

**ETU-LINK**

Optical Communication System

**PON Series**

# GEPON

## EGP4321-3SCDB2

### GPON OLT B+ Optical Module

- Support ITU-T G.984.2 GPON OLT B+ application
- Single fiber bi-directional data links with symmetric 2.488Gbps Tx and 1.244Gbps Rx
- 1490nm continuous-mode transmitter with DFB LD
- 1310nm burst-mode receiver with APD-TIA
- 2-wire interface for integrated digital diagnostic Monitoring
- Receiver RESET, Signal Detect, RSSI function indication (RESET, RX\_SD, RSSI)
- SFP package with SC/UPC receptacle optical interface
- Single +3.3V power supply
- Operation case temperature -40~85°C for industrial and 0~70°C for commercial
- RoHS-6 compliance



## Operating Condition

Parameter	Unit	Min.	Typical	Max.
Storage Temperature	°C	-40		85
Operating Case Temp for C-temp	°C	0		70
Operating Case Temp for I-temp	°C	-40		85
Operating Relative Humidity	%	5		95
Power Supply Voltage	V	3.15	3.3	3.45
Supply Current	mA			500
Bit Rate for Tx	Gbps		2.488	
Bit Rate for Rx	Gbps		1.244	

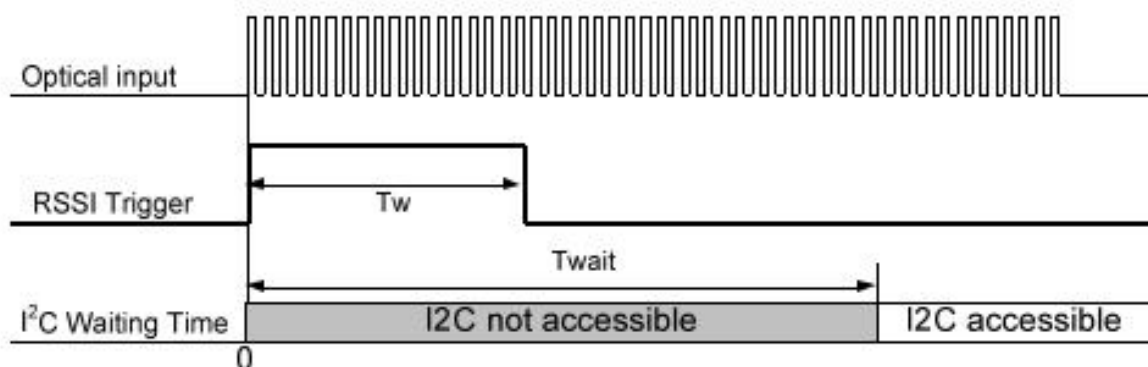
## Characteristics

All performance is specified at whole working temperature and conditions

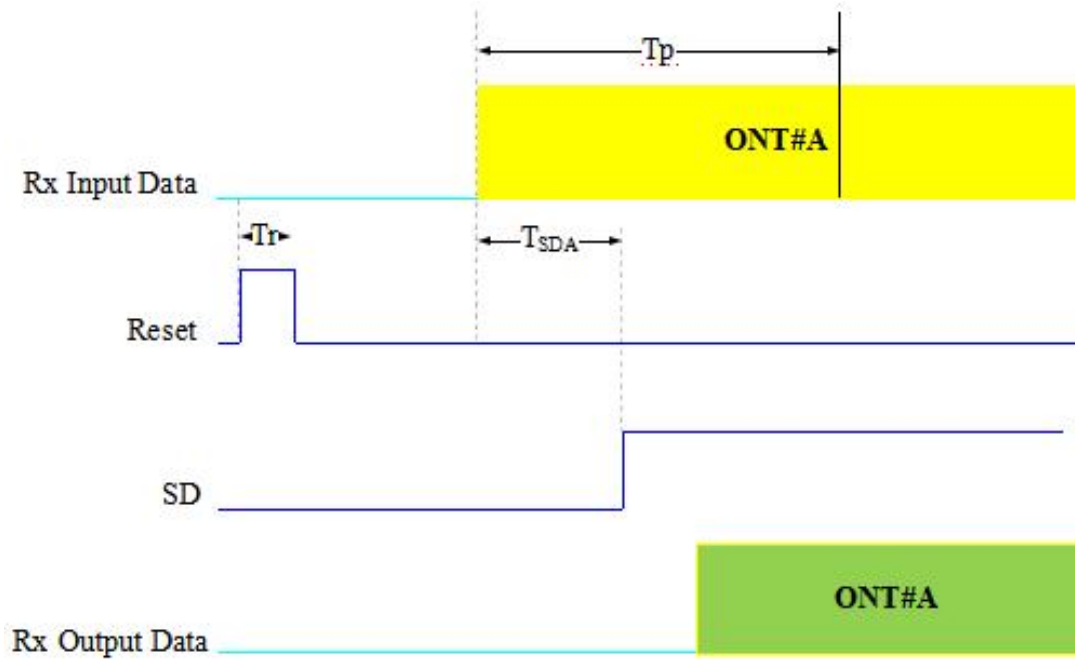
Parameter	Unit	Min.	Typical	Max.
<b>Transmitter</b>				
TX Central Wavelength	nm	1480	1490	1500
Spectral Width (-20dB)	nm			1
Side Mode Suppression Ratio (SMSR)	dB	30		
Mean Launched Power	dBm	1.5		5
Mean Launched Power (TX Off)	dBm			-45
