

# RA-QA0GXX-C00

## QSFP28 100Gb/s Active Optical Cable DDM

<p><b>Product Features</b></p> <ul style="list-style-type: none"> <li>• Multi rate of up to 25.78125 Gb/s per channel</li> <li>• Complies with QSFP+ MSA form factors</li> <li>• Hot-pluggable</li> <li>• +3.3V Single power supply</li> <li>• Low power consumption</li> <li>• RoHS-6 Compliant</li> <li>• Case operating temperature Commercial: 0°C to +70°C</li> </ul> <p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• 4x25.78125G Ethernet</li> <li>• InfiniBand QDR, EDR</li> <li>• Other optical links</li> </ul> <p><b>Compliance</b></p> <ul style="list-style-type: none"> <li>• QSFP+ SFF-8636</li> <li>• QSFP+ MSA</li> <li>• RoHS</li> </ul>	<p><b>Ordering Information</b></p> <table border="1"> <thead> <tr> <th data-bbox="628 551 1031 640">Part Number</th> <th data-bbox="1031 551 1551 640">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="628 640 1031 730">RA-QA0GXX-C00</td> <td data-bbox="1031 640 1551 730">QSFP28 100Gb/s Active Optical Cable DDM</td> </tr> </tbody> </table> <p><b>For More Information:</b>  Wuhan RayOptek Co.,Ltd  Address: G3-201,New Energy Building,No.999 Gao Xin Road, Wuhan, Hubei, China  Phone:0086-27-87106345  Fax: 0086-27-87106345 Email: sales@rayoptek.com</p>	Part Number	Description	RA-QA0GXX-C00	QSFP28 100Gb/s Active Optical Cable DDM
Part Number	Description				
RA-QA0GXX-C00	QSFP28 100Gb/s Active Optical Cable DDM				

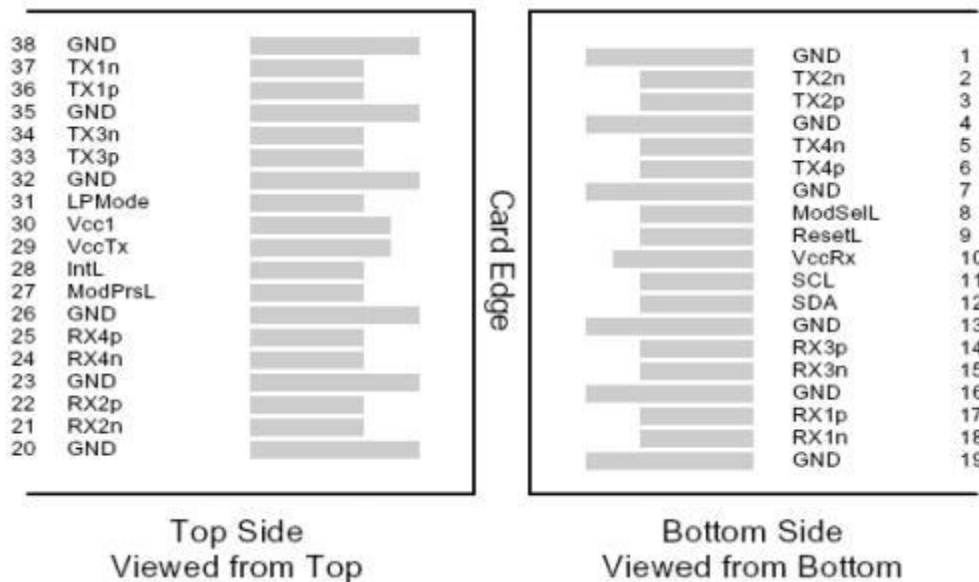
## Ordering information

Package	Product part NO.	Distance	Temperature Range
QSFP28	RA-QA0G01-C00	1-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G03-C00	3-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G05-C00	5-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G06-C00	6-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G10-C00	10-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G15-C00	15-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G20-C00	20-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G25-C00	25-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G30-C00	30-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G50-C00	50-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0GA0-C00	100-metercable	Commercial: 0~70 °C
QSFP28	RA-QA0G150-C00	150-metercable	Commercial: 0~70 °C

\*For availability of additional cable lengths, please contact Esion.

