WTQD400-SR8

QSFP-DD 400Gb/s SR8 100m Transceiver / PRODUCT FEATURES

Part Number
WTQD400-SR8



1. Product Overview

Features

- 8 independent parallel optical channels
- Each channel data rate up to 26.56GBaud with CDR
- Hot Pluggable
- Up to 100m link on OM4 Multi-mode
- 850nm VCSEL/PD Array Technology
- CML Compatible electrical I/O
- QSFP-DD MSA Compliance
- Optical connectivity via industry standard MPO/ MTP terminated fiber ribbon
- MPO-16 APC Optical Receptacle Type
- CMIS 4.0 Compliance
- Monitors for VCSEL bias, transmitted, received power, module
- temperature, and module supply

Applications

- Data Center
- Switch/Router interconnections

2. Ordering Information

Part No.	Description
WTQD400-SR8	400G-SR8 QSFP-DD 100m Multi Mode Fiber Transceiver, 0 to 70 ºC

3. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units
Storage Ambient Temperature	Tstg	-40	+85	ºC
Relative Humidity - Storage	RHS	0	95	%
Relative Humidity - Operating	RHO	0	85	%
Module Supply Voltage	Vcc	-0.5	3.6	V

4. Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units	Notes
Case Operating Tempera- ture	Tcase	0	+25	+70	ºC	
Module Supply Voltage	Vcc	3.14	3.3	3.46	V	
Power Consumption	P	-	-	10	W	
Signaling Speed Per Channel	S	-	26.56	-	GBd	

5. Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units	Notes
Signaling rate, each lane	SR	-	26.56	-	GBd	
Signaling Speed Accuracy	SSA	-100		100	ppm	
Modulation format		PAM4	PAM4	PAM4		
Average Launch Power ,each lane	POUT	-6.5	-	4	dBm	Average Optical Out- put
Outer Optical Modulation Amplitude each lane	OMAouter	-4.5	-	3	dBm	
Optical Output with Tx OFF	POFF	-	-	-30	dBm	
Extinction ratio	ER	3			dB	
Center Wavelength	λ	840	850	868	nm	
RMS Spectral Width	Δλ	-	-	0.6	nm	
Transmitter and dispersion eye closure (TDECQ) each lane	TDECQ	-	-	4.5	dB	
Launch power in OMAouter minus TDECQ, each lane (min)		-5.9	-	-	dBm	
TDECQ – 10log10(Ceq), each lane (max)		-	-	4.5	dB	
RIN12 OMA	RIN12 OMA	-	-	-128	dB/Hz	
Optical return loss tolerance (Max)	ORLT			12	dB	
Signaling rate, each lane	SR	-	26.56	-	GBd	
Signaling Speed Accuracy		-100		100	ppm	
Modulation format		PAM4	PAM4	PAM4		

Parameter	Symbol	Min	Typ	Max	Units	Notes
Average power at receive input, each lane	PIN	-8.4	-	4	dBm	Note1
Receive power (OMAouter), each lane (max)		-	-	3	dBm	
Receiver sensitivity(OMAouter) each lane	Sen	-	-	max(–6.6, SECQ – 8)	dBm	Note2
Center Wavelength	λ	840	850	868	nm	
Rx_LOS of Signal - Assert	PA	-24.6	-	-	dBm	
Rx_LOS of Signal - Deassert	PD	-	-	-7	dBm	
Rx_LOS of Signal - Hysteresis	PHy	0.5	-	-	dB	

6. Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Tx_Data Differential Input Voltage	VIN	-	-	900	mV	
Tx_Data Differential Input Impedance	ZIN	-	100	-	Q	
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver
Rx_Data Differential Output Voltage	VOUT	-	-	900	mV	
Rx_Data Differential Output Impedance	ZOUT	-	100	-	Q	

7. Pin Descriptions

Pin	Symbol	Description	Notes
1	GND	Ground	
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non Inverted Data Input	
4	GND	Ground	
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non Inverted Data Input	
7	GND	Ground	
8	ModselL	Module Select	
9	ResetL	Module Reset	
10	VCC Rx	Receiver +3.3V DC Power Supply	
11	SCL	I2C Serial Clock	

Pin	Symbol	Description	Notes
12	SDA	I2C Serial Data	
13	GND	Ground	
14	Rx3p	Receiver Non Inverted Differential Output	
15	Rx3n	Receiver Inverted Differential Output	
16	GND	Ground	
17	Rx1p	Receiver Non Inverted Differential Output	
18	Rx1n	Receiver Inverted Differential Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Differential Output	
22	Rx2p	Receiver Non Inverted Differential Output	
23	GND	Ground	
24	Rx4n	Receiver Inverted Differential Output	
25	Rx4p	Receiver Non Inverted Differential Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	VCC Tx	Transmitter +3.3V DC Power Supply	
30	VCC 1	+3.3V DC Power Supply	
31	Init Mode	Initialization Mode	
32	GND	Ground	
33	Tx3p	Transmitter Non Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	
36	Tx1p	Transmitter Non Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	
39	GND	Ground	
40	Tx6n	Transmitter Inverted Data Input	
41	Tx6p	Transmitter Non Inverted Data Input	
42	GND	Ground	

