WTQD400-SR8-100C

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

Data Rate 425	Wavelength 850



1. Product Overview

Features

- Supports 400Gb/s aggregate bit rate
- 8x26.5625GBd(PAM4)electrical interface
- Maximum link length of 100m on
- OM4 Multimode Fiber (MMF)
- Hot-pluggable QSFP-DD footprint
- Single MPO 16 receptacle
- Low power Consumption
- RoHS-6 compliant and lead-free
- +3.3V single power supply
- Support Digital Diagnostic Monitor interface
- Case operating temperature
- Commercial: 0°C to +70°C

Applications

- 400GBASE-SR8 400G Ethernet

2. Ordering Information

Part NO.	Bit Rate (Gbps)	Laser (nm)	Distance(m)	Media	DDMI	Connector	Temp（℃）
WTQD400-SR8-100C	425	850	100 (OM4)	multi-mode fiber	YES	MPO 1X16	0~70

3. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Storage Temperature	TS	-40		85	ºC	
Storage Ambient Humidity	HA	0		85	%	
Maximum Supply Voltage	VCC	-0.5		3.6	V	

4. Recommended Operating Conditions

Data Rate Spcifications	Symbol	Min.	Typ.	Max.	Unit	Ref.
Supply Voltage	Vcc	3.13	3.3	3.47	V	

Data Rate Spcifications	Symbol	Min.	Typ.	Max.	Unit	Ref.
Baud Rate(per channel) PAM4	BR		26.5625		GBd	1
Operating Case Temperature	Tc	0		70	℃	
Link distance on OM4 MMF	d			100	meters	

5. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Transmitter(per lane)	Transmitter(per lane)	Transmitter(per lane)	Transmitter(per lane)	Transmitter(per lane)	Transmitter(per lane)	Transmitter(per lane)
Average Output Power per lane	POUT	-6.5		4	dBm	
Outer Optical Modulation Amplitude per lane	OMAOUT	-4.5		3	dBm	
Extinction Ratio	ER	3			dB	
Center Wavelength	λC	840		860	nm	
RMS Spectral Width	σ			0.6	nm	
Launch power in OMAOUT minus TDECQ	PTDECQ	-5.9			dBm	
Transmitter and dispersion eye closure (each lane)	TDECQ			4.5	dB	
Transmitter OFF Output Power	POff			-30	dBm	
Optical Return Loss Tolerance	ORLT			12	dB	
Receiver(per lane)	Receiver(per lane)	Receiver(per lane)	Receiver(per lane)	Receiver(per lane)	Receiver(per lane)	Receiver(per lane)
Input Optical Wavelength	λIN	840		860	nm	
Average Recevive Power per lane	Pin	-8.4		4	dBm	
Receiver Power (OMAOUT) each lane	ROMA			3	dBm	
Rx Sensitivity(OMAOUT) per lane (SECQ=1.4 dB)	RSENS			-6.5	dBm	1
Stressed Rx Sensitivity(OMA) per lane	SRSENS			-3	dBm	
Damage threshold	PDT	5			dBm	
Receiver Reflectance	Rfl			-12	dB	
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-9	dBm	
LOS Hysteresis	LOSH	0.5			dB	

6. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Supply Voltage	VCC1, VCCTX, VCCRX	3.15		3.45	V	
Power Dissipation	Pd			10	W	
Transmitter(per Lane)	Transmitter(per Lane)	Transmitter(per Lane)	Transmitter(per Lane)	Transmitter(per Lane)	Transmitter(per Lane)	Transmitter(per Lane)
Input different impedance	Rin	90	100	110	Ω	
Single ended input voltage tolerance	VinT	-0.3		4.0	V	
Differential Input Voltage Amplitude	Vin,pp			900	mV	
Receiver (per Lane)	Receiver (per Lane)	Receiver (per Lane)	Receiver (per Lane)	Receiver (per Lane)	Receiver (per Lane)	Receiver (per Lane)
Error Bit Rate	BER			2.4E-4		
Output different impedance	Rout	90	100	110	Ω	
Single-ended output voltage	VoutR	-0.3		4.0	V	
Differential Output Voltage Amplitude	Vout,pp			900	mV	

