

100-04482-OPC

Calix® 100-04482 Compatible TAA 10GBs XGS-PON OLT XFP Transceiver with Burst Mode (SMF, 1577nmTx/1270nmRx, SC, N1, DOM)

Features

- Single fiber bi-directional data links TX 9.953Gbps, Burst Mode RX 9.953G/2.488Gbps application
- Complies with INF-8077i
- Complies with ITU G.987.2, ITU G.9807.1
- 3.3V power supply
- XFP package with SC Receptacle connector
- Hot Pluggable
- High power 1577nm EML LD & High sensitivity 1270nm APD
- Single-mode Fiber
- SD indication
- Low EMI and excellent ESD protection
- Digital diagnostic monitor interface
- Operating Temperature: 0C to 70C

**Applications:**

- XGS PON OLT
- Access and Enterprise

Product Description

This Calix® 100-04482 Compatible OLT XFP transceiver provides 10GBase-N1 throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1577nmTx/1270nmRx via an SC connector. It is built to meet or exceed Calix® standards and is uniquely serialized and data-traffic and application tested to ensure that they will integrate into your network seamlessly. Digital optical monitoring (DOM) support is also present to allow 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.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Maximum Supply Voltage	VCC3	0	3.6	V
Storage Ambient Temperature	Tstg	-40	+85	°C
Operating Case Temperature	Tc	0	70	°C
Relative Humidity Storage	RH _s	5	90	%
Relative Humidity Operating	RH _o	5	85	%

Note:

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
Tx_DISABLE	Tx_DIS	0	V _{CC3} +0.5	V	LVTTTL
Transmitter FAULT	Tx_FAULT	0	V _{CC3} +0.5	V	LVTTTL
Burst Mode Signal Detect	Rx_SD	0	V _{CC3} +0.5	V	LVTTTL
Receive Reset	Rx_Reset	0	V _{CC3} +0.5	V	LVTTTL
Receive Data Rate Select	Rate_Select	0	V _{CC3} +0.5	V	LVTTTL
Digital RSSI Trigger Input	TRI	0	V _{CC3} +0.5	V	LVTTTL
I ² C Serial Data	SDA	0	V _{CC3} +0.5	V	LVTTTL
I ² C Serial Clock	SCL	0	V _{CC3} +0.5	V	LVTTTL
I2C Clock frequency	tSCL		400	Khz	
Data hold time	tHD:DAT	120		ns	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{CC3}	3.135	3.30	3.465	V	
Power Supply Current	I _{CC3}		500	750	mA	
Transmitter						
Tx Differential Input Amplitude	V _{IN}	120		820	mV	
Tx Differential Input Impedence	Z _{IN}	90	100	110	Ω	
Tx_DIS = HIGH (Transmitter OFF / DISABLED)	V _{IH}	0.7*V _{CC3}		V _{CC3}	V	1
Tx_DIS = LOW (Transmitter ON / ENABLED)	V _{IL}	0		0.8	V	1
TX_Fault=HIGH (Fault)	V _{OH}	2.4		V _{CC3}	V	2
TX_Fault=Low (Normal)	V _{OL}	0		0.4	V	2
Receiver						
Rx Differential Output Impedence	Z _{OUT}	90	100	110	Ω	
Rx_Data Differential Output Voltage Amplitude	V _{OUT}	300		800	mV	LVCML
Rx_SD=HIGH	V _{OH}	2.4		V _{CC3}	V	2
Rx_SD=LOW	V _{OL}	0		0.4	V	2
Rx_Reset=HIGH	V _{IH}	2.0		V _{CC3}	V	1
Rx_Reset=LOW	V _{IL}	0		0.8	V	1
Rate_Select=HIGH	V _{IH}	2.0		V _{CC3}	V	1
Rate_Select=LOW	V _{IL}	0		0.8	V	1
TRI=HIGH	V _{IH}	0.7*V _{CC3}		V _{CC3}	V	1
TRI=LOW	V _{IL}	0		0.8	V	1

