Nexolight

Datasheet

NXSF-1312-S1D

SFP 1000BASE-LX 1310nm 10km Singlemode

Features

- SFP Form Factor
- 1,25 Gb/s bitrate
- Up to 10 km over Singlemode
- LC connector
- 1310 nm, FP laser, PIN photodiode
- Up to 1 W power consumption
- +0/+70°C temperature range
- Built in digital diagnostic monitoring

Applications

- Ethernet
- Telecom
- Optical fiber communication

Optical specifications

Optical budget EOL : 13 dB

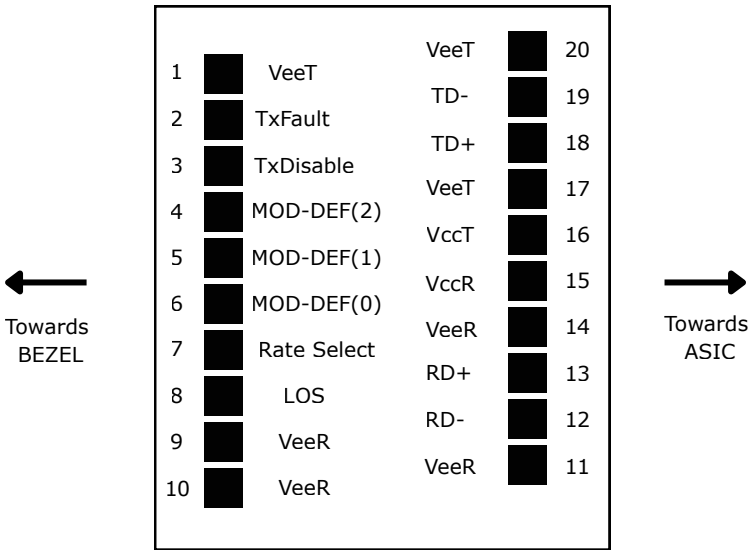
Transmitter Receiver optical Specifications

Parameter	Min	Max	Unit
Tx Power	-9	-3	dBm
Rx Sensitivity	-22		dBm

Electrical Environmental Specifications

Parameter	Value	Unit
Power supply voltage	3.3	V
Power supply current	300	mA
MTBF	3000000	hrs
Relative humidity	5~85	%

Transceiver electrical pad layout



Module electrical PIN definition

SFP - SFF-8472

Pin	Symbol	Description	Note
1	VeeT	Transmitter Ground (Common with Receiver Ground)	1
2	TxFault	Transmitter Fault.	
3	TxDisable	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	4
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	5
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

Note

1. Circuit ground is internally isolated from chassis ground.

2. Laser output disabled on TDIS >2.0V or open, enabled on TDIS <0.8V.

3. Should be pulled up with 4.7k - 10kΩ on host board to a voltage between 2.0V and 3.6V.MOD_DEF (0) pulls line low to indicate module is plugged in.

4. This is an optional input used to control the receiver bandwidth for compatibility with multiple data rates (most likely Fiber Channel 1x and 2x Rates).If implemented, the input will be internally pulled down with > 30kΩ resistor. The input states are:

- Low (0 – 0.8V): Reduced Bandwidth
- (>0.8, < 2.0V): Undefined
- High (2.0 – 3.465V): Full Bandwidth
- Open: Reduced Bandwidth

5. LOS is open collector output should be pulled up with 4.7k - 10kΩ on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.