

QFP-AC11HG-xxMC

100Gbps QSFP28 AOC, 1-100m Reach

FEATURES

- Four-channel full-duplex active optical cable
- Multirate capability: 10 Gb/s and 25 Gb/s per channel
- QSFP28 high-density form factor
- Reliable VCSEL array technology using multimode fiber
- Hot Pluggable
- power dissipation: <3.5W per cable end
- Commercial operating case temperature range: 0°C to 70°C
- UL certification optional cables
- Operating case temperature: 0~+70°C

APPLICATION

- IEEE 802.3bm 100GBASE-SR4 and 40GBASE-SR4
- Infiniband FDR/EDR

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Storage Temperature	Ts	-20	-	+85	°C	
Maximum Supply Voltage	Vcc	-0.5	-	3.6	V	
Operating Relative Humidity	RH	5	-	+85	%	

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Operating Case Temperature	Tc	0		70	°C	
Power Supply Voltage	Vcc	3.13		3.47	V	
Data Rate	DR		25.78		Gb/s	

ELECTRICAL SPECIFICATION

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Supply Voltage	V _{cc}	3.13		3.47	V	
Supply Current	I _{cc}	2.5		1000	mA	
Module total power	P	2.5		3.5	W	
Transmitter						
Differential Data Input Swing	V _{out}		-	900	mV	
Output Differential Impedance	Z _D	90	100	110	Ω	
Transition Time, 20 to 80%	T _r , T _f	10			ps	
Receiver						
Differential Data Output Swing	V _{in}		-	900	mV	
Bit Error Rate	BER			1E-12		1
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Transition Time, 20 to 80%	T _r , T _f	10			ps	

Note: 1 PRBS2^31-1@25.78Gbps

PIN DESCRIPTIONS

Pin	Symbol	Name/Description	Ref.
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	
9	ResetL	Module Reset	
10	Vcc Rx	+3.3 V Power supply receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	

13	GND	Ground	1
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	
28	IntL	Interrupt	2
29	Vcc Tx	+3.3 V Power supply transmitter	
30	Vcc1	+3.3 V 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

1. Circuit ground is internally isolated from chassis ground.

2. IntL is an open collector/drain output, which should be pulled up with a 4.7k – 10k Ohms resistor on the host board. The INTL pin is deasserted "High" after completion of reset, when byte 2 bit 0 (Data Not Ready) is read with a value of '0' and the flag field is read (see SFF-8436).

