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## QSFP+ Passive Copper Cables Assembly 40Gb/s

### SOQP-40G-DAC-1-100M

#### Product Features

- ✧ 4 independent full-duplex channels
- ✧ 1G to 10.5 Gbps data rate per channel
- ✧ Support hot-pluggable
- ✧ Metal with lower EMI
- ✧ Excellent ESD protection
- ✧ Available in lengths of 1, 3, and 5m
- ✧ Single 3.3V power supply
- ✧ RoHS Compliant and Lead-Free
- ✧ Compliant with IEEE802.3ba
- ✧ Compliant with QSFP+ MSA: SFF-8436

#### Applications

- ✧ 40GbE
- ✧ InfiniBand 4X SDR DDR QDR
- ✧ Switches, Routers, and HBAs
- ✧ Data Centers

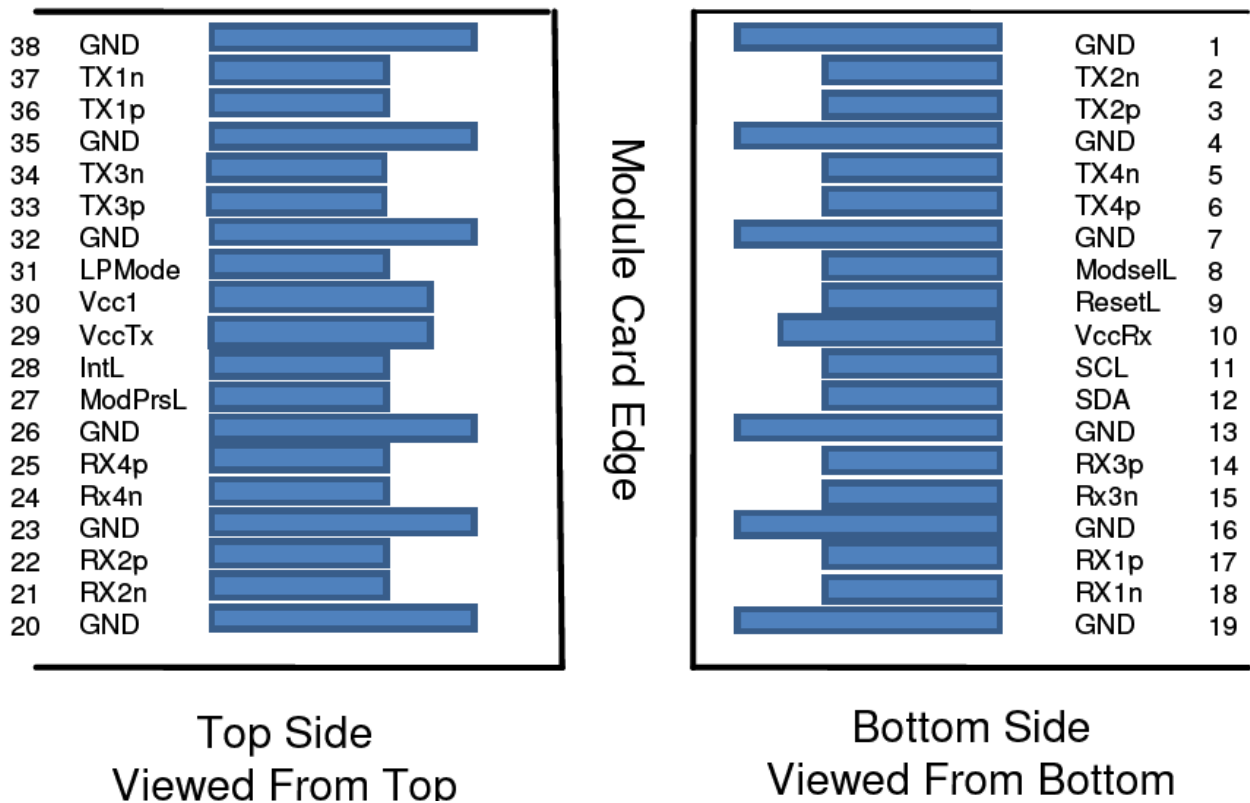
#### Product Selection

Part Number	Lengths	Note
SOQP-40G-DAC-1M	1m	1
SOQP-40G-DAC-5M	5m	1
SOQP-40G-DAC-7M	7m	1

#### Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.7
- RF Immunity compatible with IEC 61000-4-3
- EMI compatible with FCC Part 15 Class B EN55022 Class B
- RoHS compliant with 2002/95/EC 4.1&4.2 2005/747/EC

## Pin-out of Connector Block on Host Board



## Pin Descriptions

PIN	Logic	Symbol	Name/Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data output	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data output	
7		GND	Ground	1



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8	LVTLL-I	ModSelL	Module Select	
9	LVTLL-I	ResetL	Module Reset	
10		VccRx	+3.3V Power Supply Receiver	2
11	LVC MOS-I/ O	SCL	2-Wire Serial Interface Clock	
12	LVC MOS-I/ O	SDA	2-Wire Serial Interface Data	
13		GND	Ground	
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	1
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		VccTx	+3.3 V Power Supply transmitter	2
30		Vcc1	+3.3 V 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 Output	
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	



37	CML-I	Tx1n	Transmitter Inverted Data Output	
38		GND	Ground	1

**Notes:**

1. GND is the symbol for signal and supply (power), 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. 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 in any combination. The connector pins are each rated for a maximum current of 500 mA.

### Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Supply Voltage	Vcc	-0.5		+4.0	V	
Storage Temperature	TS	-40		+85	°C	
Relative Humidity	RH	0		85	%	

### Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	Icc	-	-	100	mA	
Case Operating Temperature	Tc	-5	-	+70	°C	

### Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Data Rate Per Channel	BR	1	10.3	10.5	Gbps	1
Bit Error Ratio	BER			10 <sup>-12</sup>		2
Input differential impedance	Zin	90	100	110	Ω	

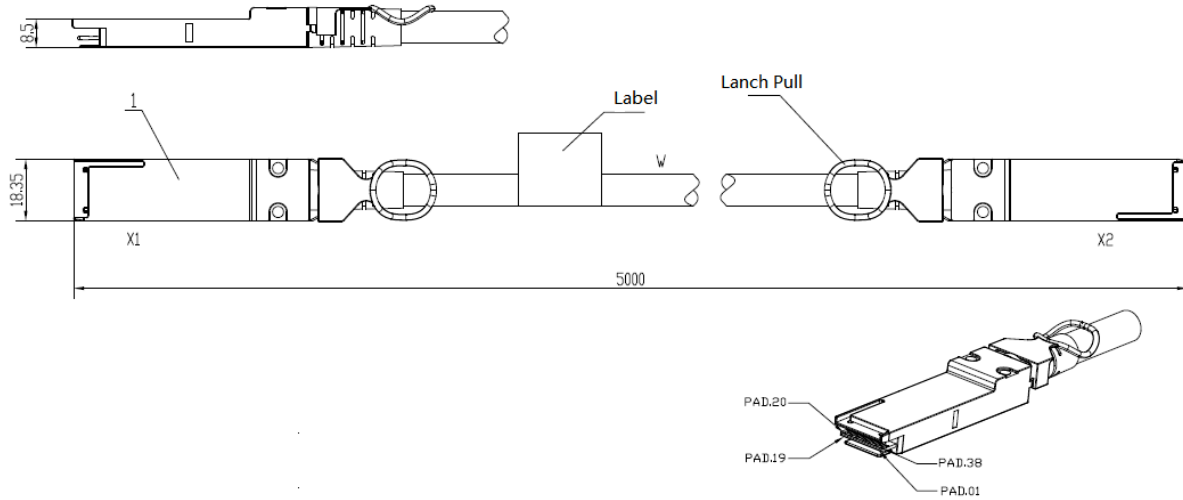
**Notes:**

1. 40 Gigabit Ethernet and Infiniband 4X compliant.
2. Tested with a PRBS 2<sup>31</sup>-1 test pattern.

