

# Maipu 10G SFP+ 40KM Transceiver

## SFP-S4-L192P5

## Overview

Maipu SFP-S4-L192P5 Small Form Factor Pluggable (SFP+) transceivers are compatible with SFF-8431, SFF-8432 and support 10G Ethernet and 10G Fiber Channel. It is designed for use in 10G-Gigabit multi-rate links up to 40km of G.652. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472.

## Key Features

- Operating data rate up to 10.3Gb/s
- Duplex LC optical connector
- 1550nm EML laser transmitter
- RoHS compliant and Lead Free
- Distance up to 40km on single-mode fiber
- Metal enclosure for lower EMI
- Power dissipation<2W
- Operating case temperature Standard: -20°C~+70°C

## Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5		+4.0	V	
Storage Temperature	TS	-40		+85	°C	
Operating Humidity	RH	0		85	%	

# Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current				600	mA	
Operating Temperature	Ti	-20		+70	°C	
Bit Rate	Br	9.95		11.3	Gbps	
9/125um G.652 SMF	Lmax			40	km	

## Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
<b>Transmitter</b>						
Input differential impedance	Rin	80	100	120	Ω	1
Differential data input swing	Vin, pp	120		850	mV	
TX Disable-High		Vcc-0.8		Vcc	V	
TX Disable-Low		Vee		Vee+0.8	V	
TX Fault-High		Vcc-0.8		Vcc	V	
TX Fault-Low		Vee		Vee+0.8	V	
<b>Receiver</b>						
Differential data output swing	Vout, pp	300		850	mV	2
Data output rise time	Tr	28			ps	3
Data output fall time	Tf	28			ps	3
LOS-High		Vcc-0.8		Vcc	V	
LOS-Low		Vee		Vee+0.8	V	

# Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
<b>Transmitter</b>						
Output Opt. Power	PO	-3		4	dBm	
Optical Wavelength	$\lambda$	1530		1565	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Spectral Width(-20dB)	$\sigma$			1	nm	
Relative Intensity Noise	RIN			-128	dB/Hz	
Optical Extinction Ratio	ER	8.2			dB	
<b>Receiver</b>						
RX Sensitivity @10.3Gb/s	SENS			-15.8	dBm	1,2
Receiver Overload		-1			dBm	
Optical Center Wavelength	$\lambda_C$	1260		1600	nm	
LOS De-Assert	LOSD			-20	dBm	
LOS Assert	LOSA	-34			dBm	
LOS Hysteresis		0.5			dB	
RX Sensitivity @10.3Gb/s	SENS			-15.8	dBm	1,2

## Order Information

Model	Description
SFP-S4-L192P5	10G SFP+, 1550nm, 40Km, LC, DDM, Single-mode

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