SFP-10/25GB-BXU23-20-I-N-AO

Alcatel-Lucent Nokia® Compatible TAA 10/25GBase-BX SFP28 Transceiver (SMF, 1270nmTx/1330nmRx, 20km, LC, DOM, -40 to 85C)

Features

- Hot-Pluggable SFP28 Form Factor
- Supports 24.3Gbps to 26.5Gbps Bit Rates
- Simplex LC Connector for Bi-Directional Transmission
- 1330nm 25Gbps PIN Receiver
- Internal CDR on both Transmitter and Receiver Channels
- 1270nm 25Gbps DFB Laser Transmitter
- Power Dissipation: 1.5W
- Single 3.3V Power Supply
- Operating Temperature: 0 to 70 Celsius
- Digital Diagnostic Monitoring via the I2C Interface
- RoHS Compliant and Lead-Free

Applications

- 25GBase Ethernet

Product Description

This Alcatel-Lucent Nokia® compatible SFP28 transceiver provides 10/25GBase-BX throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1270nmTx/1330nmRx via an LC connector. This bidirectional unit must be used with another transceiver or network appliance of complementing wavelengths. It can operate at temperatures between -40 and 85C. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Alcatel-Lucent Nokia®. 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. Additional product features include Digital Optical Monitoring (DOM) support which allows access to real-time operating parameters. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

AddOn's transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products."

Rev. 100225

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	0		3.6	V	
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0		70	°C	
Relative Humidity	RH	5		85	%	
Data Rate	DR		25.78		Gbps	

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		Vcc	3.13	3.3	3.47	V	
Power Supply Current		Icc			450	mA	
Transmitter							
Input Differential Impedance		RIN		100		Ω	
Data Input Swing Differential		VIN,pp	50		1000	mV	
Tx_Disable	Disable		2.0		Vcc		
	Enable		0		0.4		
Tx_Fault	Fault		2.4		Vcc		
	Normal		0		0.4		
Receiver							
Data Output Swing Differential		VOUT,pp	400		1100	mV	
LOS Fault			2.0		Vcc	V	
LOS Normal			0		0.8	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Center Wavelength	λC	1260	1270	1280	nm	
Spectral Width (-20dB)	σ			1	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Average Output Power	Pavg	-3		3	dBm	
Extinction Ratio	ER	3.5			dB	
Transmitter and Dispersion Penalty	TDP			2.7	dB	
Power Off Tx_Disable	Poff			-30	dBm	
Transmitter Reflection				-26	dB	
Optical Return Loss Tolerance				20	dB	
$RIN_{20}OMA$				-130	dB/Hz	
Transmitter Eye Mask		(0.31, 0.4, 0.45, 0.34, 0.38, 0.4)				
Receiver						
Center Wavelength	λC	1320	1330	1340	nm	
Sensitivity	SEN			-13.3	dBm	1
Overload		2			dBm	
LOS De-Assert	LOSD			-13.5	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5		5	dB	

Notes:
1. Measured with a PRBS $2^{31}-1$ test pattern @25.78Gbps and BER@5E^{-5}.