Notes:

1. LVTTL (Control INPUT)
2. LVTTL (Monitor OUTPUT)

I²C Serial Logic

Parameter	Symbol	State	Logic	Min.	Max.	Unit
I ² C Serial Data	SDA	HIGH	LVTTL	0.7*V _{CC3}	V _{CC3}	V
	SDA	LOW	LVTTL	0	0.8	V
I ² C Serial Clock	SCL	HIGH	LVTTL	0.7*V _{CC3}	V _{CC3}	V
	SCL	LOW	LVTTL	0	0.8	V

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Transmitter Type		CW Mode EML				
Coupling Mode		AC				
Transmitter Signal Rate	S _{down}	9.953			Gb/s	
Average Launch Power	P _{OUT}	2		5	dBm	N1
Tolerance to the Transmitter Incident Light Power	T _t	-15			dB	
Optical Center Wavelength	λ	1575	1577	1580	nm	
Spectral Width	$\Delta\lambda$			1	nm	
Side Mode Suppression Mode	SMSR	30			dB	
Extinction Ratio	ER	8.2			dB	
Receiver						
Receiver Type		Burst Mode APD/TIA				
Optical Center Wavelength	λ	1260	1270	1280	nm	
Damage Optical Power	P _d	-3			dBm	
Receiver Sensitivity	P _{IN}			-26	dBm	@9.953Gbps, N1
	P _{IN}			-27.5	dBm	@2.488Gbps, N1
Receiver Optical Overload	P _{IN} (MAX)	-5			dBm	@9.953Gbps, N1
	P _{IN} (MAX)	-7			dBm	@2.488Gbps, N1
Reflectance of Rx	ORL			-20	dB	@1260~1360nm
Dynamic Range	DR	15			dB	
Immunity from Continuous Identical Digits	CID	72			Bits	

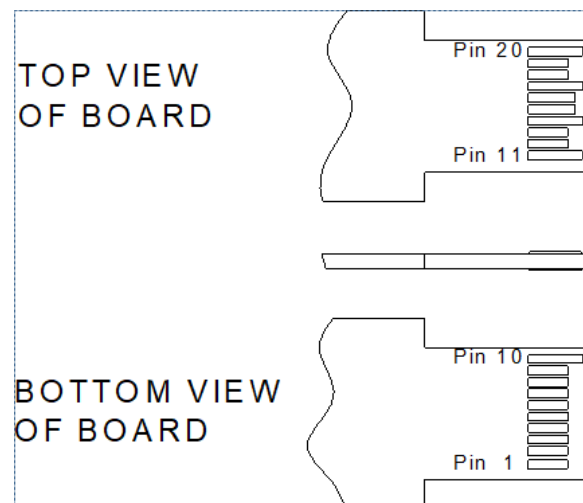
Notes:

Sensitivity and Overload Test Condition:

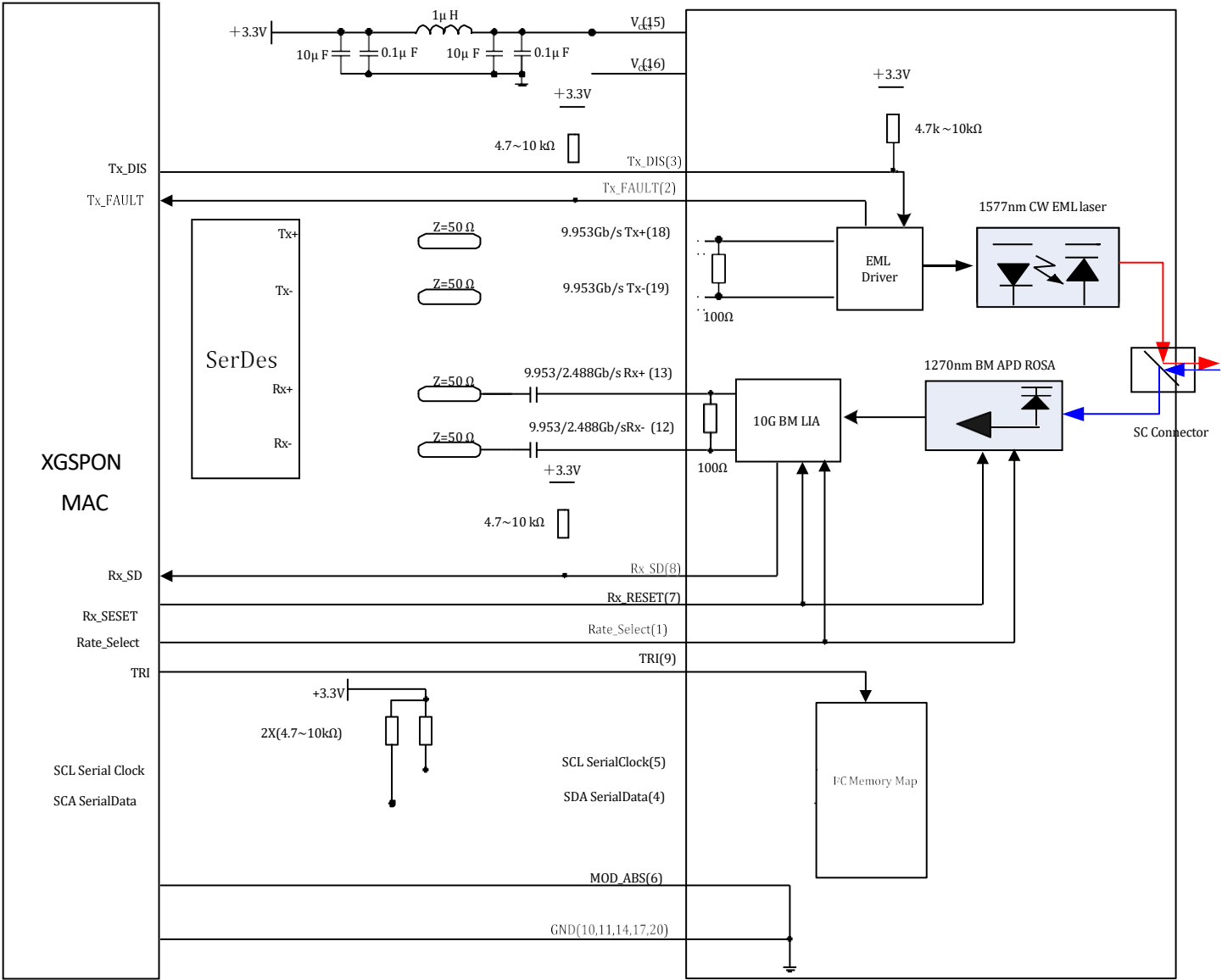
- 1.9.953Gbps: BER@10⁻³ PRBS 2³¹-1 ER=6.0dB;
- 2.2.488Gbps: BER@10⁻⁴ PRBS 2²³-1 ER=8.2dB ;

