

# 4L-SFB1045-80 & 4L-SFB1054-80

SFP+ 10GBASE-BX, 1490/1550nm, SM, DDM, LC Simplex, 80km



## Applications

- Compliant with IEEE 802.3ae 10GBASE-ZR and 10GBASE-ZW
- Supports 9.95Gb/s to 10.3Gb/s data rates
- Other optical links
- OBSAI rates 6.144 Gb/s, 3.072 Gb/s, 1.536 Gb/s, 0.768Gb/s
- CPRI rates 9.830 Gb/s, 7.373Gb/s, 6.144 Gb/s, 4.915 Gb/s, 2.458 Gb/s, 1.229 Gb/s, 0.614Gb/s

## Description

The 4L-SFB1045-80 and 4L-SFB1054-80 are single mode SFP transceivers for simplex optical data communications such as 10GBASE-ZR/ZW defined by IEEE 802.3ae.

This modules are designed to operate with single mode fiber (SMF) and LC connectors using only one fiber at the wavelength 1490nm and 1550nm for Tx and Rx (the wavelengths alternate on each side), using a EML laser transmitter.

## Features

- SFP+ 10G Bidirectional Optical Transceiver
- SFP+ MSA SFF-8431 Compliant
- Up to 80km links on SMF
- Cooled EML laser transmitter
- Digital Diagnostic Monitoring
- RoHS and Lead Free
- Operating temperature: 0°C ~ +70°C
- **4L-SFB1045-80**
  - TX1490nm/RX1550nm
- **4L-SFB1054-80**
  - TX 1550nm/RX1490nm

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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	$P_{out}$	+1dBm		+6dBm
Central Wavelength - Side A	nm	1480nm	1490nm	1500nm
Central Wavelength - Side B	$\lambda_m$	1540nm	1550nm	1560nm
Receiver				
Parameter	Symbol	Min	Recommended	Max
Receiver Sensitivity	$R_{sen}$	-22dBm		
Receiver Overload (Damage)	$P_{max}$			-7dBm
Central Wavelength – Side A	$\lambda_m$	1540nm	1550nm	1560nm
Central Wavelength – Side B	$\lambda_m$	1480nm	1490nm	1500nm

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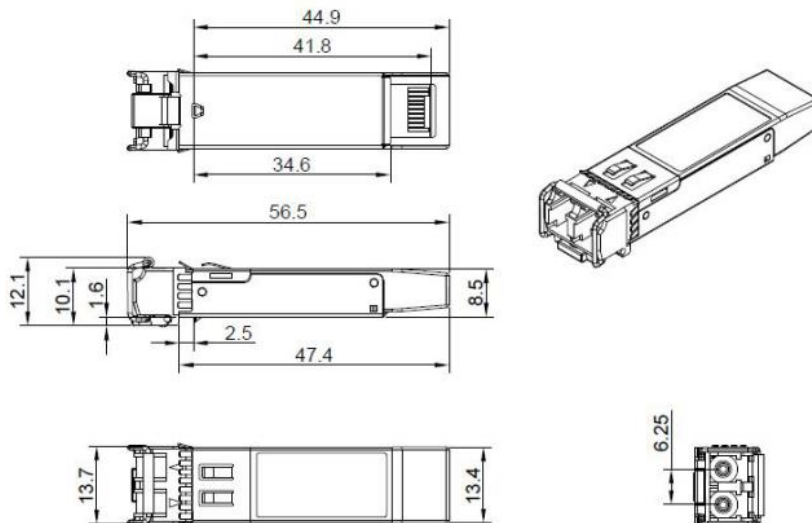
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## Electrical Specifications

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-SFB1023-20	SFP+ 10GBASE-LR, Tx1270/Rx1330nm, SM, DDM, LC Simplex, 20km
4L-SFB1032-20	SFP+ 10GBASE-LR, Tx1330/Rx1270nm, SM, DDM, LC Simplex, 20km
4L-SFB1023-40	SFP+ 10GBASE-LR, Tx1270/Rx1330nm, SM, DDM, LC Simplex, 40km
4L-SFB1032-40	SFP+ 10GBASE-LR, Tx1330/Rx1270nm, SM, DDM, LC Simplex, 40km
4L-SFB1023-60	SFP+ 10GBASE-LR, Tx1270/Rx1330nm, SM, DDM, LC Simplex, 60km
4L-SFB1032-60	SFP+ 10GBASE-LR, Tx1330/Rx1270nm, SM, DDM, LC Simplex, 60km
4L-SFB1045-80	SFP+ 10GBASE-LR, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 80km
4L-SFB1054-80	SFP+ 10GBASE-LR, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 80km
4L-SFB1045-100	SFP+ 10GBASE-LR, Tx1490/Rx1550nm, SM, DDM, LC Simplex, 100km
4L-SFB1054-100	SFP+ 10GBASE-LR, Tx1550/Rx1490nm, SM, DDM, LC Simplex, 100km

### Note

This modules have been tested by 4LAN on equipments 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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