

4L-PB451G-L80D & 4L-PB541G-L80D

SFP BiDi 1000BASE-BX, 1490 / 1550nm, SM, DDM, LC Simplex, 80km



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 80km links on SMF
- DFB laser transmitter
- Digital Diagnostic Monitoring
- RoHS and Lead Free
- Operating temperature: 0°C ~ +70°C
- **4L-PB451G-L80D**
 - TX1490nm/RX1550nm
- **4L-PB541G-L80D**
 - 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.

Quick access to other products:

[SFP 1G](#) [SFP+10G](#) [XFP 10G](#) [QSFP+40G](#) [SFP28 25G](#) [QSFP28 100G](#) [DWDM](#)

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General Specifications – Absolute Maximum Ratings

Parameter	Symbol	Min	Recommended	Max
Max. Link Length	l_{max}			80km
Optical Budget	dB	23dB		
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

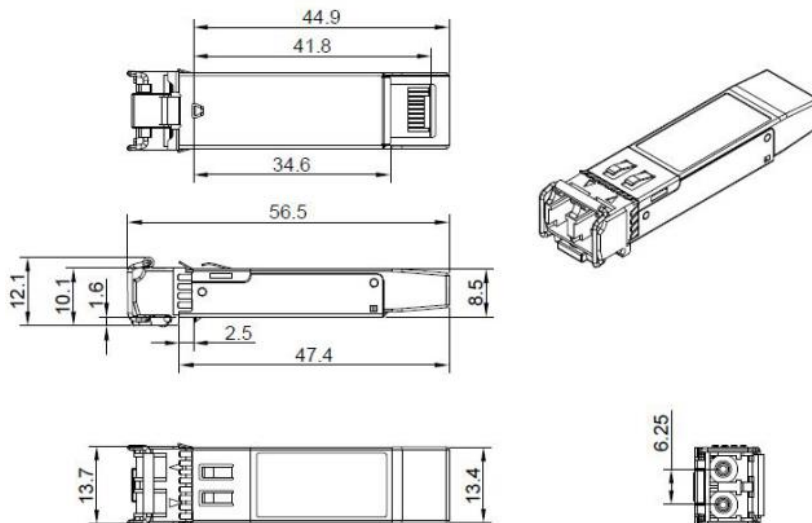
Optical Specifications

Transmitter				
Parameter	Symbol	Min	Recommended	Max
Average Output Power	P_{out}	-2dBm		+4dBm
Central Wavelength - Side A	nm	1480nm	1490nm	1500nm
Central Wavelength - Side B	λ_m	1530nm	1550nm	1570nm
Receiver				
Parameter	Symbol	Min	Recommended	Max
Receiver Sensitivity	R_{sen}	-25dBm		
Receiver Overload (Damage)	P_{max}			-3dBm
Central Wavelength – Side A	λ_m	1530nm	1550nm	1570nm
Central Wavelength – Side B	λ_m	1480nm	1490nm	1500nm

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
Transmitter						
Input differential impedance	R_{in}		100		Ω	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
Receiver						
Output differential impedance	R_{out}		100		Ω	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-PB351G-L20D	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 20km
4L-PB531G-L20D	SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 20km
4L-PB341G-L20D	SFP 1000BASE-BX, Tx1310/Rx1490nm, SM, DDM, LC Simplex, 20km
4L-PB431G-L20D	SFP 1000BASE-BX, Tx1490/Rx1310nm, SM, DDM, LC Simplex, 20km
4L-PB351G-L40D	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 40km
4L-PB531G-L40D	SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 40km
4L-PB351G-L60D	SFP 1000BASE-BX, Tx1310/Rx1550nm, SM, DDM, LC Simplex, 60km
4L-PB531G-L60D	SFP 1000BASE-BX, Tx1550/Rx1310nm, SM, DDM, LC Simplex, 60km
4L-PB451G-L80D	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 80km
4L-PB541G-L80D	SFP 1000BASE-BX, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 80km
4L-PB451G-L120D	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 120km
4L-PB541G-L120D	SFP 1000BASE-BX, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 120km
4L-PB451G-L150D	SFP 1000BASE-BX, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 150km
4L-PB541G-L150D	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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