

GEPON PX20+++ SFP OLT Transceiver

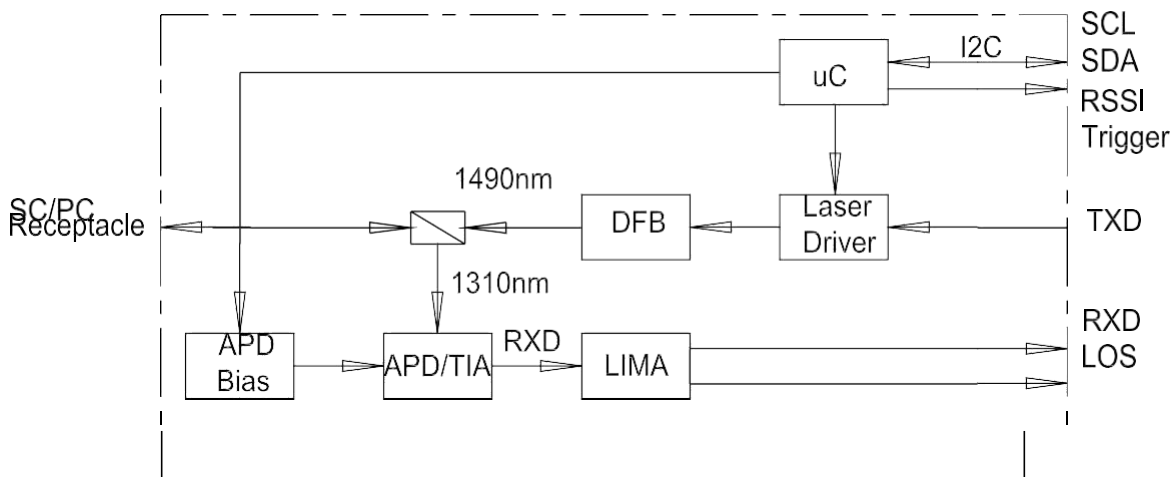
1. Features

- SFP with SC/UPC Receptacle Transceiver
- 1490 nm DFB Tx
- 1310 nm APD Rx
- Digital diagnostics SFF-8472 Compliant
- 1250 Mbps continuous mode Transmission
- 1250 Mbps Burst mode receiver Data Rate
- Provide fast RSSI function
- Operation case temperature: 0~70°C
- Complies with RoHS directive (2002/95/EC)

2. Application

- GEPON OLT IEEE802.3ah 1000BASE-PX20+++
- FTTx

3. Function Diagram



4. Recommended Operating Conditions

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TSTG	-40	85	°C
Operating Case Temperature	TC	0	70	°C
Power Supply Voltage	VCC	3.1	3.5	V
Total Power Supply Current	ICC	-	350	mA

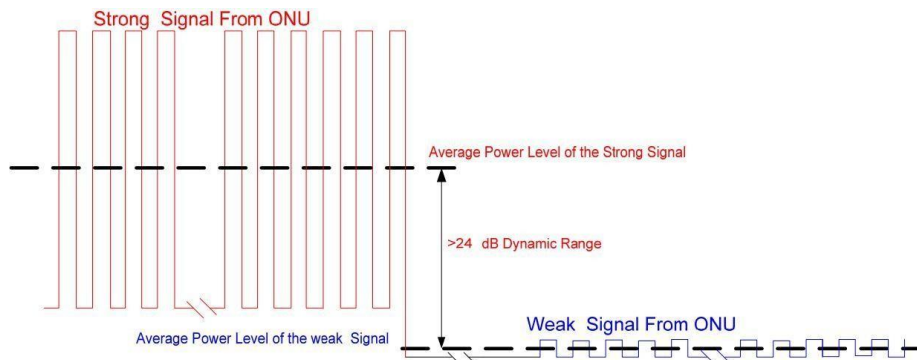
5. Transmitter Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Optical Transmitter Power	P0	8	-	11	dBm	1
Optical Transmitter Power off	POFF	-	-	-39	dBm	
Output Center Wavelength	λ	1480	-	1500	nm	
Output Spectrum Width	$\Delta\lambda$	-	-	1.0	nm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Extinction Ratio	ER	9	-	-	dB	
Optical Rise Time	-	-	-	260	ps	
Optical Fall Time	-	-	-	260	ps	
Optical Eye Diagram	Compliant with IEEE Std 802.3ahTM-2004					
Tolerance to Tx Back Reflection	-	-15	-	-	dB	
Data Rate	-	-	1.25	-	Gb/s	
Single Ended Data Input Voltage Swing	VPP	200	-	1200	mV	
Differential Input Impedance	ZIN	80	100	120	ohm	
Tx_fault Output Voltage- High	VOH	2.4	-	-	V	
Tx_fault Output Voltage- Low	VOL	-	-	0.4	V	
Tx_Dis Input Voltage- High	VIH	2.0	-	-	V	
Tx_Dis Input Voltage- Low	VIL	-	-	0.8	V	

