

# 1000Base-SX MiniGBIC transceiver

## 500M, Hot pluggable

SFP-SX-1.25G-500M

airlive®



1.25G SFP  
transceiver

850nm  
VCSEL

Up to 500M

Multi Mode  
Dual Fiber

LC Duplex  
Connector

DDM  
Function

ESD  
Protection

Hot  
Pluggable

0°C~+70°C

## Overview

The AirLive SFP-SX-1.25G-500M is a low power, high performance and cost-effective multi mode SFP Fiber transceiver for serial optical data communication applications up to 1.25Gbps and 500M. The low jitter and high sensitivity module is intended for single mode dual fiber and operates at a nominal wavelength of 850nm, the operating temperature 0°C~70°C and the module is hot pluggable.

The transceiver incorporates TX Disable control, TX-Fault, and RX\_LOS monitor functions. It is a duplex LC connector transceiver designed for use in Gigabit Ethernet applications and to provide IEEE802.3z compliant link and Class I Laser safety compliant link.

The suitable applications are such as High-speed storage area networks, computer cluster cross-connect, customized high-speed data pipes, and more.

## Features

- 1.25Gbps Fiber Mini GBIC SFP Transceiver
- Multi mode SFP fiber
- Duplex LC connector Interface
- Wavelength 850nm VCSEL Laser and PIN photo detector
- 1.25Gbps high speed
- Distance up to 500M
- Low Power consumption Max 1.0W
- Hot-pluggable capability
- Very low EMI
- Excellent ESD protection
- IEEE802.3Z
- Operating Temperature : 0 °C ~ +70 °C

## Application

- Fiber Channel Infrastructure
- STM-16 Optical Interface
- ATM Switches and Routers
- SDH/SONET Switch Infrastructure

Application Environment examples

- Bank
- AirPort
- Hotel
- Expressway
- Petrochemical Industry
- Metro
- Factory

## Transmitter Operating Characteristic Optical, Electrical

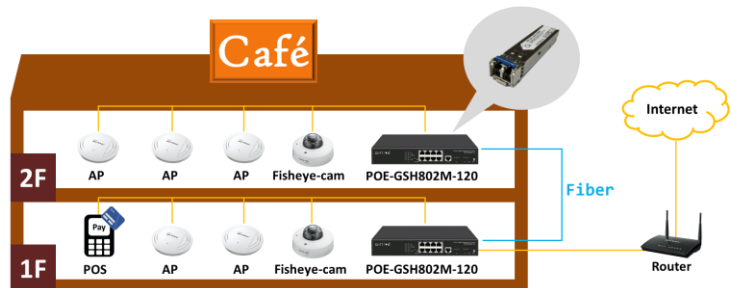
Transmitter					
Parameter	Symbol	Min.	Typical	Max.	Unit
Centre Wavelength	$\lambda_c$	830	850	860	nm
Average Output Power	Po	-9	-	-3	dBm
Extinction Ratio	Er	8	-		dB
Rise/Fall Time(20%~80%)	Tr/Tf			150	ps
Total jitter	Tj			0.43	UI
Input Differential Impedence	Zin	90	100	110	Ohm
Data Input Swing Differential	Vin	500		2400	mV
TX Disable - Disable		2.0		Vcc	V
TX Disable - Enable		0		0.8	V
TX Fault - Assert		2.0		Vcc	V
TX Fault – De-Assert		0		0.8	V
Output Optical Eye	IEEE802.3z and ANSI Fibre Channel Compatible				

## Receiver Operating Characteristic Optical, Electrical

Receiver					
Parameter	Symbol	Min.	Typical	Max.	Unit
Centre Wavelength	$\lambda_c$	830		860	nm
Receiver Sensitivity	Rsen	-	-	-19	dBm
Receiver Overload	Rov	-3			dBm
Return Loss		12			dB
LOS Assert	LOSA	-36			dBm
LOS De-Assert	LOSD			-20	dBm
LOS Hysteresis		0.5		5	
Output differential impedance	Zout	-	100	-	Ohm
Data Input Swing Differential	Vout	370	-	2000	mV
Rx_LOS - Assert	-	2.0	-	Vcc	V
Rx_LOS – De-Assert	-	0	-	0.8	V

## Fiber for Long Distance up to 500M

Extend the network further with the AirLive network switches and fiber modules. Use the SFP modules in the SFP ports which also supports DDM and offers more information about the fiber connection and makes it easier to find any faults or bad connections.