7. Pin Descriptions

Pad	Symbol	Description	Ref.
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	VccRx	+3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	
17	Rx1p	Receiver Non-Inverted Data Output	

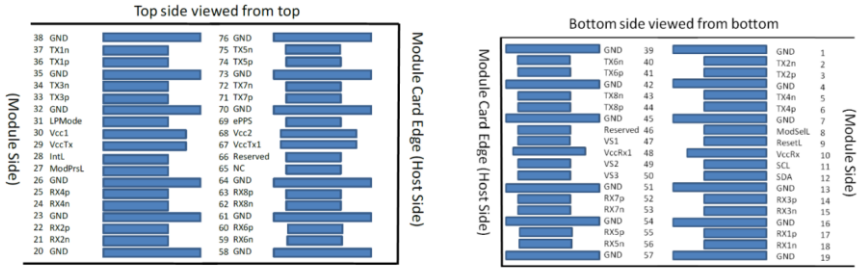
Pad	Symbol	Description	Ref.
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	
Pad	Symbol	Description	Ref.
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	VccTx	+3.3V Power supply transmitter	
30	Vcc1	+3.3V Power supply	
31	LPMode	Low Power 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	
43	Tx8n	Transmitter Inverted Data Input	
44	Tx8p	Transmitter Non-Inverted Data Input	
45	GND	Ground	
46	Reserved	For future use	
47	VS1	Module Vendor Specific 1	
48	VccRx1	3.3V Power Supply	
49	VS2	Module Vendor Specific 2	
50	VS3	Module Vendor Specific 3	
51	GND	Ground	

Pad	Symbol	Description	Ref.
52	Rx7p	Receiver Non-Inverted Data Output	
53	Rx7n	Receiver Inverted Data Output	
54	GND	Ground	
55	Rx5p	Receiver Non-Inverted Data Output	
56	Rx5n	Receiver Inverted Data Output	
57	GND	Ground	
58	GND	Ground	
59	Rx6n	Receiver Inverted Data Output	
60	Rx6p	Receiver Non-Inverted Data Output	
61	GND	Ground	
62	Rx8n	Receiver Inverted Data Output	
63	Rx8p	Receiver Non-Inverted Data Output	
64	GND	Ground	
65	NC	No Connect	
66	Reserved	For future use	
67	VccTx1	3.3V Power Supply	
68	Vcc2	3.3V Power Supply	
69	Reserved	For future use	
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	
75	Tx5n	Transmitter Inverted Data Input	
76	GND	Ground	