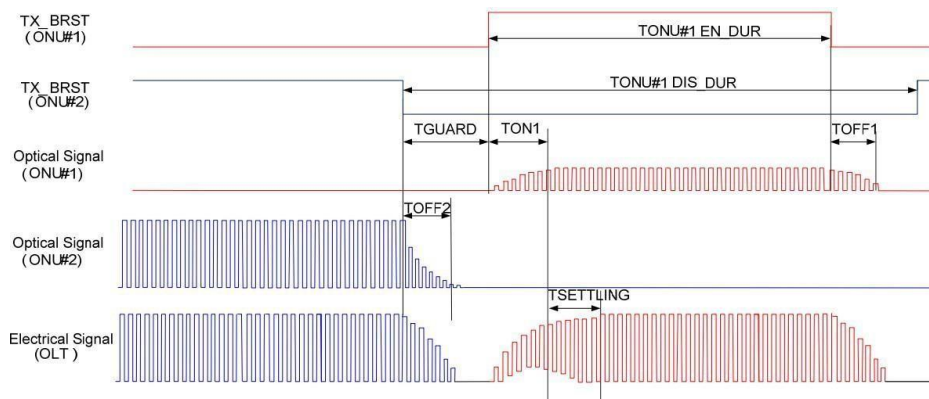
6. Receiver Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Wavelength of Operation	-	1260	-	1360	nm	-
Data Rate	-	-	1.25	-	Gb/s	-
Sensitivity	Sen	-	-33.5	-32	dBm	1
Saturation Optical Power	Sat	-8	-	-	dBm	1
LOS Assert Level	LOSA	-45	-	-	dBm	2
LOS Deassert Level	LOSD	-	-	-32	dBm	2
Reflectance of equipment	-	-	-	-20	dB	
Receiver Burst-mode Dynamic Range	-	15	-	-	dB	3
Data Output Voltage - High	VOH	VccR -1.05	-	VccR -0.85	V	-
Data Output Voltage - Low	VOL	VccR -1.84	-	VccR -1.60	V	-
RSSI accuracy	-	-3	-	3	dB	4
LOS Output Voltage- High	VLOSH	2	-	-	V	
LOS Output Voltage- Low	VLOSL	-	-	0.8	V	
LOS Assert Time	TA	-	-	500	ns	
LOS Deassert Time	TD	-	-	500	ns	
RSSI Trigger-Low	-	0	-	0.8	V	
RSSI Trigger-High	-	2.0	-	Vcc	V	
RSSI Trigger Delay	T _D	975	1000	1025	ns	5
RSSI Trigger Width	T _w	10	-	-	us	
Optical Signal During Time	T _{ONU EN_DUR}	1000	-	-	ns	6

