


**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		

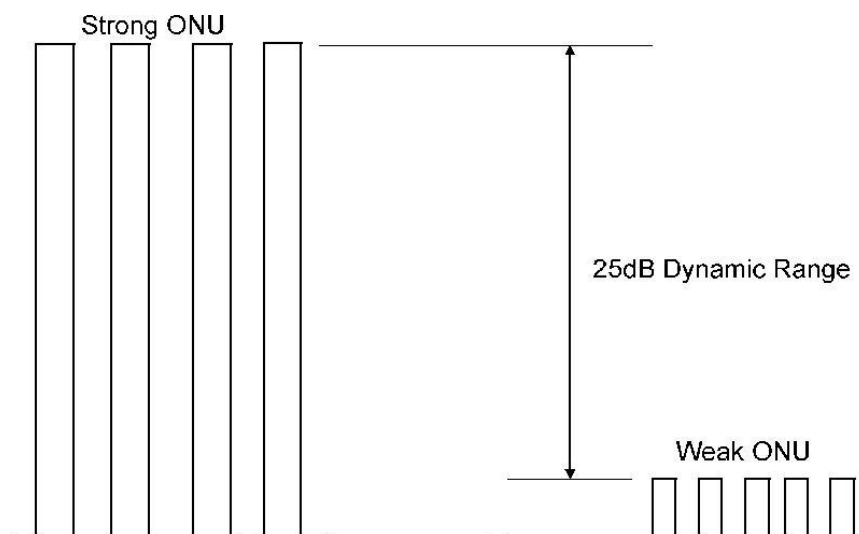
## Operating Condition

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>15OMA</sub>	dB/Hz			-115
Optical Return Loss Tolerance	dB	-12		
Transmitter and dispersion				
	dB			2.3
Penalty(20km G.652)				
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:				

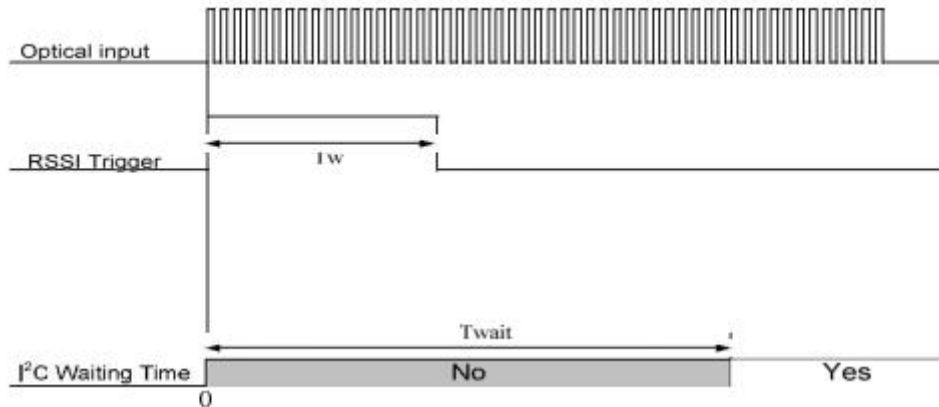
1. Measured with PRBS  $2^7-1$  test pattern @1.25Gbps, Low Pass Filter is on.
2. Measured with a PRBS  $2^7-1$  test pattern @1.25Gbps and ER=10dB, BER  $<10^{-12}$
3. RX Dynamic Range Definition



## 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		Vcc
TTL Output -Low	V	0		0.4
TTL Output -High	V	2.4		Vcc
Data Output Differential Swing	mV	400		1600
Los Assert Time	ns			500
Los Deassert Time	ns			500

