

Product Specification

1000Base-BX

SINGLEMODE OPTICAL SFP TRANSCEIVER

1.25Gbps BiDi 3~160 Km



Overview

Atrian optical transceivers are Small Form Factor Pluggable (SFP) compatible with the Multi Sourcing Agreement (MSA) and available as a vendor compatible SFP upon request. This family of transceivers are designed for 1.25Gbps 1000Base-X Ethernet transmission and operates with an integrated duplex data link over 9/125µm Single Mode Fiber (SMF).

Atrian Small Form Factor Pluggable (SFP) transceivers provides a reliable and high-performing Gigabit Ethernet network connectivity. They can be easily installed without interrupting the host equipment in operation thanks to the hot pluggable feature.

Atrian optical transceivers are designed to be used on Atrian's media converters and switches as well as third party equipments that supports SFP transceivers.

Key Features

- **Fiber Mode:** Single Mode @ 9/125µm
- **Speed:** 1.25 Gbps
- **Distance:** 3 Km, 10 Km, 20 Km, 40 Km, 60 Km, 80 Km, 100 Km, 120 Km, 160 Km
- **Wavelength:** 1310nm, 1490, 1550 - FP, DFB, PIN, APD laser
- **Temperature:** 0~70°C (Commercial) or -40~+85°C (Industrial)
- **Connector:** Simplex LC/UPC Connector
- **DMI:** SFF-8472 DOM/DMI Diagnostic Monitoring

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 Parameters	Symbol	Min.	Typical	Max.	Unit
Power Voltage	VCC	-0.5		3.6	V
Storage Temperature	Ts	-40		+85	°C
Operating Temperature	Tc Commercial	-5		+75	°C
	Tc Industrial	-40		+85	°C
Power Supply Voltage	Vcc	3.15	3.1	3.45	V
Power Supply Current	Icc			300	mA
Data Rate			1.25		Gbps
Max. Link Distance for 9/125µm SMF	Lmax		See Ordering Information		

Tx Optical Parameters	Symbol	Min.	Typical	Max.	Unit
Central Wavelength	λ_c (10~60Km)	1270	1310	1370	nm
		1500	1550	1580	nm
		1450	1490	1530	nm
	λ_c (80~160Km)	1500	1550	1580	nm
		1300	1310	1320	nm
		1540	1550	1560	nm
Spectral Width (RMS)	σ (10~60Km)			4	nm
	σ (80~160Km) -20dB			1	nm
Output Power	Pout 3Km	-10		-3	dBm
	Pout 20Km	-8		-3	dBm
	Pout 40Km	-5		0	dBm
	Pout 60Km	-3		3	dBm
	Pout (80~160Km)	0		5	dBm
Extinction Ratio	ER	9			dB
Optical Rise/Fall Time	tr/tf			2	ns

Rx Optical Parameters	Symbol	Min.	Typical	Max.	Unit
Central Wavelength	λ_c (10~60Km)	1260		1600	nm
		1540	1550	1560	nm
	λ_c (80~160Km)	1300	1310	1320	nm
		1480	1490	1500	nm

Receive Sensitivity	PIN (10~80Km)		-23	dBm
	PIN (100~160Km)		-36	dBm
Rx Over-Current	P _{MAX} (10~80Km)	1		dBm
	P _{MAX} (100~160Km)	-7		dBm
LOS De-Assert	LOSD (10~80Km)		-30	dBm
	LOSD (100~160Km)		-39	dBm
LOS Assert	LOSA (10~80Km)	-35		dBm
	LOSA (100~160Km)	-40		dBm
LOS Hysteresis	tr/tf	0.5	4.5	dB

