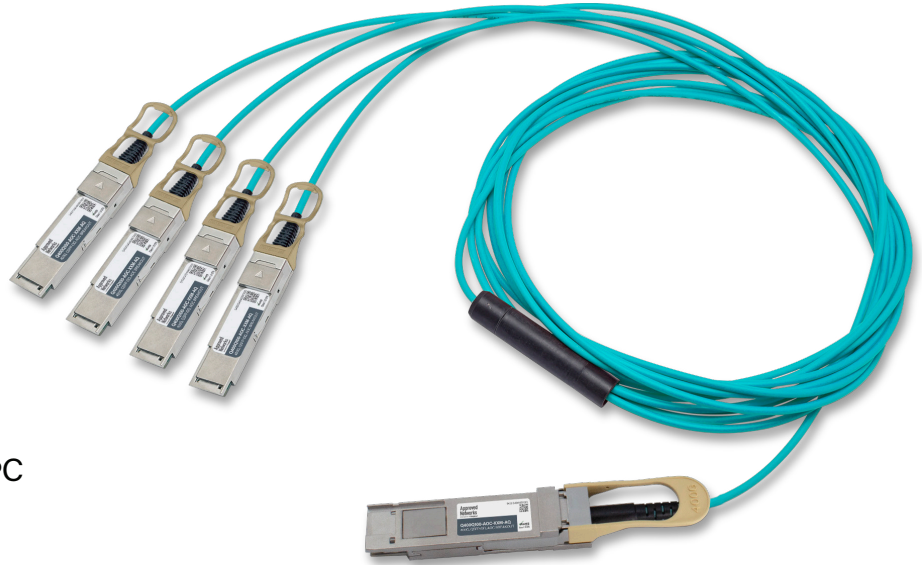


Features

- 400Gb/s to 4x100Gb/s data rate
- 8x 50Gb/s PAM4 modulation
- Power consumption < 8W at the 400G end and < 4.5W at the 200G end
- Case temperature range of 0°C to +70°C
- +3.3V single power supply
- 8x50G PAM4 retimed 400GAUI-8 electrical interface aligned with IEEE 802.3bs
- Compliant to CMIS V4.0
- RoHS compliant



Applications

- 400GbE and 100GbE @ 50Gb/s PAM4 per lane
- Other 400G optical links

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Supply Voltage	Vcc3	-0.5	-	+3.6	V	
Storage Temperature	Ts	-10	-	+70	°C	
Operating Humidity	RH	+5	-	+85	%	1

Note 1: No condensation

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	TC	0	-	+70	°C	
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Dissipation per QSFPDD	Pd	-	-	10	W	1
Power Dissipation per QSFP56	Pd	-	-	2.5	W	1
Bit Rate	BR	-	26.5625	-	GBaud	2