Pin Descriptions

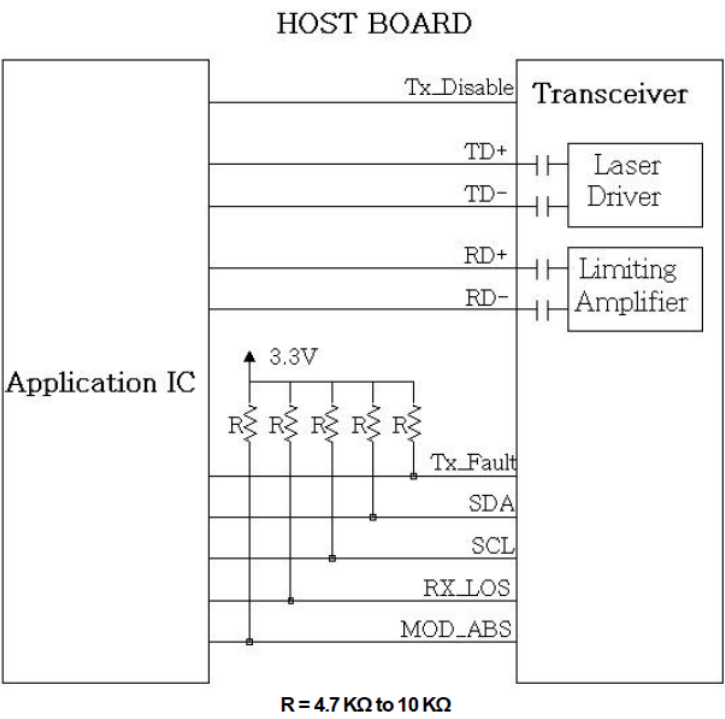| Pin	Symbol	Name/Description	Notes
1	VeeT	Module Transmitter Ground.	1
2	Tx_Fault	Module Transmitter Fault.	2
3	Tx_Disable	Transmitter Disable. Turns off transmitter laser output.	3
4	SDA	2-Wire Serial Interface Data.	4
5	SCL	2-Wire Serial Interface Clock.	4
6	MOD_ABS	Module Absent. Grounded within the module.	5
7	RS0	Receiver Rate Select. Not Used.	
8	Rx_LOS	Receiver Loss of Signal Indication. Active High.	2
9	RS1	Transmitter Rate Select. Not Used.	
10	VeeR	Module Receiver Ground.	1
11	VeeR	Module Receiver Ground.	1
12	RD-	Receiver Inverted Data Output.	
13	RD+	Receiver Non-Inverted Data Output.	
14	VeeR	Module Receiver Ground.	1
15	VccR	Module Receiver +3.3V Power Supply.	
16	VccT	Module Transmitter +3.3V Power Supply.	
17	VeeT	Module Transmitter Ground.	1
18	TD+	Transmitter Non-Inverted Data Input.	
19	TD-	Transmitter Inverted Data Input.	
20	VeeT	Module Transmitter Ground.	1

Notes:

1. The module signal ground pins, VeeR and VeeT, should be isolated from the module case.
2. This pin is an open collector/drain output pin that shall be pulled up with 4.7kΩ to 10kΩ to the Host_Vcc on the host board. Pull-ups can be connected to multiple power supplies; however, the host board design shall ensure that no module pin has a voltage exceeding the module VccT/VccR+0.5V.
3. This pin is an open collector/drain input pin that should be pulled up with 4.7kΩ to 10kΩ to the VccT in the module.
4. See SFF-8431 4.2 2-wire electrical specifications.
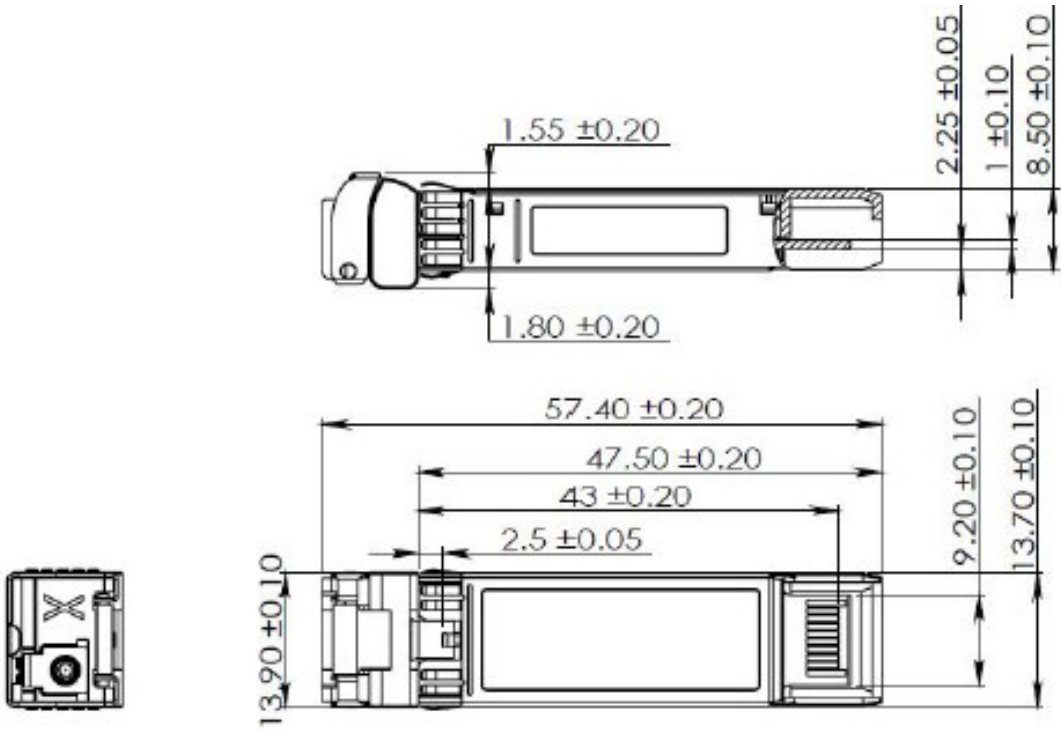5. This pin shall be pulled up with 4.7kΩ to 10kΩ to the Host_Vcc on the host board.

