



Shenzhen Sinovo Telecom Co.,Ltd  
**产 品 规 格 书**  
**Product Specification Sheet**

**SOSP-8524-05D**

**RoHS Compliant 2.5Gbps 850nm 300m Reach, SFP Optical Transceiver**



## Product Features

- 850nm VCSEL laser and PIN photo detector
- Up to 2.67Gbps data rate operation
- Compliant with SFP MSA and SFF-8472 with duplex LC receptacle
- Digital Diagnostic Monitor Interface
- 300m transmission with 50/125µm MMF
- Very low EMI and excellent ESD protection
- +3.3V single power supply
- RoHS compliant
- Case operating temperature
  - Commercial: 0°C to +70°C
  - Extended: -10°C to +80°C
  - Industrial: -40°C to +85°C

## Applications

- SDH STM-16 and SONET OC-48 system
- CPRI rates 2.4576Gb/s, and 1.2288Gb/s
- 2X Fiber Channel
- Switch to Switch interface
- Switched backplane applications
- Router/Server interface
- Other optical transmission systems

## Description

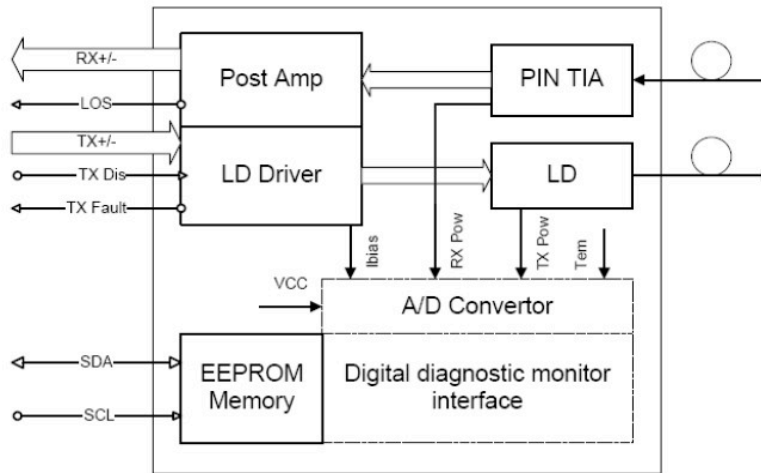
The SFP transceivers are high performance, cost effective modules supporting data-rate of 2.67Gbps and 300m transmission distance with MMF.

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

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

## Functional Diagram



## Ordering information

Product part Number	Data Rate (Mbps)	Media	Wavelength (nm)	Transmission Distance(m)	Temperature Range (Tcase) (°C)	
OLSP8525L-C(D)S3	2670	Multi mode fiber	850	300	0~70	commercial
OLSP8525L-E(D)S3	2670	Multi mode fiber	850	300	-10~80	extended
OLSP8525L-I(D)S3	2670	Multi mode fiber	850	300	-45~85	industrial

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Max	Unit	Notes
Supply Voltage	Vcc	-0.5	3.60	V	
Storage Temperature		-40	85	°C	

Relative Humidity		5	85	%	
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Note: Stress in excess of the maximum absolute ratings can cause permanent damage to the module.

## General Operating Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate	Gigabit Ethernet			2.67		Gb/s	
	Fiber Channel						
Supply Voltage		Vcc	3.1	3.3	3.5	V	
Supply Current		Icc			220	mA	
Operating Case Temperature		Tc	0		70	°C	
			-10		80		
			-45		85		

## Electrical Input/Output Characteristics

### ● Transmitter

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Diff. Input Voltage Swing			300		1600	mVpp	1
Tx Disable Input	H	V <sub>IH</sub>	2.0		V <sub>CC</sub> +0.3	V	
	L	V <sub>IL</sub>	0		0.8		
Tx Fault Output	H	V <sub>OH</sub>	2.0		V <sub>CC</sub> +0.3	V	2
	L	V <sub>OL</sub>	0		0.5		
Input Diff. Impedance		Z <sub>in</sub>		100		Ω	

### ● Receiver

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Diff. Output Voltage Swing			400		1000	mVpp	3

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Rx LOS Output	H	V <sub>OH</sub>	2.0		V <sub>CC</sub> +0.3	V	2
	L	V <sub>OL</sub>	0		0.8		

Note 1) TD+/- are internally AC coupled with 100Ω differential termination inside the module.

Note 2) Tx Fault and Rx LOS are open collector outputs, which should be pulled up with 4.7k to 10kΩ resistors on the host board. Pull up voltage between 2.0V and V<sub>CC</sub>+0.3V.

Note 3) RD+/- outputs are internally AC coupled, and should be terminated with 100Ω (differential) at the user SERDES.

