



SFP-1000BASE-TSER-PL-SKY

PacketLight® Compatible 10/100/1000Base-TX SFP Transceiver (Copper, 100m, RJ-45) Serdes

Product Description

This PacketLight® compatible SFP transceiver provides 10/100/1000Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. It can operate at temperatures between 0 and 70C. This TX module supports 10/100/1000Base auto-negotiation and can be configured to fit your needs. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with PacketLight®. It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Skylane's transceivers are RoHS compliant and lead-free.

Features:

- Supports 1000BASE-T Operation in Host System
- RJ-45 Connector
- Fully Metallic Enclosure for Lower EMI
- Low Power Dissipation: 1.05W
- Hot-Pluggable
- RoHS Compliant and Lead-Free
- Operating Temperature: 0 to 70 Celsius
- Excellent ESD Protection
- Metal with Lower EMI



Applications:

- 1000Base Copper

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	-0.5		4.0	V	
Storage Temperature	Tstg	-40		85	°C	
Operating Temperature	Tc	0		70	°C	
Data Rate	DR		1000		Mbps	
Distance	D			100	m	

Notes:

1. Category 5 UTP. BER<10⁻¹².

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.3	3.45	V	
Supply Voltage	Icc		300	350	mA	
Supply Current	I _{surge}			30	mA	
Low-Speed Signals						
SFP Output – Low	VOL	0		0.5	V	1
SFP Output – High	VOH	Host_Vcc-0.5		Host_Vcc+0.3	V	1
SFP Input – Low	VIL	0		0.8	V	2
SFP Input – High	VIH	2		Vcc+0.3	V	2
High-Speed Electrical Interface, Transmission Line - SFP						
Line Frequency	fL		125		MHz	3
Tx Output Impedance	ZOUT, Tx		100		Ω	4
Rx Input Impedance	ZIN, Rx		100		Ω	4
High-Speed Electrical Interface, Host - SFP						
Single-Ended Data Input Swing	VIN	250		1200	mV	5
Single-Ended Data Output Swing	VOUT	350		800	mV	5
Rise/Fall Time (20-80%)	Tr/Tf		175		Psec	
Tx Input Impedance	ZIN		50		Ω	5
Rx Output Impedance	ZOUT		50		Ω	5

Notes:

1. 4.7kΩ to 10kΩ pull-up to the Host_Vcc, measured at the host side of the connector.
2. 4.7kΩ to 10kΩ pull-up to the Host_Vcc, measured at the SFP side of the connector.
3. 5-level encoding, per IEEE 802.3.
4. Differential, for all frequencies between 1MHz and 125MHz.
5. Single-ended.

