ZNID-GPON-2311-NA-C

Zhone® ZNID-GPON-2311-NA Compatible TAA GPON ONU 1.2Gbs/2.4Gbs SFP Transceiver (SMF, 1310nmTx/1490nmRx, 20km, ASC, -40 to 85C)

Features:

- 2x10 electrical SFP connector
- Single fiber bi-directional with 2488Mbps downstream
- Single fiber bi-directional with 1244Mbps upstream
- SC/APC optical connector
- Supporting 1000BASE-X/2500BASE-X/SGMII/HSGMII interface
- Single-mode fiber
- Downstream AES decryption
- Highly flexible 802.1Q VLAN support
- Industrial temperature: -40 to 85 Celsius
- RoHS compliant and Lead-Free

Applications:

- Home Gateway

Product Description

This AdTran® ZNID-GPON-2311-NA compatible SFP transceiver provides 1.2Gbs/2.4Gbs throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1310nmTx/1490nmRx via a SC connector. It is guaranteed to be 100% compatible with the equivalent Zhone® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. It is built to meet or exceed the specifications of Zhone®, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")

Rev. 012126

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	GND		3.6	V	1
Storage Ambient Temperature	Tstg	-40		85	°C	1
Operating Case Temperature	Tc	-40	25	85	°C	1
Relative Humidity - Storage	RH_{Stg}	0		95	%	1
Relative Humidity - Operating	RH_{Op}	5		80	%	1
Optical Upstream Data Rate	BR		1244		Mbps	
Optical Downstream Data Rate	BR		2488		Mbps	
Tx_DIS Logic - High State	Tx_DIS_H	2.0		V_{CC}	V	LVTTL
Tx_DIS Logic - Low State	Tx_DIS_L	0		0.8	V	LVTTL
Tx_Fault Logic - High State	Tx_Fault_H	2.4			V	2
Tx_Fault Logic - Low State	Tx_Fault_L			0.4	V	2
Rx_LOS Logic - High State	Rx_LOS_H	2.4			V	2
Rx_LOS Logic - Low State	Rx_LOS_L			0.4	V	2

Notes:

1. Exceeding the Absolute Maximum Ratings may cause irreversible damage to the device. The device is not intended to be operated under the condition of simultaneous Absolute Maximum Ratings, a condition which may cause irreversible damage to the device.
2. LVTTL (open collector/drain).

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Voltage	Vcc	3.135	3.30	3.465	V	
Module Supply Current (Tx and Rx)	I_{IN}		550		mA	
Module Power Consumption	PD			2	W	
Transmitter						
Tx_Data Differential Input Voltage	V_{ID}	300		1200	mV	SGMII Mode
Bit Rate (Tx)	BR_{TX}		1250		Mbps	SGMII Mode
Tx_DIS = High (Transmitter Off)	V_{OH}	2.0		V_{CC}	V	
Tx_DIS = Low (Transmitter On)	V_{OL}	0		0.8	V	
Receiver						
Rx_Data Differential Output Voltage	V_{OD}	300		800	mV	1250Mbps
Rx_Data Differential Output Voltage	V_{OD}	500		1000	mV	2500Mbps
Rx_LOS Logic - High State	$VLOS_H$	2.4			V	1
Rx_LOS Logic - Low State	$VLOS_L$			0.8	V	1

Notes:

1. LVTTL (open collector/drain).

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Transmitter Type		1310nm DFB Burst Mode				
Upstream Signaling Speed	Sup		1244		Mbps	
Average Output Power (9/125μm SMF)	POUT	0		5.0	dBm	1
Optical Output with Tx Off	POUT			-40	dBm	
Tx Wavelength	λ	1290	1310	1330	nm	
Spectral Line Width @-20dB	Δλ			1.0	nm	
Extinction Ratio	ER	10			dB	2
Side-Mode Suppression Ratio	SMSR	30			dB	
Receiver						
Receiver Type		1490nm CW Mode				
Downstream Signaling Speed	Sdown		2488		Mbps	
Optical Center Wavelength	λ	1480	1490	1500	nm	
Receiver Sensitivity	P_{IN}			-28.0	dBm	3
Receiver Optical Overload	PIN(SAT)	-8			dBm	3
Rx_LOS of Signal Asserted	P_A	-45			dBm	
Rx_LOS of Signal De-Asserted	P_D			-28.5	dBm	
Rx_LOS of Signal Hysteresis	P_H	0.5		6.0	dB	

