

Features:

- ☞ Welding
- ☞ 1.25Gbps operation
- ☞ 1310nm FP Laser Diode
- ☞ Single +3.3V power supply
- ☞ Receiver Loss of Signal Output
- ☞ AC coupling of PECL signals
- ☞ International Class 1 laser safety certified
- ☞ Transmitter disable input
- ☞ Operating temperature range: 0~+70°C
- ☞ Dual LC receptacle optical interface compliant
- ☞ RoHS Compliant



Applications:

- ☞ Gigabit Ethernet
- ☞ Gigabit Fiber Channel
- ☞ Switch to switch interface
- ☞ Switched backplane applications

Standard

- ☞ Compliant with IEEE802.3ah
- ☞ ITU-T G.957

Description:

The SFF transceivers are high performance, cost effective modules supporting 1.25Gbps and transmission distance with SMF(9/125 μ m).

The transceiver consists of three sections: a 1310 FP laser transmitter, a PIN photodiode with a trans-impedance preamplifier (TIA).

All modules satisfy class I laser safety requirements.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	4.5	V
Storage Temperature	Ts	-40	85	℃
Operating Humidity	-	5	85	%

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Tc	0		70	℃
Power Supply Voltage	Vcc	3.13	3.3	3.47	V
Power Supply Current	Icc			300	mA
Data Rate			1.25		Gbps

Specifications

(Tested under recommended operating conditions, unless otherwise noted)

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Electrical Characteristics						
Supply Current	Tx Section	Icc		300	mA	1
	Rx Section					
Single Ended Data Input Swing		150		1100	mV	
Single Ended Data Output Swing		300		600	mV	
TX_fault /LOS output(TTL)	VOH	2.0		Vcc	V	
	VOL	0		0.8		
TX_disable input(TTL)	VOH	2.0		Vcc	V	
	VOL	0		0.8		
Transmitter						
Centre Wavelength	λ_c	1270	1310	1330	nm	FP-LD
Spectral Width (RMS)	$\Delta\lambda$			4	nm	FP-LD
Average Output Power	Po	-9		-3	dBm	

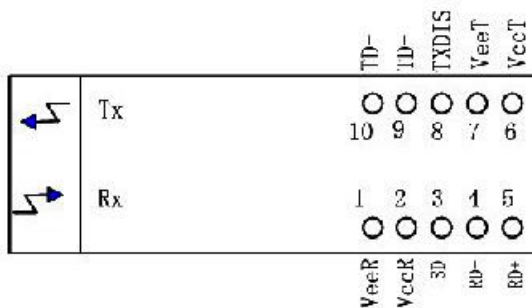
Extinction Ratio	EX	9			dB	
Total transmitter Jitter	Tp-p			267	ps	2
Relative Intensity Noise	RIN			-113	dB/Hz	
Eye Diagram	Complies with IEEE802.3z eye masks when filtered					
Dispersion Penalty				1	dB	
Optical Rise/Fall Time	Trise/Tfall			260	ps	3
Pout of OFF transmitter						P _{off}
Receiver						
Center Wavelength Range	λ_c	1260	1310	1360	nm	
Receiver Sensitivity	S			-23	dBm	
Receiver Overload	Pin	-3			dBm	
LOS	Optical Dessert			-24	dBm	
	Optical Assert		-35		dBm	
LOS Hysteresis		0.5	3	5	dB	

Note 1: The supply current includes SFF module's supply current and test board working current.

Note 2: TP refers to the compliance point specified in IEEE802.3ah.

Note 3: Optical transition time is the time interval required for the rising or falling edge of an optical pulse to transition between the 20% and 80% amplitudes relative to the logical 1 and 0 levels.

