



SFP-2-5G-BXD53-SKY

MSA Compliant 2.5GBase-BX SFP Transceiver (SMF, 1550nmTx/1310nmRx, 10km, LC, DOM)

Product Description

This MSA compliant SFP transceiver provides 2.5GBase-BX throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1550nmTx/1310nmRx via an LC connector. This bidirectional unit must be used with another transceiver or network appliance of complementing wavelengths. It is built to MSA standards and is uniquely serialized and data-traffic and application tested to ensure that they will integrate into your network seamlessly. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. 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:

- INF-8074 and SFF-8472 Compliance
- Simplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications:

- 2GBase-BX Ethernet
- Access and Enterprise

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.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate	DR		2.5		GB/s	
Bit Error Rate	BER			10 ⁻¹²		
Storage Temperature	Tstg	-40		85	°C	1
Operating Case Temperature	Tc	0		70	°C	2
Maximum Voltage	Vcc	-0.5		4	V	3

Notes:

1. Case temperature.
2. Ambient temperature.
3. For electrical power interface.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Input Voltage	V _{CC}	3.14	3.3	3.46	V	
Supply Current	I _{CC}			300	mA	1
Transmitter						
Input Differential Impedance	R _{IN}	90	100	110	Ω	
Single ended data input swing	V _{in_pp}	250		1200	mV	
Transmit disable voltage	V _D	V _{CC} -1.3		V _{CC}	V	
Transmit enable voltage	V _{en}	V _{ee}		V _{ee} +0.8	V	
Receiver						
Single ended data output swing	V _{out_pp}	250		800	mV	
Data output rise/fall time (20%-80%)	T _r /t _f			300	ps	
LOS Fault	V _{LOS_A}	V _{CC} -0.5		V _{CC_host}		
LOS Normal	V _{LOS_D}	V _{ee}		V _{ee} +0.5		

Notes:

1. For electrical power interface.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	P _{tx}	-5		0	dBm	
Optical Center Wavelength	λ_c	1520	1550	1580	nm	
Extinction Ratio	ER	8.2			dB	
Spectral Width (RMS)	$\Delta\lambda$			1	nm	
Optical Rise/Fall Time (20%-80%)	tr/tf			260	ps	
Receiver						
Receiver Overload	P _{ol}	0		dBm		
Optical Center Wavelength	λ_c	1270	1310	1360	nm	
Receiver Sensitivity	R _{x_sen}			-18	dBm	
LOS Assert	LOSA	-32			dBm	
LOS De-Assert	LOSD			-20	dBm	
LOS Hysteresis	LOSH	0.5			dB	

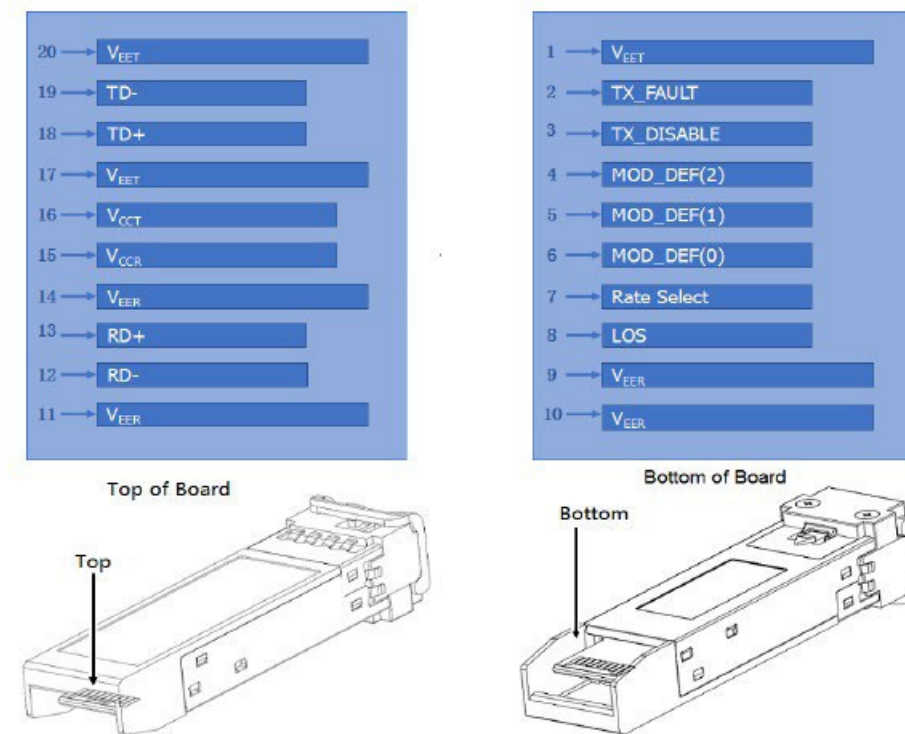
Pin Descriptions

Pin	Symbol	Description	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	TX_Fault	Transmitter Fault. Not supported.	
3	TX_Disable	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for serial ID.	3
5	MOD_DEF(1)	Module Definition 1. Clock line for serial ID.	3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No Connection Required.	
8	LOS	Loss of Signal Indication, Logic 0 indicated normal operation.	4
9	VeeR	Receiver Ground (Common with Transmitter Ground).	1
10	VeeR	Receiver Ground (Common with Transmitter Ground).	1
11	VeeR	Receiver Ground (Common with Transmitter Ground).	1
12	RD-	Receiver Inverted DATA out. AC coupled.	
13	RD+	Receiver Non-Inverted DATA Out. AC coupled.	
14	VeeR	Receiver Ground (Common with Transmitter Ground).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter ground (Common with Receiver Ground).	1
18	TD+	Transmitter Non-Inverted DATA In. AC coupled.	
19	TD-	Transmitter Inverted DATA In. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