Extinction Ratio	dB	8.2		
Optical Return Loss Tolerance	dB	-12		
Transmitter and dispersion Penalty	dB			1
Transmitter Mask(PRBS2 <sup>23</sup> -1@2.488G)		Compliant With ITU-T G.984.2		
<b>Receiver</b>				
Receive Wavelength	nm	1290	1310	1330
Sensitivity (PRBS2 <sup>23</sup> -1@1.244G,ER=10,BER<10 <sup>-10</sup> )	dBm			-28
Overload (PRBS2 <sup>23</sup> -1@1.244G,ER=10,BER<10 <sup>-10</sup> )	dBm	-8		
Receiver Burst Mode Dynamic Range	dB	15		
Damage Threshold for Receiver	dBm	5		
SD Assert Level	dBm			-30
SD De-assert Level	dBm	-45		
SD Hysteresis	dB	0.5		6
WDM Filter isolation to 1550nm	dB	38		

WDM Filter isolation to 1650nm	dB	35		
<b>Electrical Interface Characteristics</b>				
Data Input Swing Differential/TX	mV	200	-	2000
Data Output Swing Differential/RX	mV	400		1600
Date Differential Impedance	$\Omega$	90	100	110
LVTTL Output High	V	2.4		V <sub>cc</sub>
LVTTL Output Low	V	0		0.4
LVTTL Input High	V	2.0		V <sub>cc</sub> +0.3
LVTTL Input Low	V	0		0.8
<b>Timing Characteristics</b>				
Guard Time (T <sub>g</sub> )	ns	25.6		
Reset Pulse Width (T <sub>r</sub> )	ns			12.8
Reset Delay (T <sub>rd</sub> )	ns			12.8
Receiver Preamble Time (T <sub>p</sub> )	ns			140
SD Assert Time (T <sub>SDA</sub> )	ns			100
SD De-assert Time (T <sub>SDD</sub> )	ns			12.8
RSSI Trigger Delay (T <sub>td</sub> )	ns	25		
RSSI Trigger Pulse Width (T <sub>w</sub> )	ns	500		
Internal I2C Delay (T <sub>wait</sub> )	us			500

