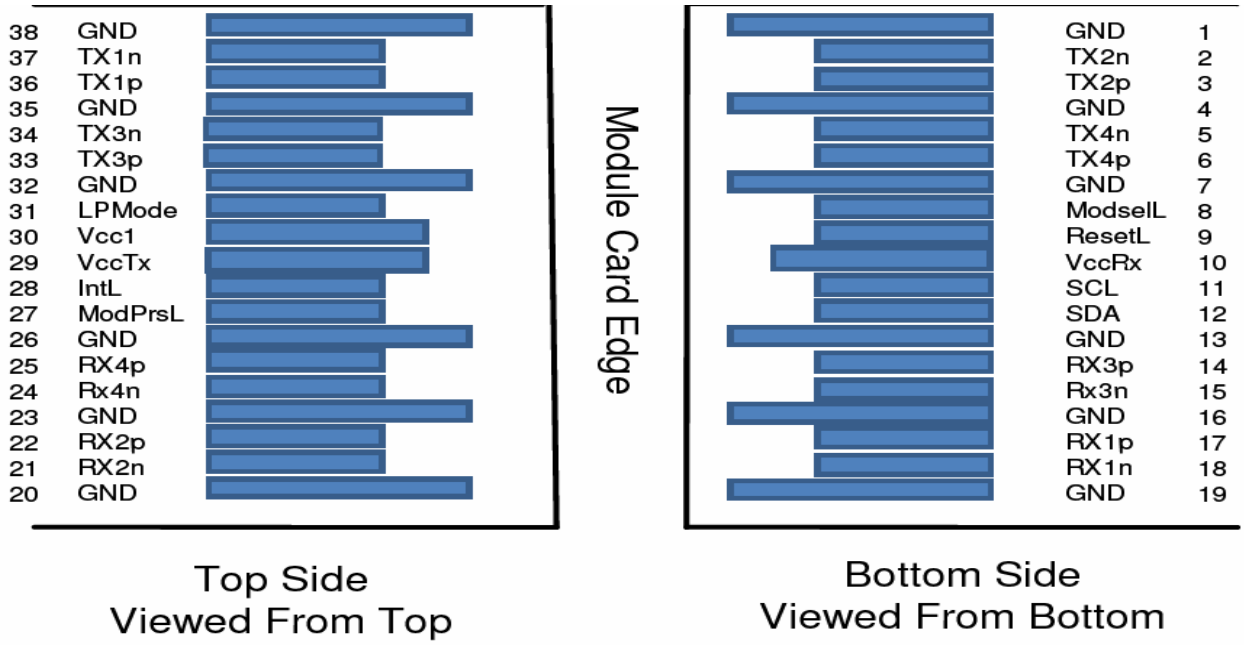
Up to 10m typical & customer specific requirements



QSFP+ Host Board Schematic for passive copper cables



Pin Descriptions



Top Side
Viewed From Top

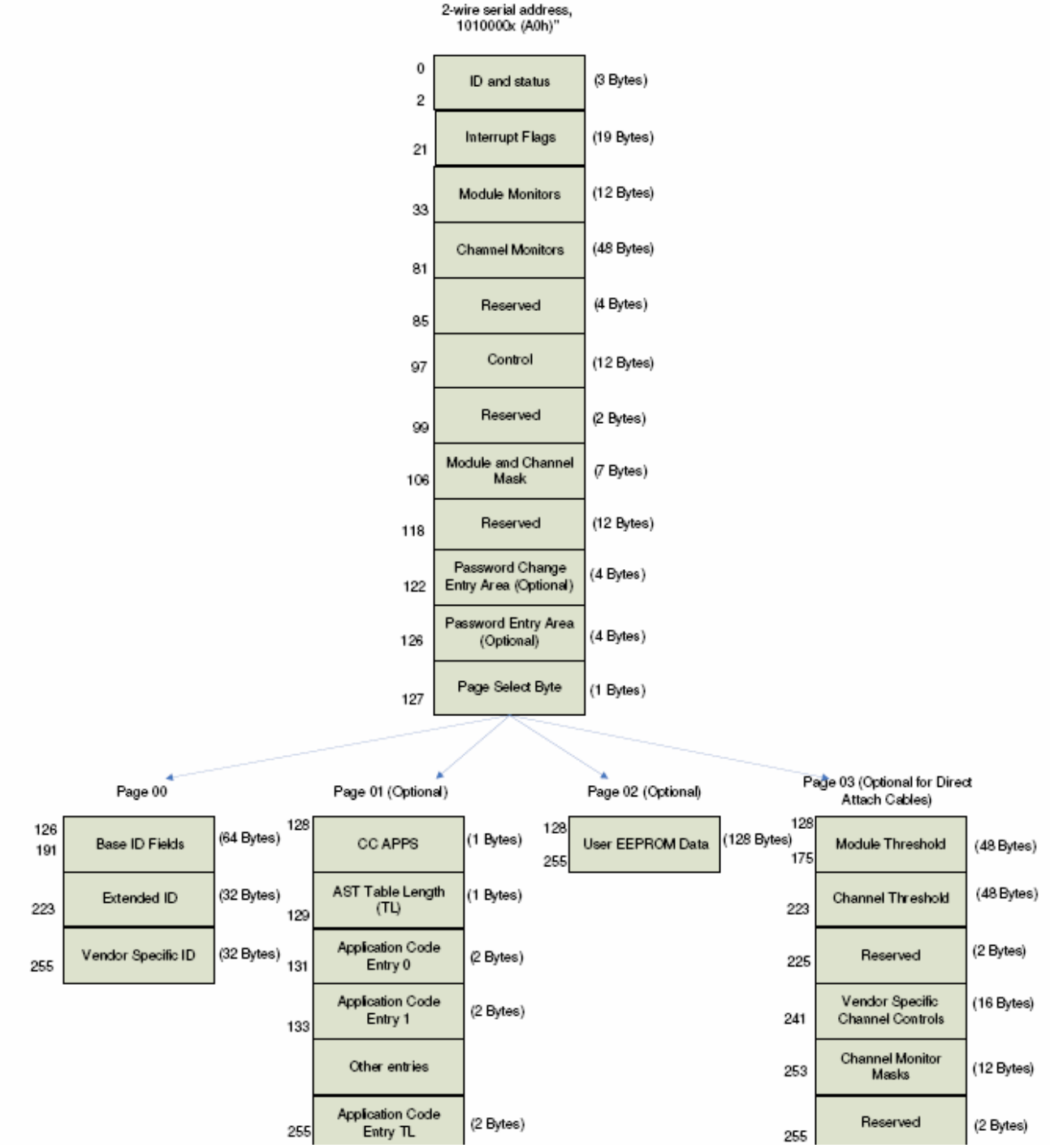
Bottom Side
Viewed From Bottom

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 QSFP+ module. All are common within the QSFP+ module and all module voltages are eferenced 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 QSFP+ Module module in any combination. The connector pins are each
rated for a maximum current of 500 mA.

QSFP+ Memory Map



Ordering information

Part Number	Product Description
GQS-C768-XXC	4 x 10Gbps QSFP+ Direct Attach Cables, up to 10m (24AWG),0ºC ~ +70ºC

E-mail: sales@gigalight.com.cn
Web : http://www.gigalight.com.cn