Q56-2Q56-200GB-AOC2MIBLZ-OPC

MSA and TAA 200G-AOC QSFP56 to 2xQSFP56 Infiniband HDR Active Optical Cable (850nm, MMF, 2m, LSZH)

Features

- Low Latency DSP-Free Electronics-Based CDR
- Multi-Data Rate Up to 56.15Gbps Per Lane
- PAM4 Modulation
- Single 3.3V Power Supply
- Low Power Consumption: 3.6W on 200G End With All CDRs Enabled
- Operating Case Temperature: 0 to 70 Celsius
- Hot Pluggable
- LSZH, Aqua Cable
- RoHS Compliant and Lead-Free

Applications:

- IEEE 802.3cd 200GBASE SR4
- IBTA InfiniBand HDR

Product Description

This is an MSA compliant 200GBase-AOC QSFP56 to 2xQSFP56 active optical cable that operates over multi-mode fiber with a maximum reach of 2.0m (6.6ft). At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	VIN	0		4.0	V
Input Swing	VIN-MAX			1500	mVp-p
Storage Temperature (Ambient)	Tstg	-40		85	°C
Relative Humidity	RH	5		85	%

Recommended Operating Specifications

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Operating Case Temperature		Tc	0		70	°C	
Power Supply Voltage		Vcc	3.15	3.30	3.47	V	
Power Supply Current	**200G End**	Icc		1100	1250	mA	1
	100G End	Icc		750		mA	1
Power Consumption	**200G End**	P		3.6	4.0	W	1
	100G End	P		2.3	2.5	W	1

Notes:

1. Per end, all channel CDRs are enabled.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate (Per Channel)	DR		26.5625		GBd	1
Transmitter						
Input Differential Impedance	RIN		100		Ω	
Differential Data Input Swing	VIN,pp	300		900	mV	
Receiver						
Output Differential Impedance	ROUT		100		Ω	
Differential Data Output Swing	VOUT,pp	300	700	900	mV	
Bit Error Ratio @26.5625GBd				2.4×10^{-4}		2

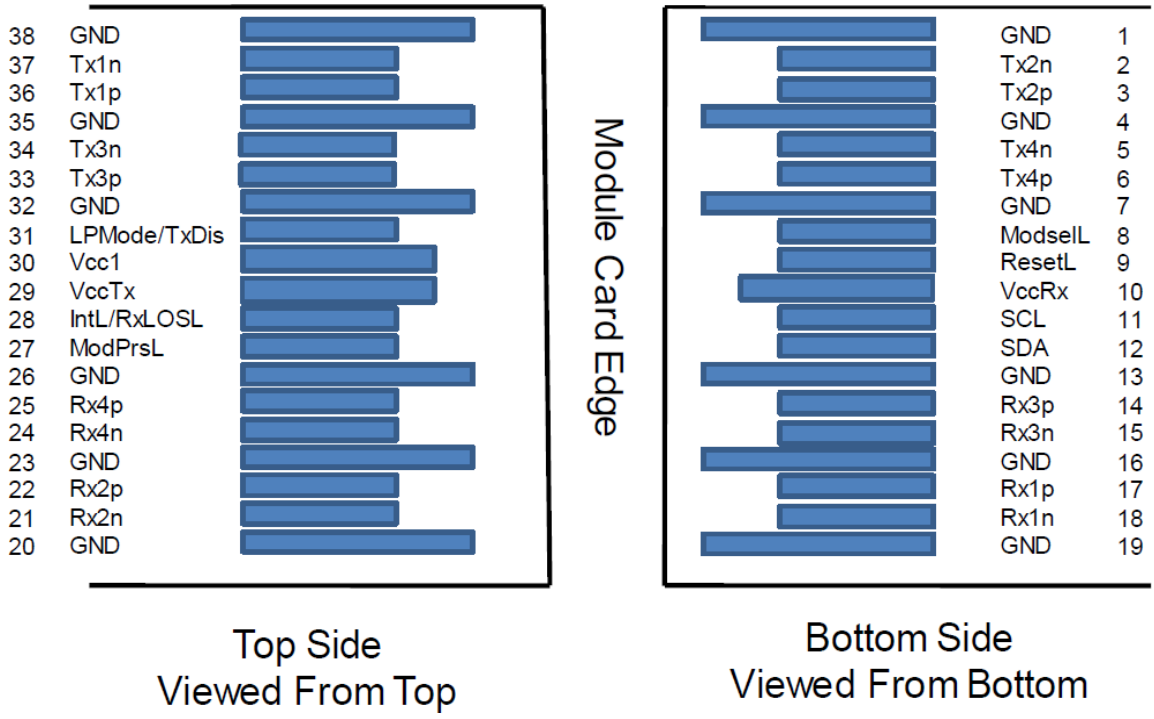
Notes:

