

RAYMARK RMT-SFP-LX2 DATASHEET

Features

- Dual data-rate of 1.25Gbps/1.063Gbps operation
- 1310nm FP laser and PIN photodetector for 20km transmission
- +3.3 single power supply
- Compliant with SFP MSA AND SFF-8472 with duplex LC receptacle
- Digital Diagnostic Monitoring
- Internal Calibration or External Calibration
- Compatible with RoHS
- Operating case temperature: 0°C ~70°C

Applications

- Gigabit Ethernet
- Fiber Channel
- Switch to Switch interface.
- Switched backplane applications
- Router/Server interface.
- Other optical transmissionsystem

Description

The SFP transceivers are high performance, cost effective modules supporting dual data-rate of 1.25Gbps/1.0625Gbps and 20km transmission distance with SMF.

The transceiver consists of three sections: a FP laser transmitter, a PIN photodiode integrated with a transimpedance preamplifier (TIA) and MCU control unit. All modules satisfy class I laser safety requirements.

The transceivers are compatible with SFP Multi-Source Agreement (MSA) and SFF-8472. For further information, please refer to SFP MSA.

Absolute Maximum Ratings

<i>Parameter</i>	<i>Symbol</i>	<i>Min.</i>	<i>Typ.</i>	<i>Max.</i>	<i>Units</i>
Storage Temperature	T _s	-40		85	°C
Supply Voltage	V _{cc}	-0.5		4.5	V
Operating Humidity	-	5		85	%

Recommended Operating Conditions

<i>Parameter</i>	<i>Symbol</i>	<i>Min.</i>	<i>Typ.</i>	<i>Max.</i>	<i>Unit</i>
Case Operating Temperature -Standard	T _c	0		70	°C
Data Rate - Gigabit Ethernet			1.25		Gbps
Date Rate - Fiber Channel			1.063		
Power Supply Voltage	V _{cc}	3.13	3.3	3.47	V
Power Supply Current	I _{cc}			300	mA

Digital Diagnostic Functions

<i>Parameter/Range</i>	<i>Symbol</i>	<i>Accuracy</i>	<i>Unit</i>
Temperature /0 to 70	DMI_Temp	± 3 °C	°C
Temperature /-40 to 85	DMI_Temp	± 3 °C	°C
Voltage/3.0 to 3.6	DMI_VCC	±3 %	V
TX Power / -9 to -3	DMI_TX	± 3 dB	dBm
RX power/-23 to 0	DMI_RX	± 3 dB	dBm
Bias Current/ 0 to 100	DMI_Ibias	± 10%	mA

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Note
Transmitter						
Center Wavelength	λ_c	1260	1310	1360	nm	
Spectral Width (RMS)	σ			4	nm	
Average Output Power	P_{out}	-9		-3	dBm	1
Extinction Ratio	ER	9			dB	
Optical Rise/Fall Time (20%~80%)	t_r/t_f			0.26	ns	
Receiver						
Center Wavelength	λ_c	1260		1580	nm	
Receive Overload		-3			dBm	2
Receiver Sensitivity				-23	dBm	2
LOS Assert	$LOSA$	-35			dBm	
LOS De-assert	$LOSD$			-24	dBm	
LOS Hysteresis	$LOSH$	1		4	dB	

Note:

1. The optical power is launched into SMF
2. Measured with a PRBS 2⁷-1 test pattern @1250Mbps, BER ≤1×10⁻¹².

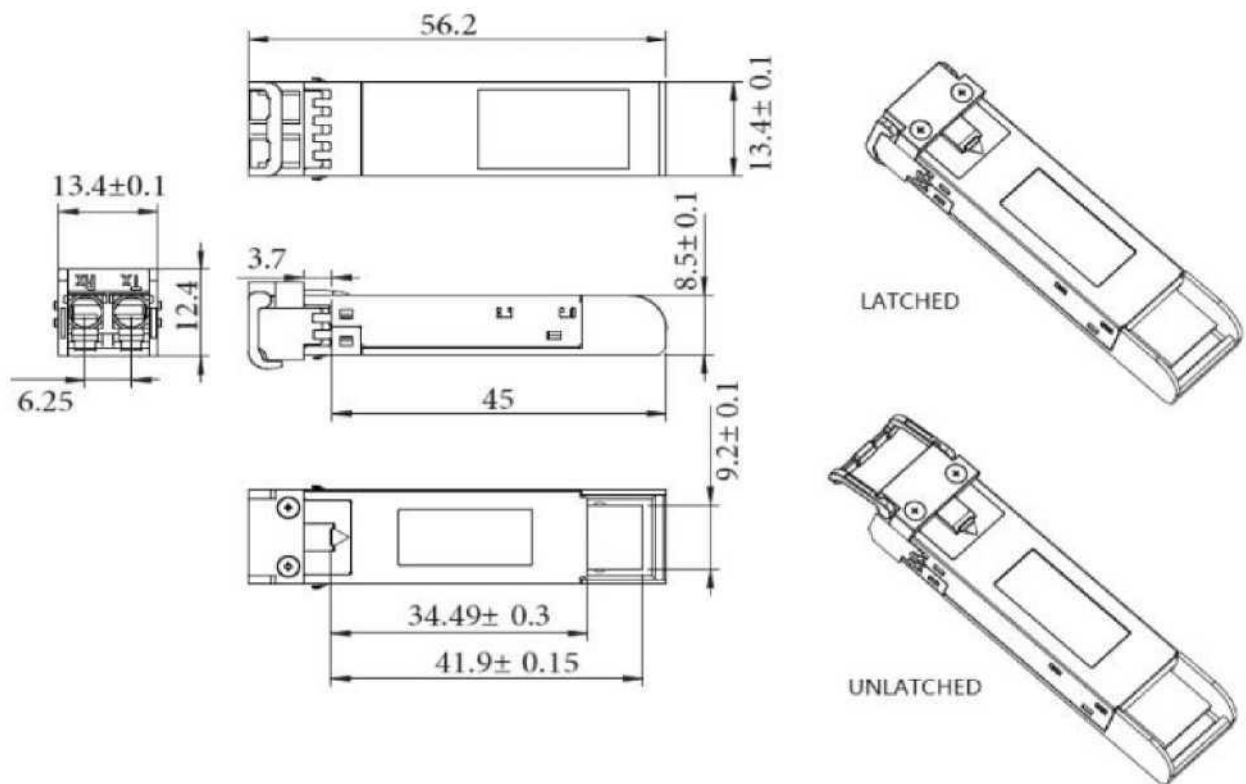
Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Units	Note
Transmitter							
Input Differential Impedance		Z_{IN}	90	100	110	Ω	
Data Input Swing Differential		V_{IN}	400		1800	mV	1
Transmit Disable	Disable	V_D	2.0		Vcc	V	
	Enable	V_{EN}	0		0.8	V	
Transmit Fault	Fault		2.0		Vcc	V	
	Normal		0		0.8	V	
Receiver							
Data Output Swing Differential		V_{out}	400		1800	mV	1
LOS	High		2.0		Vcc	V	
	Low		0		0.8	V	

Notes:

- Internally AC-coupled.

Dimensions



ALL DIMENSIONS ARE ± 0.2 mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

Ordering Information

Model Number	Wavelength	Temperature
RMT-SFP-LX2	1310nm	0°C ~70 °C