



SFC27B16DR0DFLN

Coriant® Compatible 1000Base-CWDM SFP Transceiver (SMF, 1270nm, 40km, LC, DOM)

Product Description

This Coriant® compatible SFP transceiver provides 1000Base-CWDM throughput up to 40km over single-mode fiber (SMF) using a wavelength of 1270nm via an LC connector. It can operate at temperatures between 0 and 70C. The listed reach has been determined using a link budget calculation and tested in a standard environment. Actual link distances achieved will be dependent upon the deployed environment. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Coriant®. 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:

- INF-8074 and SFF-8472 Compliance
- Duplex 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:

- Gigabit Ethernet over CWDM
- 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	0.622		1.25	Gbps	
Bit Error Rate	BER			10^{-12}		
Operating Case Temperature	Tc	0		70	°C	1
Storage Temperature	Tstg	-40		85	°C	2
Supply Voltage	VMAX	-0.5		4	V	3

Notes:

1. Case temperature.
2. Ambient temperature.
3. For the electrical power interface.
4. The maximum power consumption refers to the maximum power consumption of the optical module under nominal maximum operating temperature and in a flow test environment.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Power Consumption	PC			1	W	4
Input Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc		200	300	mA	3
Transmitter						
Input Differential Impedance	RIN		100		Ω	
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	
Transmit Disable Assert Time				10	μ s	
Receiver						
Single-Ended Data Output Swing	VOUT,pp	300	400	800	mV	
Data Output Rise/Fall Time (20-80%)	Tr/Tf		100	175	ps	
LOS Assert	VLOSA	Vcc-0.5		Host_Vcc	V	
LOS De-Assert	VLOSD	Vee		Vee+0.5	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	PTX	0		5	dBm	1
Optical Center Wavelength	λ C	1265	1271	1277	nm	
Wavelength Temperature Dependence			0.08	0.125	nm/°C	
Extinction Ratio	ER	9			dB	
Side-Mode Suppression Ratio	SMSR	30			dB	
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Optical Rise/Fall Time (20-80%)	Tr/Tf			180	ps	
Relative Intensity Noise	RIN			-120	dB/Hz	
Transmitter Jitter (Pk-Pk)	TJ			100	ps	
Output Eye	Compliant with IEEE 802.3					
Receiver						
Receiver Overload	POL	0			dBm	
Optical Center Wavelength	λ C	1260		1620	nm	
Receiver Sensitivity @1.25Gbps	Rx_SEN			-26	dBm	2
LOS Assert	LOSA	-35			dBm	
LOS De-Assert	LOSD			-26	dBm	
LOS Hysteresis	LOSH		0.5		dB	

Notes:

1. Class 1 product.
2. Measured with a 2^7-1 test pattern @1.25Gbps with a $BER < 10^{-12}$.

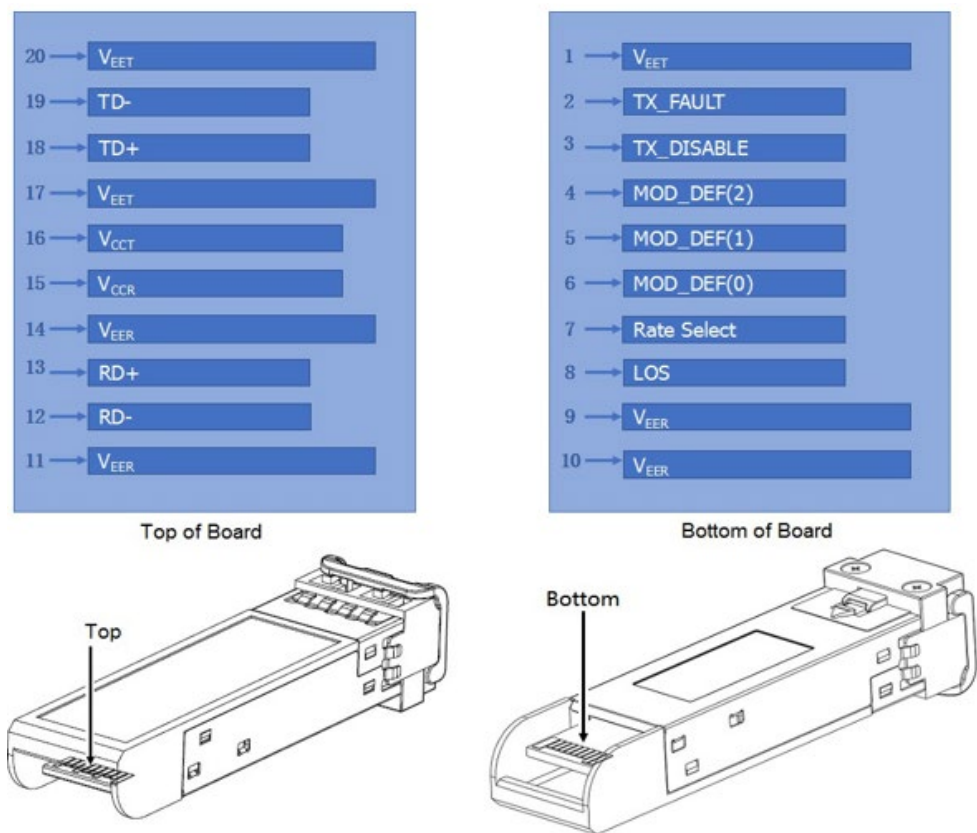
Pin Descriptions

Pin	Symbol	Name/Description	Notes
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” indicates 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