## RSSI Trigger Time Sequence



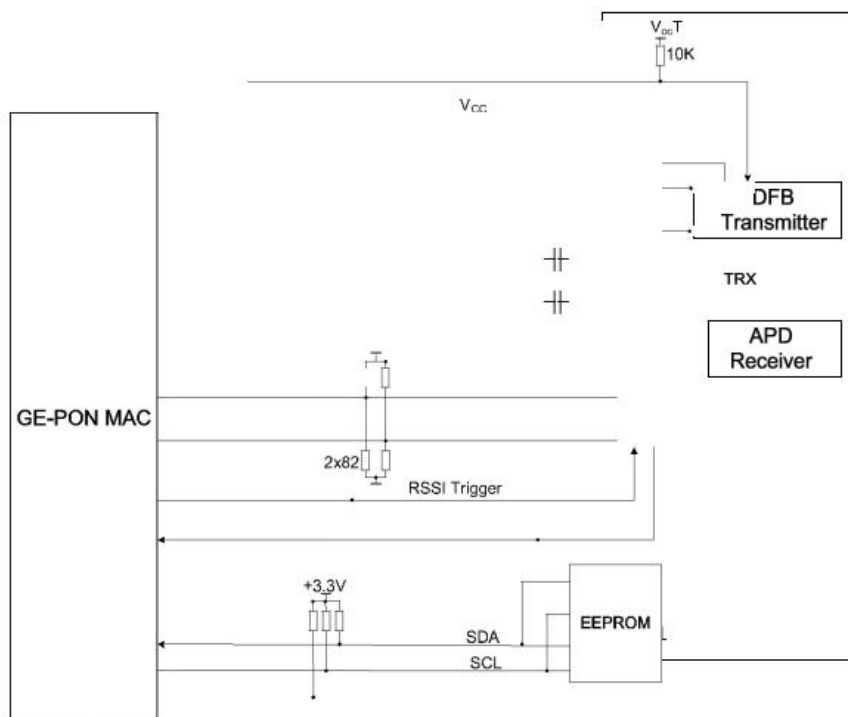
Item	Symbol	Min	Max	unit
Trigger width	$T_w$	1	1.25	us
I <sup>2</sup> C Waiting Time	$T_{wait}$		500	us

## RSSI Trigger Time Sequence

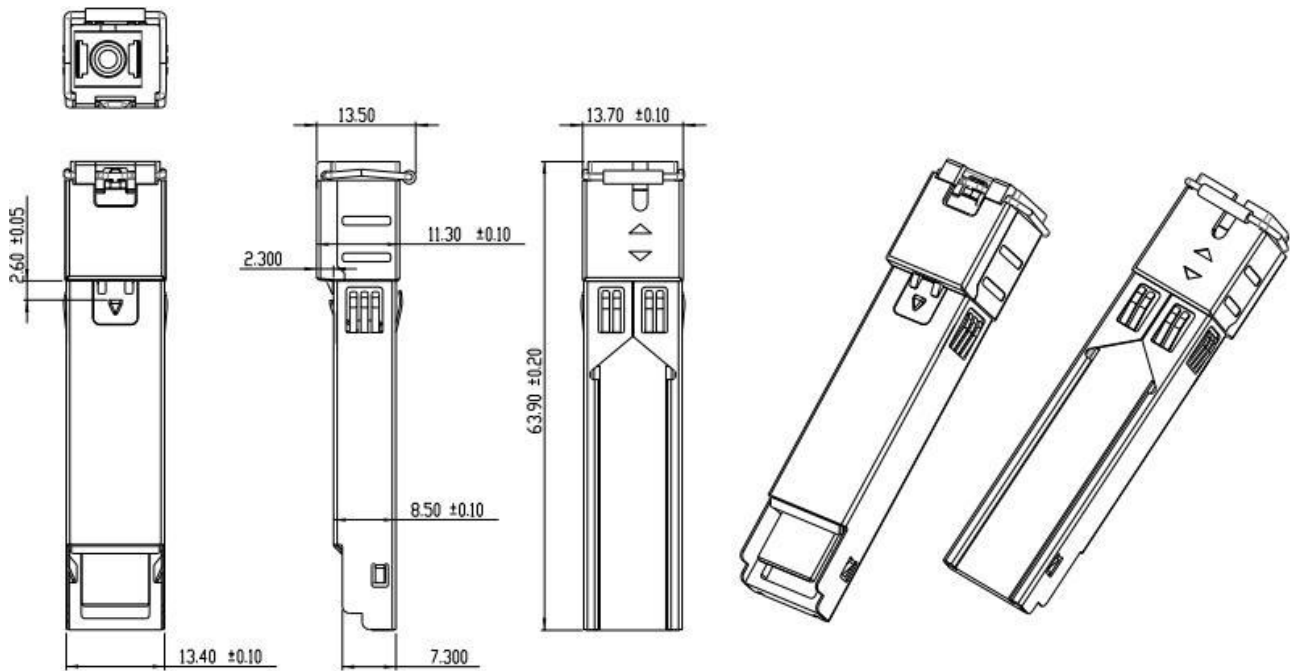
Pin No.	Name	Level/Logic	Function	Description
1	GNDT	NA	Ground	Transmitter Ground
2	TX_Fault	LVTTL	TX Fault	TX Fault Alarm, TX Fault State: High; TX Normal State: Low
3	TX_Dis	LVTTL	Transmitter Enable/Disable	Active High
4	MOD-DEF2	LVTTL	SDA	I2C clock
5	MOD-DEF1	LVTTL	SCL	I2C data
6	MOD-DEF0	MOD-DEF0		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

