WTS01L2B53(B35)-K20C(I)

1.25G SFP Transceiver T15/R13(T13/R15) SMF 20km LC

Part Number WTS01L2B53-K20C	**Data Rate 1.25**	**Wavelength 1550**
Reach 20	**Temperature 0℃~70℃**	



1. Product Overview

Features

- Up to 1.25Gbps Data Links
- 1550nm DFB laser/1310nm FP laser transmitter and PIN/TIA receiver
- Maximum link length of 20km on 9/125um SMF
- Hot-pluggable SFP footprint
- 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

- Fast Ethernet
- Router/server Interface
- Switch to Switch Interface
- Other Optical Links

2. Ordering Information

Part No.	Bit Rate (Gbps)	Laser (nm)	Distance（km）	Fiber Type	DDMI	Connector	Temp
WTS01L2B53-K20C	1.25	1550	20	SMF	YES	LC	0℃~70℃
WTS01L2B53-K20I	1.25	1550	20	SMF	YES	LC	-40℃~85℃
WTS01L2B35-K20C	1.25	1310	20	SMF	YES	LC	0℃~70℃
WTS01L2B35-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	℃	

Parameter	Symbol	Min	Type	Max	Unit	Ref.
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	λc	1540	1550	1560	nm	WTGCLB53
Center Wavelength	λc	1280	1310	1340	nm	WTGCLF35
Spectral Width (-20dB)	Pm			1	nm	WTGCLB53
Spectral Width (RMS)	Pm			3	nm	WTGCLF35
Side-mode Suppression Ration	SMSR	30			dB	WTGCLB53
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		1360	nm	WTGCLB53
Center Wavelength	λc	1530		1570	nm	WTGCLB35
Receiver Sensitivity, Average Power				-24	dBm	
Receiver Saturation Power	Psat			-3	dBm	
Loss of Signal Assert	PA	-35			dBm	
Loss of Signal De-assert	PD			-26	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	

Parameter	Symbol	Min	Type	Max	Unit	Ref.
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
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 SFP MSA	Per SFP MSA	Per SFP MSA	mVpp	

7. Digital Diagnostics

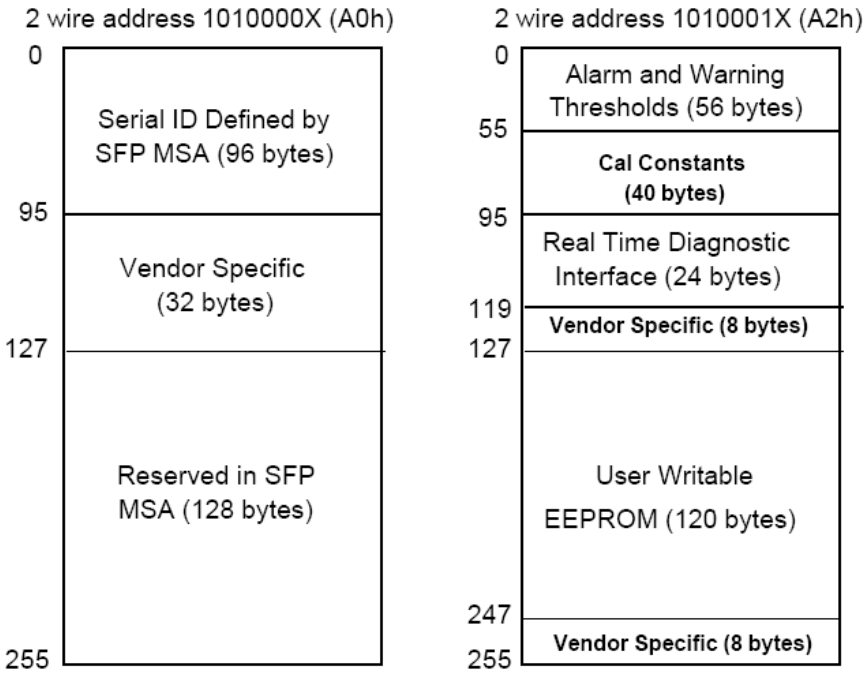
Parameter	Unit	Accuracy
Case Temperature	℃	±3
Supply Voltage	V	±3%
Tx Bias Current	mA	±10%
Tx Optical Power	dB	±3
Rx Optical Power	dB	±3

