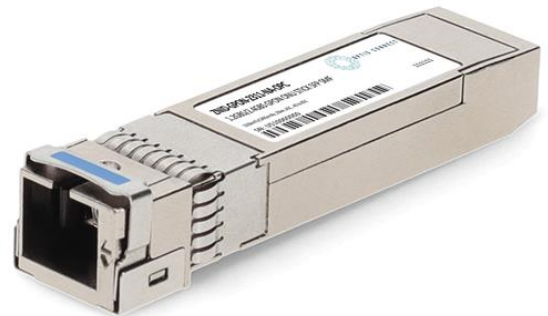


ZNID-GPON-2311-NA-OPC

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.

OptioConnect's transceivers are RoHS compliant and lead-free.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	V _{CC}	GND		3.6	V	1
Storage Ambient Temperature	T _{stg}	-40		85	°C	1
Operating Case Temperature	T _c	-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	LVTTTL
Tx_DIS Logic - Low State	Tx_DIS _L	0		0.8	V	LVTTTL
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:

- 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.
- LVTTTL (open collector/drain).

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Voltage	V _{CC}	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	V _{LOS_H}	2.4			V	1
Rx_LOS Logic - Low State	V _{LOS_L}			0.8	V	1

Notes:

- LVTTTL (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	$\Delta\lambda$			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	PIN			-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:

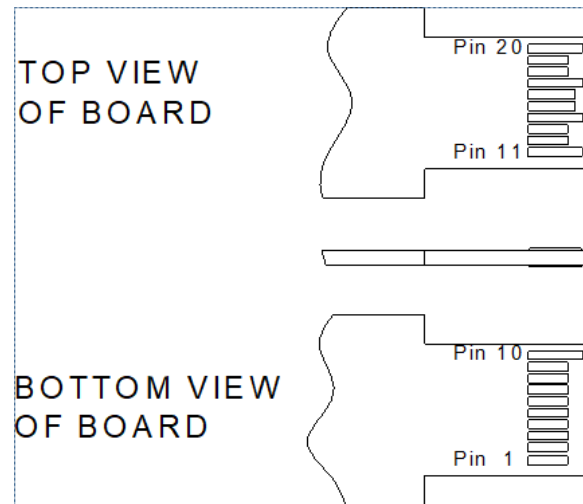
1. Measured with 9/125μm G.652 SMF.
2. Measured by Ethernet package with random payload.
3. BER<10⁻¹⁰, 2488 Mbps, PRBS 2²³- 1, and ER=11dB.

Pin Descriptions

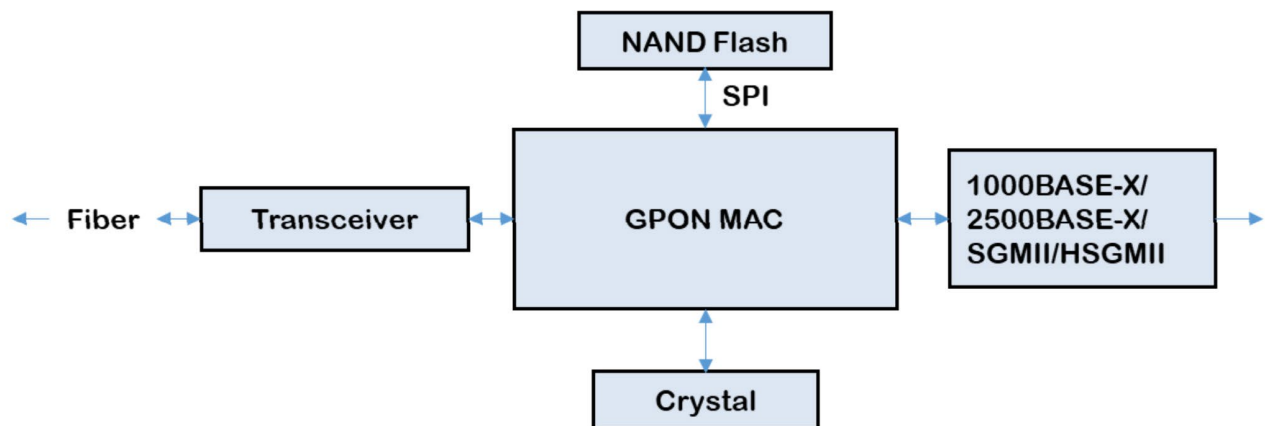
Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground.	
2	Tx_Fault	Transmitter Fault. Low = Normal Operation. High = Fault Indication.	1
3	Tx_Disable	Transmit Disable. Low = Normal Operation. High = Disables Module.	1
4	MOD_DEF2	Module Definition 2. 2-Wire Serial Interface Data.	1
5	MOD_DEF1	Module 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 μ C and power up the I ² C 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 \pm 5%
16	VccT	Transmitter DC Power.	3.3V \pm 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:

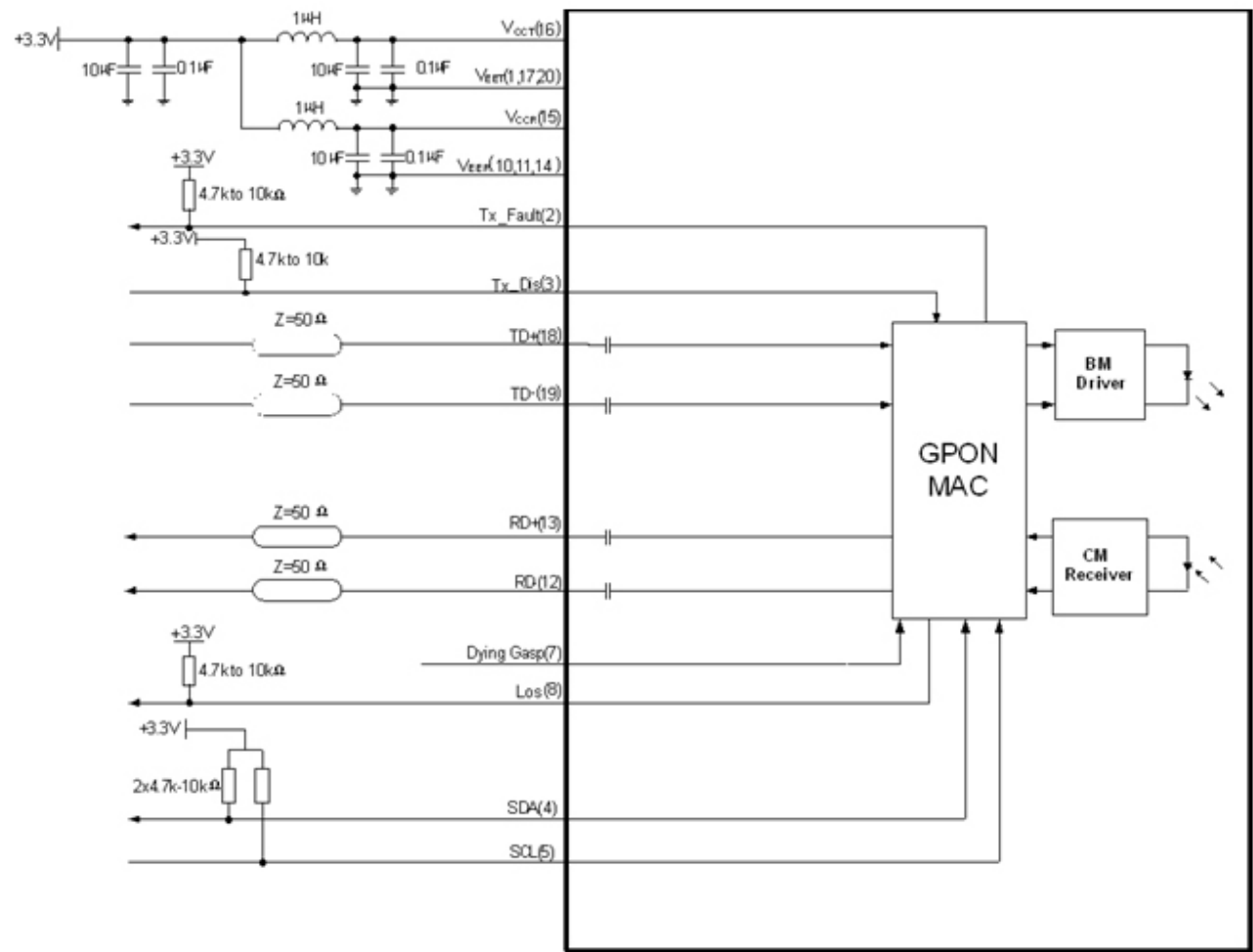
1. The uncommitted Tx_Fault, Tx_Disable, MOD_DEF2, MOD_DEF1, and LOS monitor and control pins each require a pull up resistor of 4.7k Ω to 10k Ω . The pull-up voltage must be 3.3V.
2. The 100 Ω differential Rx Data output is internally AC coupled. Supporting 1000BASE-X/2500BASE-X/SGMII/HSGMII interface.
3. The 100 Ω 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 \pm 5%, a dying gasp event is triggered. A 4.7k Ω resistor is used to pull up to DC power in the module.



