



Features

- Support 100GbE to 2x50GbE application
- Compliant to QSFP28 Electrical MSA SFF-8636
- SFF-8665 compliant QSFP28 port
- Multi rate of up to 25.78125Gbps
- +3.3V single power supply
- Low power consumption
- Operating case temp commercial: 0°C to +70 °C
- RoHS 6/6 compliant

Applications

- 100GbE to 2x50GbE at 25.78125Gbps per lane
- Other 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	-	+85	°C	
Operating Humidity	RH	+5	-	+85	%	1

Note1: No condensation

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	TC	0	-	+70	°C	
Power Supply Voltage	Vcc	3.14	3.3	3.47	V	
Power dissipation (100GbE retiming on all lanes)	Pd100G	-	2.3	2.5	W	1
Power dissipation (50GbE retiming on all lanes)	Pd50G	-	1.5	1.7	W	1

Supply noise tolerance (10 Hz – 10 MHz)	N	66	-	-	mVpp	
Bit Rate	BR	-	25.78125	-	Gbps	

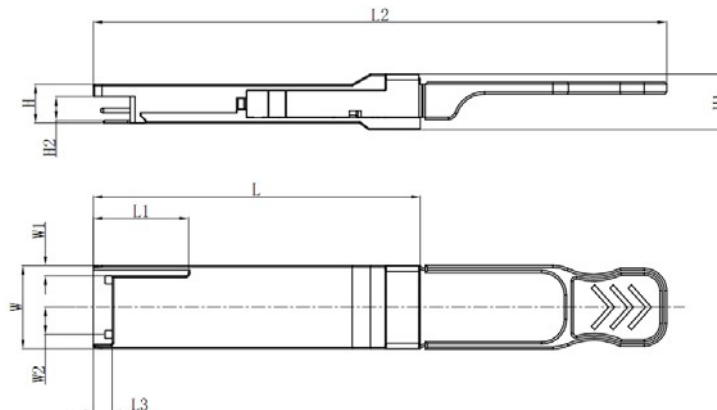
Note1: Per terminal

3 Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Power Dissipation	Pd	-	-	1.5	W	1
Transmit turn-on time	TON	2000	-	-	ms	
Input Logic Level High	VIH	2.5	-	VCC+0.3	V	
Input Logic Level Low	VIL	0	-	0.8	V	
Output Logic Level High	VOH	2.4	-	VCC	V	
Output Logic Level Low	VOL	0	-	0.4	V	
Electrical transmitter Characteristics						
Differential Data Input Swing	Vout	200	-	1600	mV	
Output Differential Impedance	ZD	90	100	110	Ω	
Average Launch power Tx_off	POFF	dBm	-	-	-30	
Electrical Receiver Characteristics						
Differential Data Output Swing	Vin,P-P	200	-	800	mVPP	
Bit Error Rate	BER			E-12		1
Input Differential Impedance	ZIN	90	100	110	Ω	

Note1: PRBS2^31-1@25.78125Gbps

4. Mechanical Diagram



Unit mm	L	L1	L2	L3	W	W1	W2	H	H1	H2
Max	72.2	-	128	4.35	18.45	-	6.2	8.6	12.0	5.35
Type	72.0	-	-	4.20	18.35	-	-	8.5	11.8	5.2
Min	68.8	16.5	124	4.05	18.25	2.2	5.8	8.4	11.6	5.05



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
Nvidia/Mellanox	MFA7A20-C001	MSA	Q100Q50-AOC-1M
Nvidia/Mellanox	MFA7A20-C002	MSA	Q100Q50-AOC-2M
Nvidia/Mellanox	MFA7A20-C003	MSA	Q100Q50-AOC-3M
Nvidia/Mellanox	MFA7A20-C005	MSA	Q100Q50-AOC-5M
Nvidia/Mellanox	MFA7A20-C007	MSA	Q100Q50-AOC-7M
Nvidia/Mellanox	MFA7A20-C009	MSA	Q100Q50-AOC-9M
Nvidia/Mellanox	MFA7A20-C010	MSA	Q100Q50-AOC-10M
Nvidia/Mellanox	MFA7A20-C012	MSA	Q100Q50-AOC-12M
Nvidia/Mellanox	MFA7A20-C015	MSA	Q100Q50-AOC-15M
Nvidia/Mellanox	MFA7A20-C020	MSA	Q100Q50-AOC-20M
Nvidia/Mellanox	MFA7A20-C030	MSA	Q100Q50-AOC-30M

7. Contact Information

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