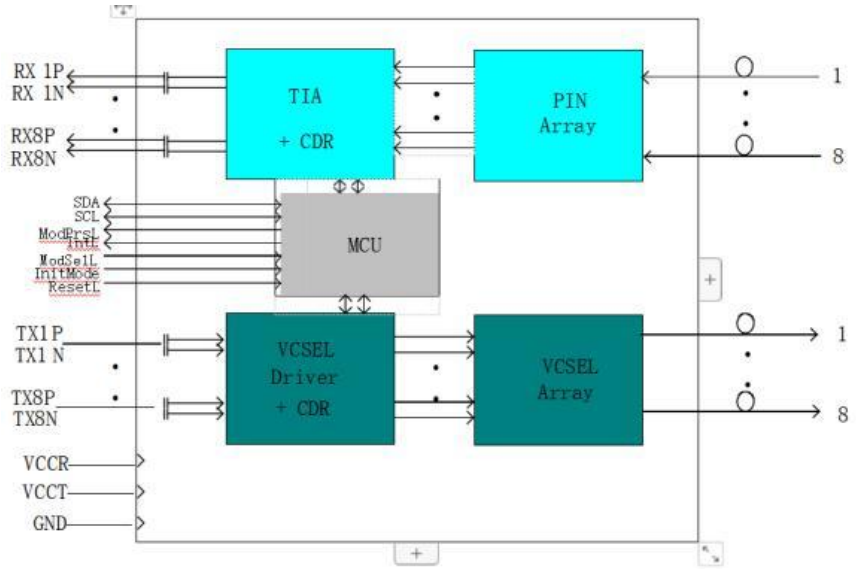
Pin	Symbol	Description	Notes
43	Tx8n	Transmitter Inverted Data Input	
44	Tx8p	Transmitter Non Inverted Data Input	
45	GND	Ground	
46	Reserved	No connect	
47	NC	No connect	
48	VCC Rx1	+3.3V DC Power Supply	
49	NC	No connect	
50	NC	No connect	
51	GND	Ground	
52	Rx7p	Receiver Non Inverted Differential Output	
53	Rx7n	Receiver Inverted Differential Output	
54	GND	Ground	
55	Rx5p	Receiver Non Inverted Differential Output	
56	Rx5n	Receiver Inverted Differential Output	
57	GND	Ground	
58	GND	Ground	
59	Rx6n	Receiver Inverted Differential Output	
60	Rx6p	Receiver Non Inverted Differential Output	
61	GND	Ground	
62	Rx8n	Receiver Inverted Differential Output	
63	Rx8p	Receiver Non Inverted Differential Output	
64	GND	Ground	
65	NC	No Connect	
66	Reserved	No Connect	
67	VCCTx1	+3.3V DC Power Supply	
68	VCC2	+3.3V DC Power Supply	
69	Reserved	No Connect	
70	GND	Ground	
71	Tx7p	Transmitter Non Inverted Data Input	
72	Tx7n	Transmitter Inverted Data Input	
73	GND	Ground	
74	Tx5p	Transmitter Non Inverted Data Input	

Pin	Symbol	Description	Notes
75	Tx5n	Transmitter Inverted Data Input	
76	GND	Ground	