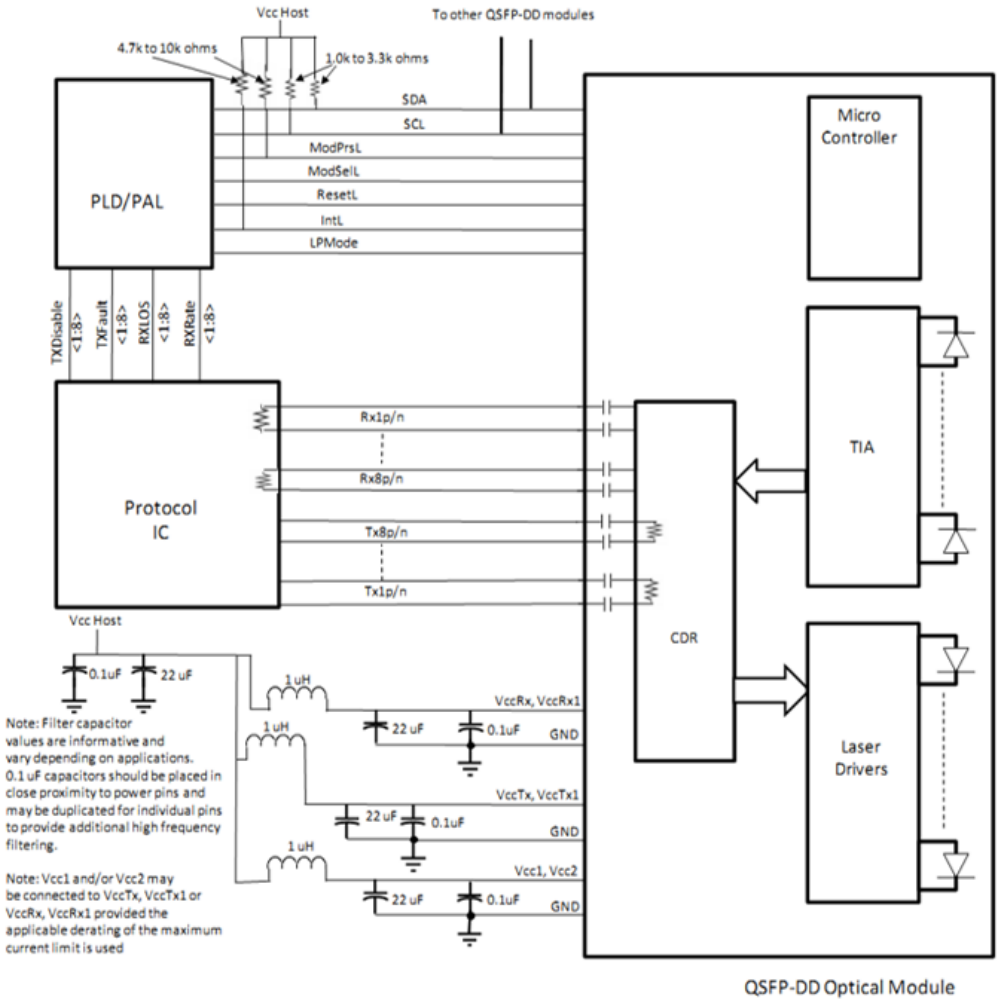
8. Revision History

Version	Initiated	Reviewed	Revision	Release Date
A0	Lynn	Luke	New Release	2019-10-31

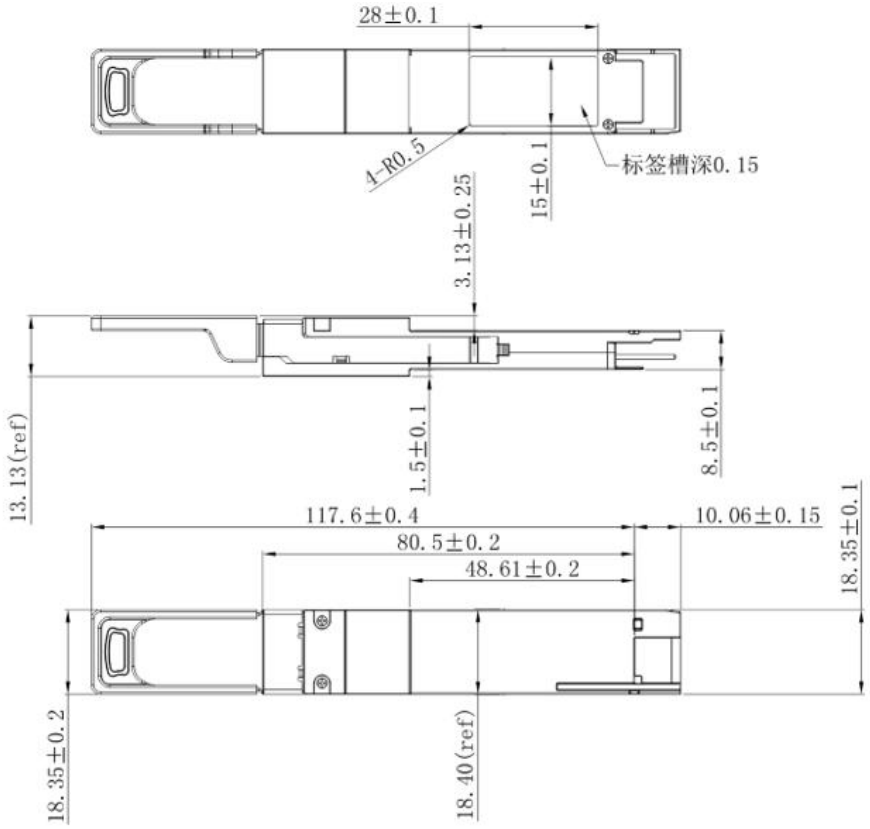
9. Pin Assignment



10. Recommended Interface Circuit



11. Mechanical Specifications



12. Revision History

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