1. Dual data rate of 25.78125 and 28.07618 Gbaud are available upon request.
2. Pre-FEC Bit Error Ratio with a PRBS 2^{31} – 1 test pattern over a normal operating temperature range.

Active Optical Cable Specifications

Parameter	Value	Unit	Notes
Cable Diameter	LSZH: Ø3.0±0.15	mm	
Minimum Bend Radius	30	mm	Without Tension
Length Tolerance	+300/–0	mm	
Cable Jacket	LSZH, Aqua		

Electrical Pin-Out Details



Top Side
Viewed From Top

Bottom Side
Viewed From Bottom

Pin Descriptions

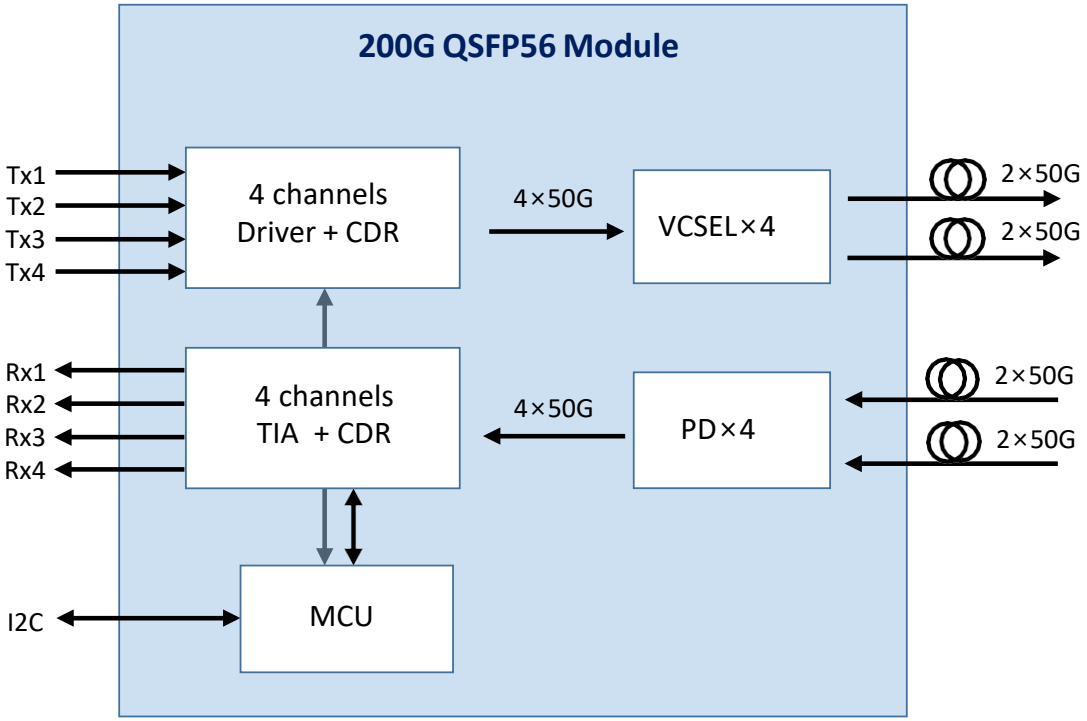
Pin	Logic	Symbol	Name/Description	Notes
1		GND	Module Ground.	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Module Ground.	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Module Ground.	1
8	LVTTL-I	ModSelL	Module Select.	
9	LVTTL-I	ResetL	Module Reset.	
10		VccRx	+3.3V Receiver Power Supply.	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock.	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data.	
13		GND	Module Ground.	1
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	
15	CML-O	Rx3-	Receiver Inverted Data Output.	
16		GND	Module Ground.	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output.	
18	CML-O	Rx1-	Receiver Inverted Data Output.	
19		GND	Module Ground.	1
20		GND	Module Ground.	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	
23		GND	Module Ground.	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	
26		GND	Module Ground.	1
27	LVTTL-O	ModPrsL	Module Present.	
28	LVTTL-O	IntL	Interrupt.	
29		VccTx	+3.3V Transmitter Power Supply.	2
30		Vcc1	+3.3V Power Supply.	2
31	LVTTL-I	LPMode	Low-Power Mode.	
32		GND	Module Ground.	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	

