

EAQP4X-xxx-1

40Gbps QSFP+ to QSFP+ Active Optical Cables

PRODUCT FEATURES

- **Compliant to QSFP+ MSA
SFF-8636 Specification**
- **Wide Operating Temperature(-40°C~85°C)**
- **4x10Gbps 850nm VCSEL-based Transmitter**
- **RoHS compliant**

APPLICATIONS

- **40GBASE-SR4 at 10.3125Gbps per lane**
- **Data Center Backbone**
- **Other optical links**

DESCRIPTIONS

The ETU-Link QSFP+ active optic cables are a high performance, low power consumption long reach interconnect solution supporting InfiniBand QDR/DDR/SDR, 12.5G/10G/8G/4G/2G fiber channel PCIe and SAS. It is compliant with the QSFP MSA and IEEE 802.3ba. ETU-Link QSFP AOC is an assembly of 4 full-duplex lanes, where each lane is capable of transmitting data at rates up to 11.3Gb/s, providing an aggregated rate of 45.2Gb/s. ETU-Link QSFP+ AOC is one kind of parallel transceiver which provides increased port density and total system cost savings.

Ordering Information

Part No.	Description
EAQP4X-xxx-1	40G QSFP+ AOC Transceivers OM3 0~100M

Notes:

where "xx" denotes cable length in meters. Examples are as follows:

x = 3 for 3m, xx = 10 for 10m, xx = 50 for 50m, xxx = 100m

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Min.	Max.	Unit
Storage Temperature	T _{Storage}		-40	+85	°C
Relative Humidity	RH		0	+85	%

Recommended Operating Conditions

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Case Temperature	T _c		-40		85	°C
Power Supply Voltage	V _{CC}		3.135	3.3	3.465	V
Signaling Rate each Channel				10.3125		Gbps
Data Rate Accuracy			-100		100	ppm
Bit Error Ratio					1e-12	

Notes: FEC provided by host system.

Electrical Characteristics

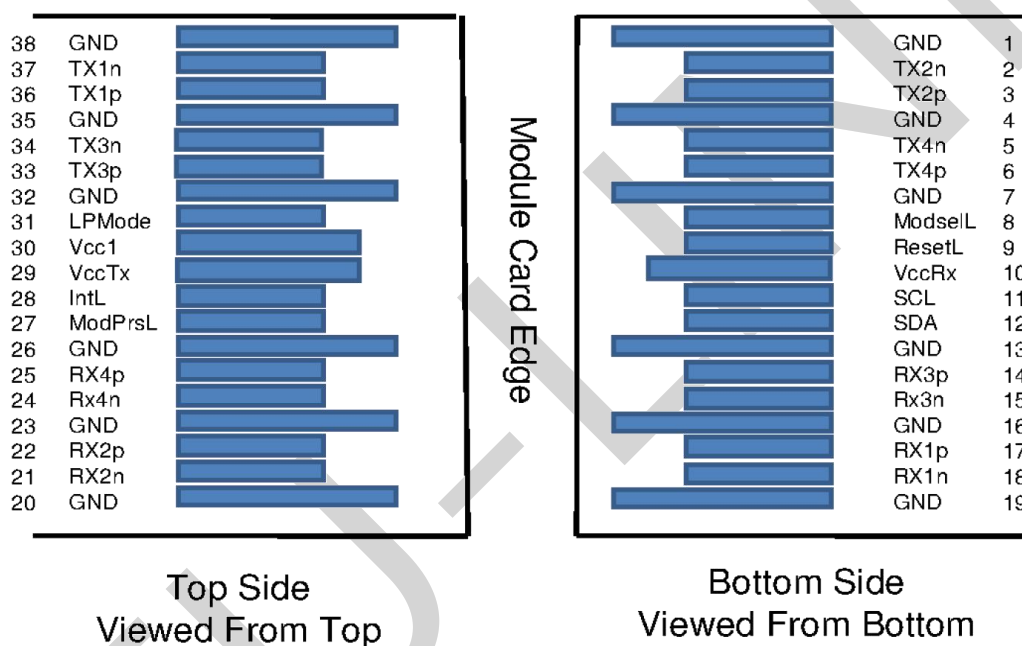
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Consumption					1	W
Supply Current	I _{cc}				300	mA

Digital Diagnostics

The following characteristics are defined over recommended operating conditions.

