

Product Specification

GPON SFP

OLT GPON SFP

ITU-T G.984.2 Tx 2.488 Gbps / Rx 1.244 Gbps



Overview

Atrian optical transceivers for OLT GPON are Small Form Factor Pluggable (SFP) compatible with main GPON/EPON OLT vendors. It was designed to meet TELCO requirements. They can be easily installed without interrupting the host equipment in operation thanks to the hot pluggable feature.

Key Features

- Support ITU-T G.984.2 GPON OLT B+ and C+ application
- Single fiber bi-directional data links with symmetric 2.488Gbps Tx and 1.244Gbps Rx
- 1490nm continuous-mode transmitter with DFB LD
- 1310nm burst-mode receiver with APD-TIA
- 2-wire interface for integrated digital diagnostic Monitoring
- Receiver RESET, Signal Detect, RSSI function indication (RESET, RX_SD, RSSI)
- SFP package with SC/UPC receptacle optical interface
- Single +3.3V power supply
- Operation case temperature -40~85°C for industrial and 0~70°C for commercial
- RoHS6 compliance

Regulatory Compliance

aTrian Communication Technologies transceivers are products with Class 1 Lasers that complies with FDA regulations on eye safety and ETSI EN 60825 and electrical safety measures in accordance with ETSI EN 60950.

Technical Specifications

General Parameter	Symbol	Min.	Typical	Max.	Unit
Storage Temperature	Ts	-40		+85	°C
Operating Temperature	Tc	0		70	°C
Power Voltage	Vcc	3.15	3.3	3.45	V
Power Current	Icc			500	mA
Data Rate for TX	DR-TX		2.488		Gbps
Data Rate for RX	DR-RX		1.244		Gbps

Transmitter	Symbol	Min.	Typical	Max.	Unit
Central Wavelength	Δc	1480	1550	1550	nm
Spectral Width (-20 dBm)	σ			1	nm
Side Mode Suppression Ratio	SMSR	30			dB
Mean Launched Power	LP B+ LP C+	1.5 3		5 7	dBm
Mean Launched Power (TX Off)	LP-Off			-45	dBm
Extinction Ratio	ER	8.2			dB
Optical Return Loss Tolerance	ORLT	-15			dB
Transmitter and dispersion Penalty	TDP			1	dB
Transmitter Mask (PRBS2 ²³ -1@2.488G)	TMASK		Compliant With ITU-T G.984.2		

Receiver	Symbol	Min.	Typical	Max.	Unit
Receive Wavelength	λc	1290	1310	1330	nm
Sensitivity (PRBS2 ²³ -1@1.244G, ER=10, BER<10 ⁻¹⁰)	B+ C+			-30 -28	dBm
Overload (PRBS2 ²³ -1@1.244G, ER=10, BER<10 ⁻¹⁰)	B+ C+	-12 -8			dBm
Receiver Burst Mode Dynamic Range		15			dB
Damage Threshold for Receiver		5			dBm
SD Assert Level	B+ C+			-33 -30	dBm
SD De-assert Level		-45			dBm
SD Hysteresis		0.5		6	dB
WDM Filter isolation to 1550nm		38			dB
WDM Filter isolation to 1650nm		35			dB

Electrical Interface	Symbol	Min.	Typical	Max.	Unit
Data Input Swing Differential/TX		200	-	2000	mV
Data Output Swing Differential/RX		400		1600	mV
Date Differential Impedance		90	100	110	Ω
LVTTL Output High		2.4		Vcc	V
LVTTL Output Low		0		0.4	V
LVTTL Input High		2.0		Vcc+0.3	V
LVTTL Input Low		0		0.8	V

Timing	Symbol	Min.	Typical	Max.	Unit
Guard Time	Tg	25.6			ns
Reset Pulse Width	Tr			12.8	ns
Reset Delay	Trd			12.8	ns
Receiver Preamble Time	Tp			140	ns
SD Assert Time	TSDA			100	ns
SD De-assert Time	TSDD			12.8	ns
RSSI Trigger Delay	Ttd	25			ns
RSSI Trigger Pulse Width	Tw	500			ns
Internal I2C Delay	TI2C			500	us

Ordering Information

Part Number	Wavelength	Distance	Output Pwr	Temperature
ASFPGPON-B-20	T1490nm/R1310nm	20 Km	1.5~5dBm	0~70°C Commercial
ASFPGPON-C-20	T1490nm/R1310nm	20 Km	3~7dBm	0~70°C Commercial

Warranty

FIVE years of limited warranty for products sold directly by Atrian Technologies, unless special agreements have been set. Warranty period start from the ship date and will be only valid for the original customer who bought the product. If you have purchased the product from a reseller you must contact him directly. RMA Form and full warranty details are available on our website.