## Pin Descriptions

### QSFP28 end



QSFP MSA-compliant 38-pinconnector

Pin	Symbol	Name/Description	Notes
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	VccRx	+3.3 V Power supply receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	1
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	1
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	1
27	ModPrsL	ModulePresent	
28	IntL	Interrupt	
29	VccTx	+3.3 V Power supply transmitter	
30	Vcc1	+3.3 V Power Supply	
31	LPMMode	Low Power Mode	
32	GND	Ground	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	1

## Notes:

1. Circuit ground is internally isolated from chassisground.

## Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Maximum Supply Voltage	Vcc1,V ccT,Vc cRx	-0.5		3.6	V	
Storage Temperature	TS	-40		85	°C	1
Case Operating Temperature	TOP	0		70	°C	
Relative Humidity	RH	0		85	%	2

Notes:

- 1.Limited by the fiber cable jacket, not the activeends.
- 2.Non-condensing.

## Electrical Characteristics

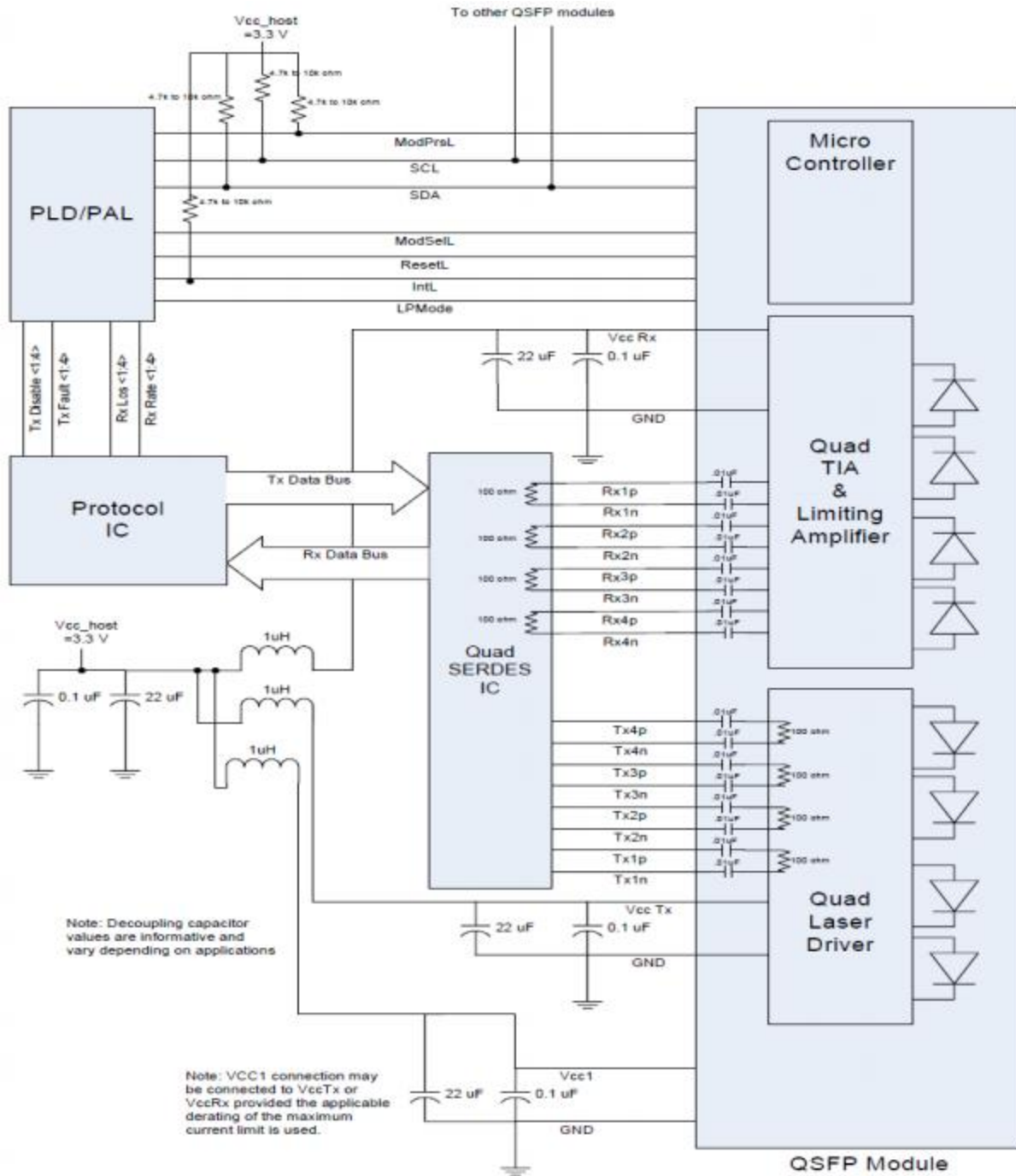
(TOP= 0 to 70 °C , vcc = 3.3 +- 5% Volts )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Supply Voltage	VCC 1, VCCTX , VCC RX	3.15		3.45	V	
Supply Current	ICC			750	mA	
<b>Transmitter(per Lane)</b>						
Input different impedance	Rin	90	100	110	Q	
Single ended input voltage tolerance	VinT	-0.3		4.0	V	
Single ended data input swing	Vin, pp	200		1000	mV	
<b>Receiver (per Lane)</b>						
Output different impedance	Rout	90	100	110	Q	
Single ended data output swing	Vout, pp	200		1000	mV	
Single-ended output voltage	VoutR	-0.3		4.0	V	