Notes:

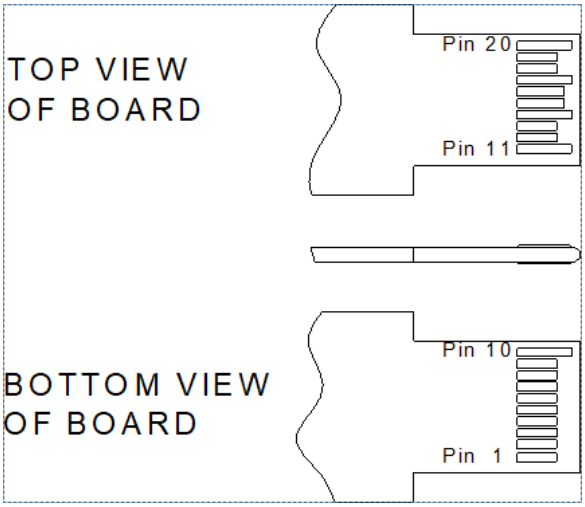
1. Measured with 9/125μm G.652 SMF.
2. Measured by Ethernet package with random payload.
3. BER<10^{-10}, 2488 Mbps, PRBS 2^{23}- 1, and ER=11dB.

Pin Descriptions

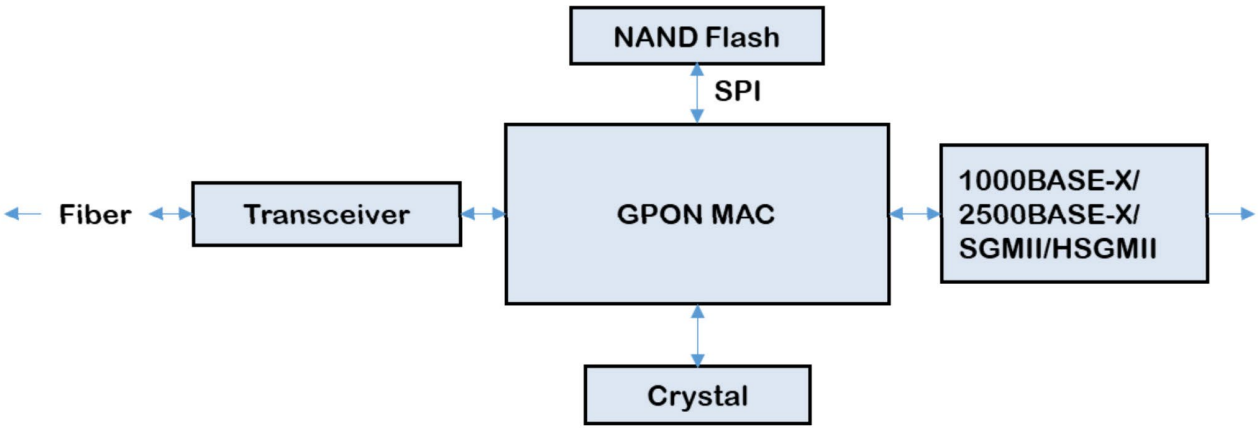
Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground.	
2	Tx_Fault	Transmitter Fault. Low = Normal Operation. High = Fault Indication.	1
3	Tx_Disable	Transmit Disable. Low = Normal Operation. High = Disables Module.	1
4	MOD_DEF2	Module Definition 2. 2-Wire Serial Interface Data.	1
5	MOD_DEF1	Module Definition 1. 2-Wire Serial Interface Clock.	1
6	MOD_DEF0	Module Definition 0. Presence Pin. The MOD_DEF0 signal set to low level after initialization of µC and power up the I^2C interface.	
7	Dying Gasp	Dying Gasp Indication. When "high," indicates normal operation. "Low" indicates power failure.	4
8	LOS	Loss of Signal. When "high," indicates no optical power. "Low" indicates normal operation.	1
9	PIN9	Reserved. Keep floating when unused.	
10	VeeR	Receiver Ground.	
11	VeeR	Receiver Ground.	
12	RD-	Rx_Data Output Inverted.	2
13	RD+	Rx_Data Output Non-Inverted.	2
14	VeeR	Receiver Ground.	
15	VccR	Receiver DC Power.	3.3V±5%
16	VccT	Transmitter DC Power.	3.3V±5%
17	VeeT	Transmitter Ground.	
18	TD+	Tx_Data Input Non-Inverted.	3
19	TD-	Tx_Data Input Inverted.	3
20	VeeT	Transmitter Ground.	