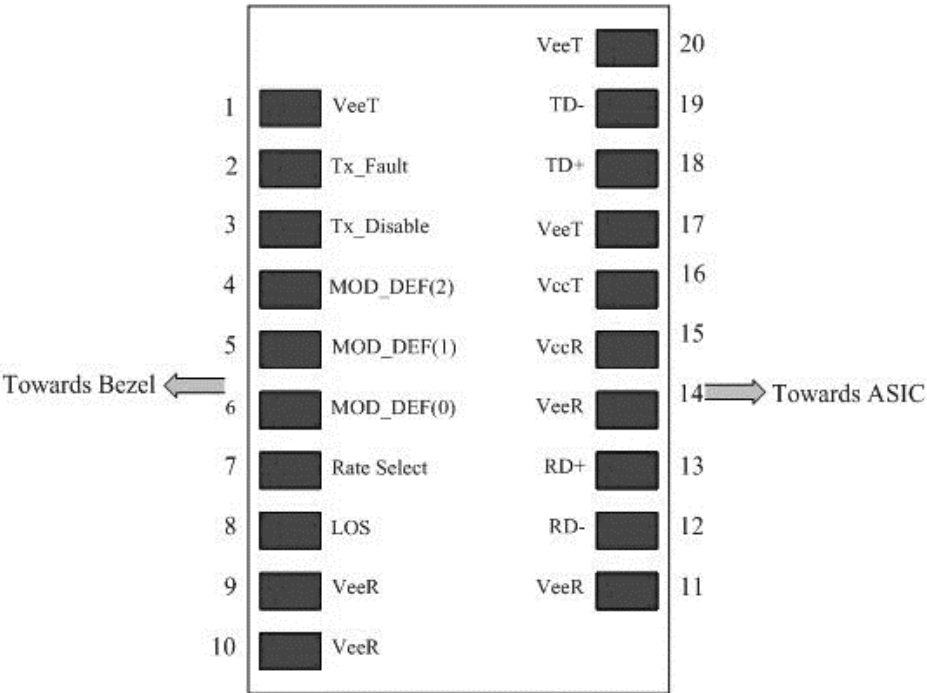
Pin Descriptions

Pin	Symbol	Name/Description	Plug Sequence	Notes
1	VeeT	Transmitter Ground.	1	
2	Tx_Fault	Transmitter Fault Indication.	3	1
3	Tx_Disable	Transmitter Disable.	3	2
4	MOD_DEF2	Module Definition 2.	3	3
5	MOD_DEF1	Module Definition 1.	3	3
6	MOD_DEF0	Module Definition 0.	3	3
7	Rate Select	Not Connected.	3	
8	LOS	Loss of Signal.	3	4
9	VeeR	Receiver Ground.	1	
10	VeeR	Receiver Ground.	1	
11	VeeR	Receiver Ground.	1	
12	RD-	Received Inverse Data Out.	3	
13	RD+	Received Data Out.	3	
14	VeeR	Receiver Ground.	1	
15	VccR	Receiver Power.	2	
16	VccT	Transmitter Power.	2	
17	VeeT	Transmitter Ground.	1	
18	TD+	Transmit Data In.	3	
19	TD-	Transmit Inverse Data In.	3	
20	VeeT	Transmitter Ground.	1	

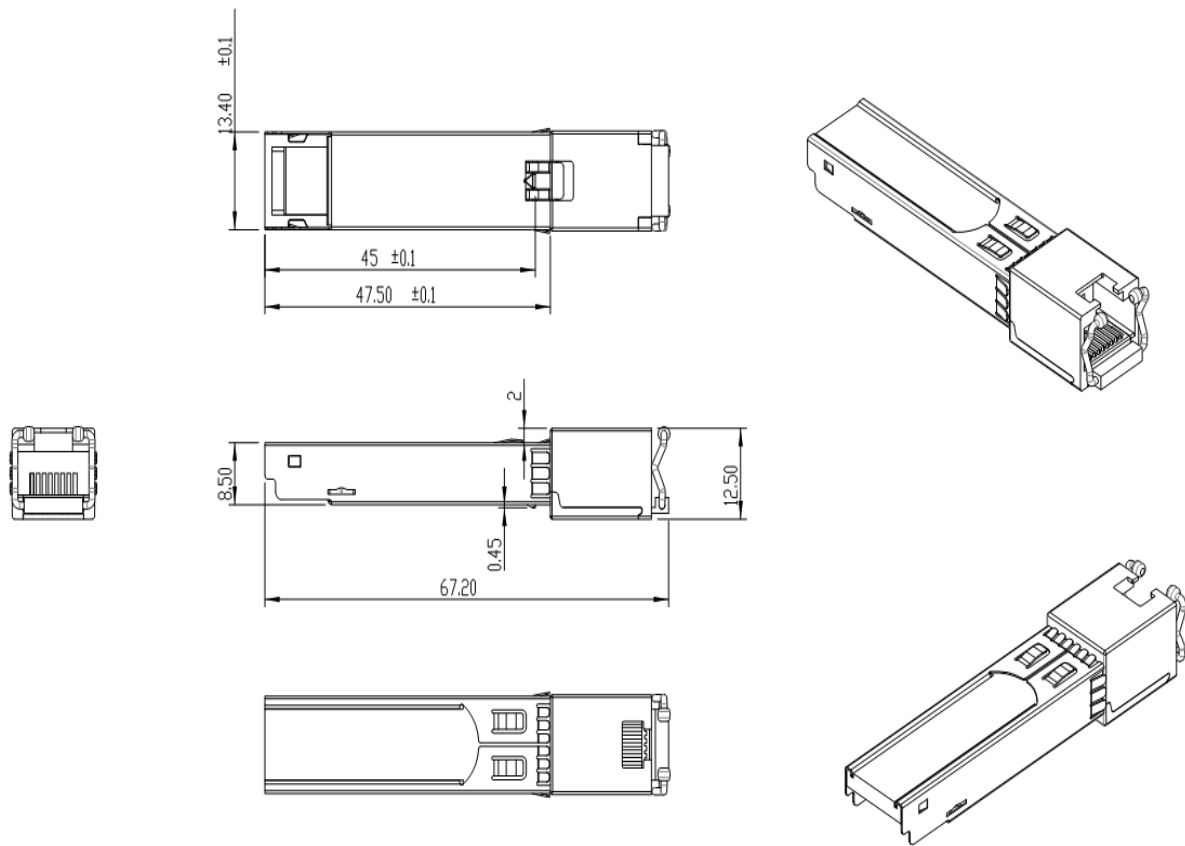
Notes:

1. Not used.
2. PHY disabled on TDIS>2.0V or open, enabled on TDIS<0.8V, used to reset the module.
3. Should be pulled up with 4.7k Ω to 10k Ω on the host board to a voltage between 2.0V and 3.6V.
MOD_DEF0 pulls the line low to indicate that the module is plugged in.
4. 1000M indicator.

Host Board Pin-Out Connectors



Mechanical Specifications



About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

