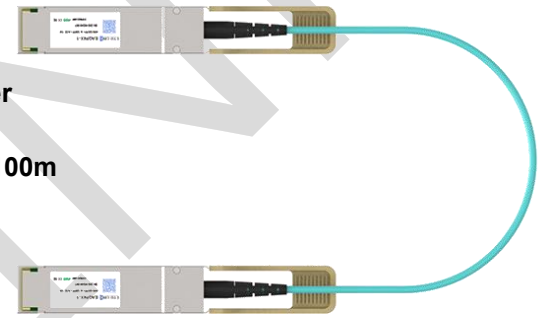
EAQP4X-xxx

40G QSFP+ to 40G QSFP+ Active Optical Cables



PRODUCT FEATURES

- Four-channel full-duplex active optical cable
- Transmission data rate up to 11.3Gbit/s per channel
- Reliable VCSEL array technology using multimode fiber
- Available in standard lengths of 3, 5, 10, 15, 20, 30, 50,100m
- Low power consumption <1.5W
- Operating case temperature 0°C to +70°C
- 3.3V power supply voltage
- RoHS 6 compliant
- Hot Pluggable QSFP form factor

APPLICATIONS

- Infiniband QDR/DDR/SDR
- Data center
- 40G Ethernet
- 4G/8G/10G Fibre Channel

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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.	
EAQP4X-xxx-OM3	40G QSFP+ to 40G QSFP+ Active Optical Cables 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	Min.	Typical	Max.	Unit	Notes
Storage Temperature	T_{stg}	-40		+85	°C	
Relative Humidity - Storage	R_{HS}	5		95	%	
Relative Humidity - Operating	R_{HO}	5		85	%	
DC Supply Voltage	V_{CC}	0		3.6	V	

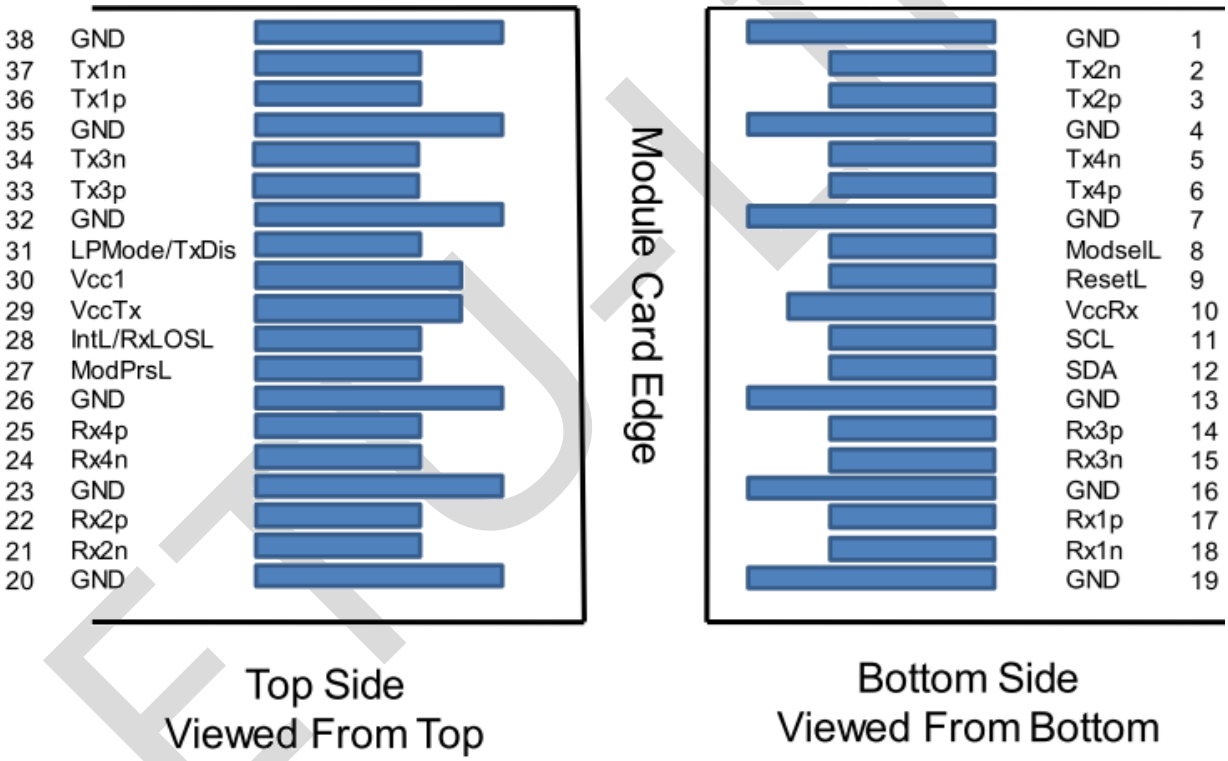
Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	TOPC	0		70	degC
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Power Consumption		-		1.5	w
Data Rate	DR	1	10.3	11.3	Gbps
Data Speed Tolerance	ΔDR	-100		+100	ppm
Link Distance with OM3 fiber	D	0		100	m

Electrical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit
Differential input impedance	Zin	90	100	110	ohm
Differential Output impedance	Zout	90	100	110	ohm
Differential input voltage amplitude	ΔVin	300		1100	mVp-p
Differential output voltage amplitude	ΔVout	500		800	mVp-p
Bit Error Rate	BR			E-12	
Input Logic Level High	VIH	2.0		VCC	V
Input Logic Level Low	VIL	0		0.8	V
Output Logic Level High	VOH	VCC-0.5		VCC	V
Output Logic Level Low	VOL	0		0.4	V

