

## Product Specification

1GBase-T  
COPPER SFP TRANSCEIVER  
**1.25Gbps RJ45 100 mts.**



## Overview

Atrian transceivers are Small Form Factor Pluggable (SFP) compatible with the Multi Sourcing Agreement (MSA). It is compatible with 1000Base-T standards as specified in IEEE 802.3. The 1000Base-T physical layer IC (PHY) can be accessed via I2C, allowing access to limited PHY settings and features.

Atrian 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

- **Copper:** Category 5 UTP or better
- **Speed:** 1.25 Gbps
- **Distance:** 100 mts.
- **Temperature:** 0~70°C (Commercial)
- **Connector:** RJ45
- **Design:** Fully metallic enclosure for low EMI

## 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
Storage Temperature	Ts	-40		+85	°C
Operating Temperature	Tc	0		70	°C
Power Voltage	Vcc	3.13	3.3	3.47	V
Absolute Max Voltage	Vcc				V
Supply Current	Icc	300	325	345	mA
Surge Current	Isurge			345	mA
Data Rate	DR	10		1000	Mb/sec
Max. Link Distance (Cat 5 UTP)	Lmax			100	mts
Bit Error Rate				10 <sup>-12</sup>	BER
IC Clock Rate		0		100000	Hz
Clocking Tolerance			± 50		ppm

### IEEE 802.3 compatible

1. Automatic crossover detection is enabled. External crossover cable is not required
2. 10/100/1000 BASE-T operation requires the host system to have an SGMII interface with no clocks, and the module PHY to be configured per Applications Note AN-2036. With a SERDES that does not support SGMII the module will operate at 1000BASE-T only.

### Low-Speed Signals

Parameter	Symbol	Min.	Max	Units	Notes/Conditions
SFP Output LOW	VOL	0	0.5	V	4.7k to 10k pull-up to host Vcc, measured at host side of connector
SFP Output HIGH	VOH	Host Vcc-0.5	Host Vcc+0.3	V	4.7k to 10k pull-up to host Vcc, measured at host side of connector
SFP Input LOW	VIL	0	0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH	VIH	2	Vcc+0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector

## High-speed electrical interface: Transmission line-SFP

Parameter	Symbol	Min.	Typical	Max	Units	Notes/Conditions
Line Frequency	fL	10	125	1000	Mhz	5-level encoding,per IEEE 802.3
Tx Output Impedance	Zout, TX		100		Ohm	Differential,for all frequencies between 1MHz and 125MHz
Rx Input Impedance	Zin, RX		100		Ohm	Differential,for all frequencies between 1MHz and 125MHz

## High-speed Electrical Interface: Host-SFP

Parameter	Symbol	Min.	Typical	Max	Units	Notes/Conditions
Single ended data input swing	Vinsing	250		1200	mV	Single ended
Single ended data output swing	Voutsing	350		850	mV	Single ended
Rise/Fall Time	Tr,Tf		175		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

## Ordering Information

Part Number	Connector	Distance	Temperature
ASFP1GDRJ-100M	RJ45	100 mts	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.