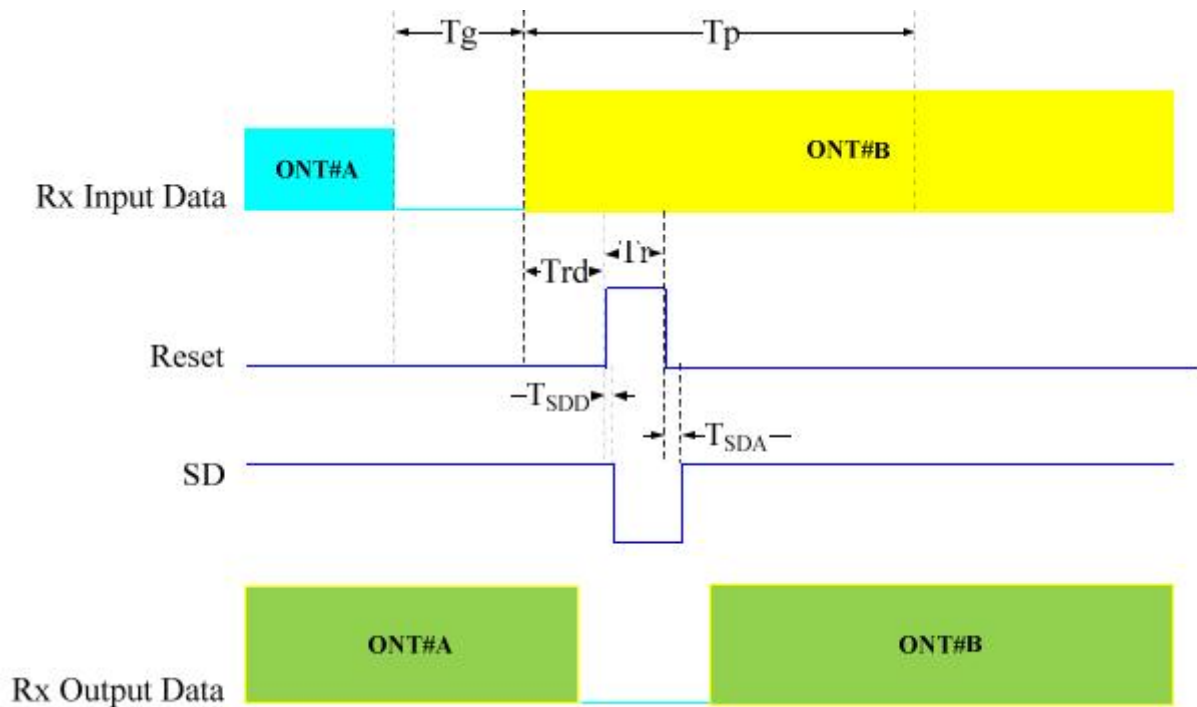
## Timing Sequence for RSSI



## Timing Sequence for Ranging Mode



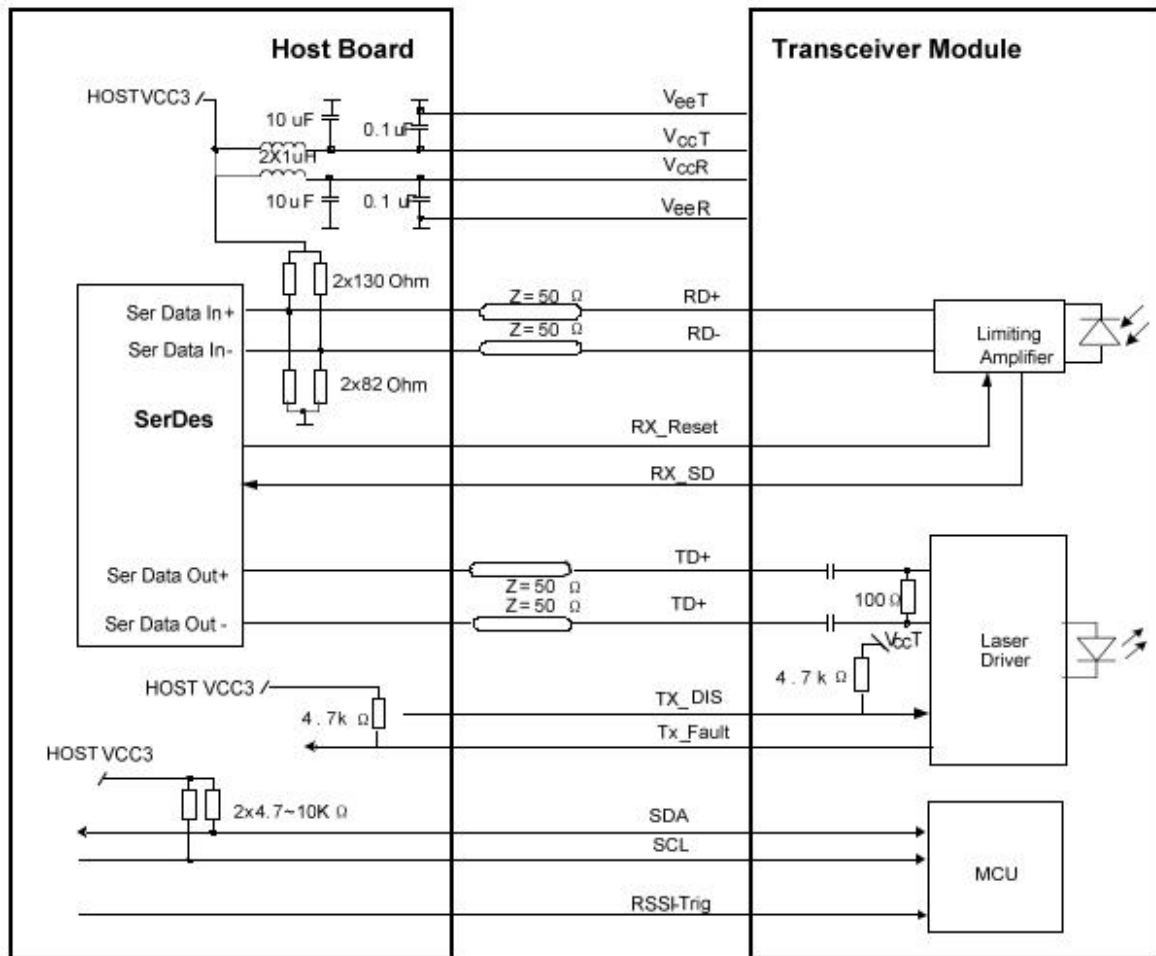
## Timing Sequence for Working Mode



## Pin Definitions

Pin No.	Symbol	Level / Logic	Description
1	VeeT		Module Transmitter Ground
2	Tx_Fault	LVTTTL-O	Module Transmitter Fault
3	Tx_DIS	LVTTTL-I	Laser output is disabled when this pin is asserted high or left unconnected
4	SDA	LVTTTL-I	2-Wire Serial Interface Data Line
5	SCL	LVTTTL-I/O	2-Wire Serial Interface Clock
6	MOD_ABS	LVTTTL-O	Module Absent, connected to ground in the module
7	RX_Reset	LVTTTL-I	Receiver RESET signal
8	RX_SD	LVTTTL-O	Receiver Signal Detected Indication
9	RSSI_TRIG	LVTTTL-I	Receiver RSSI Trigger signal
10	VeeR		Module Receiver Ground
11	VeeR		Module Receiver Ground
12	RD-	LVPECL-O	Receiver Inverted Data Output
13	RD+	LVPECL-O	Receiver Non-Inverted Data Output
14	VeeR		Module Receiver Ground
15	VccR		Module Receiver 3.3V Supply
16	VccT		Module Transmitter 3.3V Supply
17	VeeT		Module Transmitter Ground
18	TD+	LVPECL-I	Transmitter Non-Inverted Data Input
19	TD-	LVPECL-I	Transmitter Inverted Data Input
20	VeeT		Module Transmitter Ground