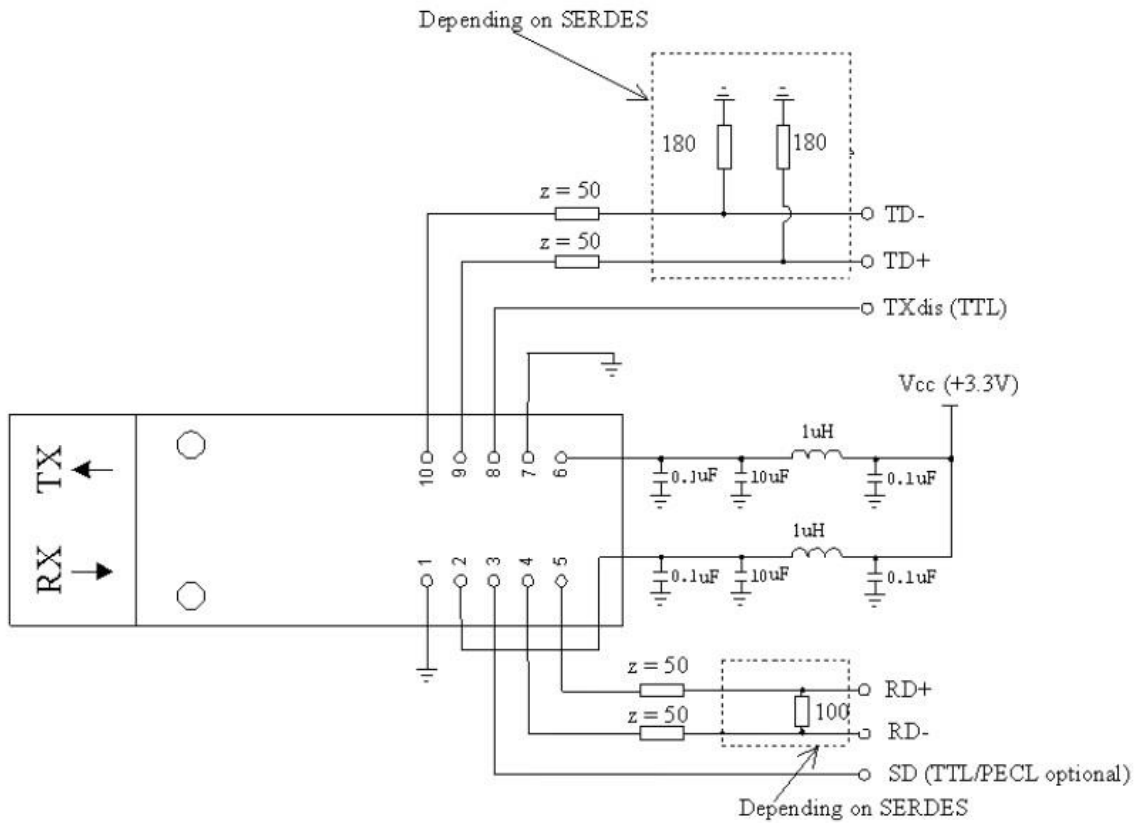
Pin Description



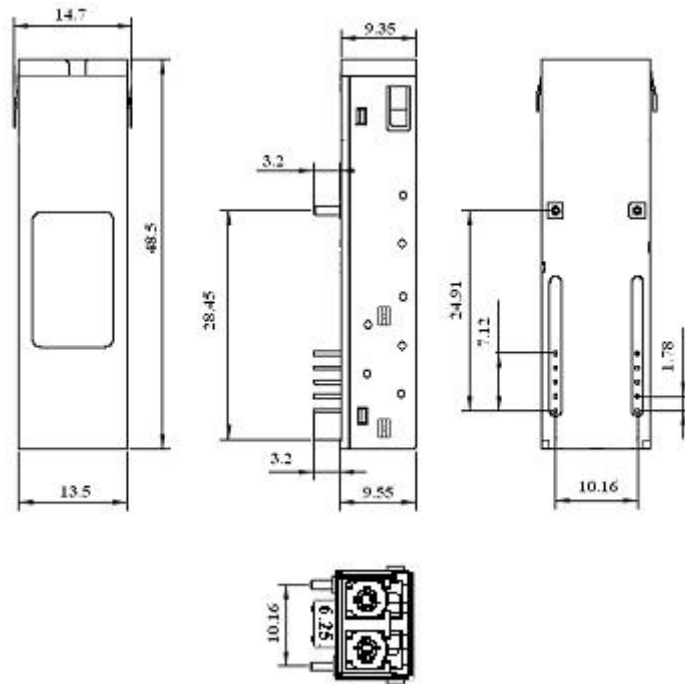
PIN	Symbol	I/O	Description
1	RX_VEE	I	Directly connect this pin to the receiver ground plane.
2	RX_VCC	I	+3.3V dc power for the receiver section.
3	SD	O	Active high on this indicates presence of received optical signal (LVTTTL), A pull-up resistor is needed in the customer board.
4	RD-	O	Receiver Negative Dataout.
5	RD+	O	Receiver Positive Dataout.
6	TX_VCC	I	+3.3V dc power for the transmitter section.
7	TX_VEE	I	Directly connect this plan to the transmitter ground plane.
8	Dis	I	Transmitter shut down input. Active "low". LVTTTL logic "0"

			(disable). This pin is pulled high internally
9	TD+	I	Transmitter Positive Data In.
10	TD-	I	Transmitter Negative Data In.
MS	MS		Mounting Studs. Connect to Chassis Ground

Typical application circuit



Mechanical Dimensions



Regulatory Compliance

Honlus SFF transceiver is designed to be Class I Laser safety compliant and is certified per the following standards

Feature	Agency	Standard
	ISO9001	GB/T 19001-2008/ISO 9001:2008
EMC	CE	EN 55022: 1998 + A1: 2000 + A2: 2003
		EN 61000 – 4 – 2: 1995 + A1: 1998 + A2: 2001
		EN 61000 – 4 – 3: 2002 + A1: 2002
	TUV	RoHS Directive 2011/65/EC
EMI	FCC	FCC Rules and Regulations Part 15 Subpart B Class B

Ordering information

Part Number	Product Description
HOLS-FG131-L3-CF	1.25Gbps,1310nm SFF 10km, 0 °C ~ +70 °C,Without DDM