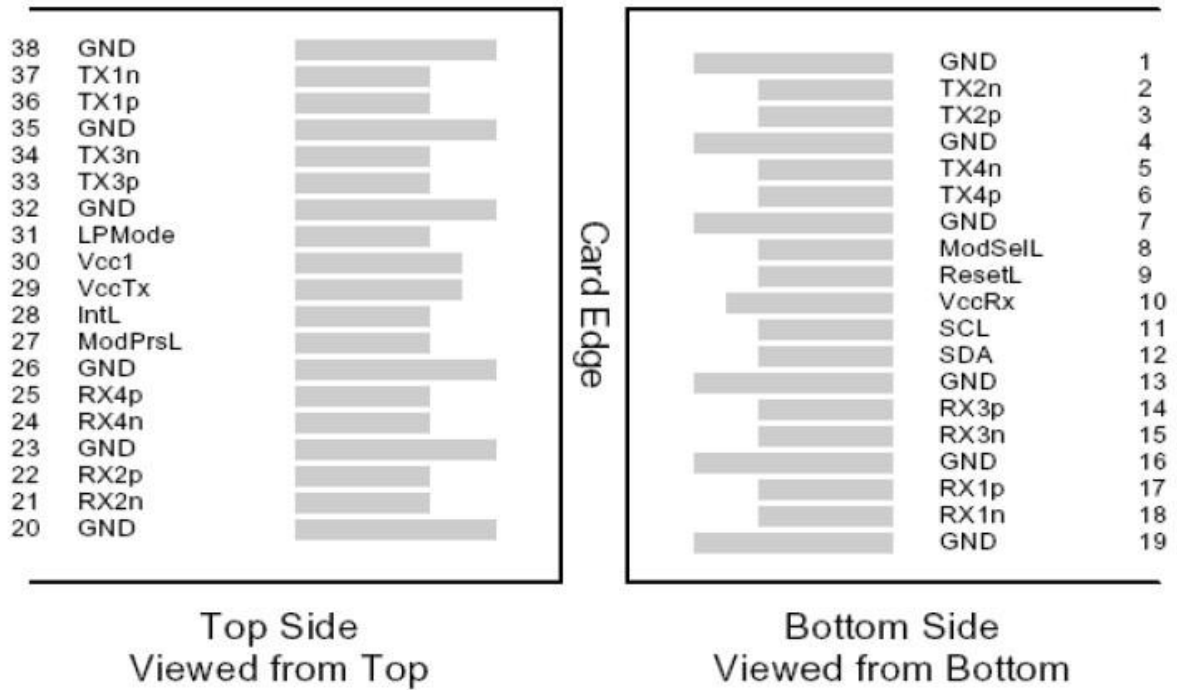


Figure 1 – QSFP+ Compliant 38-Pin Connector

DIGITAL DIAGNOSTIC FUNCTIONS

The transceivers provide serial ID memory contents and diagnostic information about the present operating conditions by the 2-wire serial interface (SCL, SDA).

The digital diagnostic memory map specific data field defines as following.