Ordering Information

Part Number	Wavelength TX/RX	Distance	Laser Type	Temperature	
ASFP1GT31R55-03	1310/1550 nm	3 Km	FP/PIN	0~70°C Commercial	
ASFP1GT55R31-03	1550/1310 nm			0~70°C Commercial	
ASFP1GT31R55-03I	1310/1550 nm			-40~+85°C Industrial	
ASFP1GT55R31-03i	1550/1310 nm			-40~+85°C Industrial	
ASFP1GT31R55-10	1310/1550 nm	10 Km	FP/PIN	0~70°C Commercial	
ASFP1GT55R31-10	1550/1310 nm		FP/PIN	0~70°C Commercial	
ASFP1GT31R55-10I	1310/1550 nm		FP/PIN	-40~+85°C Industrial	
ASFP1GT55R31-10I	1550/1310 nm		FP/PIN	-40~+85°C Industrial	
ASFP1GT31R49-10	1310/1490 nm		DFB/PIN	0~70°C Commercial	
ASFP1GT49R31-10	1490/1310 nm		DFB/PIN	0~70°C Commercial	
ASFP1GT31R49-10I	1310/1490 nm		DFB/PIN	-40~+85°C Industrial	
ASFP1GT49R31-10I	1490/1310 nm		DFB/PIN	-40~+85°C Industrial	
ASFP1GT31R55-20	1310/1550 nm		20 Km	FP/PIN	0~70°C Commercial
ASFP1GT55R31-20	1550/1310 nm			FP/PIN	0~70°C Commercial
ASFP1GT31R55-20I	1310/1490 nm	FP/PIN		-40~+85°C Industrial	
ASFP1GT55R31-20I	1490/1310 nm	FP/PIN		-40~+85°C Industrial	
ASFP1GT31R49-20	1310/1550 nm	DFB/PIN		0~70°C Commercial	
ASFP1GT49R31-20	1550/1310 nm	DFB/PIN		0~70°C Commercial	
ASFP1GT31R49-20I	1310/1490 nm	DFB/PIN		-40~+85°C Industrial	
ASFP1GT49R31-20I	1490/1310 nm	DFB/PIN		-40~+85°C Industrial	
ASFP1GT31R55-40	1310/1550 nm	40 Km	FP/PIN	0~70°C Commercial	
ASFP1GT55R31-40	1550/1310 nm		FP/PIN	0~70°C Commercial	
ASFP1GT31R55-40I	1310/1490 nm		FP/PIN	-40~+85°C Industrial	
ASFP1GT55R31-40I	1490/1310 nm		FP/PIN	-40~+85°C Industrial	
ASFP1GT31R49-40	1310/1550 nm		DFB/PIN	0~70°C Commercial	
ASFP1GT49R31-40	1550/1310 nm		DFB/PIN	0~70°C Commercial	
ASFP1GT31R49-40I	1310/1490 nm		DFB/PIN	-40~+85°C Industrial	
ASFP1GT49R31-40I	1490/1310 nm		DFB/PIN	-40~+85°C Industrial	

ASFP1GT31R55-60	1310/1550 nm		FP/PIN	0~70°C Commercial
ASFP1GT55R31-60	1550/1310 nm		FP/PIN	0~70°C Commercial
ASFP1GT31R55-60I	1310/1490 nm		FP/PIN	-40~+85°C Industrial
ASFP1GT55R31-60I	1490/1310 nm		FP/PIN	-40~+85°C Industrial
ASFP1GT31R49-60	1310/1550 nm	60 Km	DFB/PIN	0~70°C Commercial
ASFP1GT49R31-60	1550/1310 nm		DFB/PIN	0~70°C Commercial
ASFP1GT31R49-60I	1310/1490 nm		DFB/PIN	-40~+85°C Industrial
ASFP1GT49R31-60I	1490/1310 nm		DFB/PIN	-40~+85°C Industrial
ASFP1GT31R55-80	1310/1550 nm		DFB/PIN	0~70°C Commercial
ASFP1GT55R31-80	1550/1310 nm		DFB/PIN	0~70°C Commercial
ASFP1GT31R55-80I	1310/1550 nm	80 Km	DFB/PIN	-40~+85°C Industrial
ASFP1GT55R31-80I	1550/1310 nm		DFB/PIN	-40~+85°C Industrial
ASFP1GT49R55-100	1490/1550 nm		DFB/APD	0~70°C Commercial
ASFP1GT55R49-100	1550/1490 nm		DFB/APD	0~70°C Commercial
ASFP1GT49R55-100I	1490/1550 nm	100 Km	DFB/APD	-40~+85°C Industrial
ASFP1GT55R49-100I	1550/1490 nm		DFB/APD	-40~+85°C Industrial
ASFP1GT49R55-120	1490/1550 nm		DFB/APD	0~70°C Commercial
ASFP1GT55R49-120	1550/1490 nm		DFB/APD	0~70°C Commercial
ASFP1GT49R55-120I	1490/1550 nm	120 Km	DFB/APD	-40~+85°C Industrial
ASFP1GT55R49-120I	1550/1490 nm		DFB/APD	-40~+85°C Industrial
ASFP1GT49R55-160	1490/1550 nm		DFB/APD	0~70°C Commercial
ASFP1GT55R49-160	1550/1490 nm		DFB/APD	0~70°C Commercial
ASFP1GT49R55-160I	1490/1550 nm	160 Km	DFB/APD	-40~+85°C Industrial
ASFP1GT55R49-160I	1550/1490 nm		DFB/APD	-40~+85°C Industrial

Connector options: LC: default P/N
SC: add -SC at the end for the P/N

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.