### Optical Characteristics

#### • Transmitter

Parameter	Symbol	Min.	Type	Max.	Unit	Notes
Ave. Output Power (Enable)	P <sub>o</sub>	-11		-2	dBm	1
Total Jitter	2.67G			0.431	UI	
Extinction Ratio	ER	8.5			dB	1
Rise/Fall Time (20%-80%)	Tr-Tf			0.26	ns	2
Wavelength Range		840	850	860	nm	
Spectral Width (RMS)				0.65	nm	
Output Optical Eye	Compliant with G.957(class 1 laser safety)					

#### • Receiver

Parameter	Symbol	Min.	Type	Max.	Unit	Notes
Operating Wavelength		770		860	nm	
Sensitivity	P <sub>imin</sub>			-17	dBm	3
Min. Overload	P <sub>imax</sub>	-3			dBm	3
Total Jitter	2.67G			0.749	UI	
LOS Assert	P <sub>a</sub>	-30			dBm	
LOS De-assert	P <sub>d</sub>			-18	dBm	
LOS Hysteresis	P <sub>d</sub> -P <sub>a</sub>	0.5		6	dB	

Note 1) Measured at 2670Mb/s with PRBS 2<sup>23</sup> – 1 NRZ test pattern.

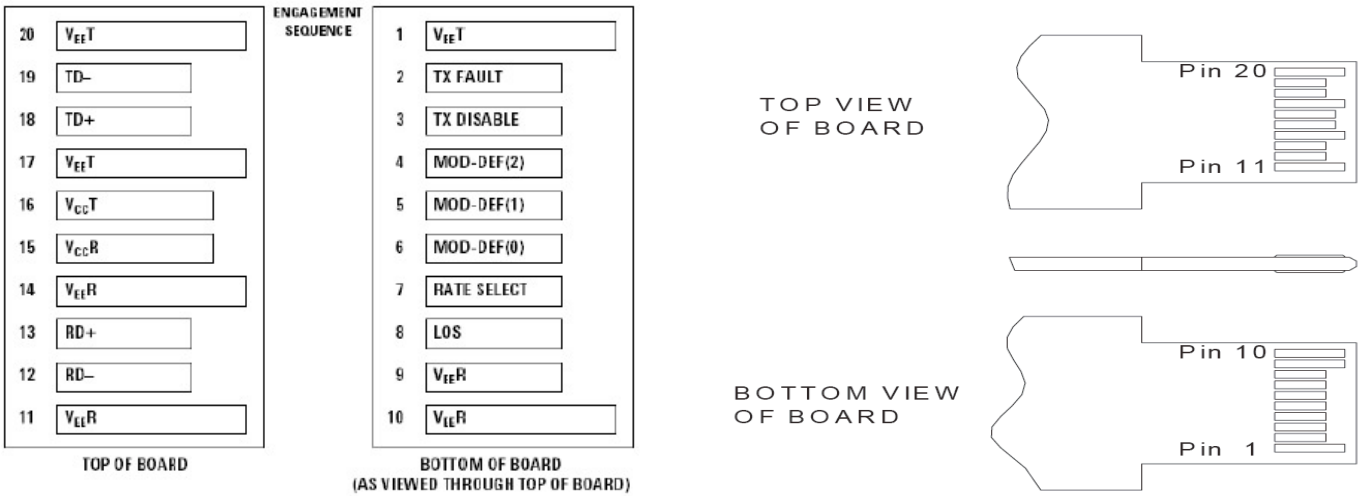
Note 2) Unfiltered, measured with a PRBS 2<sup>23</sup>-1 test pattern @2.67Gbps

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Note 3) Measured at 2670Mb/s with PRBS 2<sup>23</sup> – 1 NRZ test pattern for BER < 1x10<sup>-12</sup>

## Pin Definitions and Functions



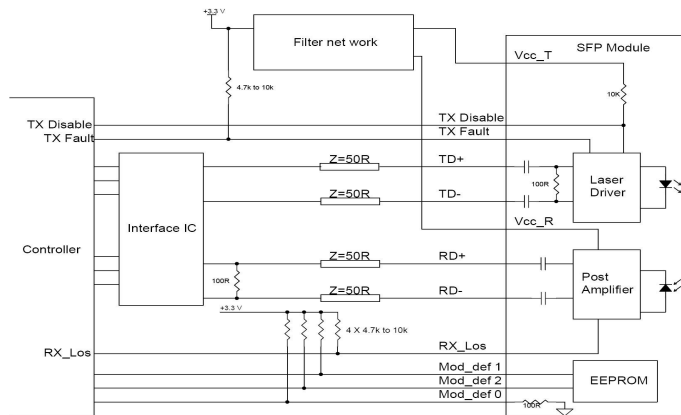
PIN #	Name	Function	Notes
1	V <sub>EE</sub> T	Tx ground	
2	Tx Fault	Tx fault indication, Open Collector Output, active "H"	Note 1
3	Tx Disable	LVTTL Input, internal pull-up, Tx disabled on "H"	Note 2
4	MOD-DEF2	2 wire serial interface data input/output (SDA)	Note 3
5	MOD-DEF1	2 wire serial interface clock input (SCL)	Note 3
6	MOD-DEF0	Model present indication	Note 3
7	Rate select	No connection	
8	LOS	Rx loss of signal, Open Collector Output, active "H"	Note 4
9	V <sub>EE</sub> R	Rx ground	
10	V <sub>EE</sub> R	Rx ground	
11	V <sub>EE</sub> R	Rx ground	
12	RD-	Inverse received data out	Note 5



