WT55-K40C(I)

1.25Gb/s 1550nm 40km DDMI Transceiver

Part Number WT55-K40C	**Data Rate 1.25**	**Wavelength 1550**
Reach 40	**Temperature 0℃~70℃**	



1. Product Overview

Features

- Up to 1.25Gb/s data links
- 1550nm transmitter; up to 40km on single-mode fibre
- Duplex LC; digital diagnostic monitoring (DDMI)
- Single +3.3V supply
- Commercial 0°C to +70°C; industrial -40°C to +85°C

Applications

- Compliance

2. Ordering Information

Part No.	Bit Rate (Gbps)	Laser (nm)	Distance（km）	Fiber Type	DDMI	Connector	Temp
WT55-K40C	1.25	1550	40	SMF	YES	LC	0℃~70℃
WT55-K40I	1.25	1550	40	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	λc	1530	1550	1570	nm	
Spectral Width(-20dB)	Pm			1	nm	
Side-mode Suppression Ratio	SMSR	30			dB	
Average Output Power	Pavg	-5		0	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				-24	dBm	
Receiver Saturation Power	Psat			0	dBm	
Loss of Signal Assert	PA	-35			dBm	
Loss of Signal De-assert	PD			-25	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
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	

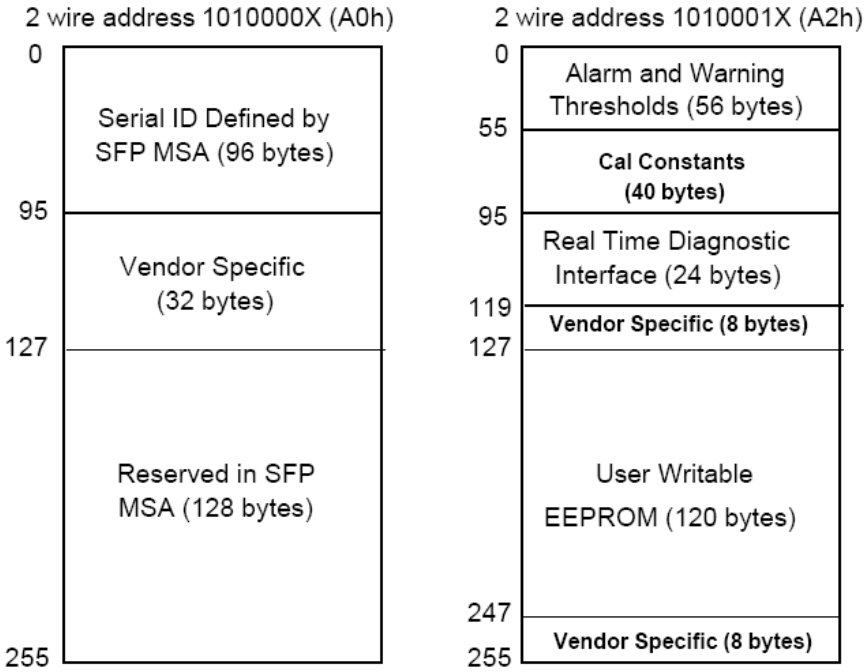
7. Digital Diagnostics

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

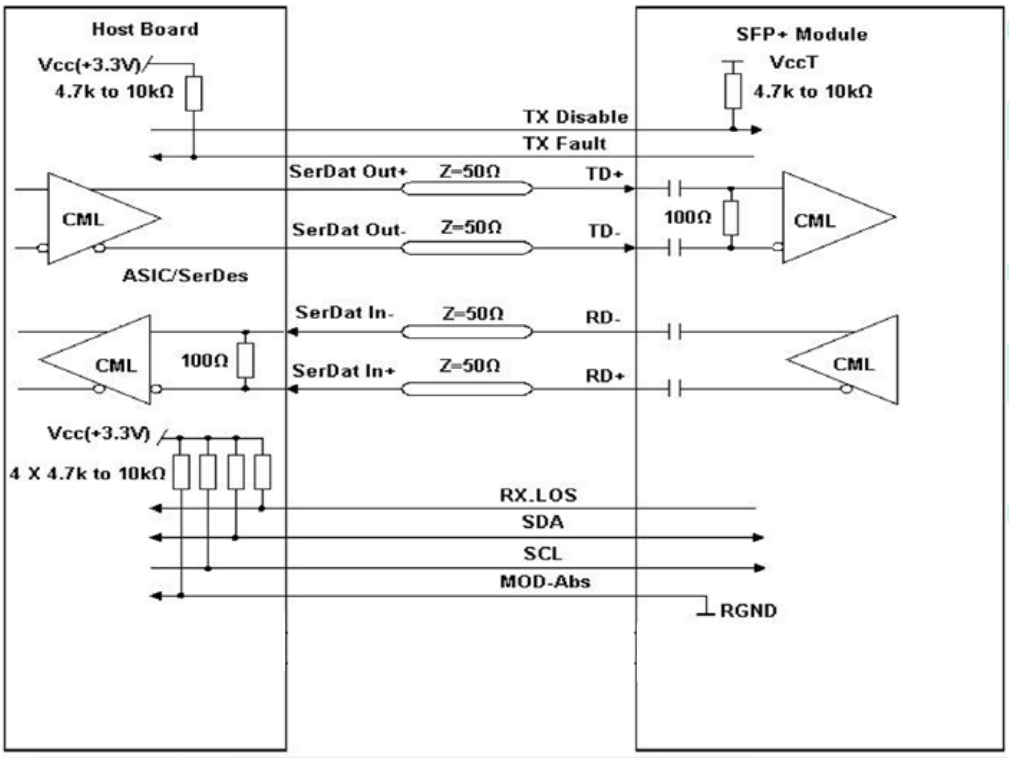
8. Pin Descriptions

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)	
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

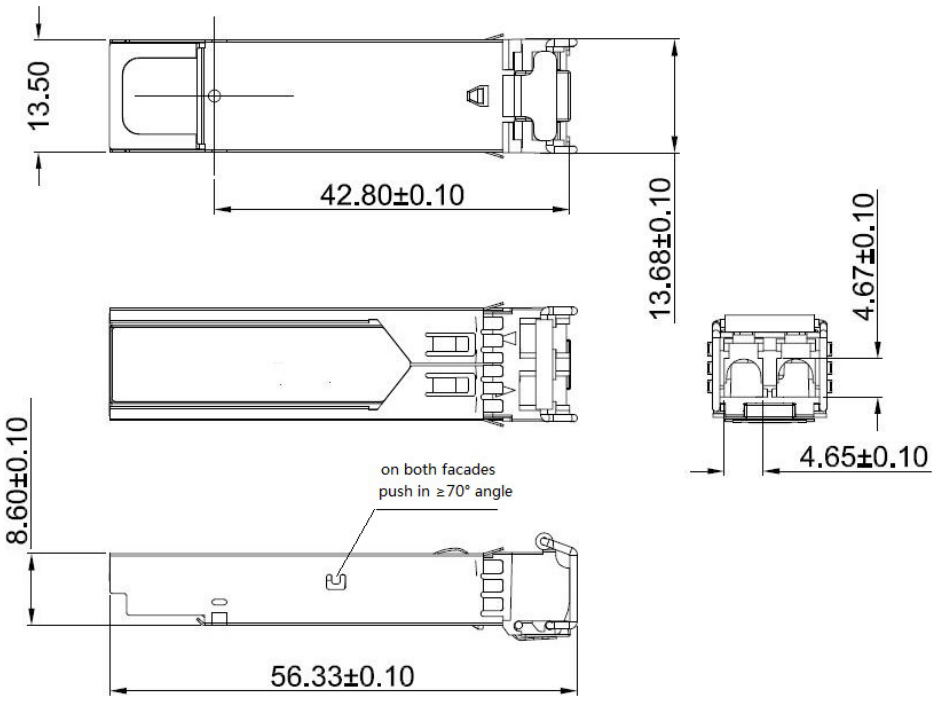
9. Digital Diagnostics Memory Map



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