


**ETU-LINK**

Optical Communication System

**PON Series**

# GEPON

## EEP4311-3SCDP2xx

### 1.25G SFP SC GEPON OLT PX20+++

- Compatible IEEE 802.3ah 1000BASE-PX20++ Enhanced GEPON application
- Applied to EPON OLT for a Single Fiber Bi-directional EPON System
- SFP, Single SC connector, Digital Diagnostic Interface Compliant with SFF-8472
- Burst Digital Receiving Signal Strength Indication (RSSI)
- Single 3.3V power supply
- Operation case temperature -10~70°C for commercial
- RoHS-6 compliance



## Absolute Maximum Ratings

Parameter	Unit	Min.	Typical	Max.
Power Supply	V	0		4.2
Storage Ambient Temperature	°C	-40		85
Operating Case Temperature	°C	-40		85
Operating Relative Humidity	%	5		95
Receiver Damaged Threshold	dBm	0		

## Operating Condition

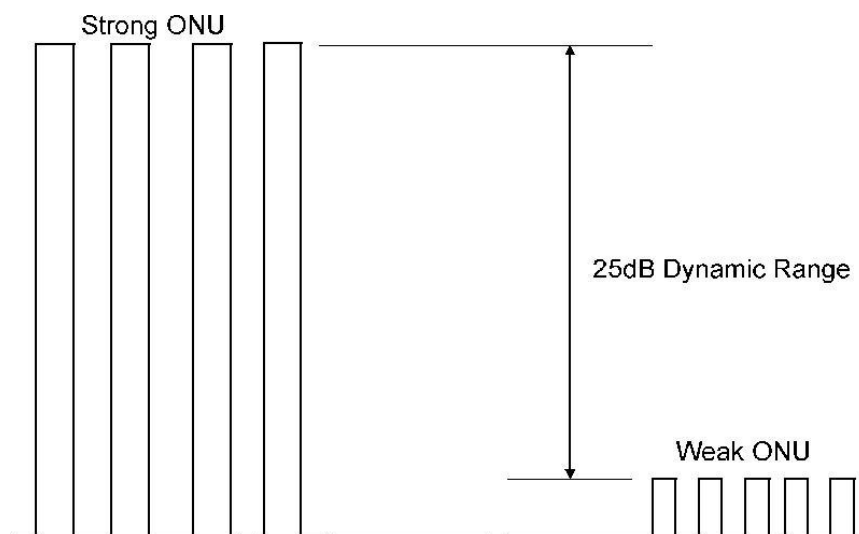
Parameter	Unit	Min.	Typical	Max.
Power Supply	V	3.1	3.3	3.5
Operating Case Temp for C-temp	°C	-10		70
Operating Relative Humidity	%	5		95
Data Rate(TX/RX)	Gbit/s		1.25	

## Optical Characteristics

Parameter	Unit	Min.	Typ.	Max.
TX Central Wavelength	nm	1480		1500
Spectral Width (-20dB)	nm			1
SMSR	dB	30		
Mean Launched Power (BOL)	dBm	7	7.5	10
Mean Launched Power (TX Off)	dBm			-39
Extinction Ratio(Note 1)	dB	9		
TX Total Jitter	UI			0.43
Rise/Fall Time (20%-80%)	ps			260
RIN <sub>15</sub> OMA	dB/Hz			-115
Optical Return Loss Tolerance	dB	-12		
Transmitter and dispersion Penalty(20km G.652)	dB			2.3
TX Optical Eye Mask	Compliant With IEEE Std 802.3ah™-2004			
Receive Wavelength	nm	1260		1360
Sensitivity (Note 2)	dBm			-33
Overload	dBm	-6		
Dynamic Rang	dB	25		
Receiver Threshold Settling Time	ns			250
RX Dynamic Range(Note 3)	dBm	-30		-6
LOS-Deassert	dBm			-34
LOS-Assert	dBm	-45		
SD Hysteresis	dB	0.5		6
Receiver Reflectance	dB			-12

Note:

