

Datasheet SFP module 100-32WDMA

100-32WDMA - 1G SFP Optical WDM Module SM LC 1310/1550nm, 2km, DDM

The 100-32WDMA is the high performance and cost-effective module for optical data communication applications specified for multi modes of 1Gb/s. It operates with +3.3V power supply. The module is intended for single-mode fiber, operates at a nominal wavelength of Tx1310nm/Rx1550nm and complies with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP). Each module consists of a transmitter optical subassembly, a receiver optical subassembly and an electrical subassembly. All of them are housed in a metal package and the combination produces a reliable component.

The module is a simplex LC connector transceiver (WDM) designed for use in Gigabit Ethernet applications.

Product Features

- ◆ Up to 1.25Gb/s Data Links
- ◆ Hot-pluggable SFP footprint
- ◆ 1310nm Fabry-Perot laser transmitter, 1550nm PIN detector
- ◆ Simplex LC connector
- ◆ Low power dissipation
- ◆ Metal enclosure, for lower EMI
- ◆ Up to 2km on 9/125 μ m SMF
- ◆ Single 3.3V power supply
- ◆ Operating temperature range: 0°C to 70°C
- ◆ Digital Diagnostic Monitoring Optional

Applications

- ◆ 1.25Gb/s Gigabit Ethernet
- ◆ Fiber Channel

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		4.7	V	
Storage Temperature	TS	-40		85	°C	
Case Operating Temperature	TOP	0		70	°C	

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Supply Voltage	Vcc	3.15	3.3	3.6	V	
Supply Current	Icc		185	280	mA	
Transmitter						
Input differential impedance	Rin		100		Ω	1
Single ended data input swing	Vin,pp	250		1200	mV	
Transmit Disable Voltage	VD	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2
Transmit Disable Assert Time				10	us	

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Receiver						
Single ended data output swing	Vout,pp	250		800	mV	3
Data output rise time	tr		100	175	ps	4
Data output fall time	tf		100	175	ps	4
LOS Fault	VLOS fault	Vcc-0.5		VccHOST	V	5
LOS Normal	VLOS norm	Vee		Vee+0.5	V	5
Power Supply Rejection	PSR	100			mVpp	6

Electrical I/O Characteristics – Tx

Parameter		Symbol	Min.	Typ	Max.	Unit	Note
Diff. input voltage swing			120		820	mVpp	1
Tx Disable input	H	VIH	2.0		Vcc+0.3	V	
	L	VIL	0		0.8		
Tx Fault output	H	VOH	2.0		Vcc+0.3	V	2
	L	VOL	0		0.8		
Input Diff. Impedance		Zin		100		Ω	

Electrical I/O Characteristics – Rx

Parameter		Symbol	Min.	Typ	Max.	Unit	Note
Diff. output voltage swing			340	650	800	mVpp	3
Rx LOS Output	H	VOH	2.0		Vcc+0.3	V	2
	L	VOL	0		0.8		

Optical Characteristics - Tx

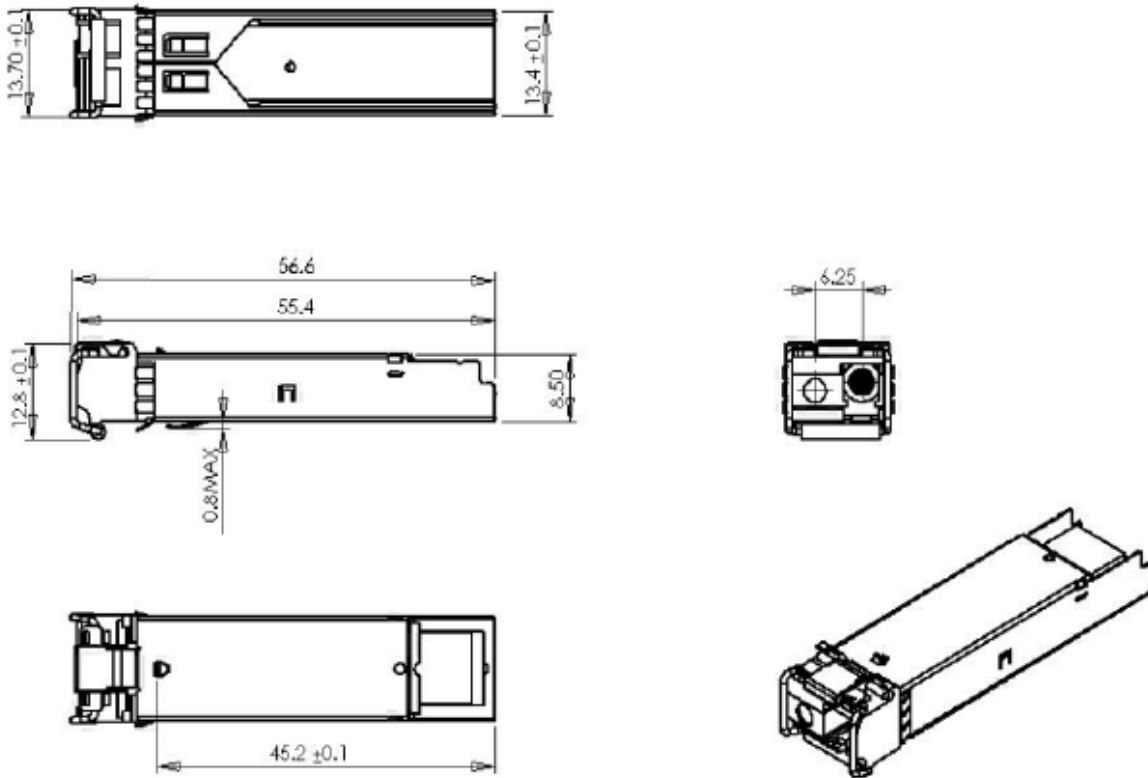
Parameter	Symbol	Min.	Typ	Max.	Unit	Note
Operating Wavelength	λC	1260	1310	1360	nm	
Ave. output power (Enabled)	Po	-10		-4	dBm	1
Extinction Ratio	ER	10			dB	1
RMS spectral width	Δλ			4	nm	
Rise/Fall time (20%~80%)	Tr/Tf			0.26	ps	2
Output Eye Mask	Telcordia GR-253-CORE and ITU-T G.957 compatible					

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Optical Characteristics - Rx

Parameter	Symbol	Min.	Typ	Max.	Unit	Note
Operating Wavelength		1470		1510	nm	
Sensitivity	Psen			-22	dBm	1
Min. overload	Pimax	-3			dBm	
LOS Assert	Pa	-36			dBm	
LOS De-assert	Pd			-24	dBm	2
LOS Hysteresis	Pd-Pa	0.5		6	dB	

Mechanical Specification



Regulatory Compliance

Feature	Reference	Performance
Electrostatic discharge (ESD)	IEC/EN 61000-4-2	Compatible with standards
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN 55022 Class B (CISPR 22A)	Compatible with standards
Laser Eye Safety	FDA 21CFR 1040.10, 1040.11 IEC/EN 60825-1, 2	Class 1 laser product
Component Recognition	IEC/EN 60950, UL	Compatible with standards
ROHS	2002/95/EC	Compatible with standards
EMC	EN61000-3	Compatible with standards