HSB-70075-xx

1.25Gbps 1570/1510nm LC BiDi 80km SFP Transceiver

Product Description

The 70075-xx is a small form factor pluggable (SFP) transceiver compatible with applicable multi-sourcing agreement (MSA). It is suitable for single strand bi-directional (WDM) communication in single-mode fiber (SMF) targeting 1.25Gbps Ethernet and 1G/2G Fiber Channel.

Features

- Up to 2.125Gbps data links
- 80km in 9/125μm SMF
- 1570nm DFB laser
- APD receiver
- Simplex LC Connector
- Hot-pluggable
- Single 3. 3V power supply
- Digital Diagnostic Monitor (DDM)

Applications

- 1.25Gbps 1000Base-ZX
- 1G/2G Fiber Channel

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V_{CC}	-0.5	3.6	V
Storage Temperature	T_S	-40	85	°C
Operating Case Temperature	T_C	0	70	°C

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Supply Voltage	V_{CC}	3.15	3.3	3.45	V
Power Supply Current	I_{CC}			300	mA
Data Rate			1.25		GBps
Max Link Length on 9/125µm SMF	Lmax			80	km

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Centre Wavelength	λ_C	1560	1570	1580	nm
Spectral Width (-20dB)	σ			1	nm
Average Output Power	Pout	0		5	dBm
Extinction Ratio	ER	9			dB
Optical Rise/Fall Time	tr/tf			2	ns
Receiver					
Centre Wavelength	λ_C	1500	1510	1520	nm
Receiver Sensitivity	P_{IN}			-23	dBm
Receiver Overload	P_{MAX}	1			dBm
LOS De-Assert	LOS_D			-30	dBm
LOS Assert	LOS_A	-35			dBm
LOS Hysteresis		0.5		4.5	dB

Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Input Differential Impedance	Zin	90	100	110	Ω
Data Input Swing Differential	Vin	500		2400	mV
Tx-Dis Disable	Vd	2.0		Vcc	V
Tx-Dis Enable	Ven	0		0.8	V
TX-Fault (Fault)		2.0		Vcc+0.3	V
TX-Fault (Normal)		0		0.8	V
Receiver					
Data Output Swing Differential	Vout	370		2000	mV
Rx-Los Fault	Vlf	2.0		Vcc+0.3	V
Rx-Los Normal	Vln	0		0+0.8	V

DDM Thresholds

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-5℃	0℃	70℃	75℃
Voltage	3V	3.1V	3.5V	3.6V
Tx Bias	15mA	20mA	70mA	75mA
Tx Power	-4dBm	-3dBm	6dBm	7dBm
Rx Power	-32dBm	-31dBm	1dBm	3dBm

For safety and reliability reasons, please read the following information carefully.

Light Budget is one of the key items for designing fiber optic network. in order to create a product that will meet application requirements. To adequately characterize the budget loss, the following key parameters are generally considered:

- Transmitter: Output power, temperature and aging
- Fiber connections: Active connection and splices
- Fiber Cable: fiber attenuation and temperature effect
- Receiver: Detector sensitivity
- Others: Safety margin and repairs

When one of the above-listed variables fails to meet specifications, the performance of the network can be greatly affected or worse, the degradation can lead to network failure. Unfortunately, not all the variables can be controlled with ease during the deployment of the network or the maintenance stage; however, there exists one component—the connector—that is too-often overlooked, sometimes overused (test jumpers) but that can be controlled using the proper procedure.

This is a Class 1 Laser Product according to IEC 60825-1:2014 compatible with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

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.

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination. In a study by NTT-Advanced Technology, 98% of installers and 80% of network owners reported that issues with connector contamination were the greatest cause of network failures.

CE EU declaration of conformity

The CE marking is mandatory for this category of products. It is the manufacturer's declaration that the product meets the requirements of the applicable EU directives required to allow free movement and sale of the product throughout the European Economic Area.

Equipment Specific part number extension

-XX*

-51	Cisco
-52	Ericsson
-53	Huawei
-54	Juniper
-55	Generic (MSA)
-56	HP
-57	Extreme
-58	3COM (HP)
-59	Alcatel (Nokia)
-60	Combo code
-61	H3C (HP)
-62	Brocade
-63	Arista Networs
-64	Adva
-65	Microsens