

TRA-SFP-1G-BD-LX 20KM

1.25G-Tx1550nm/Rx 1310nm/ 20km / Gigabit Ethernet 1000 BASE-BD-LX

Features

- SFP Multi-Source Agreement compliant (INF-8074)
- Hot pluggable SFP footprint
- Serial ID functionality supported according to (SFF-8472)
- Class 1 laser safety standard IEC 60825 compliant
- Dual LC connector
- 1550nm FP transmitter, 1310nm PIN receiver
- Gigabit Ethernet compliant
- 1x Fibre Channel compatible
- 20km point-to-point transmission on single mode fiber
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)



Applications

- Gigabit Ethernet
- Storage
- FTTx

Description

Transceiver.Asia is a high performance transceiver module for Gigabit Ethernet data links over one single mode fibre. The maximum reach¹ is 20km, with 14dB end of life (EOL) power budget. The emitter is a 1550nm Fabry-Perot (FP) laser, the receiver is a 1310nm PIN photodiode. Consequently, a module with a 1550nm emitter and a 1550nm receiver is required at the opposite side of the link. The recommended counterpart is TRA-SFP-1G-BD-LX 20KM.

This transceiver module is compliant with the Small Form-factor Pluggable (SFP) Multisource Agreement (MSA) and hot pluggable. Always contact **Transceiver.Asia** commercial agents for compatibility with different equipment platforms.

Optical Interfaces

P/N	Wavelength	Output Optical Power ²	Optical receiver Sensitivity ³	Optical Receiver Overload ⁴	Power Budget
	[nm]	[dBm]	[dBm]	[dBm]	[dB]
TRA-SFP-1G-BD-LX 20KM	Tx 1550 nm Rx 1310 nm	-8 to -3	≤ -22	-3	≥ 14

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.3	3.5	V	
Power Supply Current	Icc			300	mA	
Case Operating Temperature	Tc	0		70	°C	Standard
		-20		85	°C	Extended
		-40		85	°C	Industrial
Relative Humidity		5		95	%	
Storage Temperature		-40		85	°C	

Transmitter Optical Specifications

Parameter	Min	Typ	Max	Units
Average Output Power	-8		-3	dBm
Centre Wavelength	1520	1550	1580	nm
Spectral Width (RMS)			1	nm
Optical Extinction Ratio ER	6	9		dB

Receiver Optical Specification

Parameter	min	typ	max	unit	note
Sensitivity			-22	dBm	6
Receiver Overload	-3			dBm	
Wavelegth of Operation	1260		1360	nm	

Module Electrical Pin Definition

Pin Number	Name	Function
1	VeeT	Transmitter Ground
2	TX Fault	Transmitter Fault Indication
3	TX_ Disable	Transmitter Disable
4	MOD-DEF2	2-Wire Serial Interface Data
5	MOD-DEF1	2-Wire Serial Interface Clock
6	MOD-DEF0	Grounded in Module
7	Rate Select	Not Connected
8	LOS	Loss of Signal
9	VeeR	Receiver Ground
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inverted Received Data Out
13	RD+	Received Data Out
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit Data In
19	TD-	Inverted Transmit Data In
20	VeeT	Transmitter Ground

Ordering information

Part Number	Description
TRA-SFP-1G-BD-LX 20KM	1G Single Mode SFP Transceiver, Tx : 1550nm ,Rx 1310, 20km, LC, DDM, 0°C~+70°C

Warnings**Process plug**

The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles. It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

Handling Precautions

The transceiver optics is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety

The transceiver optics is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser

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Transmitter Optical Specifications

Parameter	Min	Typ	Max	Units
Average Output Power	-10		-3	dBm
Centre Wavelength	1260	1310	1360	nm
Spectral Width (RMS)			3	nm
Optical Extinction Ratio ER	6	9		Db

Receiver Optical Specification

Parameter	min	typ	max	unit	note
Sensitivity			-22	dBm	6
Receiver Overload	-3			dBm	
Wavelegth of Operation	1530	1550	1570	nm	

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