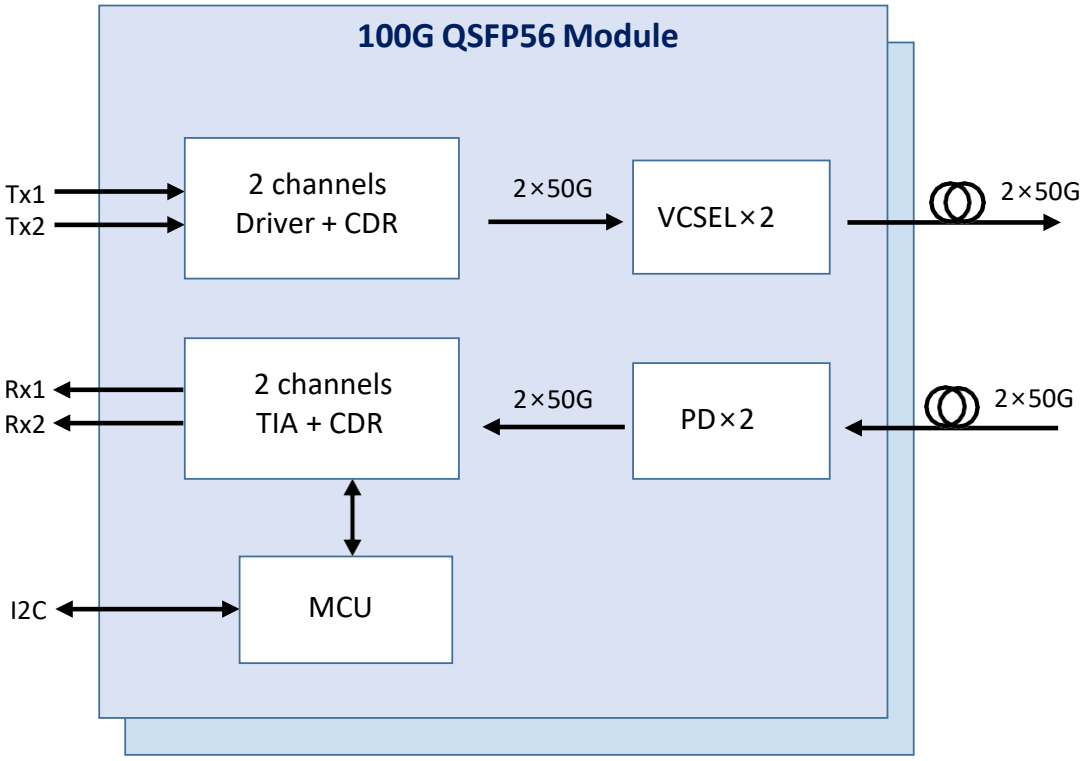
35		GND	Module Ground.	1
36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	
38		GND	Module Ground.	1