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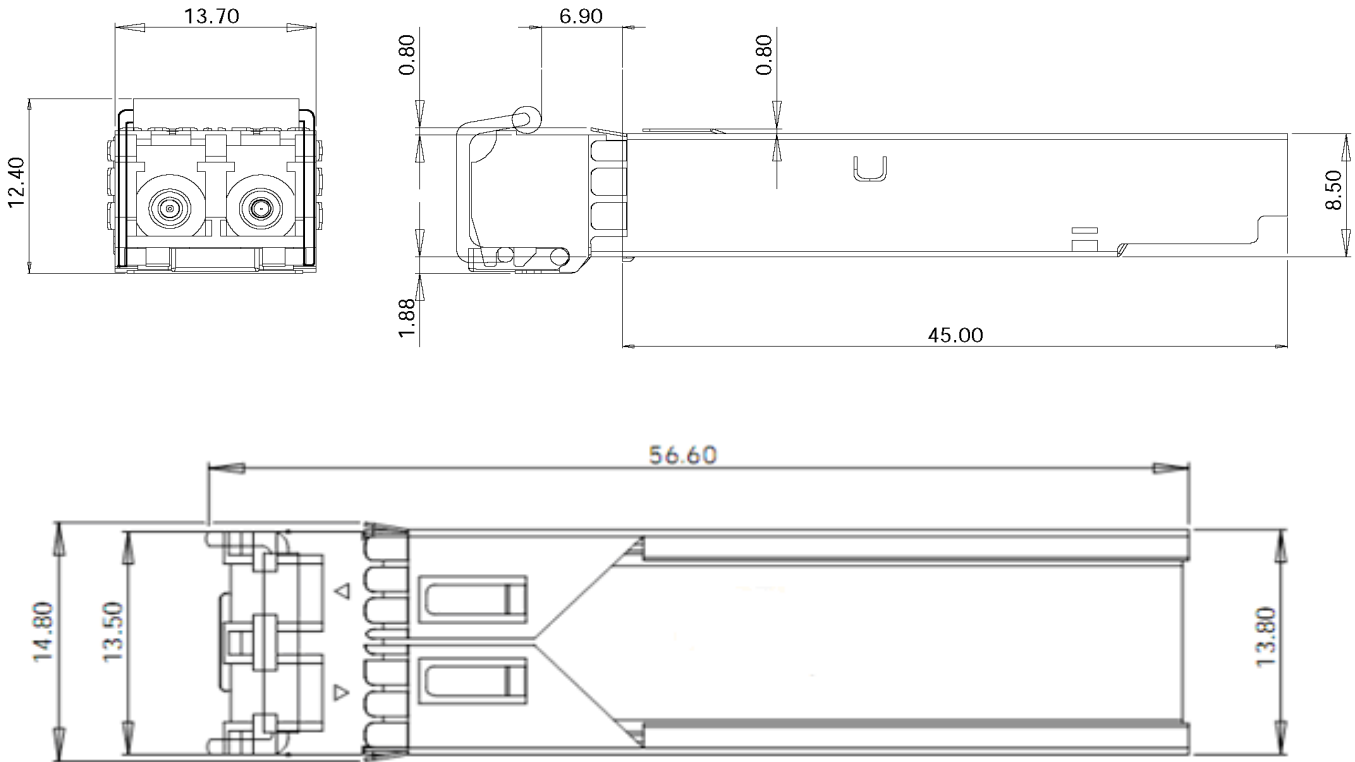
Temperature	0 to +70 -40 to +85	°C	±3°C	Internal/ External
Voltage	3.0 to 3.6	V	±3%	Internal/ External
Bias Current	2 to 15	mA	±10%	Internal/ External
TX Power	-13 to 0	dBm	±3dB	Internal/ External
RX Power	-20 to 0	dBm	±3dB	Internal/ External

## Typical Interface Circuit



## Package Dimensions





## Ordering Information & Related Products

SOSP-8524-05	Dual Fiber SFP, 2.67Gbps, 850nm, 300m, without DDM
SOSP-8524-05D	Dual Fiber SFP, 2.67Gbps, 850nm, 300m, with DDM

## Contact

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