SFPP-XGS-ONU-I-ASC-OPC

MSA and TAA 10GBase-XGS PON ONU SFP+ Transceiver (SMF, 1270nmTx/1577nmRx, 20km, ASC, DOM, -40 to 85C)

Features

- 2x10 SFP+ Die Cast Housing
- ASC Optical Receptacle
- One single-mode fiber
- Industrial Temperature -40 to 85 Celsius

Applications:

- XGS PON ONU
- Broadband Access

Product Description

This MSA compliant SFP+ transceiver provides 10GBase-XGS throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1270nmTx/1577nmRx via an ASC connector. It is capable of withstanding rugged environments and can operate at temperatures between -40 and 85C. All of our transceivers are built to comply with Multi-Source Agreement (MSA) standards and are uniquely serialized and tested for data-traffic and application to ensure seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows access to real-time operating parameters. 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.

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	Vcc	0		3.6	V
Storage Ambient Temperature	T_{stg}	-40		85	˚C
Operating Case Temperature	Tc	-40	25	85	˚C
Relative Humidity Storage	RHStg	0		95	%
Relative Humidity Operating	RH_{Op}	0		85	%

Note:

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.

Absolute Maximum Ratings - Control Function Logic Levels

Parameter	Symbol	Min.	Max.	Unit	Notes
Receiver Loss of Signal Logic State	Rx_LOS	0	V_{CC}+0.5	V	LVTTL
Transmit Burst_Enable Logic State	BM_{ENABLE}	0	V_{CC}+0.5	V	LVTTL

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Voltage	Vcc	3.135	3.30	3.465	V	
Module Supply Current	IIN	150	230	400	mA	
Transmitter						
Tx_Data Differential Input Voltage	VIN	190		700	mV	
Tx_DIS=High (Transmitter Off/Disabled)	VIH	2.0		V_{CC}+0.3	V	1
Tx_DIS=Low (Transmitter On/Enabled)	VIL	0		0.8	V	1
Receiver						
Rx_Data Differential Output Voltage	VOUT	300		850	mV	2
Rx_LOS=High (Receiver Off)	VOH	2.4		3.3	V	LVTTL
Rx_LOS=Low (Receiver On)	VOL	0		0.8	V	LVTTL

Notes:

1. LVTTL Burst Mode.
2. CML Rx_DATA Electrical Output (AC coupled internally).

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Laser Type		DFB Laser				
Transmitter Signal Rate		9.95328			Gbps	
Average Output Power	Pout	+4		+9	dBm	
Optical Center Wavelength	λ	1260	1270	1280	nm	
Spectral Width	Δλ			1	nm	
Side-Mode Suppression Mode	SMSR	30			dB	
Extinction Ratio	ER	6			dB	
Burst-On Time	TBurst_On			128.6	ns	
Burst-Off Time	TBurst_Off			128.6	ns	
Receiver						
Receiver Type		CW APD/TIA				
Receiver Signal Rate		9.95328			Gbps	
Optical Center Wavelength	λ		1577		nm	
Receiver Sensitivity	S			-28	dBm	1
Received Optical Overload	P_{IN}(SAT)	-8			dBm	1
Rx_LOS Assert	P_A	-42			dBm	
Rx_LOS De-Assert	P_D			-29	dBm	
Rx_LOS Hysteresis	PHy	0.5		5	dB	

Notes:

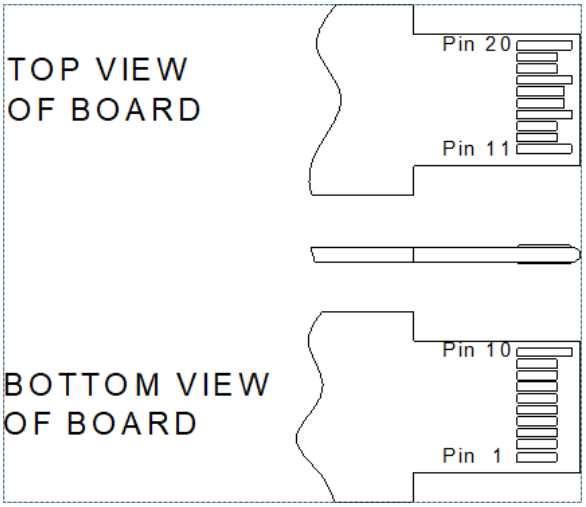
1. BER≤10^{-3}, PRBS 2^{31}-1, and ER=8dB.

