

TITLE : 4x24G Mini SAS AOC	DOC No. RFD-20260715200-001	
	REVISION: 01	AUTHORIZED BY: Henry Chen
	DATE: 2026.07.05	CLASSIFICATION: Optical Transceiver

FEATURES

- Compliant to SAS 4.0
- Wide Operating Temperature(0°C~70°C)
- 4x24Gbps 850nm VCSEL-based Transmitter
- RoHS compliant

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min.	Max.	Unit
Storage Temperature	T _{Storage}		-40	+85	°C
Relative Humidity	RH		0	+85	%

RECOMMENDED OPERATING CONDITIONS (T=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Case Temperature	T _C		0		70	°C
Power Supply Voltage	V _{CC}		3.135	3.3	3.465	V
Signaling Rate each Channel				24		Gbps
Data Rate Accuracy			-100		100	ppm
Pre-FEC Bit Error Ratio					1e-12	Note1

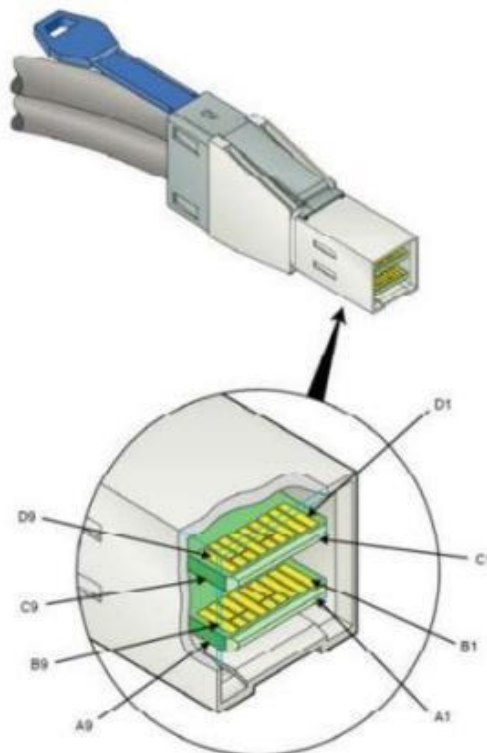
Notes1: FEC provided by host system.

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ELECTRICAL CHARACTERISTICS (T=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Consumption (per-end)					2.6	W
Supply Current (per-end)	Icc				750	mA

PIN ASSIGNMENT



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PIN DESCRIPTION

Pin	Logic	Symbol	Mating level	Description
D1		Vact	Second	+3.3V Power Supply (Transmitter)
D2		Vman	Second	Power Supply Management Interface
D3		GND	First	Ground
D4	CML-I	TX0+	Third	Transmitter Non-Inverted Data Input, AC coupled
D5	CML-I	TX0-	Third	Transmitter Inverted Data Input, AC coupled
D6		GND	First	Ground
D7	CML-I	TX2+	Third	Transmitter Non-Inverted Data Input, AC coupled
D8	CML-I	TX2-	Third	Transmitter Inverted Data Input, AC coupled
D9		GND	First	Ground
C1	I/O"	SCL	Second	2-wire serial interface clock, place 4.7k Ω - 10k Ω Pull up Resistor to Vman on Host board
C2	I/O"	SDA	Second	2-wire serial interface data, place 4.7k Ω -10k Ω Pull up Resistor to Vman on Host board
C3		GND	First	Ground
C4	CML-I	TX1+	Third	Transmitter Non-Inverted Data Input, AC coupled
C5	CML-I	TX1-	Third	Transmitter Inverted Data Input, AC coupled
C6		GND	First	Ground
C7	CML-I	TX3+	Third	Transmitter Non-Inverted Data Input, AC coupled
C8	CML-I	TX3-	Third	Transmitter Inverted Data Input, AC coupled
C9		GND	First	Ground