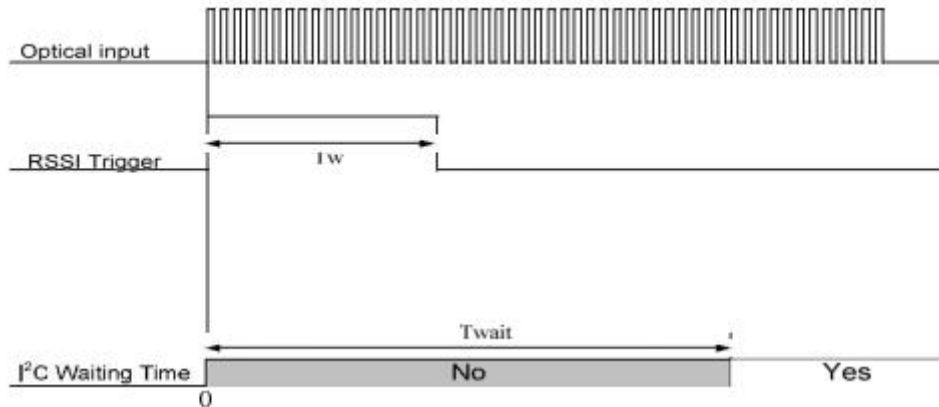
1. Measured with PRBS  $2^7-1$  test pattern @1.25Gbps, Low Pass Filter is on.
2. Measured with a PRBS  $2^7-1$  test pattern @1.25Gbps and ER=10dB, BER  $<10^{-12}$
3. RX Dynamic Range Definition



## Electrical Characteristics

Parameter	Unit	Min.	Typical	Max.
Power Supply Current	mA			300
Data Input Differential Swing	mV	200		1600
Data Differential Impedance	$\Omega$	90	100	110
TTL Input -Low	V	0		0.8
TTL Input -High	V	2.0		V <sub>cc</sub>
TTL Output -Low	V	0		0.4
TTL Output -High	V	2.4		V <sub>cc</sub>
Data Output Differential Swing	mV	400		1600
Los Assert Time	ns			500
Los Deassert Time	ns			500

## RSSI Trigger Time Sequence



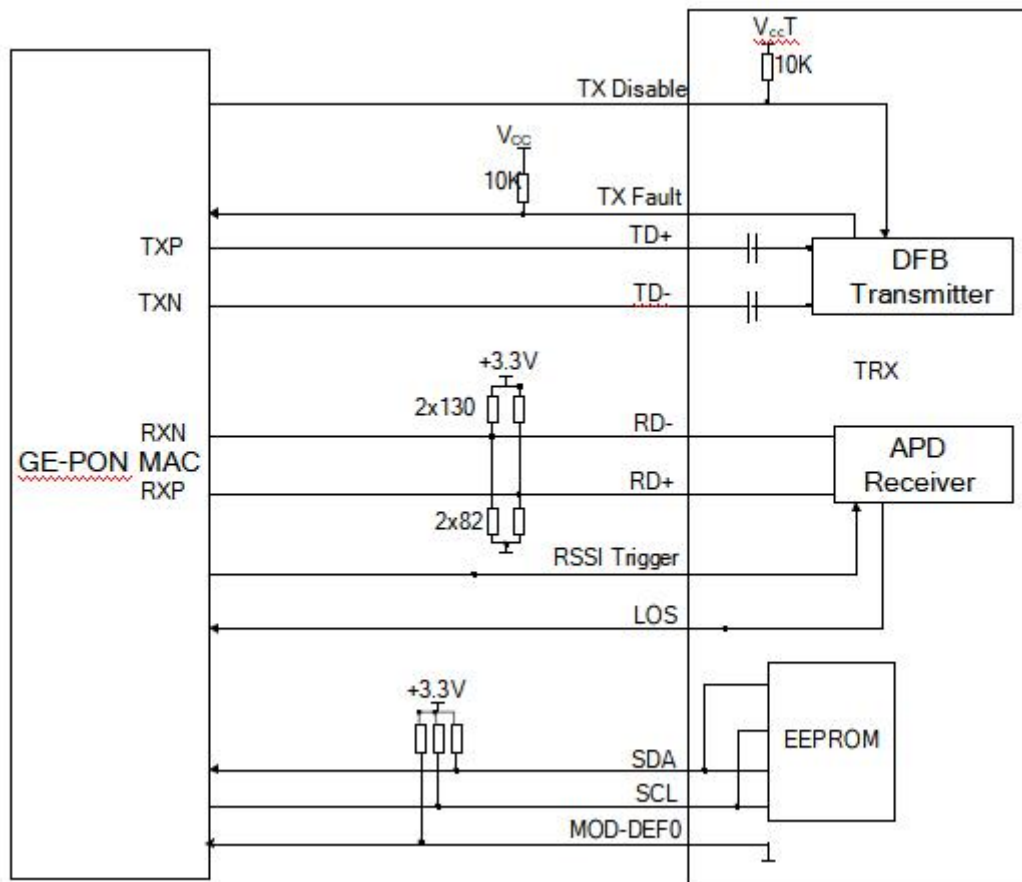
Item	Symbol	Min	Max	unit
Trigger width	$T_w$	1	1.25	us
I <sup>2</sup> C Waiting Time	$T_{wait}$		500	us