Parameter	Accuracy	Unit
Internally measured transceiver temperature	+/-3	deg.C
Internally measured transceiver supply voltage	+/-3	%
Measured Tx bias current	+/-10	%
Measured Tx output power	+/-3	dB
Measured Rx received average optical power	+/-3	dB

Pin Diagram

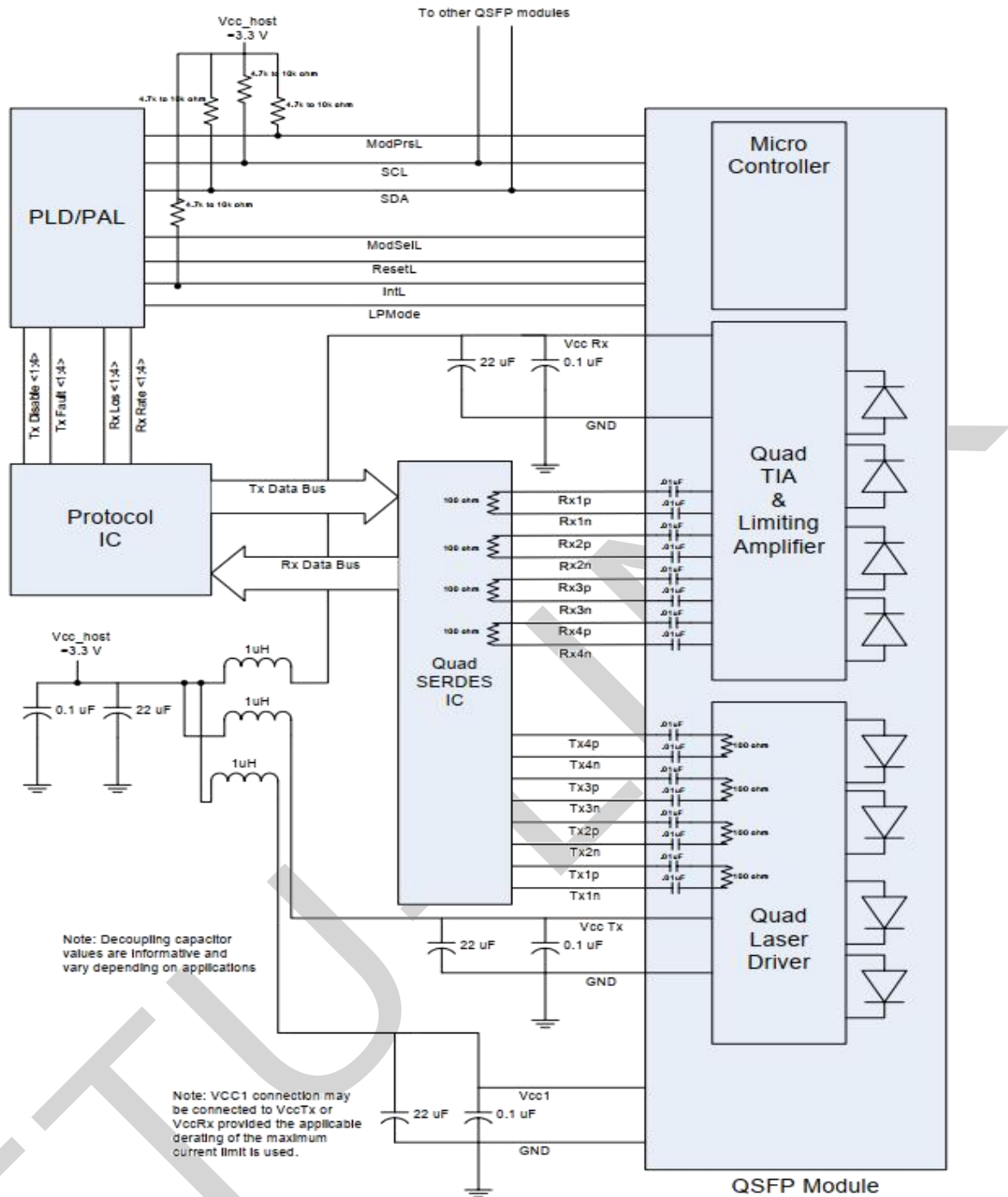


Pin Definitions

PIN	Logic	Symbol	Name/Description	Note
1		GND	Ground	
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data output	
4		GND	Ground	
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data output	
7		GND	Ground	
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		VccRx	+ 3.3V Power Supply Receiver	
11	LVC MOS-I/O	SCL	2-Wire Serial Interface Clock	