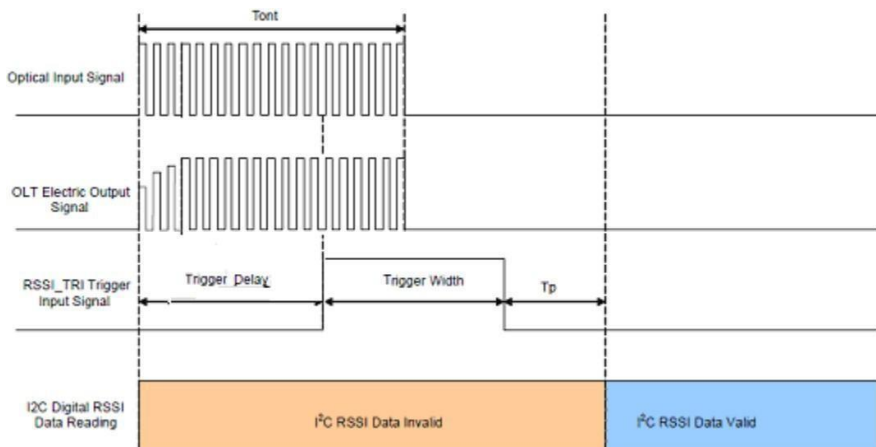
7. Burst Mode Receiver Dynamic Range



8. Timing Parameter Definitions in Burst Mode Sequence



9. RSSI Timing Sequence



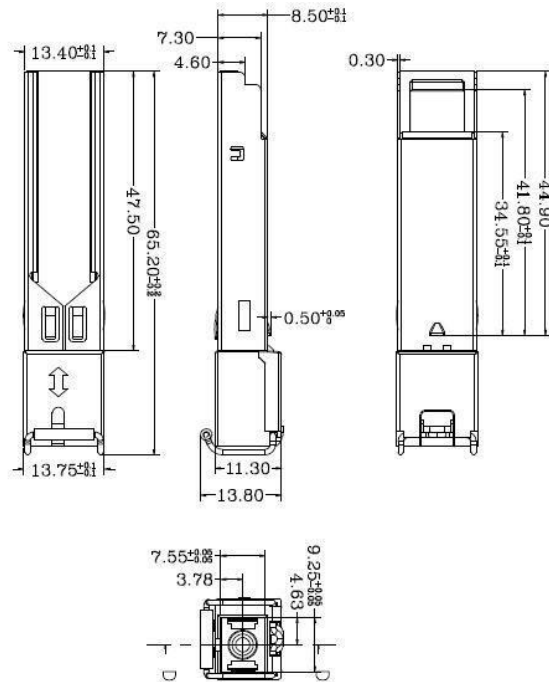
10. Digital Diagnostic Monitoring Accuracy

Parameter	Accuracy	Units	Notes
Transceiver Temperature	±3	°C	Temperature sensor
Power Supply Voltage	±3	%	Vcc=3.13~3.47V
TX Bias Current	±10	mA	-
TX Optical Power	±3	dB	Average Power
Rx Receiver Power	±3	dB	-

11. Pin Definitions

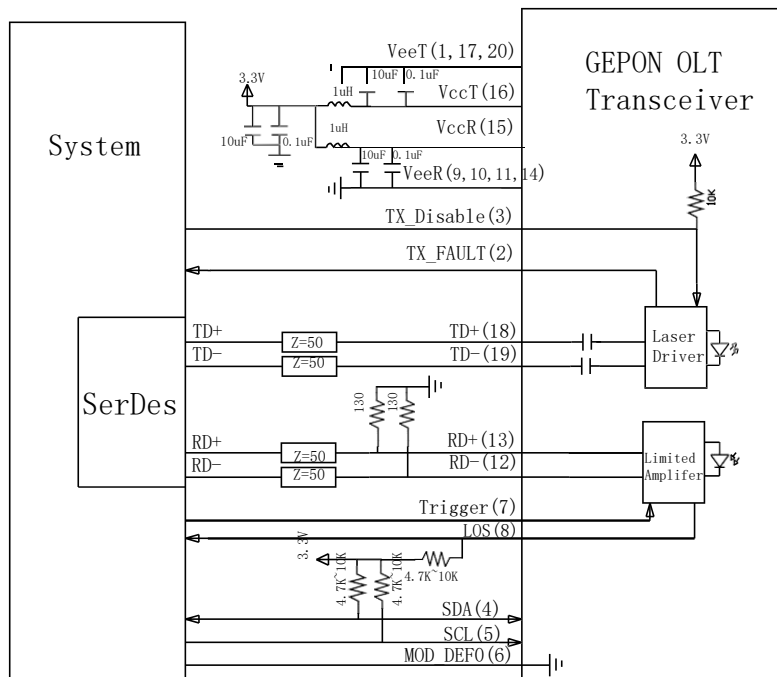
Pin#	Name	Function
1	VeeT	Transmitter Ground
2	TX_Fault	Transmitter Fault Indication, LVTTTL Output, Active High
3	TX_Disable	Transmitter Disable, LVTTTL Input. Optical output power is off when this PIN is high or left unconnected.
4	SDA	I2C Data
5	SCL	I2C Clock
6	MOD-DEF(0)	Internally grounded
7	RSSI_Trigger	RSSI Trigger Signal from Host, LVTTTL input, Active High.
8	LOS	Loss of Signal, LVTTTL Output, Active High.
9	VeeR	Receiver Ground
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inv. Received Data Out, LVPECL,DC coupled
13	RD+	Received Data Out, LVPECL,DC coupled
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit Data In, LVPECL or CML (AC coupled; internally 100 ohms differential termination)
19	TD-	Inv. Transmit Data In, LVPECL or CML (AC coupled; internally 100 ohms differential termination)
20	VeeT	Transmitter Ground

12. Outline Drawing



Unit:mm

13. Recommended Application Circuit



14. Ordering Information

Product Name	Product description
Epon Pon Module	Epon Pon SFP SFP/Tx1490/Rx1310/20km/Tx1.25G/Rx1.25G/ PX20+++/0~70°C/SC Receptacle