

# Alpha Bridge AQSFP-F-03-A/SFPP/4 Datasheet

### Features

- Four-channel full-duplex active optical cable with breakout from QSFP+ to four SFP+
- Up to 10.3125Gb/s per channel
- Hot-pluggable QSFP+ and SFP+ MSA-compliant connectors
- Low power dissipation: <1.5W on QSFP+ end, <1W on SFP+ ends
- Built-in digital diagnostic functions
- Commercial operating case temperature range: 0 to 70°C
- RoHS-6 compliant (lead free)



### Application

- High performance computing interconnect
- InfiniBand SDR/DDR/QDR interconnect
- 4x 10G Ethernet interconnect

### Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.
Supply Voltage	Vcc	-0.3V	3.6V
Storage Temperature	Ts	-20°C	85°C
Case Operating Temperature	Tc	0°C	70°C
Relative Humidity (non-condensation)	RH	5%	95%

### General Product Characteristics

Parameter	Value	Note
Module Form Factor <sub>1</sub>	QSFP+ and SFP+	1
Number of Lanes	4 Tx and 4 Rx	
Maximum Aggregate Data Rate	41.25Gb/s	
Maximum Data Rate per Lane	10.3125Gb/s	
Protocols Supported	10G Ethernet	
Electrical Interface and Pin-out <sub>1</sub>	38-pin edge connector (QSFP+), 20-pin edge connector (SFP+)	1
Maximum Power Consumption per End	1.5W (QSFP+), 1W (SFP+)	
Management Interface <sub>4</sub>	Serial, I <sup>2</sup> C-based	2

#### Notes:

1. As defined by QSFP+ MSA and SFP+ MSA, "INF-8438i Rev 1.0", "SFF-8431, Revision 4.1".
2. As defined by "SFF-8636 Rev 2.6", "SFF-8472 Rev 11.0".

**Electrical Specifications**

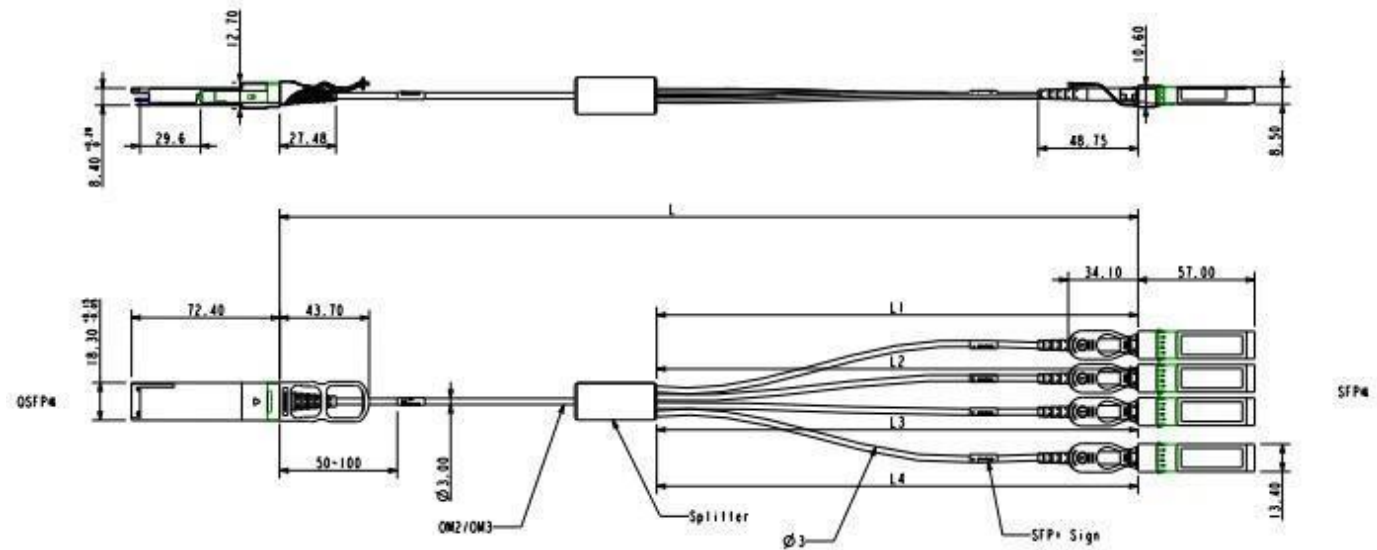
(Tc= 0 to 70°C, Vcc=3.3±5%V)

Parameter	Symbol	Min	Typical	Max	Notes
Differential Input Impedance	Zin	90Ω	100Ω	110Ω	
Differential Output Impedance	Zout	90Ω	100Ω	110Ω	
Differential Input Voltage Amplitude	ΔVin	300mV		1100mV	1
Differential Output Voltage Amplitude	ΔVout	500mV		800mV	2
Skew	Sw			300ps	
Bit Error Rate	BER			10 <sup>-12</sup>	
Input Logic Level High	VIH	2.0V		Vcc	
Input Logic Level Low	VIL	0V		0.8V	
Output Logic Level High	VOH	Vcc-0.5		Vcc	
Output Logic Level Low	VOL	0V		0.4V	

**Notes:**

1. Measured between TxnP and TxnN.
2. Measured between RxnP and RxnN.

**Dimensions**



**Ordering Information**

Part Number	Model Number	Length (M)	Voltage	Temperature
<b>AQSFP-F-03-A/SFPP/4</b>	Active Optical Cable	1	3.3V	0°C to 70 °C

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