Pin Assignments

Pin	Name		Pin	Name
11	VEER		10	VEER
12	RD-		9	RS1
13	RD+		8	Rx_LOS
14	VEER		7	RS0
15	VCCR		6	MOD_ABS
16	VCCT		5	SCL
17	VEET		4	SDA
18	TD+		3	TX_DISABLE
19	TD-		2	TX_FAULT
20	VEET		1	VEET

TOWARD HOST WITH DIRECTION OF MODULE INSERTION

TOWARD BEZEL

TOWARD HOST WITH DIRECTION OF MODULE INSERTION

BOTTOM OF BOARD AS VIEWED FROM TOP THROUGH BOARD

TOP VIEW OF BOARD
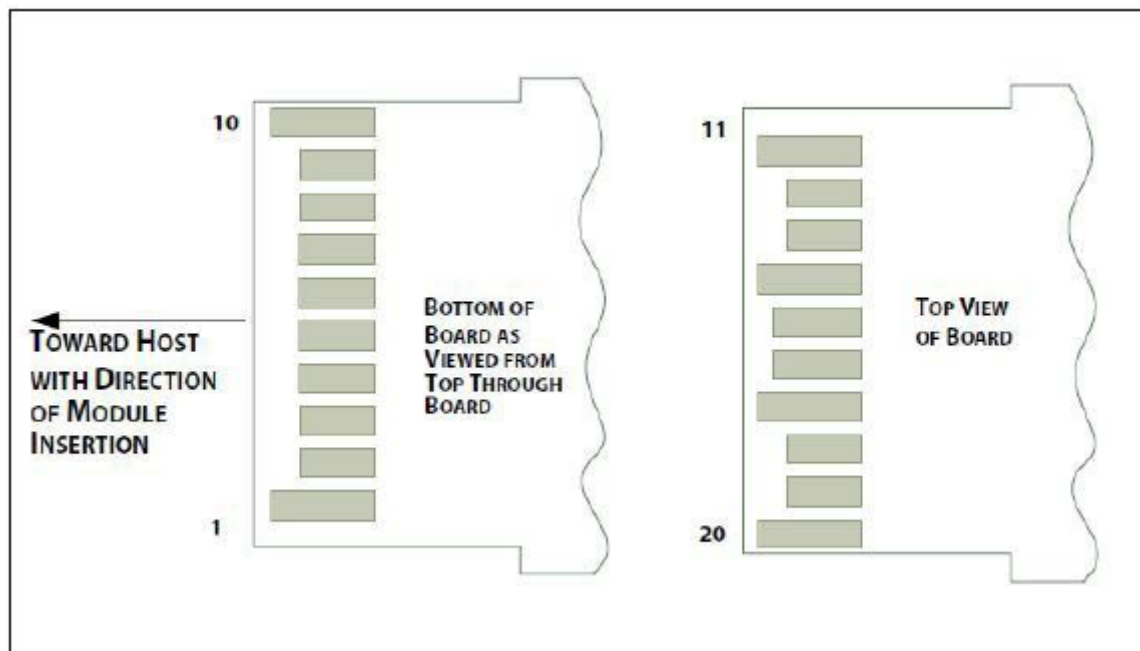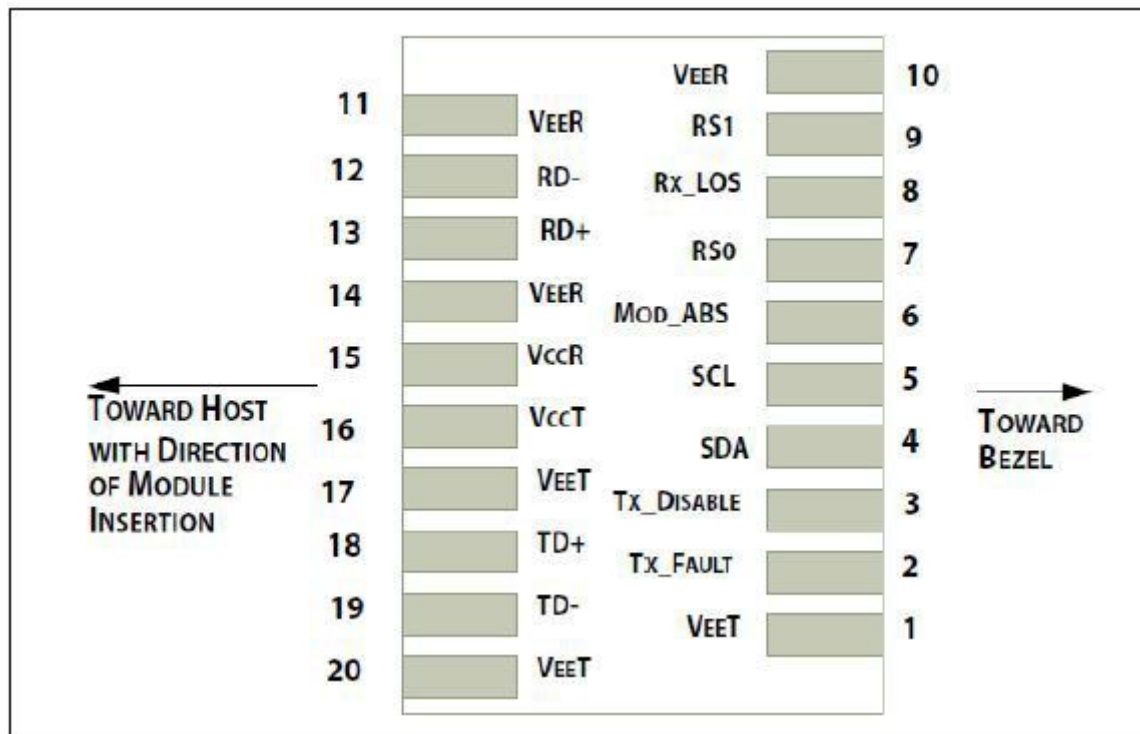
Recommended Interface Circuit

HOST BOARD

Transceiver

Tx_Disable

TD+ — Laser Driver
TD−

RD+ — Limiting Amplifier
RD−

Application IC

3.3V

R R R R R

Tx_Fault
SDA
SCL
RX_LOS
MOD_ABS

R = 4.7 KΩ to 10 KΩ

Mechanical Specifications

1.55 ±0.20

1.80 ±0.20

2.25 ±0.05
1 ±0.10
8.50 ±0.10

57.40 ±0.20
47.50 ±0.20
43 ±0.20
2.5 ±0.05

13.90 ±0.10

9.20 ±0.10
13.70 ±0.10

Unit:mm

About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is in engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.

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