

3FE47582JC-C

Alcatel-Lucent Nokia® 3FE47582JC Compatible TAA Compliant GPON OLT SFP C++ Transceiver (1490nmTx/1310nmRx, 2.5Gbps/1.25Gbps, 39dBm, SC, Rugged)

Features:

- Support ITU-T G.984.2 GPON OLT C++ application
- Single fiber bi-directional data links with symmetric 2.488Gbps Tx and 1.244Gbps Rx
- 1490nm continuous-mode transmitter with DFB LD
- 1310nm burst-mode receiver with APD-TIA
- 2-wire interface for integrated digital diagnostic Monitoring
- Receiver RESET, Signal Detect, RSSI function indication (RESET, RX_SD, RSSI)
- SFP package with SC/UPC receptacle optical interface
- Single +3.3V power supply
- Operating case temperature: -40~85°C
- RoHS6 compliance



Product Description

This Alcatel-Lucent Nokia® 3FE47582JC compatible SFP transceiver provides 2.4Gbps/1.2Gbps-C+ throughput up to 60km over single-mode fiber (SMF) using a wavelength of 1490nmTx/1310nmRx via a SC connector. It is also capable of withstanding rugged environments and can operate at temperatures between -40C to +85C. It is guaranteed to be 100% compatible with the equivalent Alcatel-Lucent Nokia® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' 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."



Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Storage Temperature		-40		85	°C	
Operating Case Temp for C-temp		-40		85	°C	
Bit Rate for Tx			2.488		Gbps	
Bit Rate for Rx			1.244		Gbps	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.3	3.45	V	
Power Supply Current	Is			500	mA	
Transmitter						
Data Input Swing Differential/TX	Vin, pp	200		2000	mV	
Date Differential Impedance	Zin	90	100	110	Ω	
LVTTL Input High	V	2.0		Vcc+0.3	V	
LVTTL Input Low	V	0		0.8	V	
Receiver						
Data Output Swing Differential/RX	Vout, pp	400		1600	mV	
Date Differential Impedance	Zin	90	100	110	Ω	
LVTTL Output High	V	2.4		Vcc	V	
LVTTL Output Low	V	0		0.4	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
TX Central Wavelength	λ_X	1480	1490	1550	nm	
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Mean Launched Power		6.5		10	dBm	
Mean Launched Power (TX Off)				-45	dBm	
Extinction Ratio	ER	8.2			dB	
Optical Return Loss Tolerance	ORL	-15			dB	
Transmitter and Dispersion Penalty	TDP			1	dB	
Transmitter Mask	Compliant With ITU-T G.984.2					1
Receiver						
Receive Wavelength	λ_X	1290	1310	1330	nm	
Sensitivity	R _{x_sen}			-33	dBm	2
Receiver Overload	P _{max}	-7			dBm	2
Receiver Burst Mode Dynamic Range		15			dB	
Damage Threshold for Receiver		5			dBm	
SD Assert Level	LOS_A			-33	dBm	
SD De-assert Level	LOS_D	-45			dBm	
SD Hysteresis	LOS_H	0.5		6	dB	
WDM Filter isolation to 1550nm		38			dB	
WDM Filter isolation to 1650nm		35			dB	

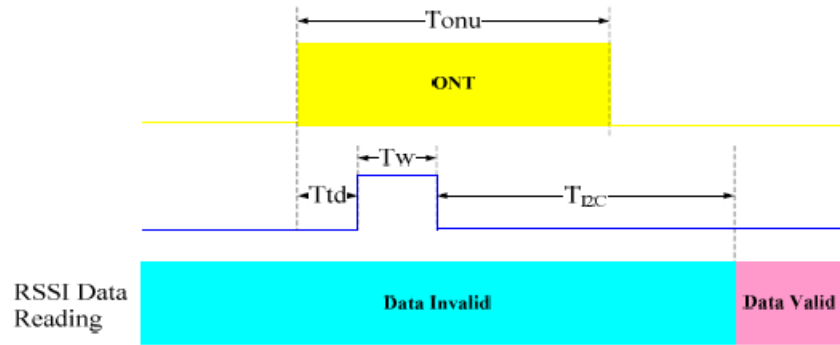
Notes:

