



100G QSFP28 Active Optical Cable Series

GL1H-AQ2Y1M3xxM

100Gbps QSFP28 Active Optical Cable

Features

- Hot-pluggable QSFP28 footprint
- Support 103.1Gbps aggregate bit rate
- 4x25Gbps electrical interface
- Available in lengths up to 100m
- Power Dissipation <2.5W per cable end
- Single +3.3V power supply
- Operating Case temperature range
0°C to 70°C
- RoHS-6 compliant
- Compliant with SFF-8679
- Compliant with SFF-8661

Applications

- 100G-Ethernet
- Data Center
- Other Optical Links

Ordering information

Part No.	Reach	Data Rate	Temp.
GL1H-AQ2Y1M303M	3m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M305M	5m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M307M	7m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M310M	10m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M315M	15m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M320M	20m	103.1Gpbs	0°C to 70°C
GL1H-AQ2Y1M31HM	100m	103.1Gpbs	0°C to 70°C

More detail product selection and cable lengths, please contact FIBRECROSS.

Description

GL1H-AQ2Y1M3xxM QSFP28 active optical cables are designed for use in 100G-Ethernet links. They are compliant with SFF-8679, and the mechanical QSFP28 plug is compatible with SFF-8661.



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Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Power Supply Voltage	V _{CC}	0		3.6	V	
Storage Temperature	T _S	-40		+85	°C	
Relative Humidity	RH	5		85	%	Non-condensing
Case Operating Temperature	T _C	0		+70	°C	

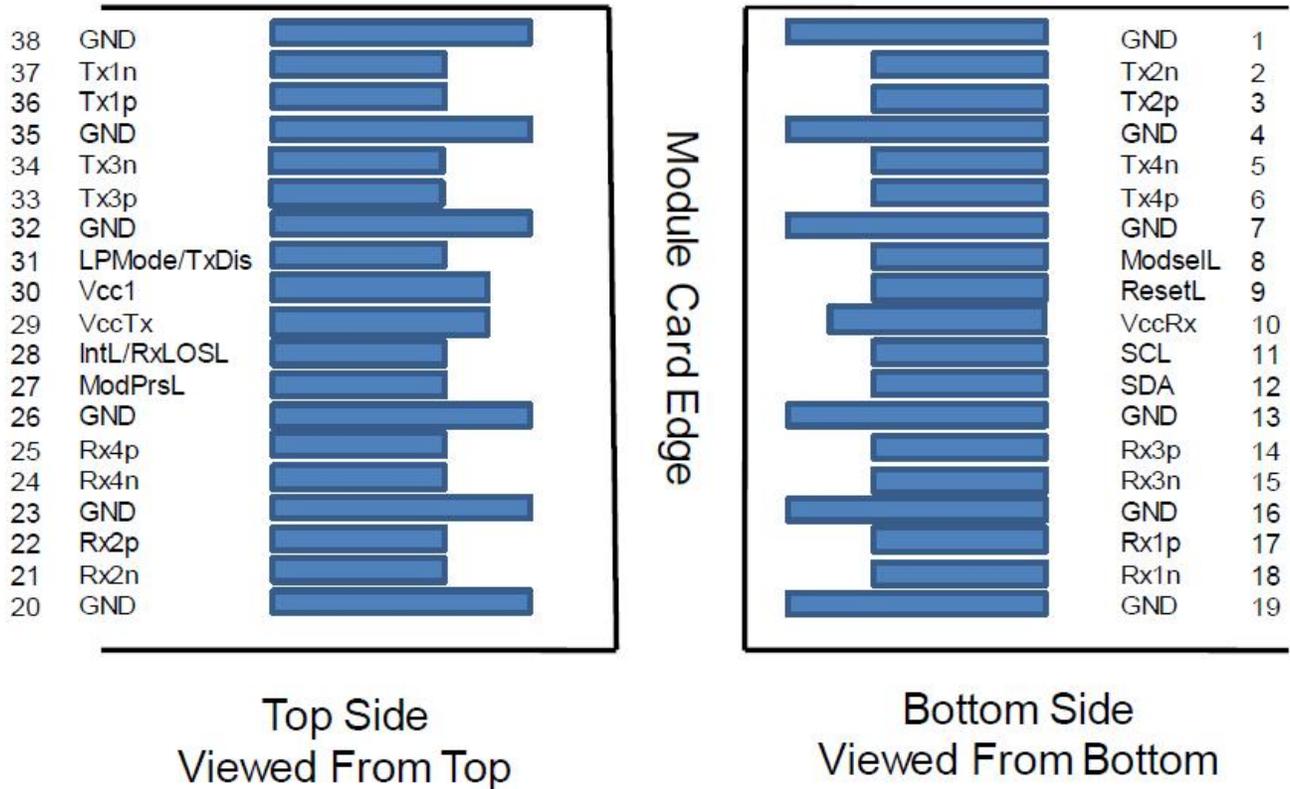
Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Power Supply Voltage	V _{CC}	3.135	3.3	3.465	V	
Power Dissipation	P _D			2.5	W	
Power Supply Current	I _{CC}			800	mA	
Aggregate Data Rate			103.1		Gbps	
Signaling rate per lane			25.78		Gbps	
Clock Rate-I2C				400	kHz	
Transmitter						
Input Differential impedance	Z _{IN}		100		ohm	
Differential data input swing	V _{IN}	180		900	mV	
Single-ended voltage tolerance		-0.3		3.3	V	
Receiver						
Output Differential impedance	Z _{out}		100		ohm	
Differential data Output Swing	V _{out}	300		850	mV	

General Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Aggregate Data Rate			103.1		Gbps	
Signaling rate per lane			25.78		Gbps	
Bit Error Ratio (pre-FEC)	BER			5E-5		PRBS31
Maximum Supported Distances						
Fiber Type	Bandwidth (850nm)					
50um	2000MHz*km			70	m	OM3
50um	4700MHz*km			100	m	OM4

Pin Assignment:



Pin Descriptions

PIN	Symbol	Name / Description	Note
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
8	ModSelL	Module Select	2
9	ResetL	Module Reset	
10	Vcc Rx	3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	3
12	SDA	2-wire serial interface data	3
13	GND	Ground	1



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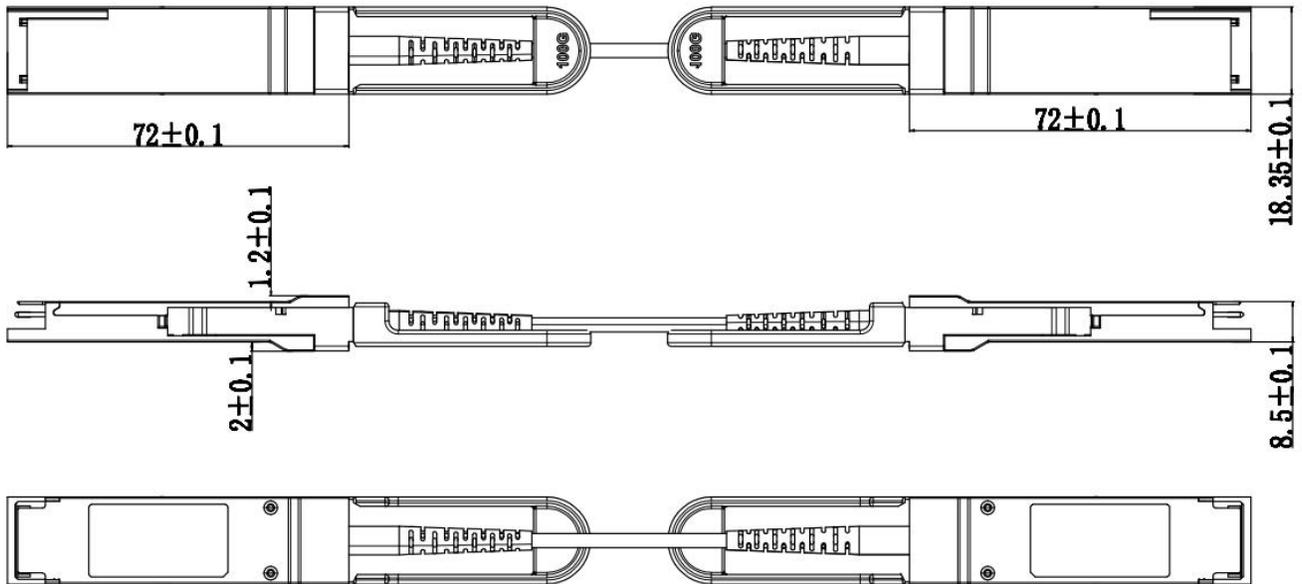
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	1
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	1
27	ModPrsL	Module Present	3
28	IntL	Interrupt	3
29	Vcc Tx	3.3V power supply transmitter	
30	Vcc1	3.3V power supply	
31	LPMode	Low Power Mode	
32	GND	Ground	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	1

Note1: Module ground pins GND are isolated from the module case.

Note2: ModSelL is an input signal. When held low by the host, the module responds to two-wire serial communication commands. The ModSelL signal allows the use of multiple modules on a single two-wire interface. When ModSelL is high, the module shall not respond to or acknowledge any two-wire interface communication from the host.

Note3: Shall be pulled up with 4.7K-10Kohms to a voltage between 3.15V and 3.45V on the host board.

Mechanical Dimensions



Revision History

Revision	Initiated	Reviewed	Approved	DCN	Release Date
V1.0	Feynman	XX	XX	Released.	July 16, 2022

Important Notice

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