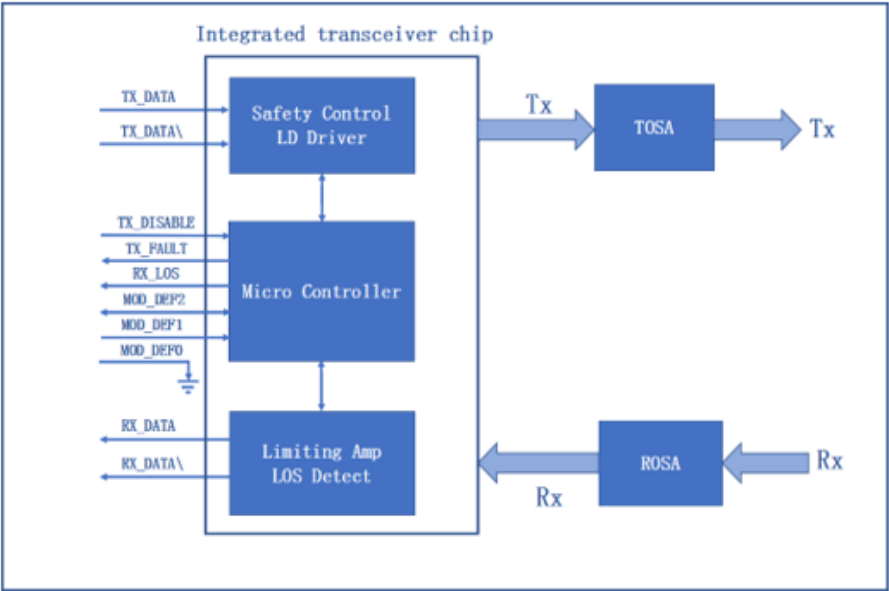
Notes:

1. The circuit ground is isolated from the chassis ground.
2. Disabled: TDIS>2V or open, enabled: TDIS<0.8V.
3. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2V and 3.6V.
4. LOS is an open collector output.

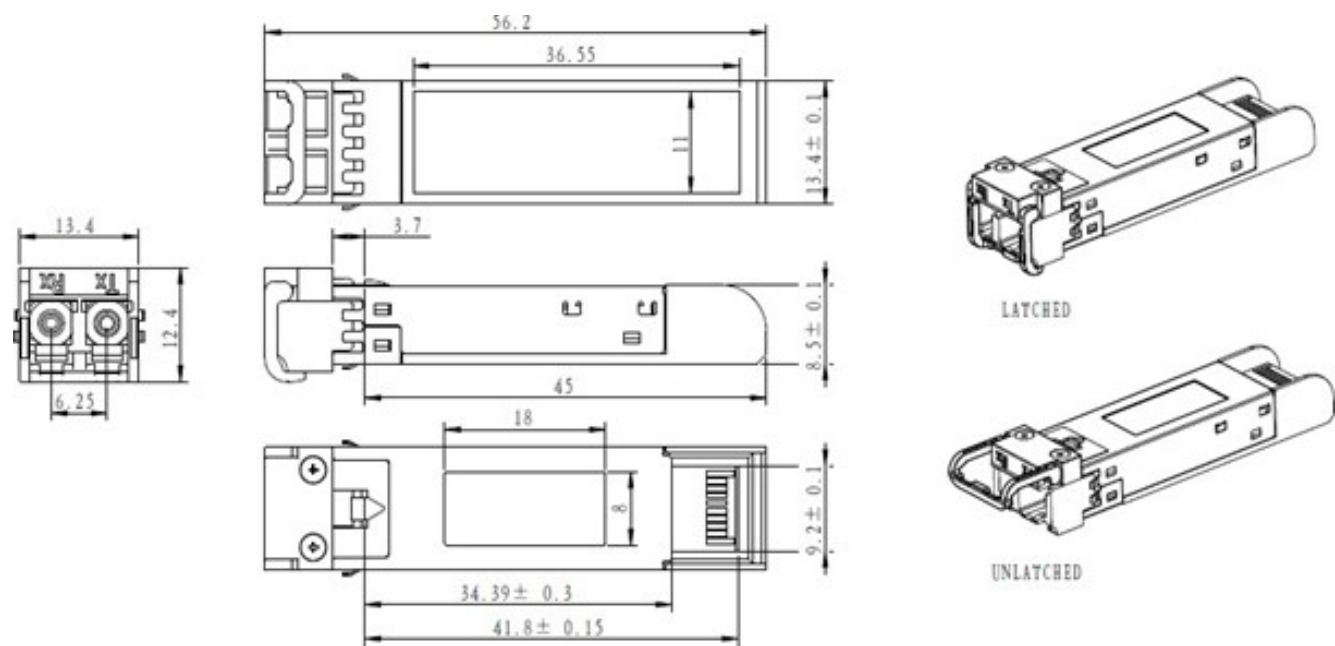
Electrical Pad Layout



Block Diagram of Transceiver



Mechanical Specifications



All dimensions are ±0.2mm unless otherwise specified.
Unit: mm

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.