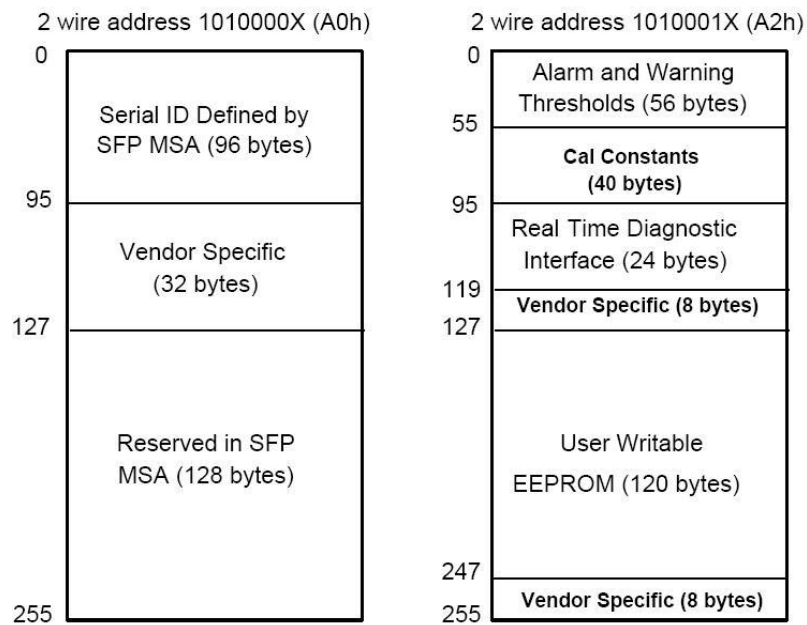
## Recommended Interface Circuit



## Mechanical Diagram



## EEPROM Information



## Ordering Information

Ordering P/Ns	Description
EEP4311-3SCDP2xx	EPON OLT PX20++ Enhanced Diplexer, 30km, Tx 1490nm 1.25G,Rx1310nm1.25G,SFPform-factor,SC/UPC receptacle connector, Commercial temperature, V2 version mechanical housing.

Version	Date	Description
V0	Mar-1-2017	New release

## Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can 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

## Product Production Process



# 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**



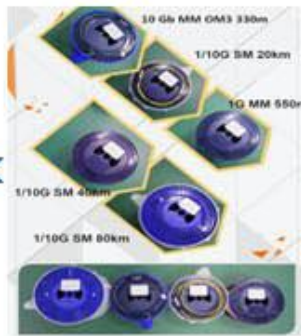
**Professional  
Welding**



**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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