Pin Descriptions

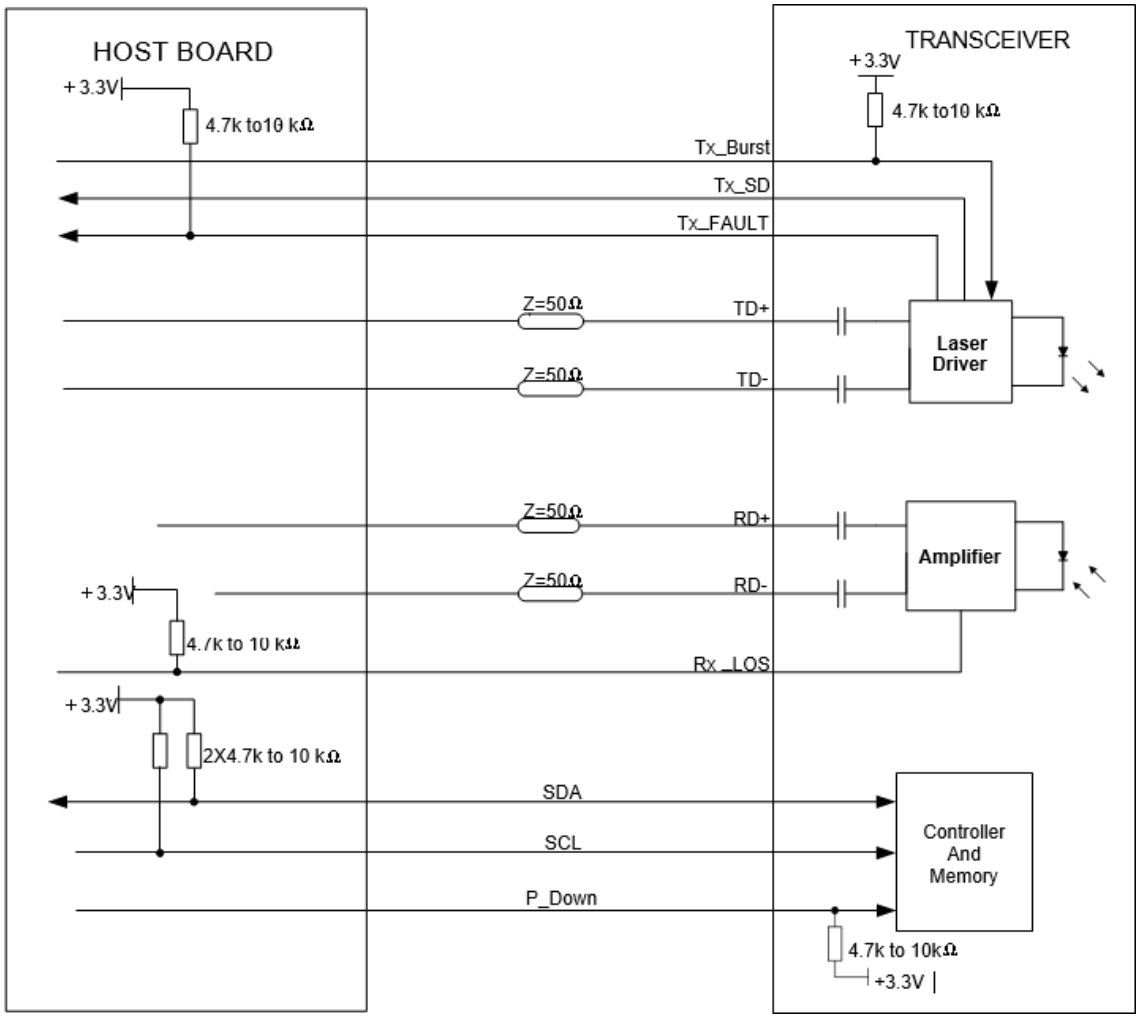
Pin	Symbol	Name/Descriptions	Ref.
1	GND	Module Ground.	
2	Tx_Fault	Transmitter Fault.	1
3	Burst_Enable	Burst Enable Input. When asserted high, transmitter output is turned off.	
4	SDA	2-Wire Serial Interface Data Line (MOD-DEF2).	
5	SCL	2-Wire Serial Interface Clock (MOD-DEF1).	
6	MOD_ABS	Module Absent - connected to VeeT.	1
7	Tx_SD	Transmitter State Indication, Tx_Indication Assert High, when transmitter on.	
8	Rx_LOS	Loss of Signal indication. Logic 0 indicates normal operation.	1
9	P_Down	Power Down High=Normal Operation, Low=Power Down（only power down Tx).	2
10	GND	Module Ground.	
11	GND	Module Ground.	
12	RD-	Receiver Inverted DATA out. AC Coupled.	
13	RD+	Receiver Non-Inverted DATA out. AC Coupled.	
14	GND	Module Ground.	
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	GND	Module Ground.	
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	GND	Module Ground.	

