WTXP-TUN-80D

SFP+ 10Gb/s Tunable DWDM Single-mode 80km DDM / PRODUCT FEATURES

Part Number
WTXP-TUN-80D



1. Product Overview

The WTXP-TUN-80D is a hot pluggable 3.3V Small-Form-Factor pluggable tunable SFP+ transceiver module for use in the 9.95Gb/s to 11.3Gb/s single mode high-speed communications equipment . It is designed expressly for high-speed communication applications that support SONET OC-192, SDH STM-64 over 80km of G.652 single mode fiber. Digital diagnostic functions are available via 2-wire serial interface, as specified in SFF-8431.

Features

- Supports 9.95 to 11.3Gb/s
- Support 80 km link distances
- 50GHz ITU-based channel spacing(C-Band) with a wavelength locker
- Monolithic MZM Tunable TOSA
- APD receiver with limiting amplifier
- Duplex LC connector
- Low power consumption: <2.5W
- Positive power supply lines: 3.3 V
- Operating case temperature range:
- Commercial: 0 to 70 deg C
- RoHS 6 compliant
- Compliant with SFF-8431 / SFF-8690

Applications

- DWDM 10Gb/s SONET/SDH
- DWDM 10Gb/s Ethernet
- DWDM 10Gb/s SONET/SDH w/FEC

2. Ordering Information

Part Number	Product Description
WTXP-TUN-80D	10G SFP+ 80km Tunable transceiver, 50GHz Spacing, 96ch,RX APD,C-TEMP

3. Ordering Information

Channel	Wavelength (nm)	Frequency(THZ)	Channel	Wavelength (nm)	Frequency(THZ)
1	1567.13	191.30	51	1546.92	193.80
2	1566.72	191.35	52	1546.52	193.85
3	1566.31	191.40	53	1546.12	193.90
4	1565.90	191.45	54	1545.72	193.95
5	1565.50	191.50	55	1545.32	194.00
6	1565.09	191.55	56	1544.92	194.05
7	1564.68	191.60	57	1544.53	194.10

Channel	Wavelength (nm)	Frequency(THZ)	Channel	Wavelength (nm)	Frequency(THZ)
8	1564.27	191.65	58	1544.13	194.15
9	1563.86	191.70	59	1543.73	194.20
10	1563.45	191.75	60	1543.33	194.25
11	1563.05	191.80	61	1542.94	194.30
12	1562.64	191.85	62	1542.54	194.35
13	1562.23	191.90	63	1542.14	194.40
14	1561.83	191.95	64	1541.75	194.45
15	1561.42	192.00	65	1541.35	194.50
16	1561.01	192.05	66	1540.95	194.55
17	1560.61	192.10	67	1540.56	194.60
18	1560.20	192.15	68	1540.16	194.65
19	1559.79	192.20	69	1539.77	194.70
20	1559.39	192.25	70	1539.37	194.75
21	1558.98	192.30	71	1538.98	194.80
22	1558.58	192.35	72	1538.58	194.85
23	1558.17	192.40	73	1538.19	194.90
24	1557.77	192.45	74	1537.79	194.95
25	1557.36	192.50	75	1537.40	195.00
26	1556.96	192.55	76	1537.00	195.05
27	1556.55	192.60	77	1536.61	195.10
28	1556.15	192.65	78	1536.22	195.15
29	1555.75	192.70	79	1535.82	195.20
30	1555.34	192.75	80	1535.43	195.25
31	1554.94	192.80	81	1535.04	195.30
32	1554.54	192.85	82	1534.64	195.35
33	1554.13	192.90	83	1534.25	195.40
34	1553.73	192.95	84	1533.86	195.45
35	1553.33	193.00	85	1533.47	195.50
36	1552.93	193.05	86	1533.07	195.55
37	1552.52	193.10	87	1532.68	195.60
38	1552.12	193.15	88	1532.29	195.65
39	1551.72	193.20	89	1531.90	195.70
40	1551.32	193.25	90	1531.51	195.75
41	1550.92	193.30	91	1531.12	195.80
42	1550.52	193.35	92	1530.72	195.85
43	1550.12	193.40	93	1530.33	195.90
44	1549.72	193.45	94	1529.94	195.95
45	1549.32	193.50	95	1529.55	196.00
46	1548.91	193.55	96	1529.16	196.05
47	1548.51	193.60			

Channel	Wavelength (nm)	Frequency(THZ)	Channel	Wavelength (nm)	Frequency(THZ)
48	1548.11	193.65			
49	1547.72	193.70			
50	1547.32	193.75			

4. Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Units
Storage Temperature	Tstg	-40	-	85	ºC
Relative Humidity - Storage	RHO	5	-	95	%
Relative Humidity - Operating	RHS	5	-	85	%
Power Supply	VCC	-0.5	-	3.6	V

5. Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units	Notes
Case Operating Temperature		0	25	70	ºC	Temperature Range = C
DC Supply Voltage	VCC	3.14	-	3.46	V	

6. Recommended Operating Conditions

Parameter	Accuracy
Internally Temperature	±3℃
Internally Voltage	±3%
Measured TX Bias	±10%
Measured TX output power	±3dB
Measured RX output power	±3dB

7. Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Differential Data input Swing	VIN		-	900	mV	Refer to CEI-28G_VSR
Input Differential Impedance	Zin	-	100	-	Ω	
Transmitter Disable Voltage	VD	2.0	-	Vcc	V	
Transmitter Enable Voltage	VEN	0	-	0.8	V	
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver

Parameter	Symbol	Min	Typ	Max	Units	Notes
Differential Data Output Swing	VouT	450	600	750	mV	
Output Differential Impedance	Zout	-	100	-	Ω	
LOS Assert Voltage	VLOSA	2.0	-	Vcc	V	
LOS De-assert Voltage	VLOSD	0	-	0.8	V	

8. Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Notes
Module Initialize time	Tinit	-	-	20	S	
Module Channel Switch time	TSel	-	-	200	ms	

9. Electrical Characteristics

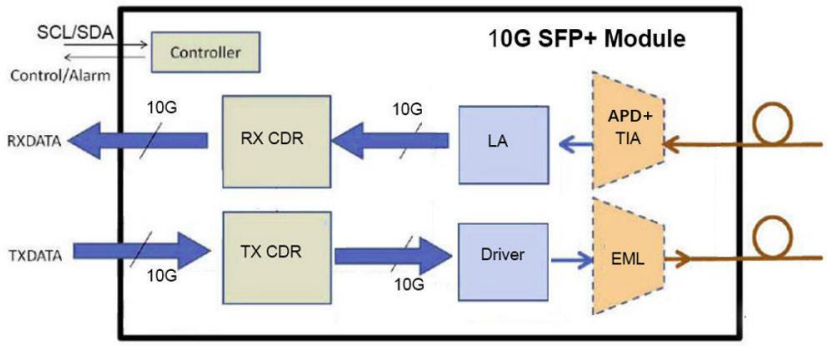
Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Average Output Power	POUT	-1		3	dBm	
Optical Wavelength	λ	As per ITU-T 694.1,50GHz Spacing 1529.16 to 1567.13	As per ITU-T 694.1,50GHz Spacing 1529.16 to 1567.13	As per ITU-T 694.1,50GHz Spacing 1529.16 to 1567.13	nm	191.30THz to 196.05THz
Center Wavelength	λc_BOL	z-1.5	z	Z+1.5	GHz	
Center Wavelength	λc_EOL	z-2.5	z	Z+2.5	GHz	
Center Wavelength Spacing			50		GHz	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Output Power (Laser Off)	POFF	-	-	-30	dBm	
Dispersion Penalty	DP			3	dB	
Extinction ratio	ER	8.2	-	-	dB	
Relative Intensity Noise	RIN	-	-	-130	dB/Hz	
Optical Return Loss Tolerance	ORLT	-	-	20	dB	
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver
Center Wavelength		1260		1600	nm	
Received Sensitivity	PIN	-	-	-23	dBm	Note3
Optical Power Overload	POL	-7	-	-	dBm	
Receiver Reflectance	RFL	-	-	-27	dB	
Rx_LOS of Signal Assert	PA	-36	-	-	dBm	

Parameter	Symbol	Min	Typ	Max	Units	Notes
Rx_LOS of Signal De-assert	PD	-	-	-25	dBm	
Rx_LOS of Signal Hysteresis	PHy	0.5	-	6	dB	