## Pin Definition

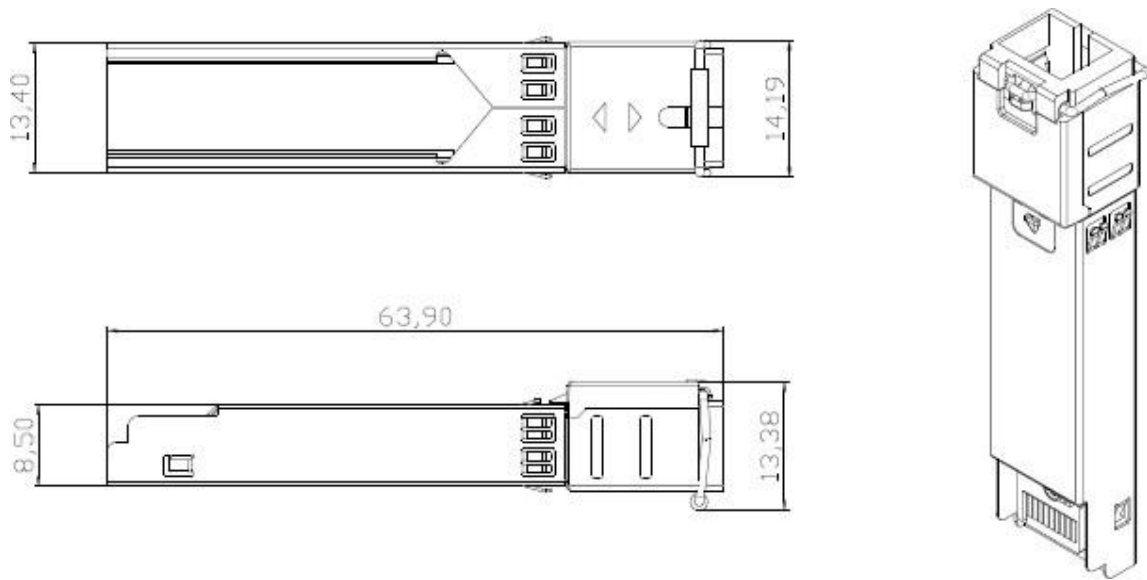
Pin No.	Name	Level/Logic	Function	Description
1	GNDT	NA	Ground	Transmitter Ground
2	TX_Fault	LVTTL	TX Fault	TX Fault Alarm, TX FaultState: High; TX Normal State: Low
3	TX_Dis	LVTTL	Transmitter Enable/Disable	Active High
4	MOD-DEF2	LVTTL	SDA	I2C clock
5	MOD-DEF1	LVTTL	SCL	I2C data
6	MOD-DEF0	MOD-DEF0		Module Definition 0, Grounding in SFP
7	RSSI_Trig	LVTTL	RSSI Trigger	Active High for Sampling
8	LOS	LVTTL	Receiver Signal Detection	Loss of Signal. Asserted when light is off
9	GNDR	NA	Ground	Receiver Ground
10	GNDR	NA	Ground	Receiver Ground
11	GNDR	NA	Ground	Receiver Ground

12	RD-	LVPECL	Rx Data-	RX data NOT output, DC coupled output
13	RD+	LVPECL	Rx Data+	RX data output, DC coupled output
14	GNDR	GNDR	Ground	Receiver Ground
15	V <sub>cc</sub> R	NA	Receiver Power Supply	Rx Power
16	V <sub>cc</sub> T	NA	Transmitter Power Supply	Tx Power
17	GNDT	GNDT	Ground	Transmitter Ground
18	TD+	LVPECL	Tx Data+	TX data input, internally AC coupled with 100ohm terminated
19	TD-	LVPECL	Tx Data-	TX data NOT input, internally AC coupled with 100ohm terminated
20	GNDT	NA	Ground	Transmitter Ground