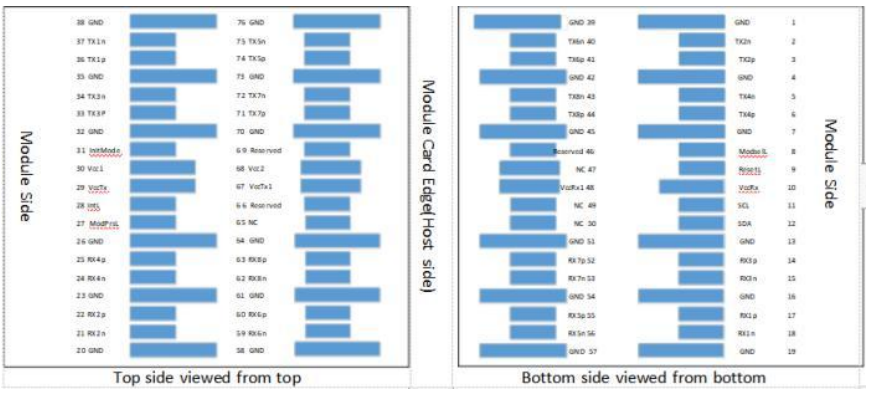
8. Pin Descriptions

Version No.	Date	Description
1.0	May 17, 2023	Specification datasheet

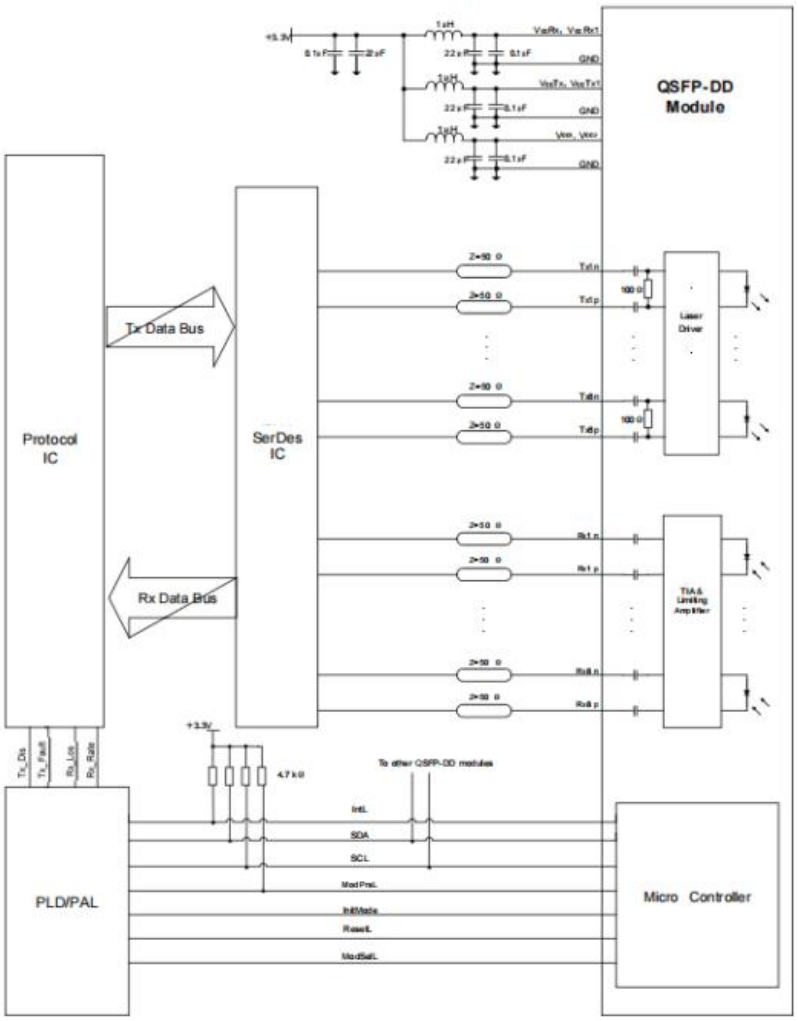
9. Block Diagram



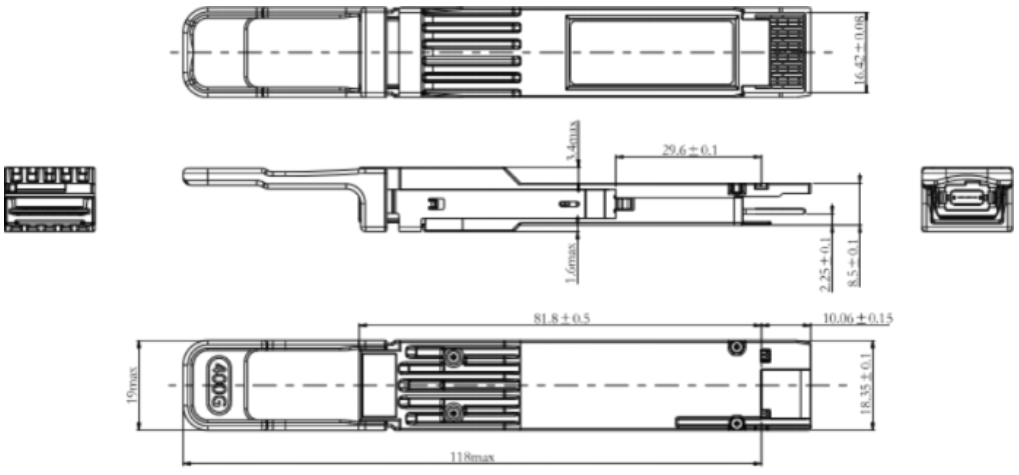
10. Pin Assignment



11. Electrical Interface



12. Mechanical Specifications



NOTES:
1.TOLERANCE: +/-0.1MM.
2.OTHERS ACCORDING WITH QSFP-DD MSA OR CUSTOMER SPEC.
3.LIGHT PORT ACCORDING WITH FIBER CONNECTOR SPEC.

13. Revision History

Version	Date	Description	Prepared by
V6	2025	Unified WincoTek datasheet format	WincoTek
V6.1	2026-10-23	Engineering and format review	WincoTek