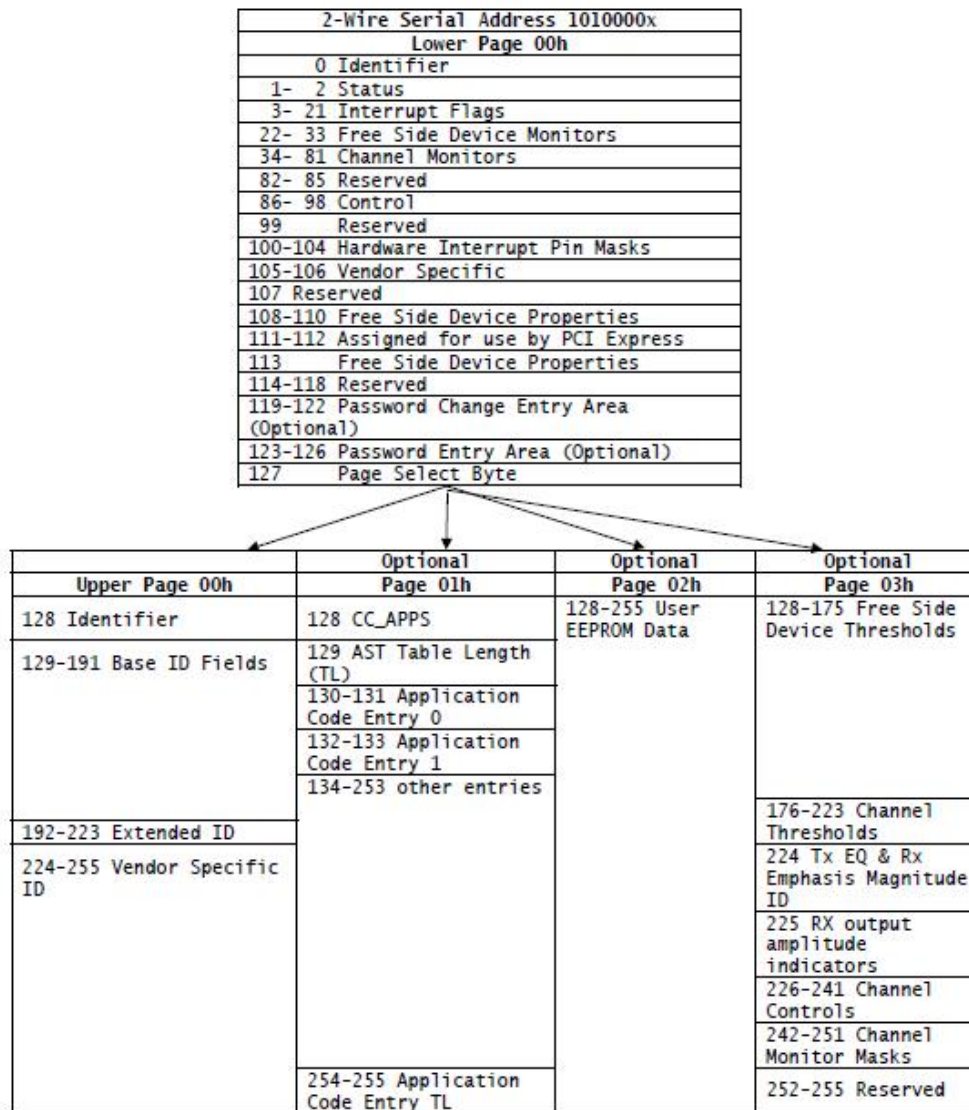
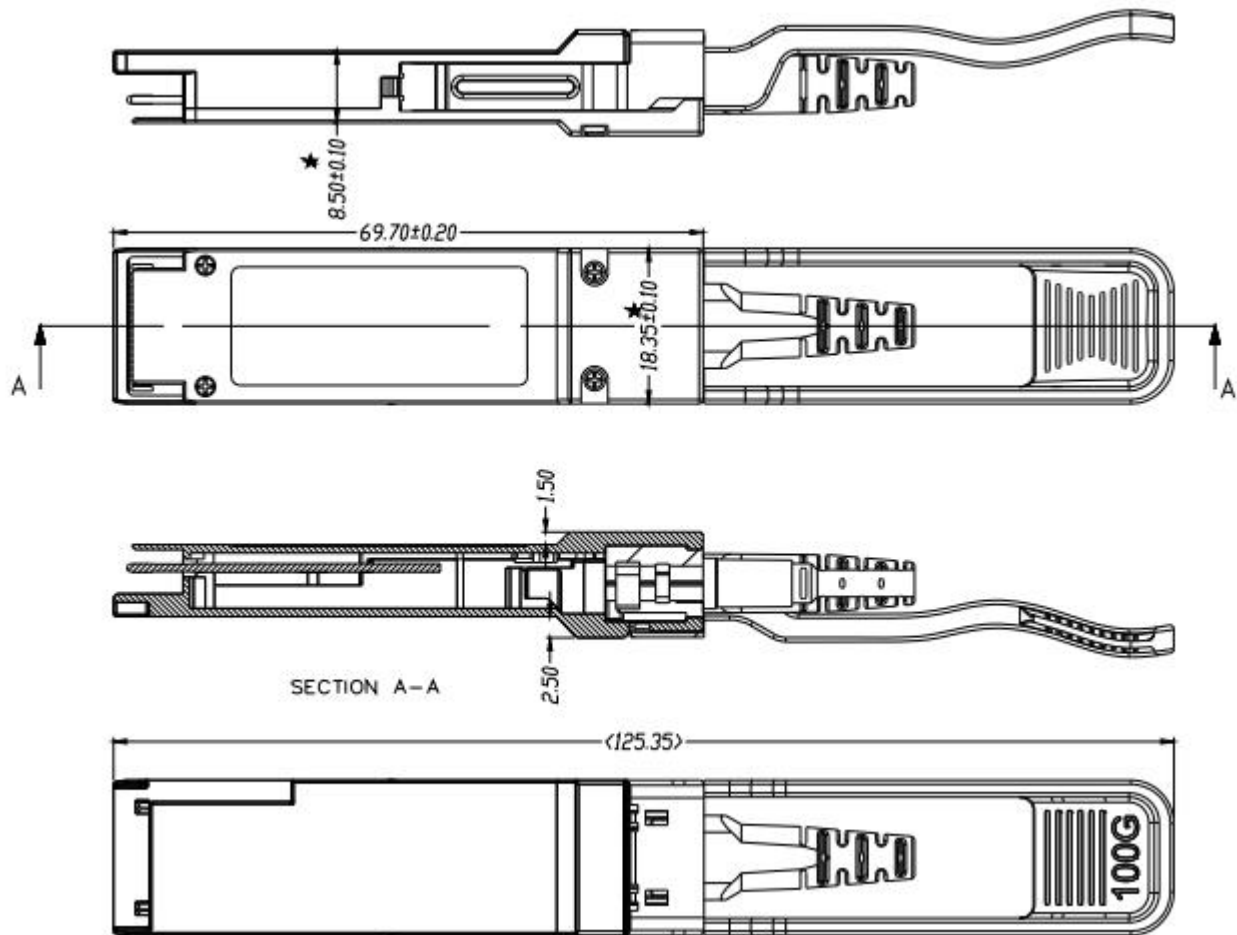


Figure 2 – Two-Wire Interface Fields

MECHANICAL SPECIFICATIONS



Ordering information

Part Number	Product Description
QFP-AC11HG-xxMC	100Gbps, AOC, 1-100m Cable Length, 0°C~+70°C

Reach

1M = 1m

3M = 3m

5M = 5m

2M5=2.5m

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A0M = 100m

For More Information

Tel:+86-755-23301665

E-mail : sales@fibertoptech.com

Web: <http://www.fibertopsfp.com>