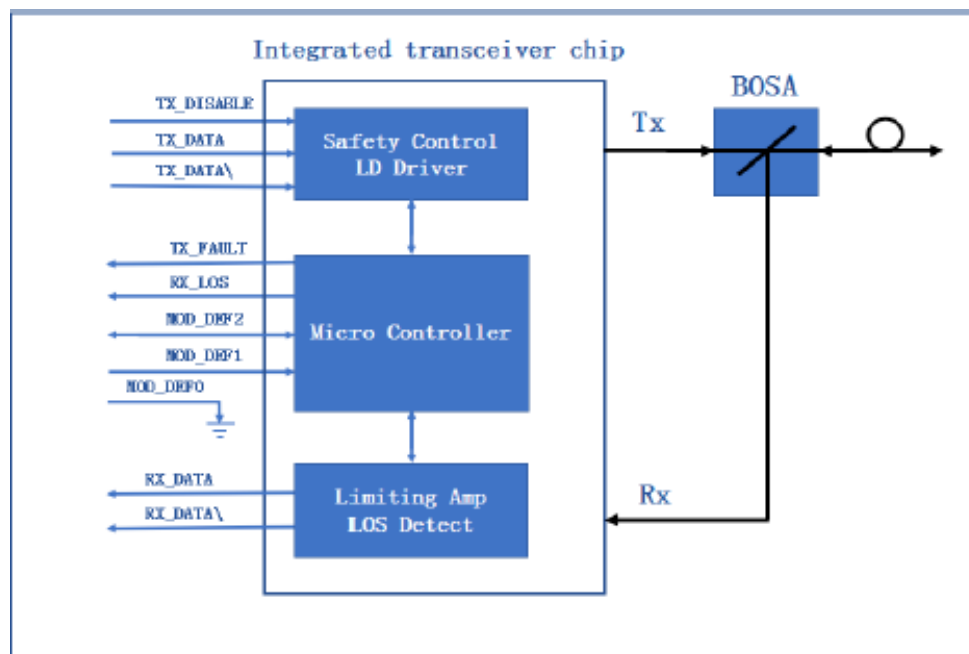
Notes:

1. Circuit ground is isolated form chassis ground.
2. Disabled: $T_{DIS} > 2V$ or open, Enabled: $T_{DIS} < 0.8V$
3. Should be pulled up with 4.7K Ω -10K Ω on host board to a voltage between 2V and 3.6V.
4. LOS is open collector output.

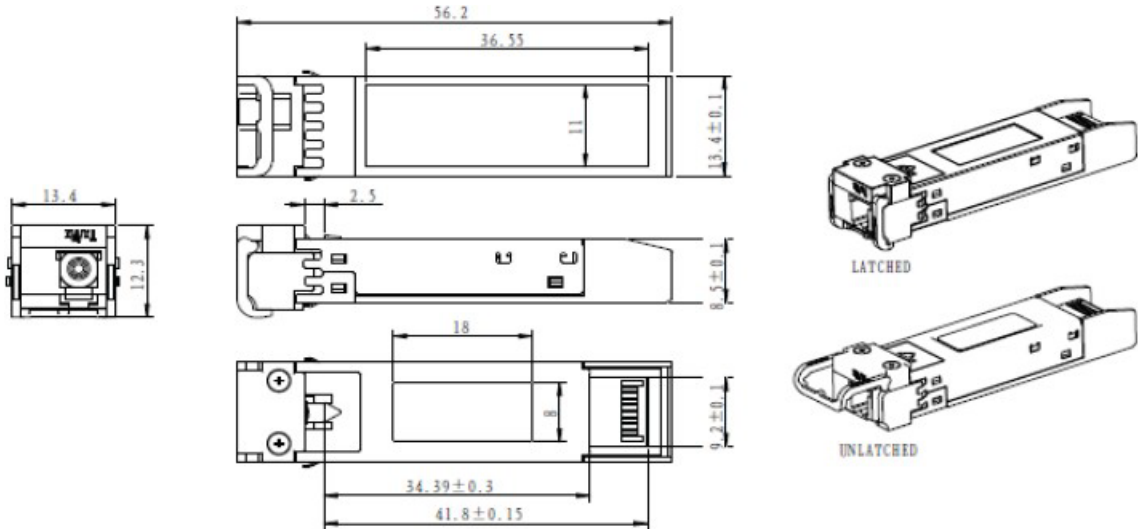
Electrical Pad Layout



Block Diagram of Transceiver



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.