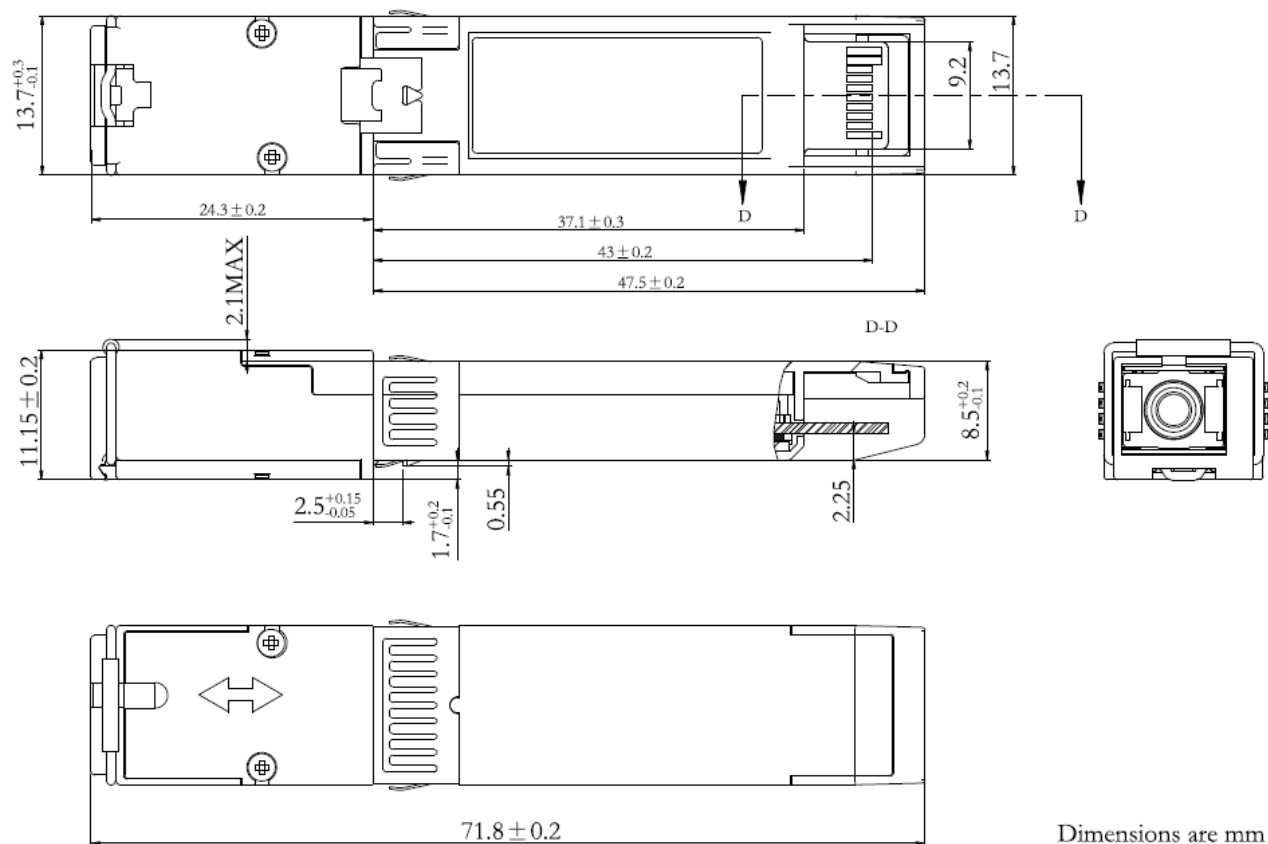
Block Diagram



Electrical Interface



Mechanical Specifications



Dimensions are mm
Tolerance is ± 0.1 mm

OptioConnect

Innovation for the Future of High-Speed Networking

Who We Are

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team

Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.

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