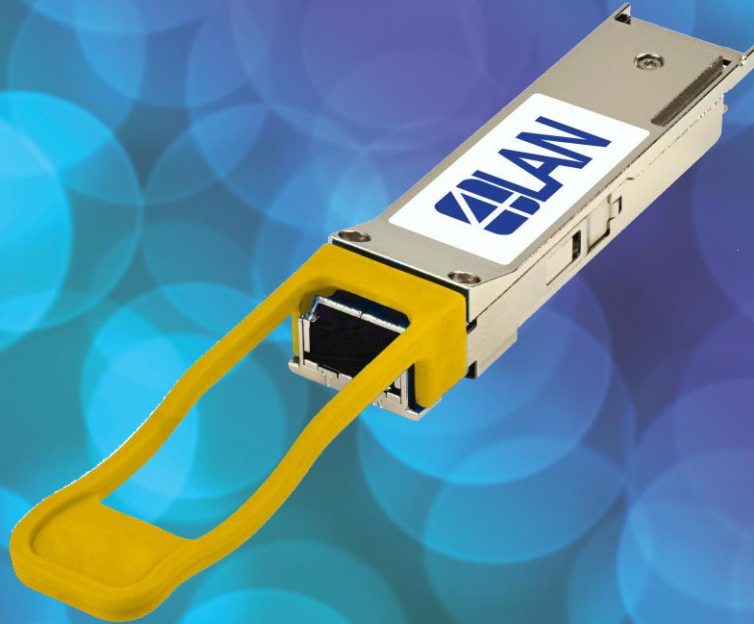


# 4L-Q40SR4-M001

QSFP+ 40GBASE-SR4, 850nm, MM, DDM, MTP/MPO, 150m



## Applications

- Compliant with 40GBASE-SR Ethernet
- Infiniband QDR
- Datacenter backbones
- High-speed servers
- Breakout to 4 x 10GBASE-SR Ethernet
- SAN, Routers, Hubs, Load Balancer
- High-performance Computing Clusters
- Other optical links

## Features

- QSFP+ 40G Optical Transceiver
- QSFP+ MSA2 Compliant
- Up to 100m links on MMF OM3 fiber
- Up to 150m links on MMF OM4 fiber
- VCSEL laser transmitter
- 1X12 MPO receptacle
- 4x Tx and 4x Rx
- Digital Diagnostic Monitoring
- RoHS-6 and Lead Free
- Operating temperature: 0°C ~ +70°C

## Description

The 4L-Q40SR4-M001 is a QSFP+ four channel full duplex transceiver module for multimode (MMF) 40GBASE-SR4 optical data communications.

This modules are compatible with most switch/router/server brands and designed to operate with multi mode fiber (MMF) and MTP/MPO connectors, using the wavelengths 850nm from 0 to 150m depending on the fiber OM3 or OM4.

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	$l_{max}$			70m (OM3 fiber) 100m (OM4 fiber)
Optical Budget	dB	1.6dB		
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	$P_{out}$	-8.4dBm		3dBm
Central Wavelength	nm	840nm	850nm	860nm
Receiver				
Parameter	Symbol	Min	Recommended	Max
Receiver Sensitivity	$R_{sen}$	-10dBm		
Receiver Overload (Damage)	$P_{max}$			+3dBm
Central Wavelength	Nm	840nm	850nm	860nm

