

# 4L-SFB45G-120 & 4L-SFB54G-120

SFP BiDi 1000BASE-BX, 1490 / 1550nm, SM, DDM, LC Simplex, 120km



## Applications

- Compliant with IEEE 802.3z 1000BASE-BX
- Supports 1.063Gbps/ 1.25Gb/s data rates
- Fast Ethernet
- Switch to Switch Interface
- Router to Switch Interface
- Other optical links

## Features

- SFP 1.25G Bidirectional Optical Transceiver
- SFP MSA SFF-8472 Compliant
- Up to 120km links on SMF
- DFB laser transmitter
- Digital Diagnostic Monitoring
- RoHS and Lead Free
- Operating temperature: 0°C ~ +70°C
- **4L-SFB45G-120**
  - TX1490nm/RX1550nm
- **4L-SFB54G-120**
  - TX 1550nm / RX1490nm

## Description

The 4LAN SFP 1G BiDi is a single mode SFP transceivers series for optical data communications such as 1000BASE-BX defined by IEEE 802.3z.

This modules are designed to operate with single mode fiber (SMF) and LC connectors using only one fiber at the wavelength 1310nm, 1490nm or 1550nm for Tx and Rx (the wavelengths alternate on each side depending on the model) for distances up to 150km.

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## General Specifications – Absolute Maximum Ratings

Parameter	Symbol	Min	Recommended	Max
Max. Link Length	$l_{max}$			120km
Optical Budget	dB	30dB		
Storage Temperature	$T_c$	-40°C		+85°C
Operating Case Temperature	$T_c$	0°C		+70°C
Supply Voltage	$V_{cc}$	-0.5V	3.3V	3.6V

## Optical Specifications

Transmitter				
Parameter	Symbol	Min	Recommended	Max
Average Output Power	$P_{out}$	-1dBm		+4dBm
Central Wavelength - Side A	nm	1480nm	1490nm	1500nm
Central Wavelength - Side B	$\lambda_m$	1530nm	1550nm	1570nm
Receiver				
Parameter	Symbol	Min	Recommended	Max
Receiver Sensitivity	$R_{sen}$	-31dBm		
Receiver Overload (Damage)	$P_{max}$			-8dBm
Central Wavelength – Side A	$\lambda_m$	1530nm	1550nm	1570nm
Central Wavelength – Side B	$\lambda_m$	1480nm	1490nm	1500nm

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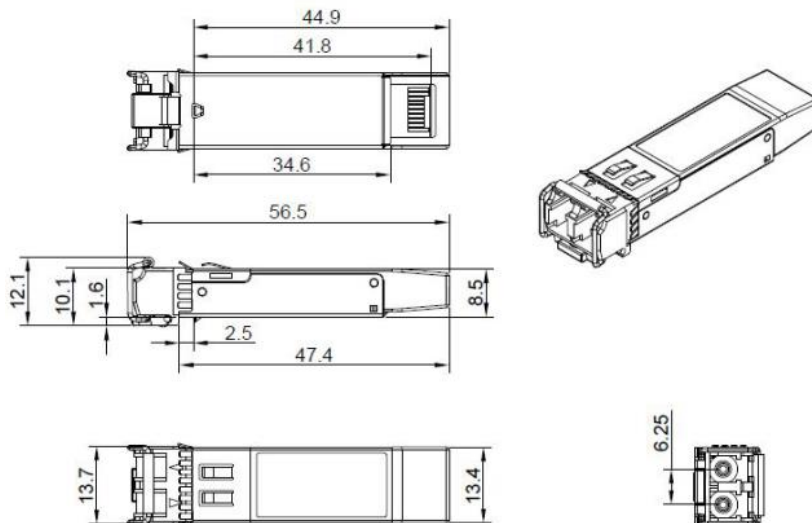
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## Electrical Specifications

Parameter	Symbol	Min.	Typical	Max	Unit	Ref.
Supply Voltage	$V_{CC}$	3.00		3.60	V	1
Supply Current	$I_{CC}$		200	300	mA	1
<b>Transmitter</b>						
Input differential impedance	$R_{in}$		100		$\Omega$	2
Single ended data input swing	$V_{in,pp}$	150		1200	mVpp	
Transmit Disable Voltage	$V_D$	2		$V_{CC}$	V	
Transmit Enable Voltage	$V_{EN}$	Vee		Vee+0.8	V	3
<b>Receiver</b>						
Output differential impedance	$R_{out}$		100		$\Omega$	2
Single ended data output swing	$V_{out,pp}$	300		700	mV	4
LOS Fault	$V_{LOS\ fault}$	2		$V_{CC\ HOST}$	V	5
LOS Normal	$V_{LOS\ norm}$	Vee		Vee+0.8	V	5

## Mechanical Specifications



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## Ordering Information

Part Number	Description
4L-SFB35G-20 4L-SFB53G-20	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 20km SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 20km
4L-SFB34G-20 4L-SFB43G-20	SFP 1000BASE-BX, Tx1310/Rx1490nm, SM, DDM, LC Simplex, 20km SFP 1000BASE-BX, Tx1490/Rx1310nm, SM, DDM, LC Simplex, 20km
4L-SFB35G-40 4L-SFB53G-40	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 40km SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 40km
4L-SFB35G-60 4L-SFB53G-60	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 60km SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 60km
4L-SFB45G-80 4L-SFB54G-80	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 80km SFP 1000BASE-BX, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 80km
4L-SFB45G-120 4L-SFB54G-120	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 120km SFP 1000BASE-BX, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 120km
4L-SFB45G-150 4L-SFB54G-150	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 150km SFP 1000BASE-BX, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 150km

### Note

This modules have been tested by 4LAN on equipment like Cisco, Juniper, Dell, HP, Mikrotik, Huawei, and other brands. The equipment brand must be informed before shipping the order, so the transceivers are reprogrammed to the corresponding brand.

### Contact Information

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