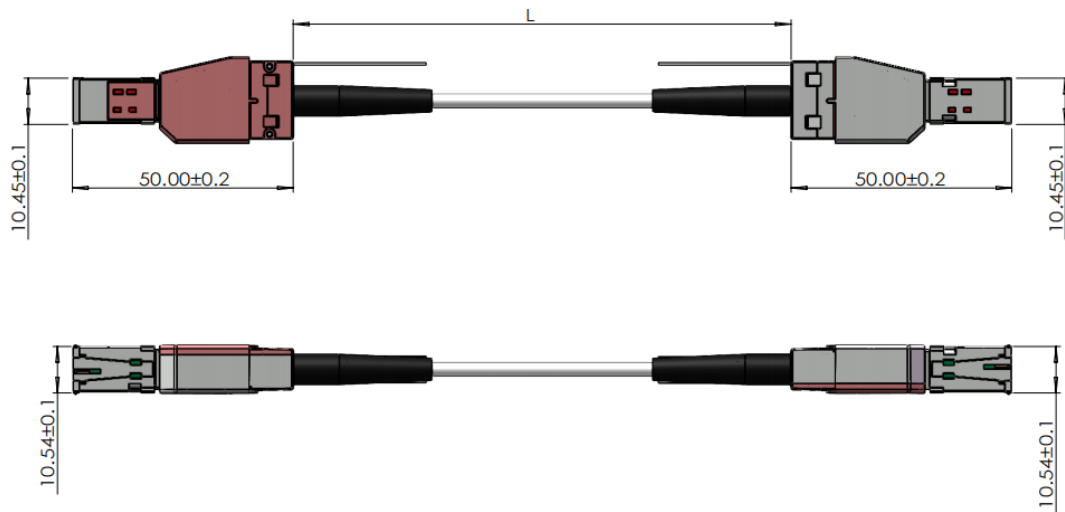
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Pin	Logic	Symbol	Mating level	Description
B1		Vact	Second	+3.3V Power Supply (Receiver)
B2	LVTTL-O	ModPrsL	Second	Module Present, place 4.7kΩ - 10kΩ Pull up Resistor to Vman on Host board
B3		GND	First	Ground
B4	CML-0	RX0+	Third	Receiver Non-Inverted Data Output, AC coupled
B5	CML-0	RX0-	Third	Receiver Inverted Data Output, AC coupled
B6		GND	First	Ground
B7	CML-0	RX2+	Third	Receiver Non-Inverted Data Output, AC coupled
B8	CML-0	RX2-	Third	Receiver Inverted Data Output, AC coupled
B9		GND	First	Ground
A1		Reserved	Second	not connected
A2	LVTTL-O	IntL	Second	Management interface interrupt signal, place 4.7kΩ - 10kΩ Pull up Resistor to Vman on Host board
A3		GND	First	Ground
A4	CML-0	RX1+	Third	Receiver Non-Inverted Data Output, AC coupled
A5	CML-0	RX1-	Third	Receiver Inverted Data Output, AC coupled
A6		GND	First	Ground
A7	CML-0	RX3+	Third	Receiver Non-Inverted Data Output, AC coupled
A8	CML-0	RX3-	Third	Receiver Inverted Data Output, AC coupled
A9		GND	First	Ground

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OUTLINE DIMENSIONS

Unit mm



L Tolerance Table	
L<7M	L+100/-0mm
L≥7M	L+2%L/-0mm

Digital Diagnostic Monitor Accuracy

The following characteristics are defined over recommended operating conditions

Parameter	Accuracy	Unit
Internally measured transceiver temperature	+/-3	deg.C
Internally measured transceiver supply voltage	+/-3	%
Measured Tx bias current	+/-10	%
Measured Tx output power	+/-3	dB
Measured Rx received average optical power	+/-3	dB

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Production Description & P/N List

Part Number	Description
P53**RC4002M-1	MINI SAS HD AOC OM3-2M (0.1uF)
P53**RC4003M-1	MINI SAS HD AOC OM3-3M (0.1uF)
P53**RC4006M-1	MINI SAS HD AOC OM3-6M (0.1uF)

Note-1: ** Indicates the customer code.

Modification History

Rev.	Comments	Date	Originator	Approval
01	Preliminary Draft	2026/07/05	Henry Chen	Mike Sun