Pin Descriptions

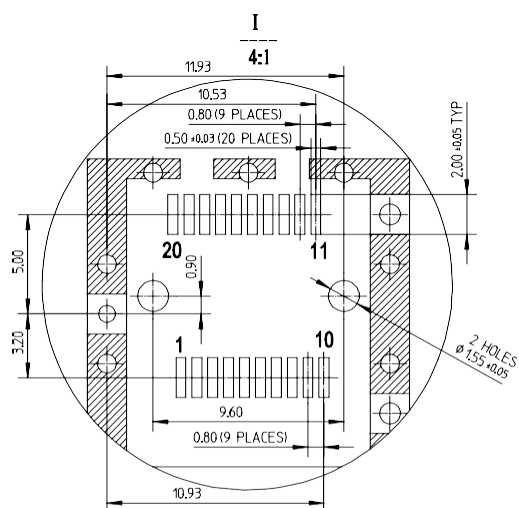
Pin	Symbol	Name/Descriptions	Ref.
1	Rate_Select	Rate selection, Dedicated upstream speed indication. High=10G; LOW=2.5G	
2	Tx_FAULT	Transmitter Fault, LOW = Normal Operation, HIGH = Fault Indication	
3	Tx_DIS	Transmit Disable, LOW = Normal Operation, HIGH = Disables Module	
4	SDA	2-Wire Serial Interface - Serial Data	
5	SCL	2-Wire Serial Interface - Clock Signal	
6	MOD_ABS	Module absent indicate pin. Grounded inside the module.	
7	Rx_RESET	RX Reset Pulse Input for TIA/LIA	
8	Rx_SD	Rx Signal Detect, Assert High when Burst Packet Coming	
9	RSSI_TRI	Receiver Signal Strength Indication trigger input	
10	GND	Module Ground.	
11	GND	Module Ground.	
12	RD-	Receiver Inverted 9.953Gb/s and 2.488Gb/s Data Output; DC coupled inside the module.	
13	RD+	Receiver Non-Inverted 9.953Gb/s and 2.488Gb/s Data Output; DC coupled inside the module.	
14	GND	Module Ground.	
15	VCC3	+3.3V DC Power Supply Input.	
16	VCC3	+3.3V DC Power Supply Input.	
17	GND	Module Ground.	
18	TD+	Transmitter Non-Inverted 9.953Gb/s Data Input.	
19	TD-	Transmitter Inverted 9.953Gb/s Data Input.	
20	GND	Module Ground.	