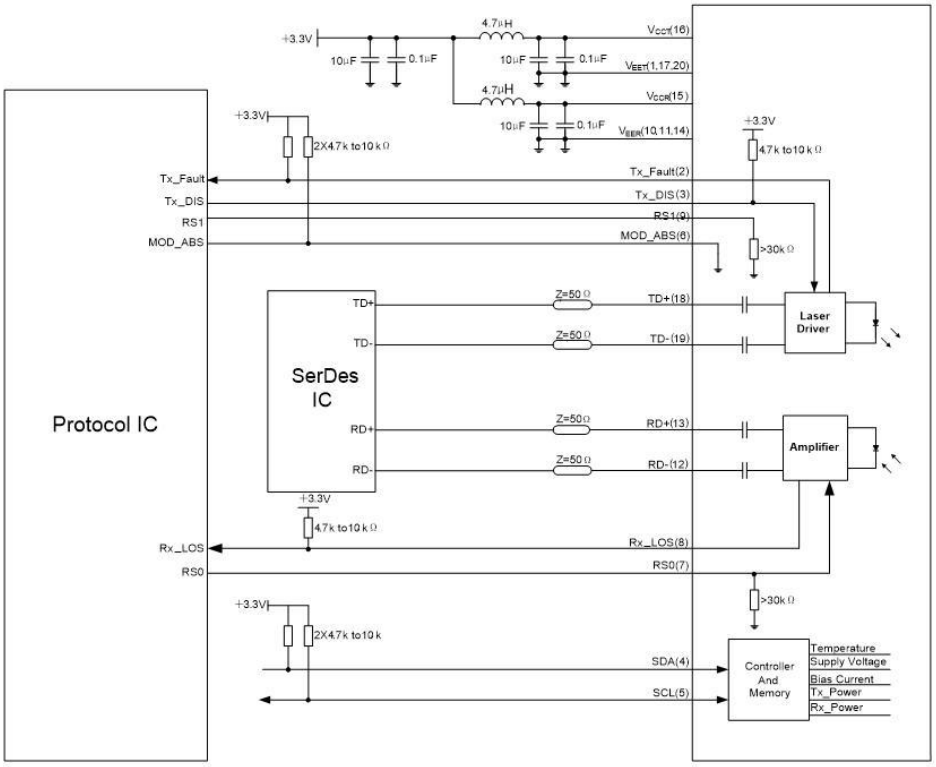
10. Pin Descriptions

Pin	Symbol	Name/Description	NOTE.
1	Veet	Transmitter Ground (Common with Receiver Ground)	
2	TFault	Transmitter Fault.	
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	
4	SDA	2-wire Serial Interface Data Line	
5	SCL	2-wire Serial Interface Clock Line	
6	MOD_ABS	Module Absent. Grounded within the module	
7	RS0	Rate Select 0	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	
9	RS1	No connection required	
10	VEER	Receiver Ground (Common with Transmitter Ground)	
11	VEER	Receiver Ground (Common with Transmitter Ground)	
12	RD-	Receiver Inverted DATA out. AC Coupled	
13	RD+	Receiver Non-inverted DATA out. AC Coupled	
14	VEER	Receiver Ground (Common with Transmitter Ground)	
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	
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)	

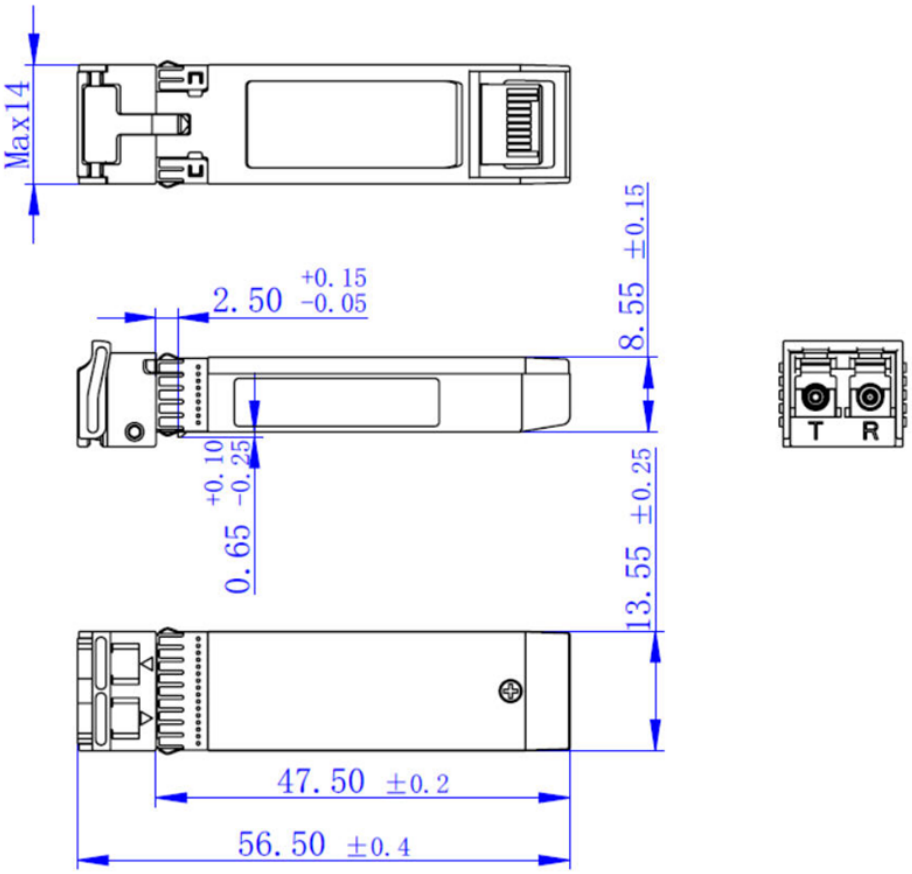
11. Block Diagram



12. Recommended Interface Circuit



13. Mechanical Specifications



14. Revision History

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