1. PRBS2²³-1@2.488G
2. PRBS2²³-1@1.244G, ER=10, BER<10⁻¹⁰

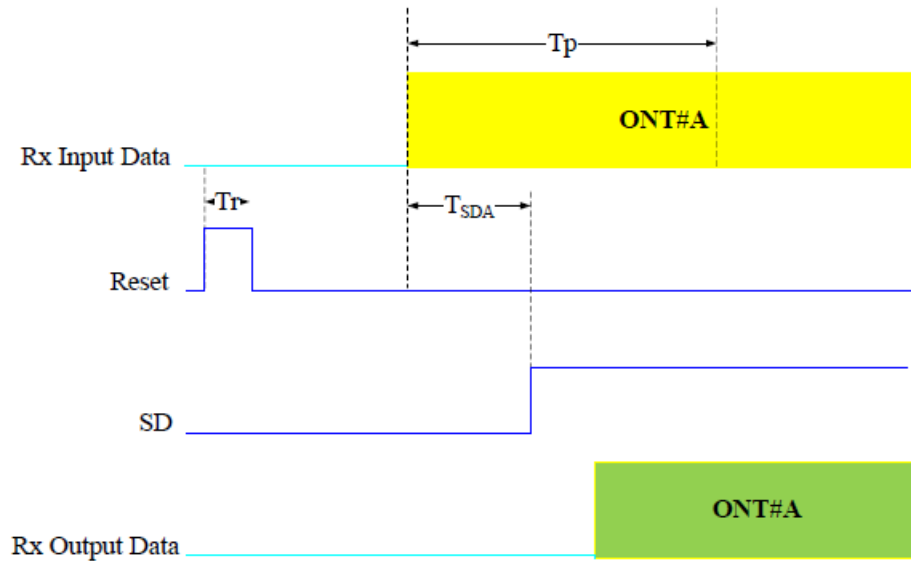
Timing Characteristics

Parameter	Min.	Typ.	Max.	Unit
Guard Time (Tg)	25.6			ns
Reset Pulse Width (Tr)			12.8	ns
Reset Delay (Trd)			12.8	ns
Receiver Preamble Time (Tp)			140	ns
SD Assert Time (TSDA)			100	ns
SD De-assert Time (TSDD)			12.8	ns
RSSI Trigger Delay (Ttd)	25			ns
RSSI Trigger Pulse Width (Tw)	500			ns
Internal I2C Delay (TI2C)			500	us