SFP cross-floor connection

Model	AirLive SFP-SX-1.25G-500M
<p><b>Hardware</b></p> <ul style="list-style-type: none"><li>• <b>Power Supply Voltage:</b> 3.15V~3.45V Typical Power Supply Voltage: 3.3V</li><li>• <b>Standard</b> Compliant with IEEE 802.3Z Compliant with Digital Diagnostic SFF-8472 Compliant with IEC-60825 DDM Support ESD Protection</li><li>• <b>Total Supply Current:</b> 300mA</li><li>• <b>Data Rate:</b> 1.25 Gbps</li><li>• <b>Power Dissipation</b> Max 1.0 W</li><li>• <b>Transmitter (Electrical - Optical)</b> Centre Wavelength:<ul style="list-style-type: none"><li>- Min.: 0nm</li><li>- Typical: 850nm</li><li>- Max.: 860nm</li></ul>Average Output Power Extinction Ratio: 8dB Operating Data Rate: 1.25Gbps Tx Input Swing Differential. Voltage:<ul style="list-style-type: none"><li>- Min. 500 Mv</li><li>- Max. 2400 mV</li></ul>Tx Fault Voltage – Assert:<ul style="list-style-type: none"><li>- Min. 2.0V</li><li>- Max. Vcc</li></ul>Tx Fault Voltage – De-Assert:<ul style="list-style-type: none"><li>- Min. 0V</li><li>- Max. 0.8V</li></ul></li><li>• <b>Receiver -Optical, Electrical</b> Center Wavelength:<ul style="list-style-type: none"><li>- Min. 830nm</li><li>- Max. 860nm</li></ul>Receive Sensitivity In Average Power:<ul style="list-style-type: none"><li>- Max. -19dBm</li></ul>Los Assert: -36dBm Los De-Assert: -20dBm Los Hysteresis<ul style="list-style-type: none"><li>- Min. 0.5</li><li>- Max. 5</li></ul>Receiver Overload: -3dBm Data Input Swing Differential Voltage<ul style="list-style-type: none"><li>- Min. 370mV</li><li>- Max. 2000mV</li></ul></li></ul>	<p><b>Environment</b></p> <ul style="list-style-type: none"><li>• <b>Operating Temperature:</b> 0°C to +70°C</li><li>• <b>Storage Temperature:</b> -40°C to +85°C</li><li>• <b>Working Humidity:</b> 5%~95%, non-condensing</li></ul> <p><b>Standard package of SFP</b></p> <ul style="list-style-type: none"><li>• <b>Package size:</b> TBD mm(L*W*H)</li><li>• <b>Package Weight:</b> N.W: TBD kgs; G.W:TBD KGS</li><li>• <b>Package content:</b> 1 x SFP Module</li></ul> <p><b>Standard carton package</b></p> <ul style="list-style-type: none"><li>• <b>Quantity:</b> 10 pcs / 1 Blister</li><li>• <b>Dimensions</b> 5.6x1.3x0.8 cm</li><li>• <b>Weight</b> TBD kgs</li></ul> <p><b>Ordering Information</b></p> <ul style="list-style-type: none"><li>• <b>Model:</b> SFP-SX-1.25G-500M</li><li>• <b>Name:</b> 1.25Gbps Fiber Mini GBIC SFP Transceiver, 850nm, LC connector, 500M, hot-pluggable</li></ul>

\* Specification will be changed without prior notice