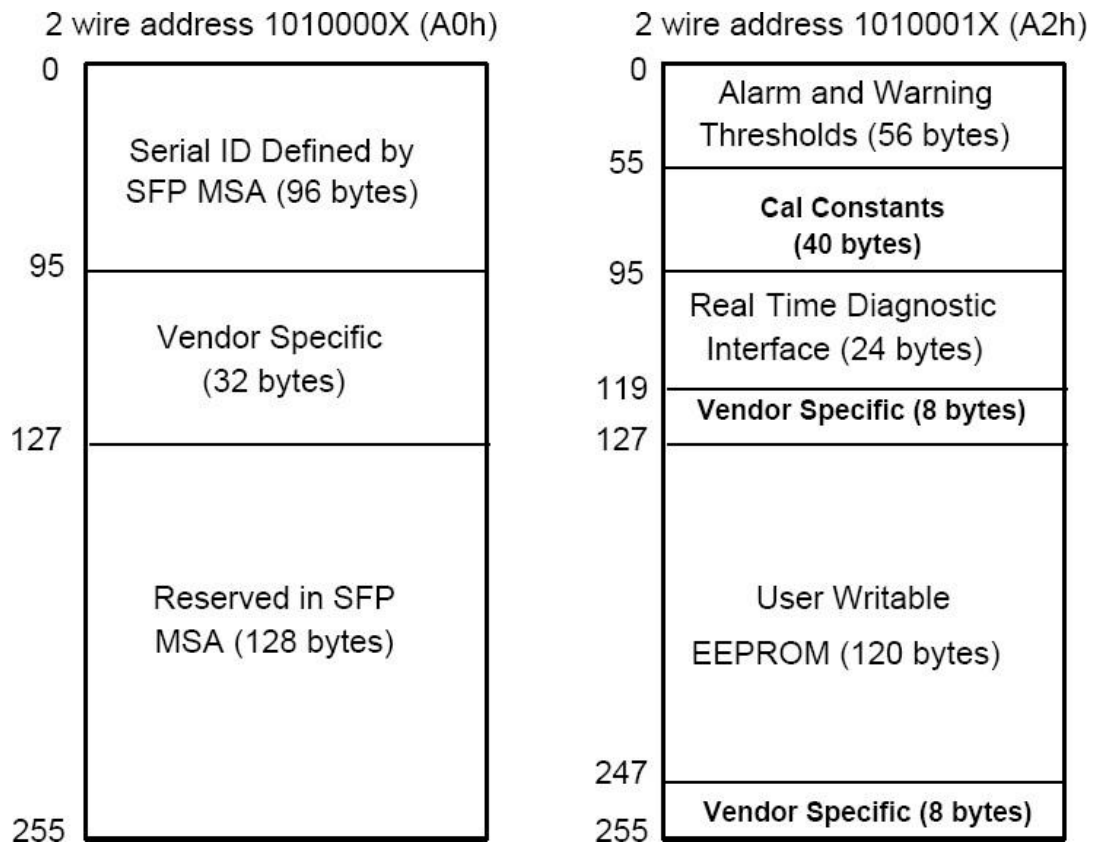
## Recommended Interface Circuit



## Mechanical Diagram



## EEPROM Information



## 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**



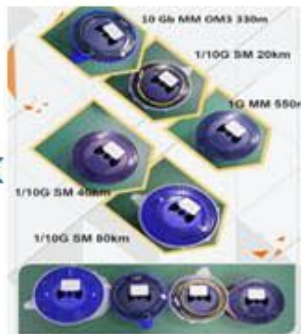
**Professional  
Welding**



**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.



Company: ETU-Link Technology Co., LTD

Address: Right side of 3rd floor, No. 102 building, Longguan expressway, Dalang street,  
Longhua District, Shenzhen city, Guangdong Province, China 518109

Tel: +86-755 2328 4603

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

Please e-mail us at [sales@etulinktechnology.com](mailto:sales@etulinktechnology.com) or call us for assistance.