

HYDRAX™ 200G QSFP56 ACTIVE OPTICAL CABLES

Features

- ◆ Supports IBTA InfiniBand HDR
- ◆ Up to 200Gb/s data rate
- ◆ 4x 50Gb/s PAM4 modulation
- ◆ SFF-8665 compliant QSFP56 port
- ◆ SFF-8636 compliant I2C management
- ◆ Single 3.3V power supply
- ◆ 4.5W power dissipation each end, with retiming
- ◆ Operating case temp commercial Grade: 0°C to +70°C
- ◆ RoHS6 compliant (lead free)



Applications

- ◆ 200Gb/s InfiniBand HDR systems
- ◆ Other optical links

Absolute Maximum Ratings

Parameter	Symbol	Min	Typical	Max	Unit
Storage Temperature	TS	-20	-	85	°C
Relative Humidity	RH	0	-	85	%
Case Operating Temperature	TCase	0	-	70	°C
Supply Voltage	VCC	-0.5	-	3.6	V

Transmitter Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Signaling Speed per Lane		PRBS31Q@26.5625Gbd PAM4			Gb/s
Center Wavelength	C	840	850	860	nm
Differential Input Impedance	Zin	90	100	110	Ohm
Differential Input Voltage	Vin	--	900	-	mVp-p
Differential termination mismatch	-	-	-	10	%
DC common mode voltage	-	-350	-	2850	mV

Receiver Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Signaling Speed per Lane		PRBS31Q@26.5625Gbd PAM4			Gb/s
Center Wavelength	C	840	850	860	nm
Differential termination mismatch	-	-	-	10	%
Differential Output Impedance	Zout	90	100	110	Ohm
Differential Output Voltage	Vout	-	-	900	mVp-p
DC common mode voltage	-	-350		2850	mV
Error Bit Rate	BER	-	-	2.4E-4	PRBS31Q@26.5625Gbd PAM4

Recommended operating environment

Recommended Operating Environment specifies parameters for which the electrical and optical characteristics hold unless otherwise noted.

Parameter	Symbol	Min	Typical	Max	Unit
Power Supply Voltage	V _{cc}	3.135	3.300	3.465	V
Operating Case Temperature	T _c	0	25	70	°C

Pin definition

Pin	Symbol	Name/Description
1	GND	Ground
2	Tx2n	Transmitter Inverted Data Input
3	Tx2p	Transmitter Non-Inverted Data Input
4	GND	Ground
5	Tx4n	Transmitter Inverted Data Input
6	Tx4p	Transmitter Non-Inverted Data Input
7	GND	Ground
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
14	Rx3p	Receiver Non-Inverted Data Output
15	Rx3n	Receiver Inverted Data Output
16	GND	Ground
17	Rx1p	Receiver Non-Inverted Data Output
18	Rx1n	Receiver Inverted Data Output
19	GND	Ground
20	GND	Ground
21	Rx2n	Receiver Inverted Data Output

22	Rx2p	Receiver Non-Inverted Data Output
23	GND	Ground
24	Rx4n	Receiver Inverted Data Output
25	Rx4p	Receiver Non-Inverted Data Output
26	GND	Ground
27	ModPrsL	Module Present
28	IntL	Interrupt
29	Vcc Tx	+3.3 V Power supply transmitter
30	Vcc1	+3.3 V Power Supply
31	LPMode	Low Power Mode
32	GND	Ground
33	Tx3p	Transmitter Non-Inverted Data Input
34	Tx3n	Transmitter Inverted Data Input
35	GND	Ground
36	Tx1p	Transmitter Non-Inverted Data Input
37	Tx1n	Transmitter Inverted Data Input
38	GND	Ground

Pin Descriptions

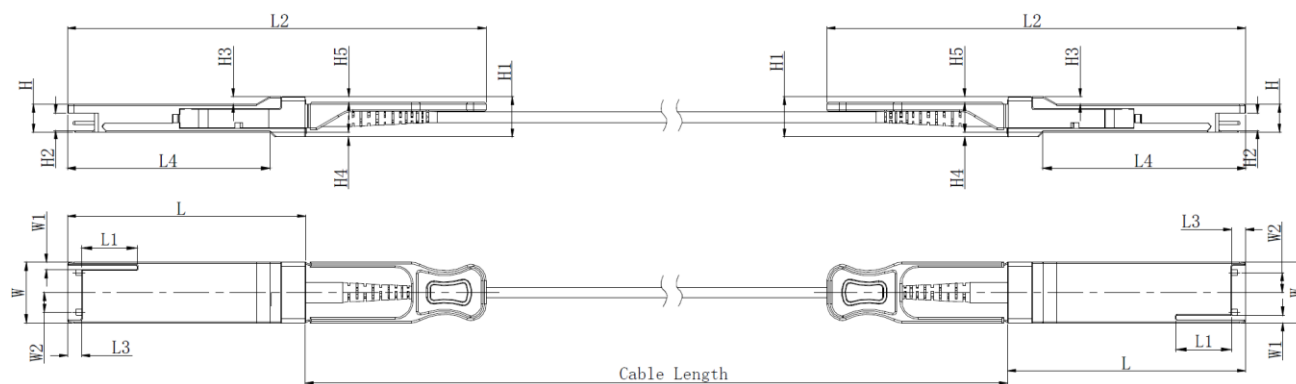
38	GND
37	TX1n
36	TX1p
35	GND
34	TX3n
33	TX3p
32	GND
31	LPMode
30	Vcc1
29	VccTx
28	IntL
27	ModPrsL
26	GND
25	RX4p
24	Rx4n
23	GND
22	RX2p
21	RX2n
20	GND

**Top Side
Viewed From Top**

Module Card Edge

GND	1
TX2n	2
TX2p	3
GND	4
TX4n	5
TX4p	6
GND	7
ModselL	8
ResetL	9
VccRx	10
SCL	11
SDA	12
GND	13
RX3p	14
Rx3n	15
GND	16
RX1p	17
RX1n	18
GND	19

**Bottom Side
Viewed From Bottom**



Unit mm

	L	L1	L2	L3	L4	W	W1	W2	H	H1	H2	H3	H4	H5
Max	72.2	-	128	4.35	61.4	18.45	-	6.2	8.6	12.4	5.35	2.5	1.6	2.0
Type	72.0	-	-	4.20	61.2	18.35	-	-	8.5	12.2	5.2	2.3	1.5	1.8
Min	68.8	16.5	124	4.05	61.0	18.25	2.2	5.8	8.4	12.0	5.05	2.1	1.3	1.6

Order Information

Part Number	Product Description
AOC-22200030Q56XWC	HydraX 3meter length QSFP56 200G AOC Commercial Grade
AOC-22200100Q56XWC	HydraX 10meter length QSFP56 200G AOC Commercial Grade

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Hermesys before they become applicable to any particular order or contract. In accordance with the Hermesys policy of continuous improvement specifications may change without notice.

The publication of information in this data sheet does not imply freedom from patent or other protective rights of Hermesys or others. Further details are available from any Hermesys sales representative.