Notes:

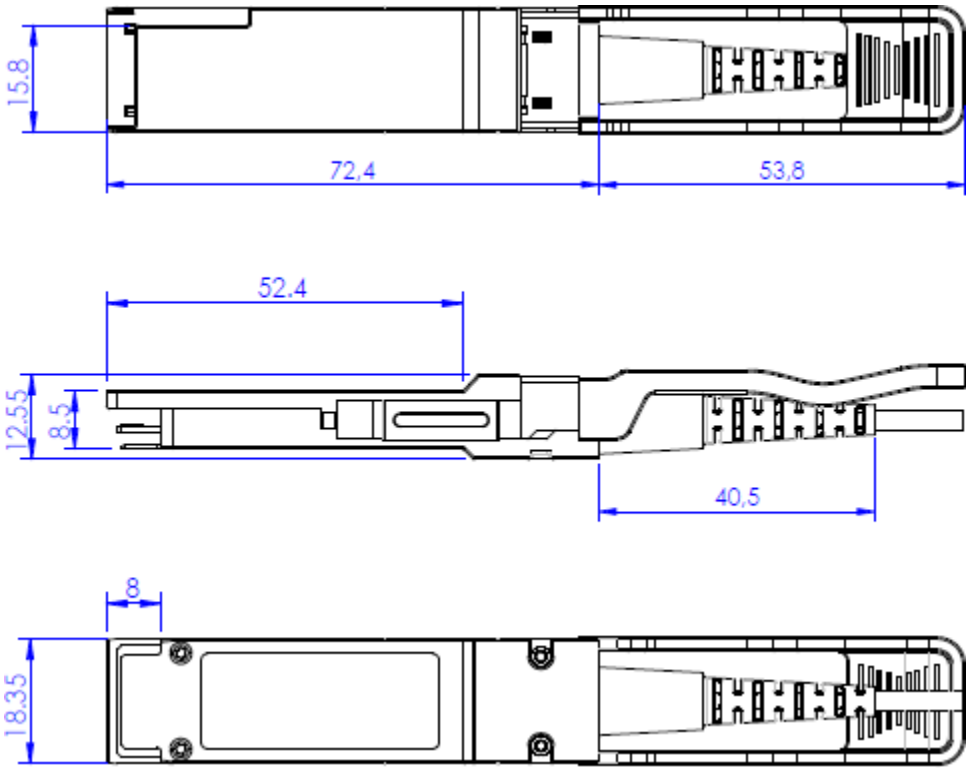
1. GND is the symbol for signal and supply (power) common for the QSFP module. All are common within the QSFP module, and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal common ground plane.
2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. VccRx, Vcc1, and VccTx may be internally connected within the QSFP transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

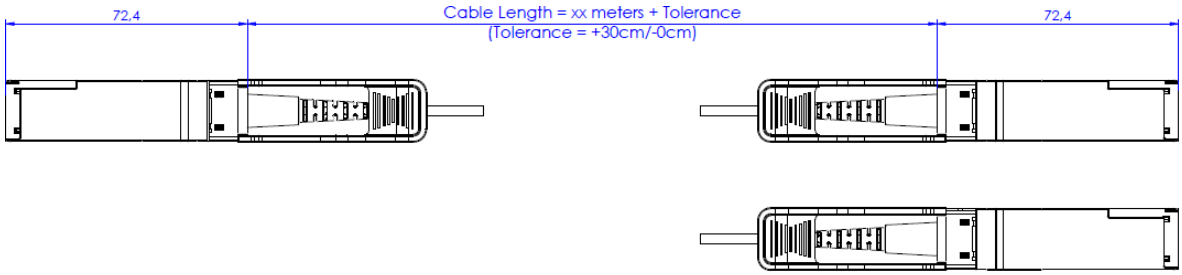
Block Diagram





Mechanical Specifications





OptioConnect
Innovation for the Future of High-Speed Networking

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What We Do
At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

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Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team
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To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

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