V 1.2

40G QSFP+ – 4x10G SFP+ AOC

FXLA-T40NXX-C00

Features

QSFP+ AOC end:

- Compliant to the 40GBASE-SR4 and XLPPI Specification per IEEE 802.3ba-2010 and supporting 40G-IB-QDR / 20G-IB-DDR / 10G-IB-SDR applications
- Compliant to the industry standard SFF-8436 QSFP+ Specification
- Power Level 1: Max Power < 1.5 W
- Operate at 10.3125 Gbps per channel with 64b/66b encoded data for 40GbE application and at 10 Gbps

with 8b/10b compatible encoded data for 40G-IB-QDR application

Each 4× SFP+ end:

- Compliant to the electrical specifications per SFF-8431 Specifications for Enhanced Small Form Factor Pluggable Module
- Mechanical specifications per SFF Committee SFF-8432 Improved Pluggable Form factor

"IPF"

- Maximum power dissipation 0.35W per end.

Active Optical Cable Assembly:

- 0 to 70 C degree case temperature operating range
- Proven High Reliability 850 nm technology: Flexlink VCSEL transmitter and Flexlink PIN receiver

- Hot pluggable for ease of servicing and installation
- Two Wire Serial interface
- Utilizes optical fiber for high density and thin, lightweight cable management

Applications

- 40GbE and 10GbE break-out applications for Datacom switch and router connections
- 40G to 4×10G density applications for Datacom and Proprietary protocol applications
- Datacenter

Description

The Flexlink Technologies FXLA-T40NXX-C00 is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP+ Active Optical Cable (AOC) to 4× SFP+ Active Optical Cable break-out solu-tion. This Breakout cable is intended for 40G to 4× 10G applications.

This AOC is a high performance cable for short-range multi-lane data communication and interconnect applications. It integrates four data lanes in each direction with 40 Gbps aggregate bandwidth. Each lane can operate at 10.3125 Gbps. These cables also support 4 x 10G InfiniBand QDR applications and are backwards compatible to the 4 × 5G IB DDR and 4 × 2.5G IB single IB SDR applications.

This product is leveraged from Flexlink Technologies QSFP+ to QSFP+ Active Optical Cable product and SFP+ Active Optical Cable product. Where applicable, consult these respective datasheets

This AOC incorporates Flexlink Technologies' proven integrated circuit and VCSEL technology to provide reliable long life, high performance, and consistent service.

Absolute Maximum Ratings

The operation in excess of any absolute maximum ratings might cause permanent damage to this module.

Parameter	Symbol	Min	Max	Unit
Storage Temperature	TST	-40	85	degC
Relative Humidity(non-condensing)	RH	0	85	%
Operating Case Temperature	TOPC	0	70	degC
Supply Voltage	VCC	-0.3	3.6	V
Input Voltage	Vin	-0.3	Vcc+0.3	V

Recommended Operating Conditions and Supply Requirements

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	TOPC	0		70	degC
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Data Rate	DR		10.3	11.3	Gbps
Data Speed Tolerance	ΔDR	-100		+100	ppm
Link Distance with OM3 fiber	D	0		100	m
Control* Input Voltage High	Vih	2		VCC+0.3	V
Control* Input Voltage Low	Vil	-0.3		0.8	V
I2C Serial Interface frequence	fs			400k	Hz
Power Supply Noise				50	mVpp
Receiver Differential Data Output Load				100	mVpp

Active Cable-End Electrical Characteristics

The following characteristics are defined over the Recommended Operating

Conditions unless otherwise noted. Typical values are for Tc = 40 °C, Vcc =3.3 V

Parameter	Symbol	Min	Typical	Max	Unit
QSFP+ 40G Active Cable-End Power Consumption				1.5	W
QSFP+ 40G Active Cable-End Power Supply Current				300	mA
SFP+ 10G Active Cable-End Power Consumption				0.35	W
SFP+ 10G Active Cable-End Power Supply Current				100	mA