Notes:

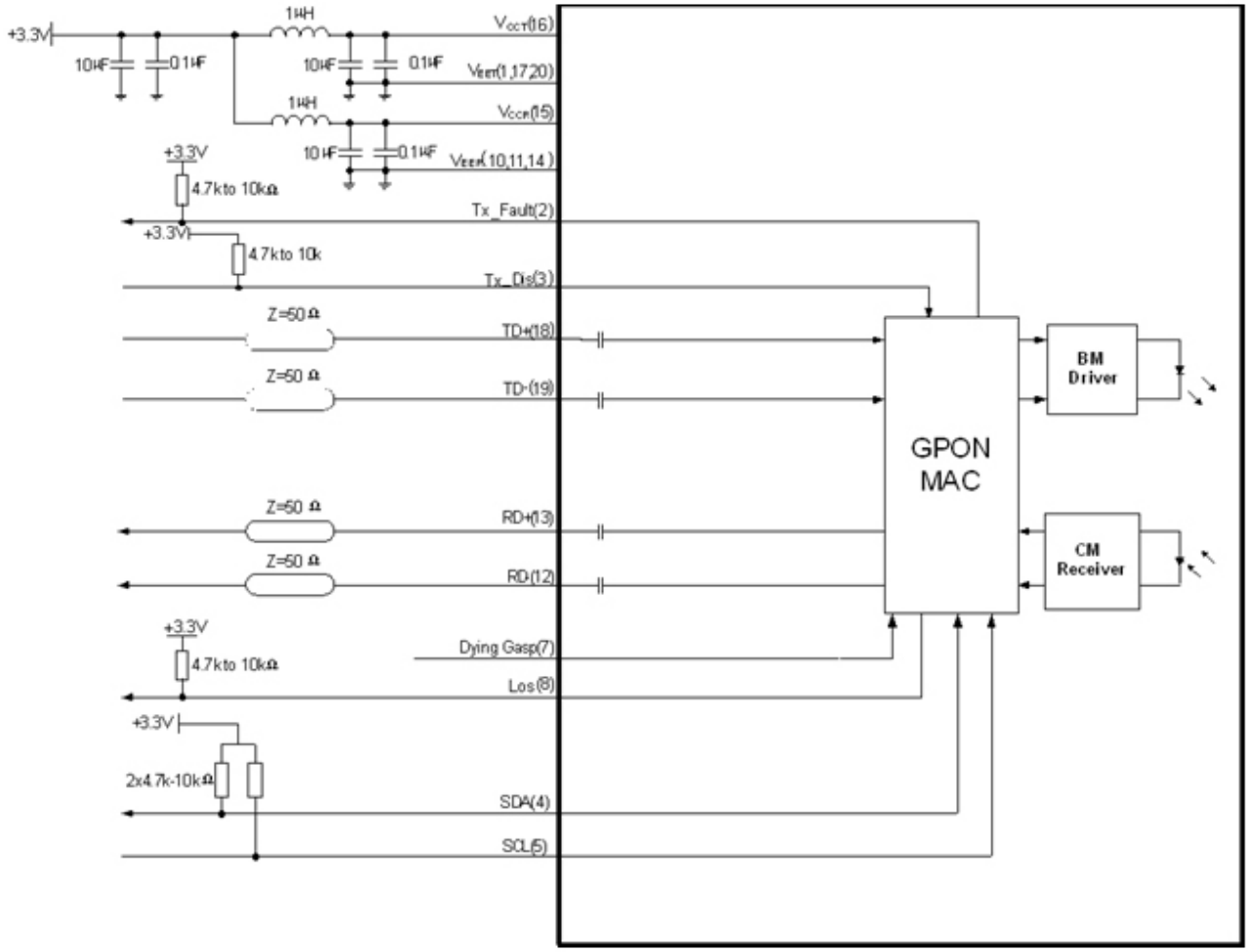
1. The uncommitted Tx_Fault, Tx_Disable, MOD_DEF2, MOD_DEF1, and LOS monitor and control pins each require a pull up resistor of 4.7kΩ to 10kΩ. The pull-up voltage must be 3.3V.
2. The 100Ω differential Rx Data output is internally AC coupled. Supporting 1000BASE-X/2500BASE-X/SGMII/HSGMII interface.
3. The 100Ω differential Tx Data input is internally AC coupled. Supporting 1000BASE-X/2500BASE-X/SGMII/HSGMII interface.
4. Voltage Detect Input for Dying Gasp. When the voltage on this pin is lower than 1.29V±5%, a dying gasp event is triggered. A 4.7kΩ resistor is used to pull up to DC power in the module.