## Recommended Interface Circuit

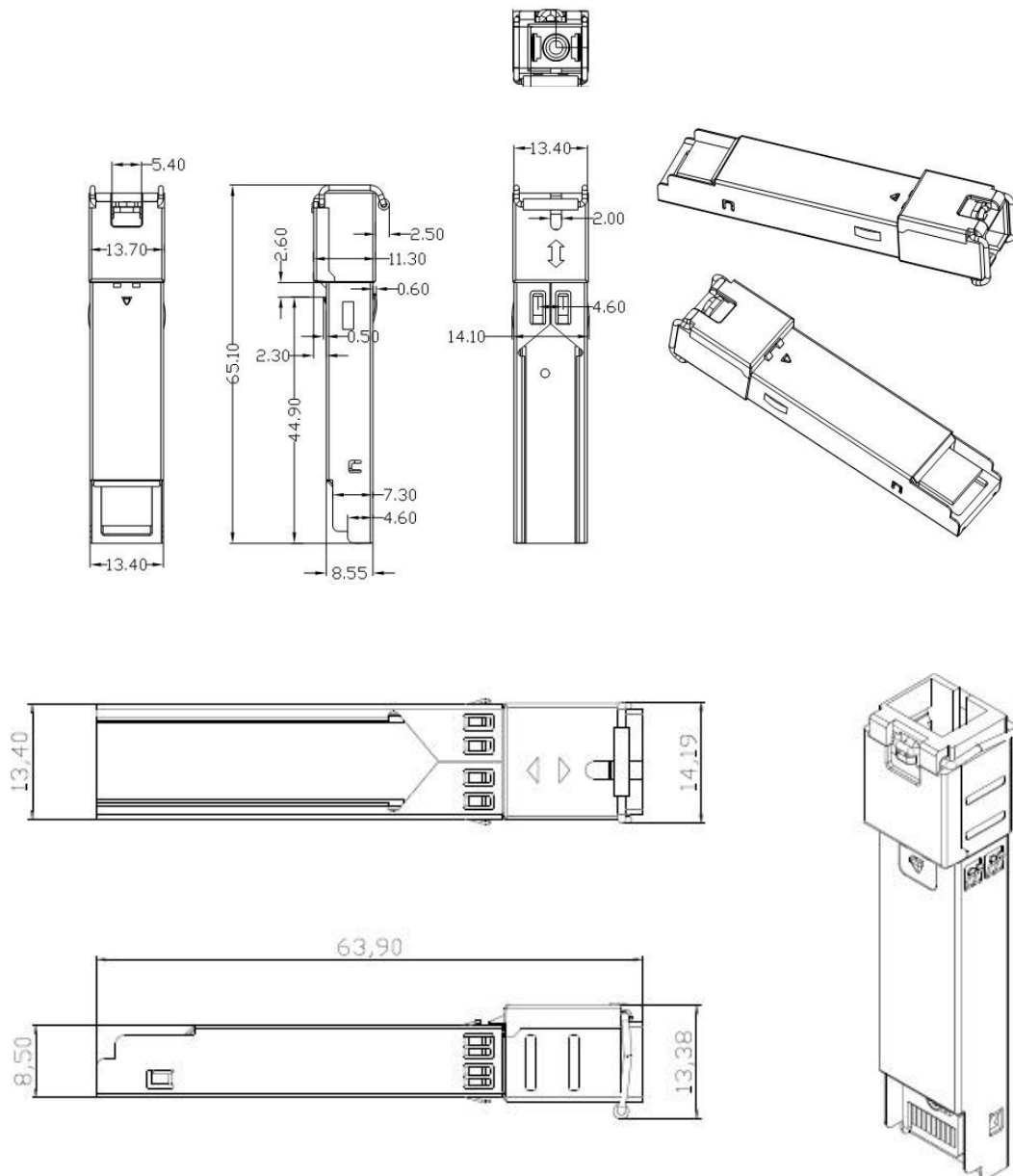


## EEPROM Information

2 wire address 1010000X (A0h)	
0	Serial ID Defined by SFP MSA (96 bytes)
95	Vendor Specific (32 bytes)
127	Reserved in SFP MSA (128 bytes)
255	

2 wire address 1010001X (A2h)	
0	Alarm and Warning Thresholds (56 bytes)
55	Cal Constants (40 bytes)
95	Real Time Diagnostic Interface (24 bytes)
119	Vendor Specific (8 bytes)
127	User Writable EEPROM (120 bytes)
247	
255	Vendor Specific (8 bytes)

# Mechanical Diagram



## Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can be compatible with many mainstream brand switches, such as Cisco, Juniper, Extreme, Brocade, IBM, H3C, HP, Huawei, D-Link, Mikrotik, ZTE, TP-Link...

Our test equipment: VOLKTEK MEN-4110, HP 2530-8G, CRS226-24G-25+RM, Catalyst 2960G Series, Catalyst 3850 XS 10G SFP+, Catalyst 3750-E Series, HUAWEI S5700Series, H3C S3100V2 Series, Juniper-EX4200, etc.



**Cisco Catalyst 3850**



**HUAWEI S5700**



**H3C S3100V2**



**HP J9264AR**



**Juniper EX 4200**



**Alcatel 6850E-U24X**



**Mikrotik CR5226-24G-25+RM**



**Cisco Catalyst 2960G**



**Volktek MEN-4110**



## Quality Assurance

Continuous introduction of new equipment, produced by strict standards, strict quality inspection, to guarantee the high quality standard of each product.



**Standardized  
Production Line**



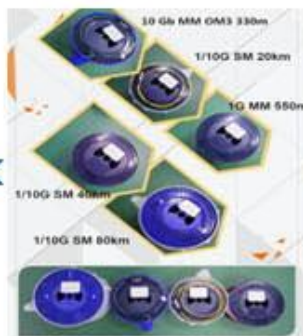
**Professional  
Welding**



**Assembling**



**Aging Testing**



**Distance Testing**



**Cleaning end face**



**Product Initial Test**



**Switch Testing**



**Product Final Test**

## Packaging

ETU-Link provides two kinds of packaging, 10pcs/Tray and individual package.



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Addresses and phone number also have been listed at [www.etulinktechnology.com](http://www.etulinktechnology.com).

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