## Electrical Specifications

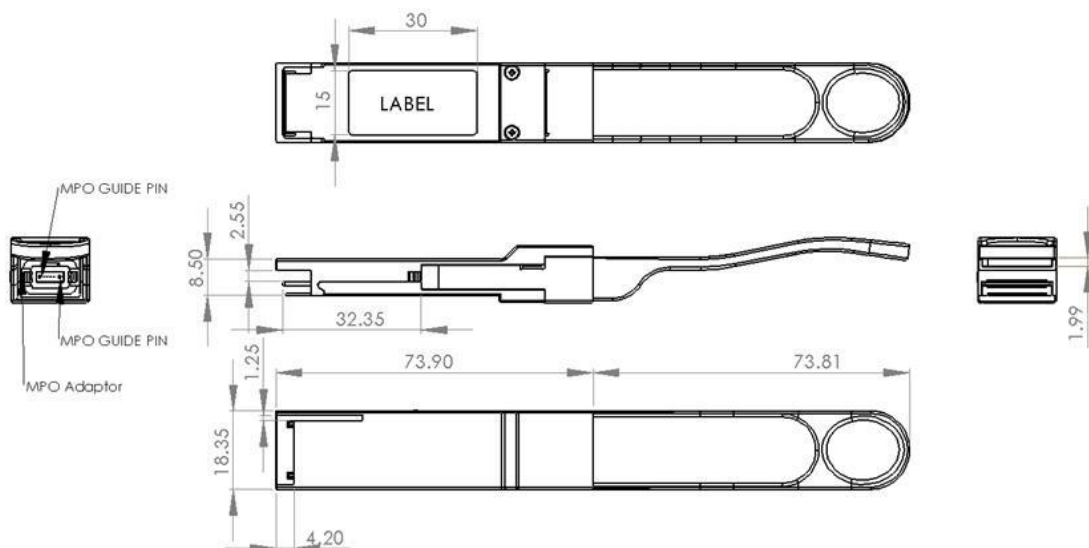
Parameter	Symbol	Min	Typ.	Max	Unit	Ref.
Supply Voltage	V <sub>cc</sub> V <sub>cc</sub> T <sub>x</sub> V <sub>cc</sub> R <sub>x</sub>				V	
Supply Current	I <sub>cc</sub>				mA	
Transmit turn-on time					ms	
<b>Transmitter (per Lane)</b>						
Single ended input voltage tolerance	V <sub>inT</sub>				V	
Differential data input swing	V <sub>in pp</sub>				mV <sub>pp</sub>	
Differential input threshold					mV	
AC common mode input voltage tolerance (RMS)					mV	
Differential input return loss		Per IEEE P	ba Section	A	dB	
J2 Jitter Tolerance	J <sub>t</sub>				UI	
J9 Jitter Tolerance	J <sub>t</sub>				UI	
Data Dependent Pulse Width Shrinkage	DDPWS				UI	
Eye mask coordinates {X1, X2, Y1, Y2}					UI mV	

<b>Receiver (per Lane)</b>						
Single-ended output voltage					V	
Differential data output swing	V <sub>out pp</sub>				mV <sub>pp</sub>	

## Electrical Specifications

AC common mode output voltage (RMS)				mV
Termination mismatch at 1 MHz				
Differential output return loss	Per IEEE	802.3	Section 4.2.1	dB
Common mode output return loss	Per IEEE	802.3	Section 4.2.1	dB
Output transition time, 20% to 80%				ps
J2 Jitter output	J <sub>o</sub>			UI
J9 Jitter output	J <sub>o</sub>			UI
Eye mask coordinates #1 {X1, X2, Y1, Y2}				UI mV
Power Supply Ripple Tolerance	PSR			mVpp

## Mechanical Specifications



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## Ordering Information

Part Number	Description
4L-Q40SR4-M100	QSFP+ 40GBASE-SR4, 850nm, MM, DDM, MPO/MTP, 100m
4L-Q40BSR4-001	QSFP+ 40GBASE-SR4, 850/900nm, BiDi MM, DDM, LC, 150m
4L-Q40BLX4-02	QSFP+ 40GBASE-LX4, CWDM, LC, MM 150m, SM 2km.
4L-Q40PLR4-M10	QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 10Km
4L-Q40LR4-10	QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 10Km
4L-Q40LR4-20	QSFP+ 40GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 20Km
4L-Q40ER4-40	QSFP+ 40GBASE-ER4, 1310nm, SM, DDM, Duplex LC, 40Km

### 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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