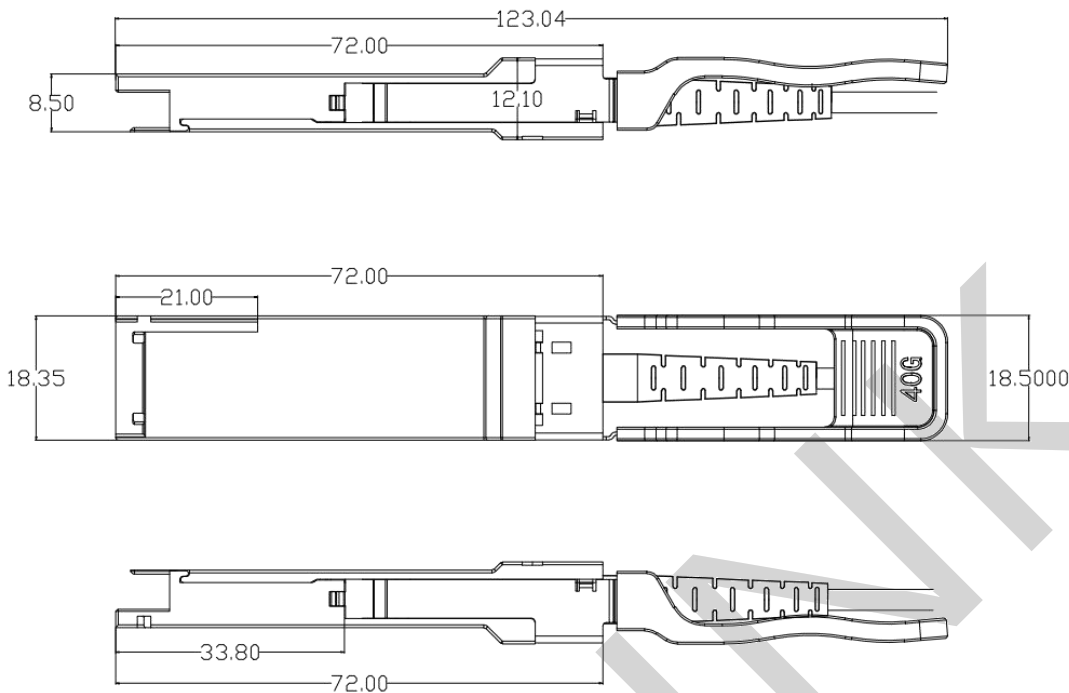
12	LVC MOS-I/O	SDA	2-Wire Serial Interface Data	
13		GND	Ground	
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	
18	CML-O	Rx1n	Receiver Inverted Data Output	
19		GND	Ground	
20		GND	Ground	
21	CML-O	Rx2n	Receiver Inverted Data Output	
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	
23		GND	Ground	
24	CML-O	Rx4n	Receiver Inverted Data Output	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	
26		GND	Ground	
27	LVTTL-O	ModPrsL	Module Present	
28	LVTTL-O	IntL	Interrupt	
29		VccTx	+3.3 V Power Supply transmitter	
30		Vcc1	+3.3 V Power Supply	
31	LVTTL-I	LPMode	Low Power Mode	
32		GND	Ground	
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	
34	CML-I	Tx3n	Transmitter Inverted Data Output	
35		GND	Ground	
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	
37	CML-I	Tx1n	Transmitter Inverted Data Output	
38		GND	Ground	

Recommended Interface Circuit



Mechanical Diagram

Unit mm



Revision History

Version No.	Date	Description
1.0	February 8, 2020	Preliminary datasheet
1.1	July 26, 2024	Format change

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