WTS01L2D-K20C(I)

1.25G SFP Transceiver 1310nm SMF 20km LC

Part Number WTS01L2D-K20C	**Data Rate 1.25**	**Wavelength 1310**
Reach 20	**Temperature 0℃~70℃**	



1. Product Overview

Features

- Up to 1.25Gbps Data Links
- 1310nm FP laser transmitter and PIN/TIA receiver
- Maximum link length of 20km on 9/125um SMF
- Hot-pluggable SFP footprint
- Duplex LC receptacles
- Low power dissipation
- RoHS compliant and lead-free
- Support Digital Diagnostic Monitor interface
- Single +3.3V power supply
- Compliant with SFF-8472
- Case operating temperature
- Commercial: 0°C to +70°C

Applications

- 1000BASE-LX Ethernet
- 1.06Gb/s Fibre Channel

2. Ordering Information

Part No.	Bit Rate (Gbps)	Laser (nm)	Distance（km）	Fiber Type	DDMI	Connector	Temp
WTS01L2D-K20C	1.25	1310	20	SMF	YES	LC	0℃~70℃
WTS01L2D-K20I	1.25	1310	20	SMF	YES	LC	-40℃~85℃

3. Absolute Maximum Ratings

Parameter	Symbol	Min	Type	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		3.6	V	
Storage Temperature	TS	-40		85	℃	
Relative Humidity	RH	0		85	%	1

4. Recommended Operating Conditions

Parameter	Symbol	Min	Type	Max	Unit	Ref.
Case Operating Temperature	TOP	0		70	℃	Commercial
Case Operating Temperature	TOP	-40		85	℃	Industrial

5. Optical Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Center Wavelength RMS Spectral Width	λc Pm	1280	1310	1340	nm nm	
Center Wavelength RMS Spectral Width	λc Pm			3	nm nm	
Average Output Power	Pavg	-9		-3	dBm	
Extinction Ratio	ER	9			dB	
Return Loss		12			dB	
Transmitter OFF Output Power	POff			-30	dBm	
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver
Center Wavelength	λc	1260		1600	nm	
Receiver Sensitivity, Average Power				-20	dBm	
Receiver Optical Overload	Psat			-3	dBm	
Loss of Signal Assert	PA	-38			dBm	
Loss of Signal De-assert	PD			-22	dBm	
LOS Hysteresis	PD- PA	0.5			dB	

6. Electrical Characteristics

Parameter	Symbol	Min	Type	Max	Unit	Ref.
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Supply Current	Icc			300	mA	
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Input differential impedance	Rin		100			1
Differential data input swing	Vin, pp	200		1000	mV	
Transmit Disable Voltage	VD	2		VCC	V	
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver

Parameter	Symbol	Min	Type	Max	Unit	Ref.
Differential data output swing	Vout, pp	200		1000	mV	2
LOS Fault	VLOS_fault	2		Vcc	V	3
LOS Normal	VLOS_norm	Vee		Vee+0.8	V	3
Power Supply Noise Tolerance	VCCT/VCCR	Per SFF-8431 Rev 4.1	Per SFF-8431 Rev 4.1	Per SFF-8431 Rev 4.1	mVpp	4

7. Digital Diagnostics

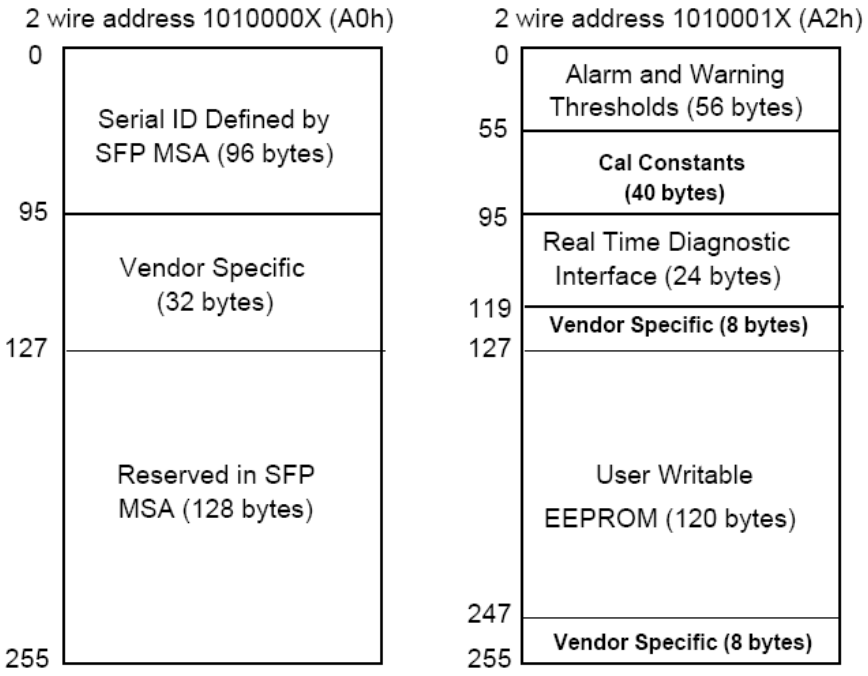
Parameter	Unit	Accuracy
Case Temperature	℃	±3
Supply Voltage	V	±3%
Tx Bias Current	mA	±10%
Tx Optical Power	dB	±3
Rx Optical Power	dB	±3