## Memory Map and Control Registers

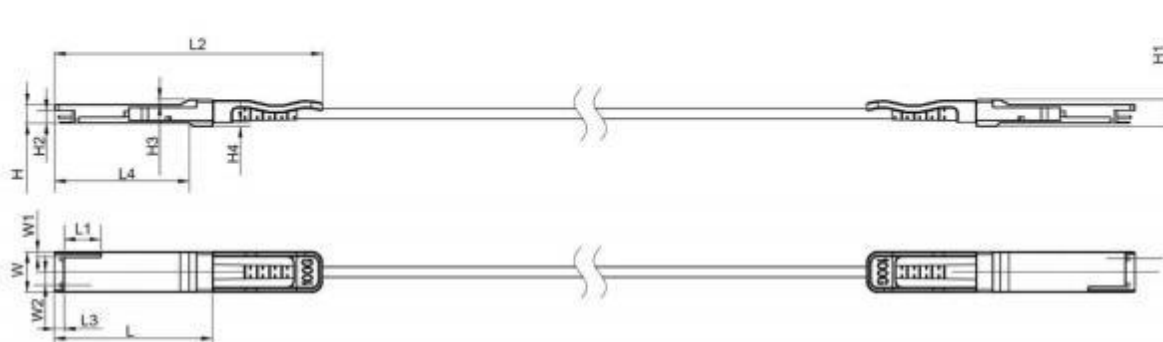
Compatible with SFF-8636 .

## Recommended Interface Circuit



## Mechanical Specifications

The Quadwire mechanical specifications are based on QSFP28 transceiver module specifications, substituting the optical connectors with a cable connecting both ends.



Unit mm

	L	L1	L2	L3	L4	W	W1	W2	H	H1	H2	H3	H4
Max	72.2	-	-	4.35	61.4	18.45	-	6.2	8.6	12.4	5.35	2.5	1.6
Type	72	-	121	4.2	61.2	18.35	-	-	8.5	12.2	5.2	2.3	1.5
Min	68.8	16.5	-	4.05	61	18.25	2.2	5.8	8.4	12	5.05	2.1	1.3

## Cable Length

Parameter	Value	Units
Diameter	3	mm
Minimum bend radius	30	mm
Length tolerance	Length<1m: +5/-0	cm
	1≤Length≤4.5m: +15/-0	cm
	5≤Length≤14.5m: +30/-0	cm
	Length≥15.0m : +2/-0	m
Cable color	Orange(OM2),Aqua(OM3),Magenta(OM4)	

## Contact Information

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