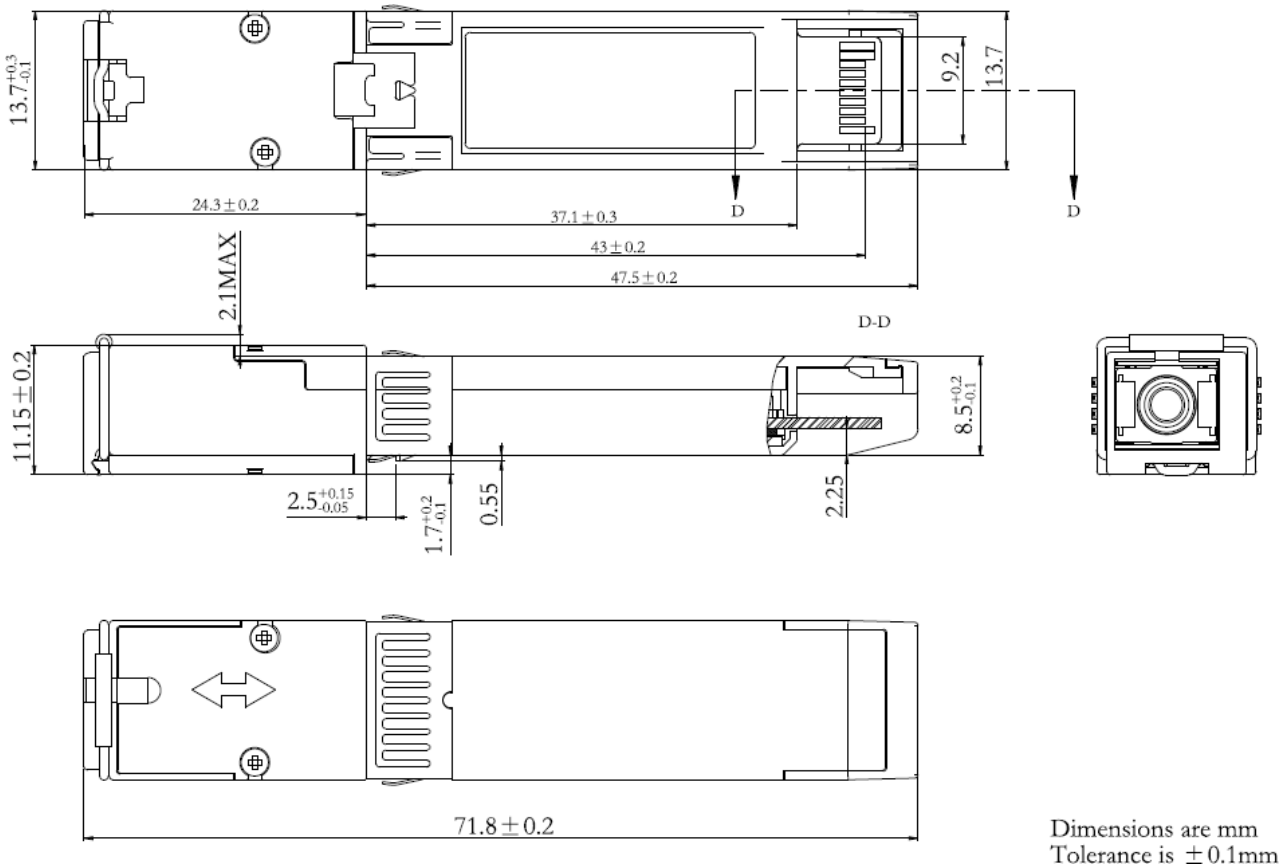
Block Diagram



Electrical Interface



Mechanical Specifications



Dimensions are mm
Tolerance is ±0.1mm

About ProLabs

Our extensive experience comes as standard. For over 20 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with more than 100 optical switching and transport platforms.

A Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 1.6T while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

The Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure compatible products, and immediate answers to your questions. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

Contact Information
ProLabs US

Email: sales@prolabs.com
Telephone: 952-852-0252

ProLabs UK

Email: salessupport@prolabs.com
Telephone: +44 1285 719 600