Notes:

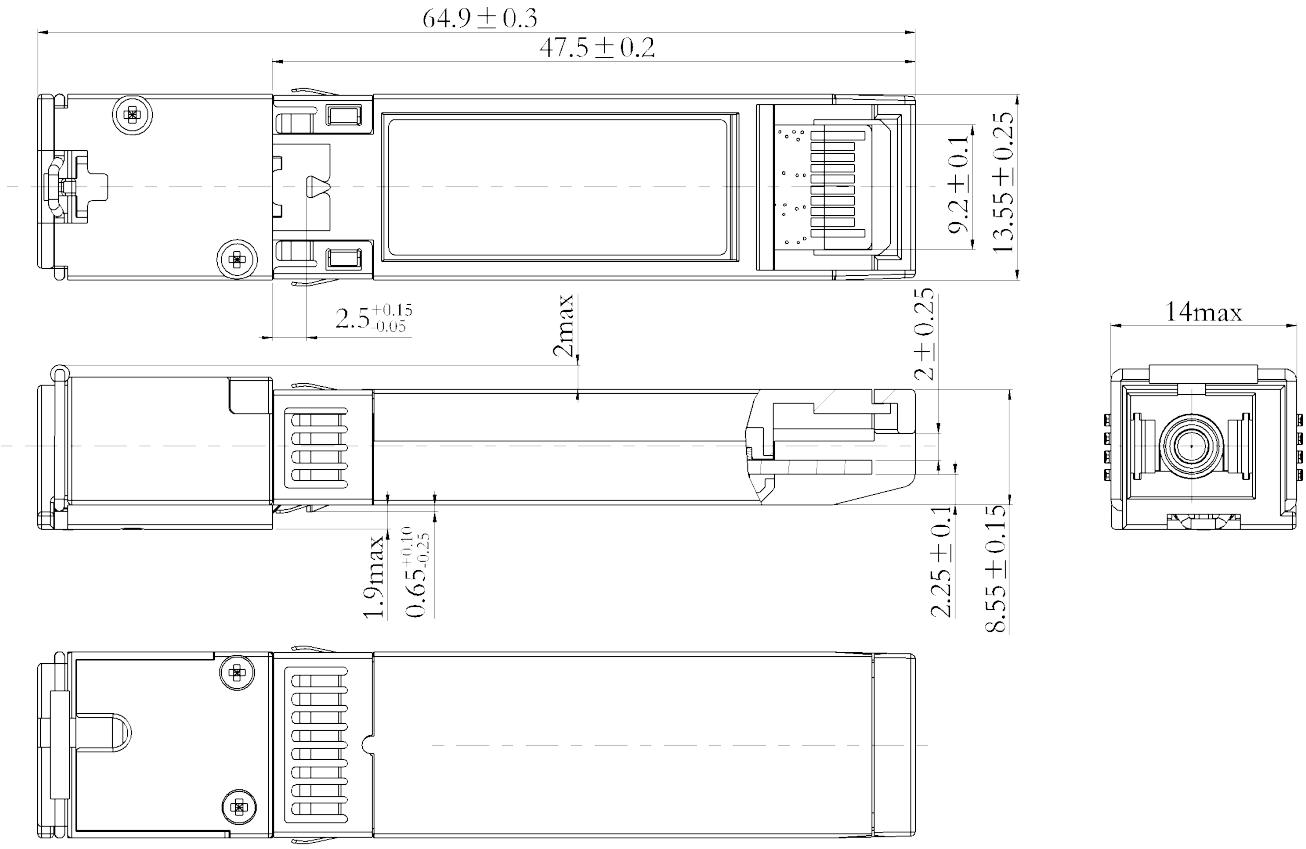
1. Shall be pulled up with 4.7kΩ-10kΩ to a voltage between 3.15V and 3.6V on the host board.
2. 4.7kΩ-10kΩ pull-up resistor within the module.



Electrical Interface



Mechanical Specifications

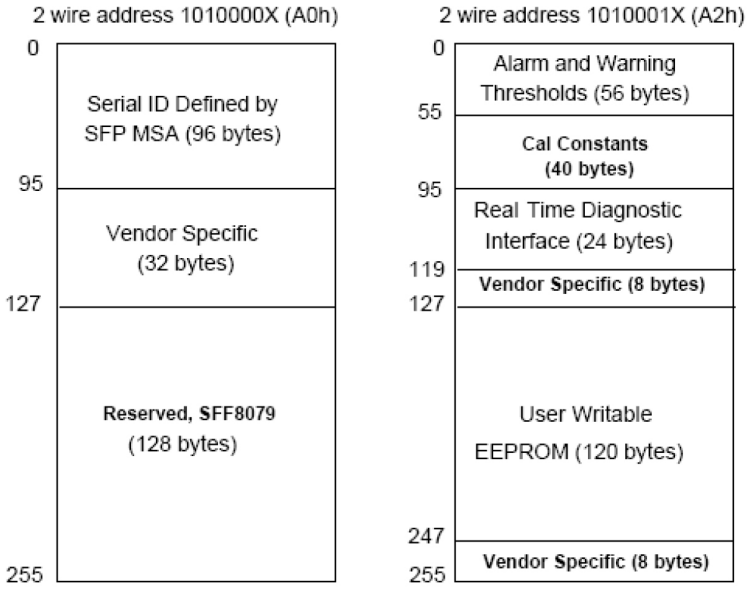


NOTES:

1.TOLERANCE: ± 0.1MM.
2.OTHERS ACCORDING WITH SFF-8074/SFF-8432 OR CUSTOMER SPEC.
3.LIGHT PORT ACCORDING WITH FIBER CONNECTOR SPEC.

EEPROM Information

EEPROM memory map specific data field description is as below:



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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