Electrical Interface

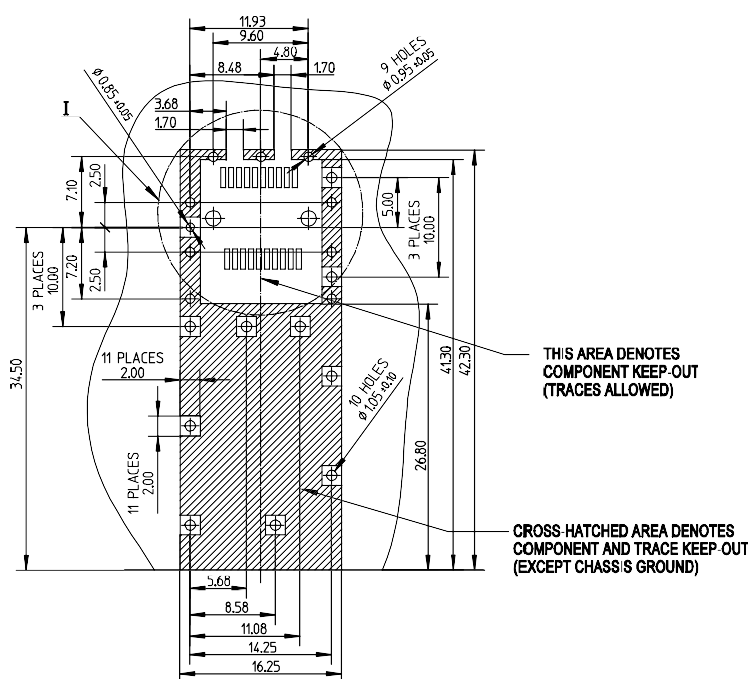


SFP+ Connector Dimensions

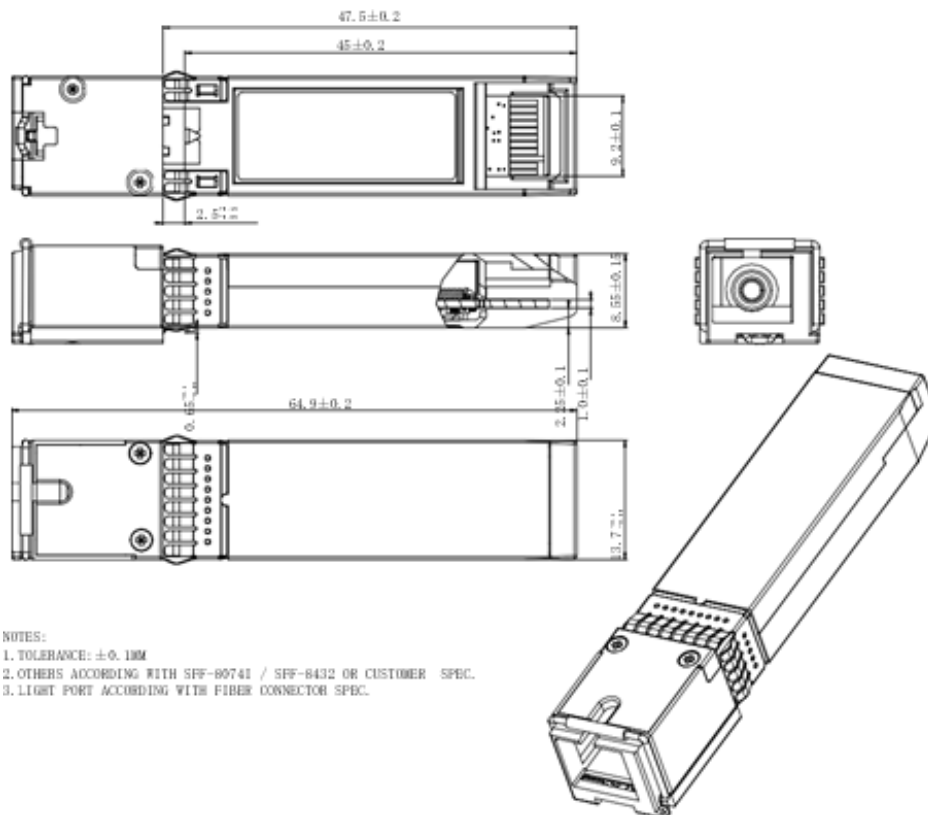


Notes:

- Notes:
1. Datum and basic dimensions established by customer
 2. Pads and vias are chassis ground, 11 places
 3. Thru holes, plating optional

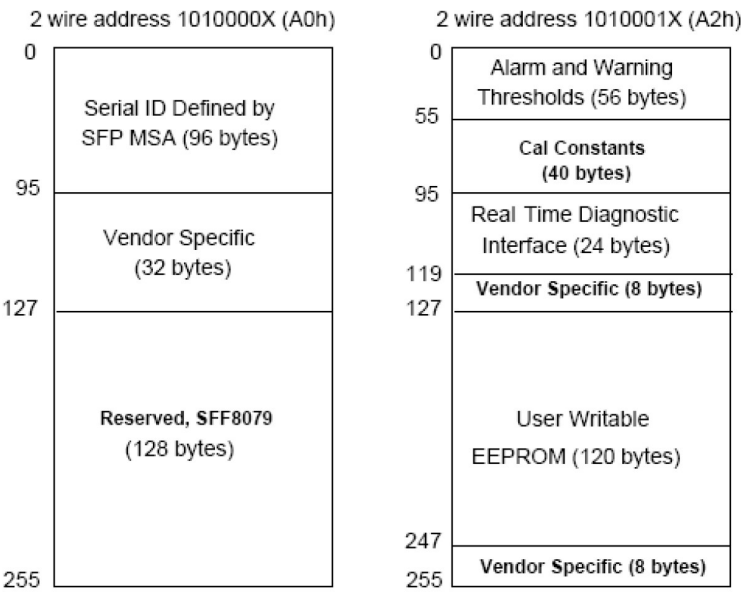


Mechanical Specifications



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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