1. Per terminal

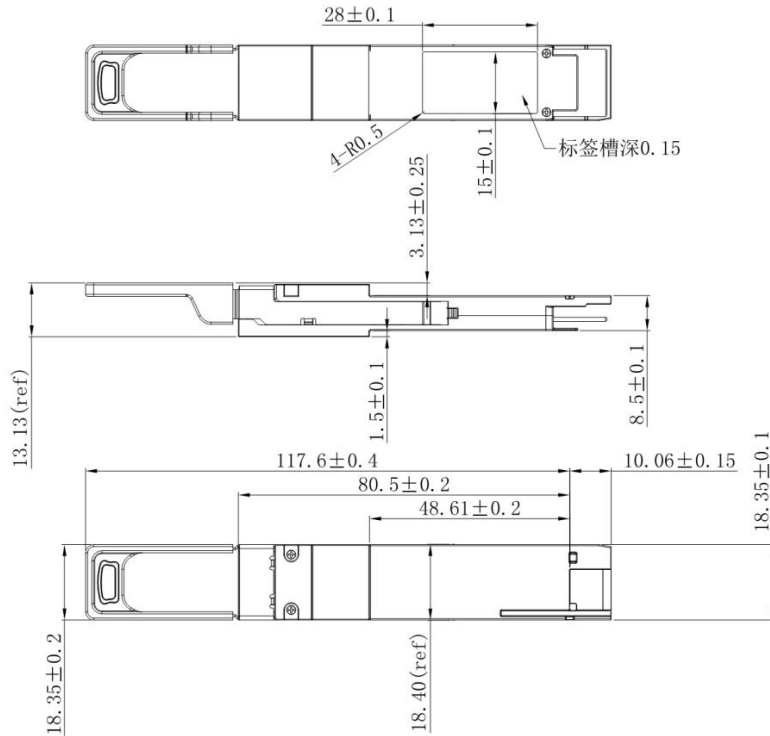
2. Per channel, PAM4

3. Electrical Characteristics

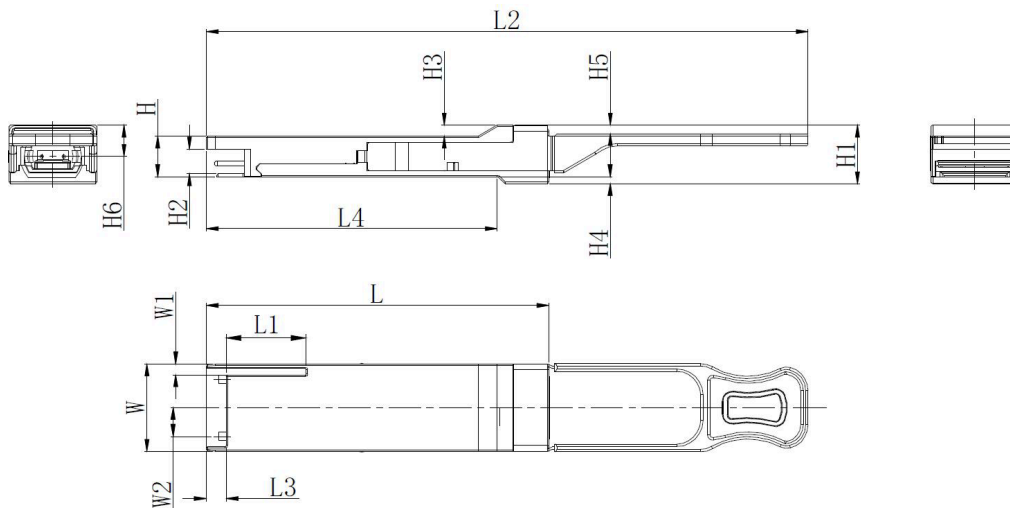
Parameter	Symbol	Unit	Min	Typ	Max	Notes
Transmitter						
Signaling rate (each lane)	SR	GBaud	26.5625 ± 100 ppm			
Differential data input voltage per lane	V _{in,pp,diff}	mV	-	-	900	
Differential termination mismatch	-	%	-	-	10	
Single-ended voltage tolerance range	-	V	-0.4	-	3.3	
DC common mode voltage	-	mV	-350	-	2850	
Receiver						
Signaling rate (each lane)	SR	GBaud	26.5625 ± 100 ppm			
Differential output voltage	-	mV	-	-	900	
Near-end ESMW (Eye symmetry mask width)	-	UI	0.265	-	-	
Near-end Eye height, differential (min)	-	mV	70	-	-	
Far-end ESMW (Eye symmetry mask width)	-	UI	0.2	-	-	
Far-end Eye height, differential (min)	-	mV	30	-	-	
Differential termination mismatch	-	%	-	-	10	
Transition time (min, 20% to 80%)	-	ps	9.5	-	-	
DC common mode voltage	-	mV	-350	-	2850	
Bit Error Ratio	-	-	-	-	2.4E-4	1

1. Pattern PRBS31Q

4. Mechanical Diagrams



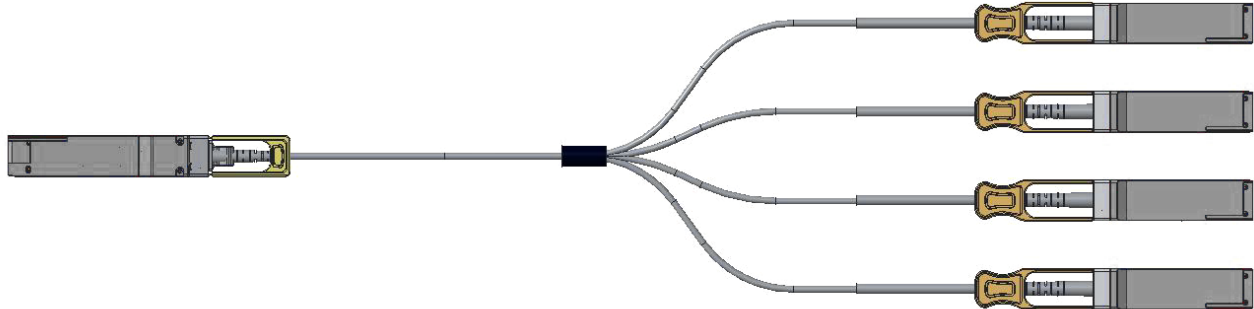
Mechanical Diagram for QSFP-DD



QSFP56 (Unit: mm)

	L	L1	L2	L3	L4	W	W1	W2	H	H1	H2	H3	H4	H5	H6
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	6.55
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	-

Mechanical Diagram for QSFP56



Mechanical Diagram of Cable

Note: External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

5. Ordering Information

OEM	Part Number	OEM	Part Number
MSA	CAB-QDD-4Q100G-AOC-1M	MSA	CAB-QDD-4Q100G-AOC-2M
MSA	CAB-QDD-4Q100G-AOC-3M	MSA	CAB-QDD-4Q100G-AOC-4M
MSA	CAB-QDD-4Q100G-AOC-5M	MSA	CAB-QDD-4Q100G-AOC-7M
MSA	CAB-QDD-4Q100G-AOC-10M	MSA	CAB-QDD-4Q100G-AOC-12M
MSA	CAB-QDD-4Q100G-AOC-15M	MSA	CAB-QDD-4Q100G-AOC-20M
MSA	CAB-QDD-4Q100G-AOC-25M	MSA	CAB-QDD-4Q100G-AOC-30M

6. Contact Information

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