8. Pin Descriptions

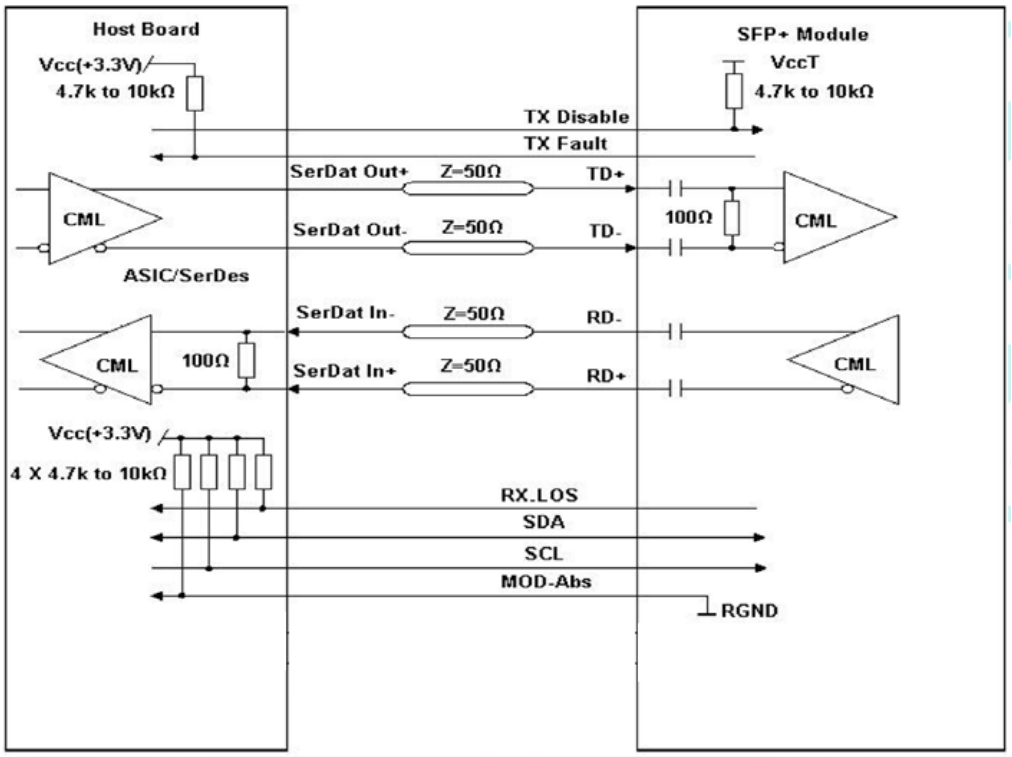
Pin	Symbol	Name/Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	1
2	TFAULT	Transmitter Fault.	2
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	3
4	MOD_DEF (2)	Module Definition 2. Data line for Serial ID.	4
5	MOD_DEF (1)	Module Definition 1. Clock line for 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)	

Pin	Symbol	Name/Description	Ref.
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	
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

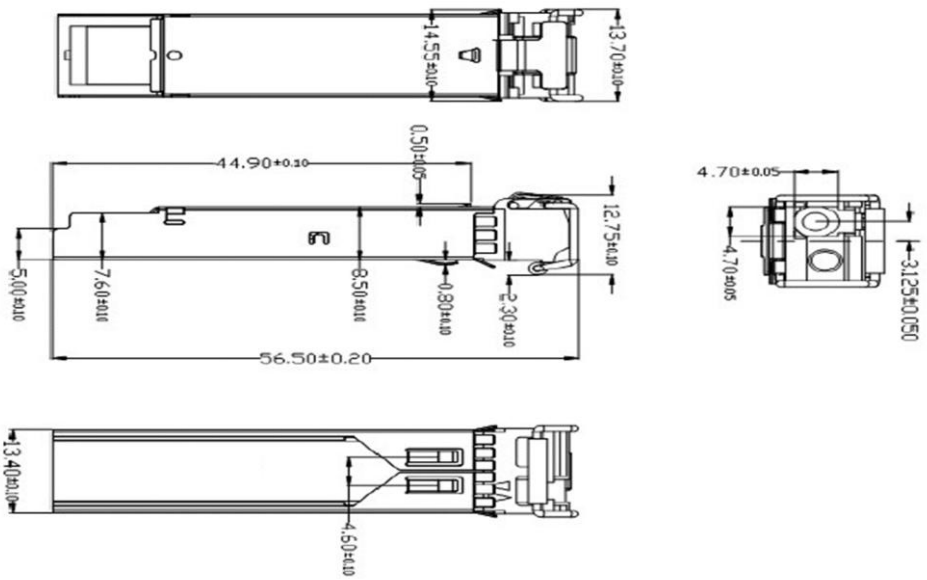
9. Digital Diagnostics Memory Map



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