### Mechanical Specifications



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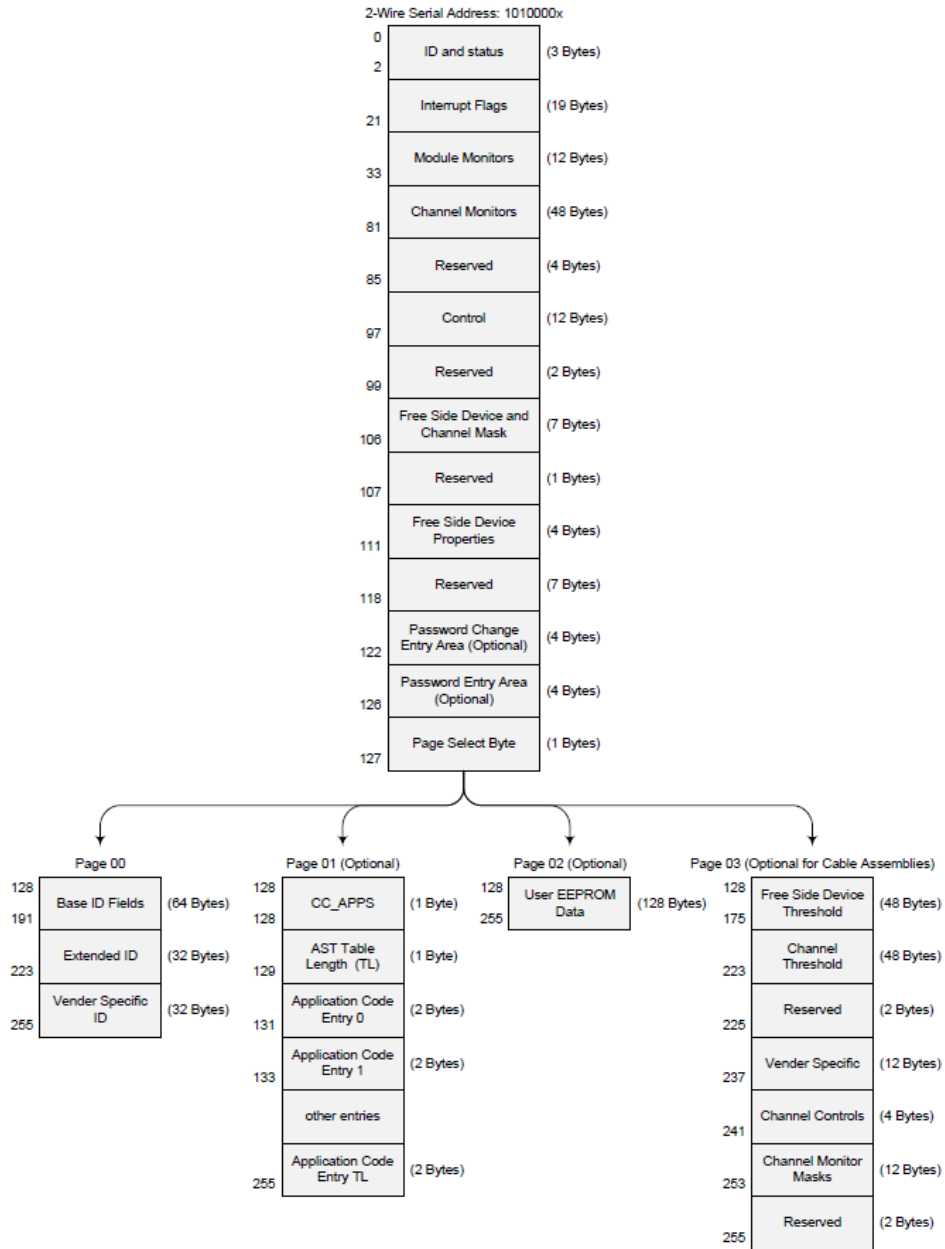
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#### EEPROM Information

EEPROM memory map specific data field description is as below:



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## For More Information

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