Pin Diagram



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

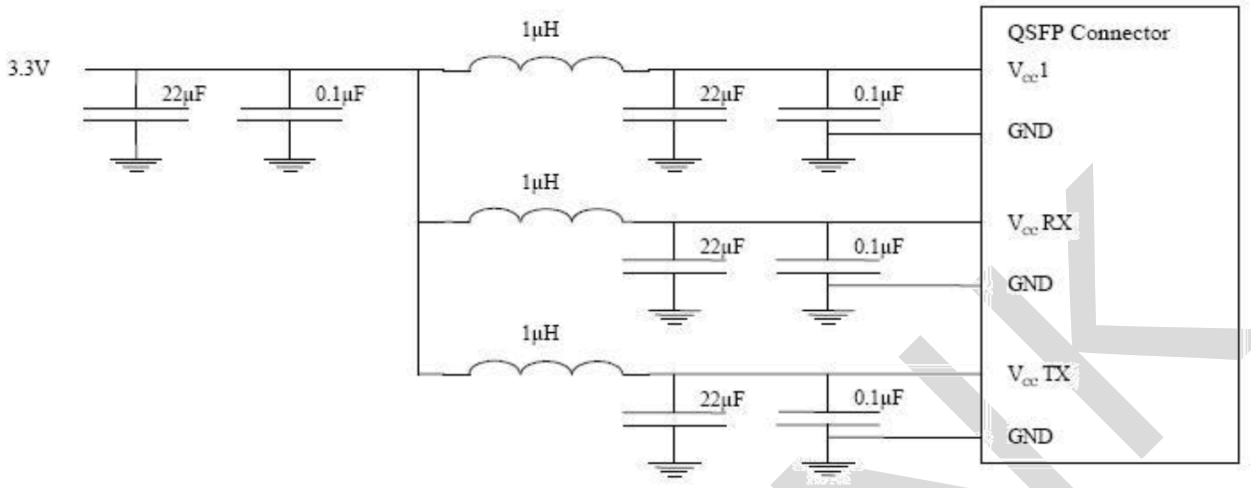
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data output	
7		GND	Ground	1
8	LVTLL-I	ModSelL	Module Select	
9	LVTLL-I	ResetL	Module Reset	
10		VccRx	+ 3.3V Power Supply Receiver	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface 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:

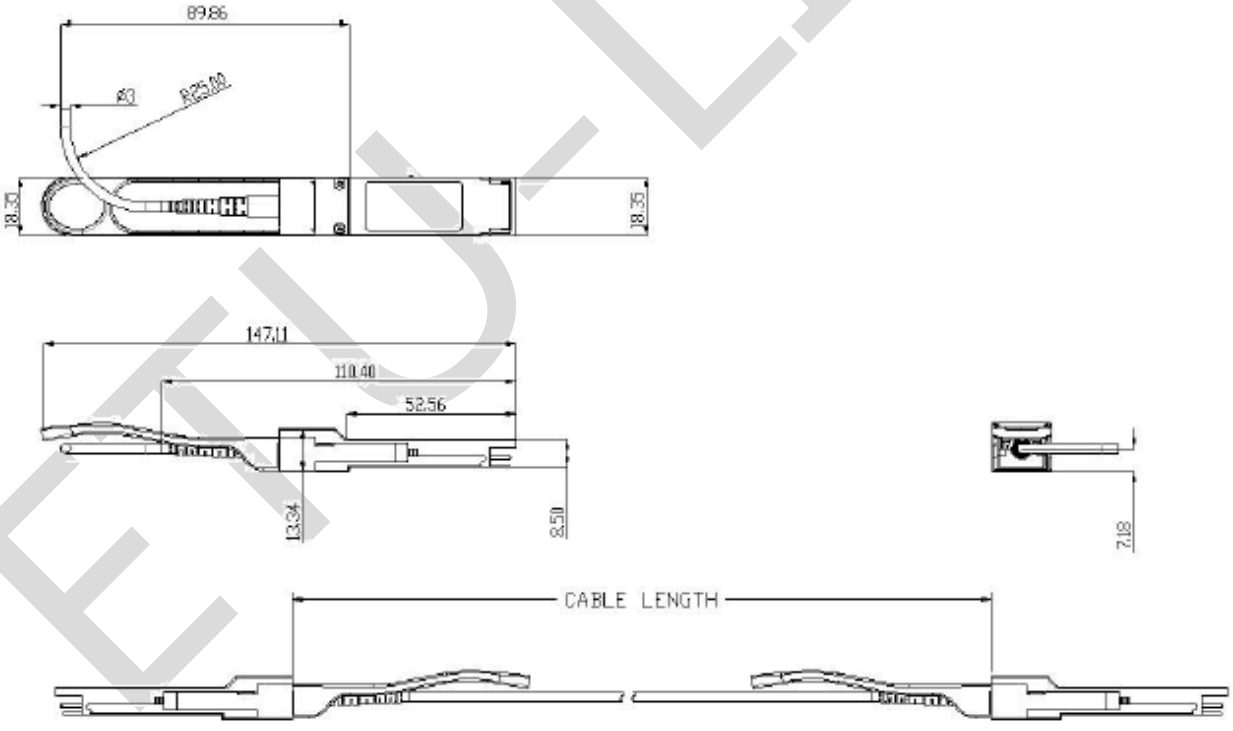
1) Module circuit ground is isolated from module chassis ground within the module. GND is the symbol for signal and supply (power) common for QSFP modules.

2) The connector pins are each rated for a maximum current of 500mA.

Power Supply Filtering



QSFP+ AOC-end Electrical Specifications



Dimensions in Millimeters

ETU-LINK

Revision History

Version No.	Date	Description
1.0	February 8, 2019	Preliminary datasheet
1.1	July 26, 2024	Format change

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