8. Pin Descriptions

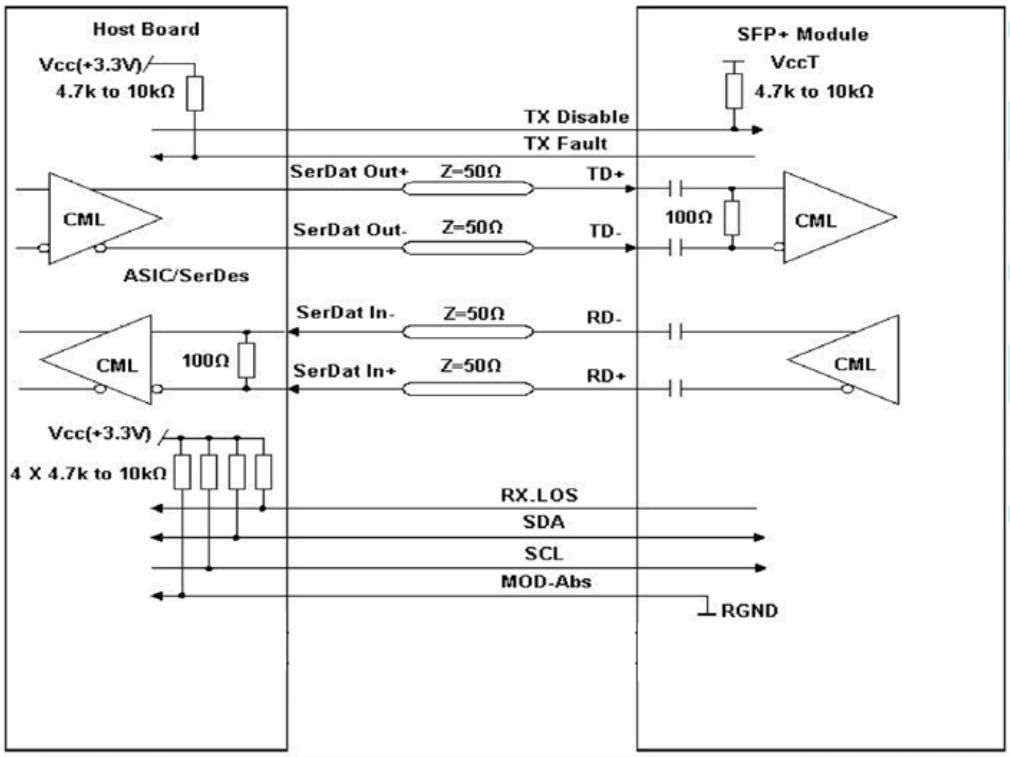
Pin	Symbol	Name/Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	1
2	TFAULT	Transmitter Fault.	2
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	3
4	MOD_DEF (2)	Module Definition 2. Data line for Serial ID.	4
5	MOD_DEF (1)	Module Definition 1. Clock line for Serial ID.	4
6	MOD_DEF (0)	Module Definition 0. Grounded within the module.	4
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic “0” indicates normal operation.	5
9	VEER	Receiver Ground (Common with Transmitter Ground)	
10	VEER	Receiver Ground (Common with Transmitter Ground)	1
11	VEER	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver Inverted DATA out (CML). AC Coupled	
13	RD+	Receiver Non-inverted DATA out (CML). AC Coupled	
14	VEER	Receiver Ground (Common with Transmitter Ground)	1
15	VCCR	Receiver Power Supply	

Pin	Symbol	Name/Description	Ref.
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VEET	Transmitter Ground (Common with Receiver Ground)	1

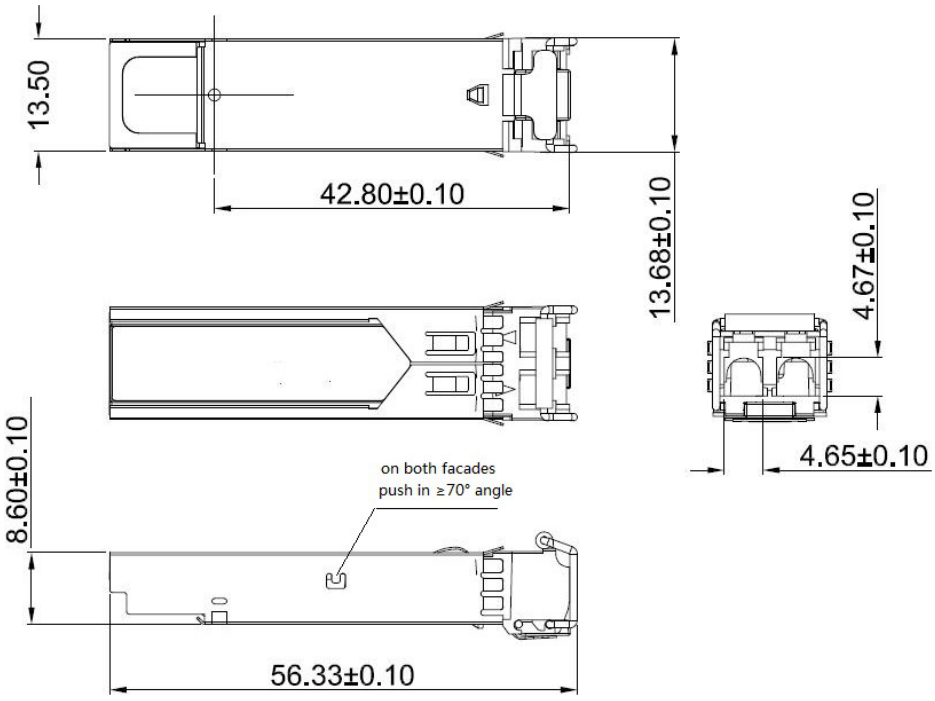
9. Digital Diagnostics Memory Map



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