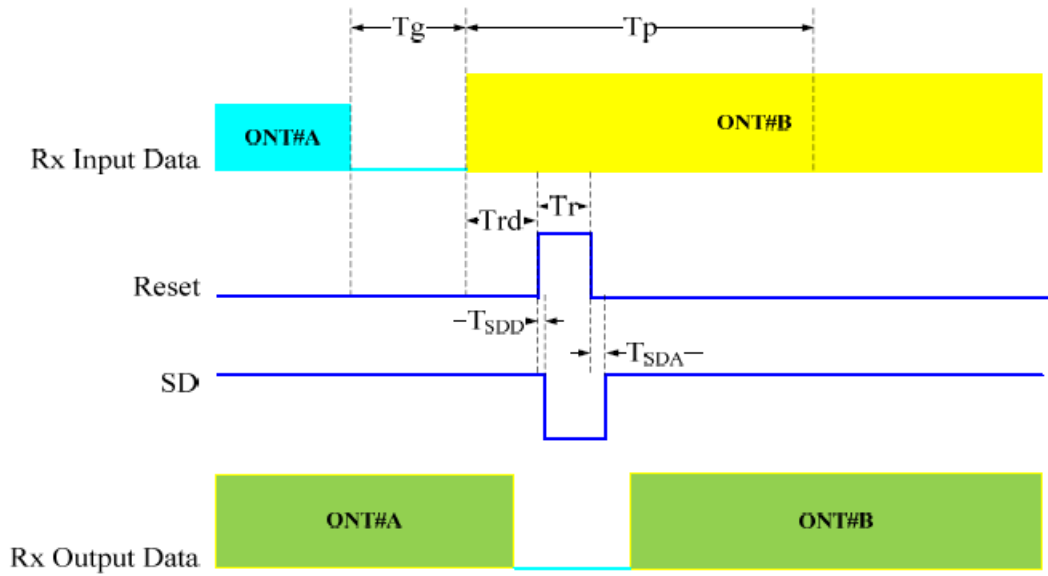
Timing Sequence for RSSI



Timing Sequence for Ranging Mode



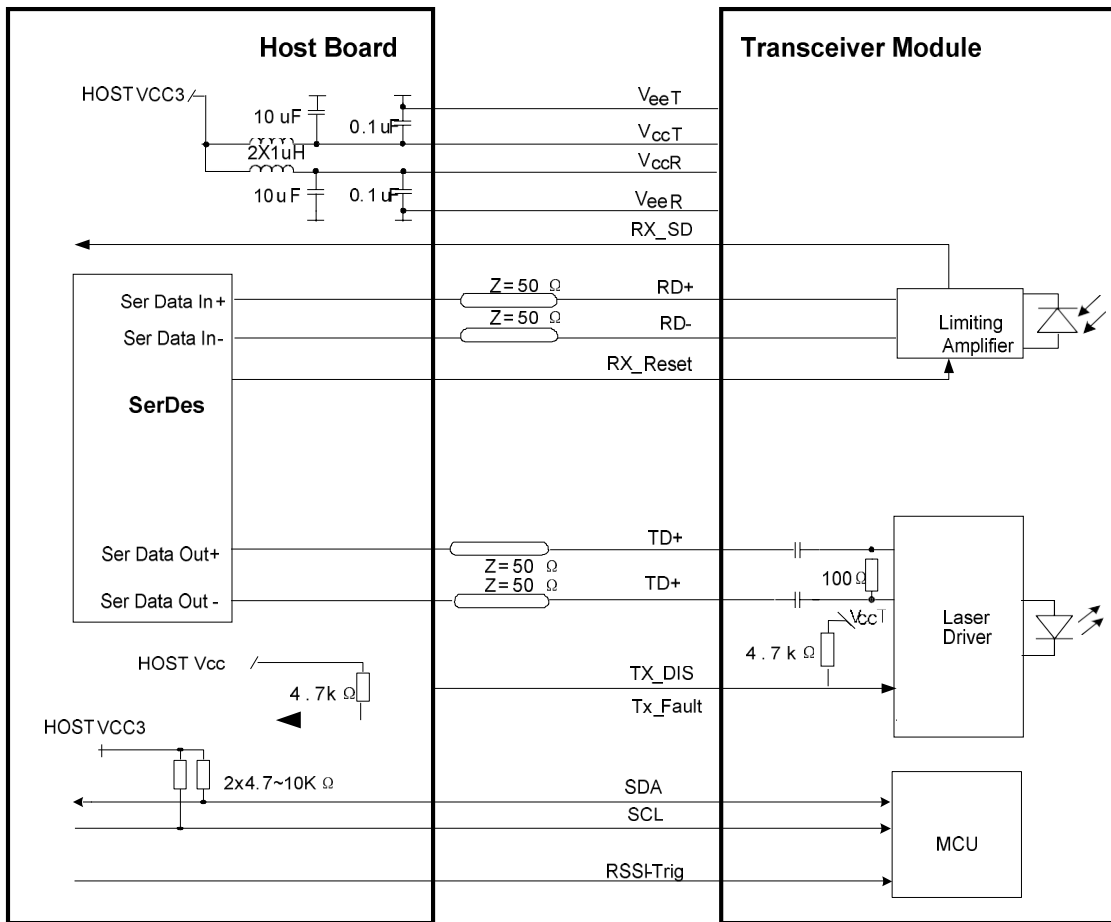
Timing Sequence for Working Mode



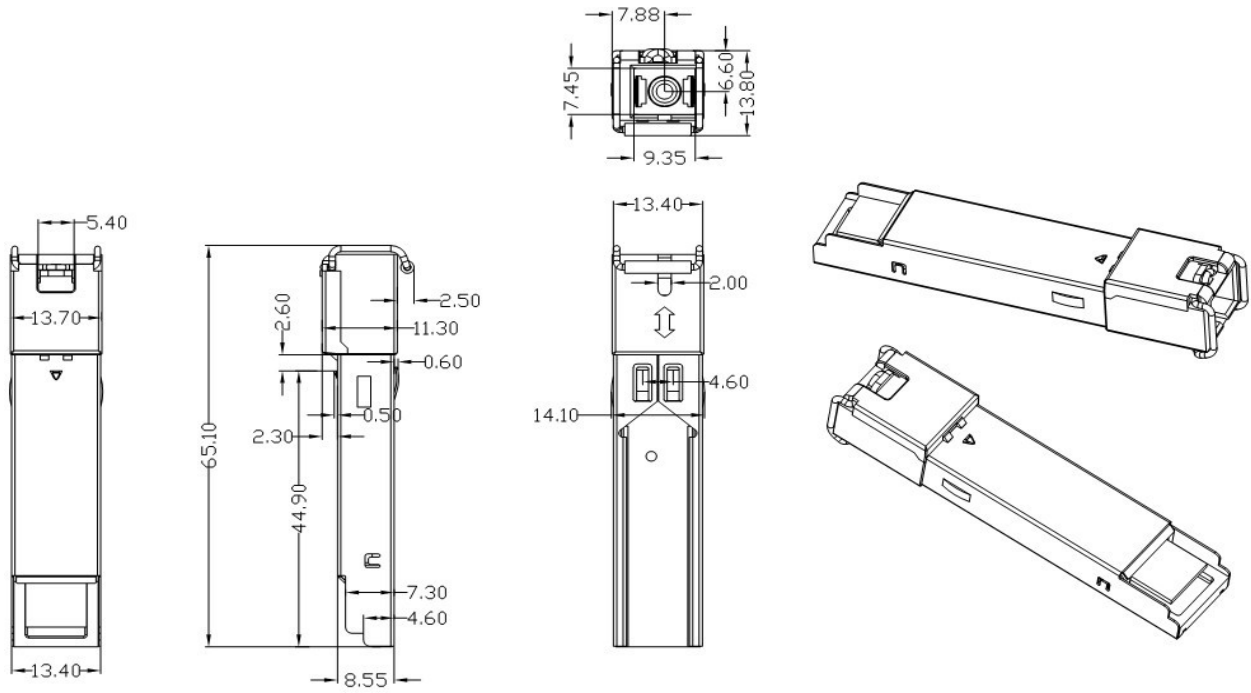
Pin Descriptions

Pin	Symbol	Level/Logic	Name/Descriptions
1	VeeT		Module Transmitter Ground
2	Tx_Fault	LVTTTL-O	Module Transmitter Fault
3	Tx_DIS	LVTTTL-I	Laser output is disabled when this pin is asserted high or left unconnected
4	SDA	LVTTTL-I	2-Wire Serial Interface Data Line
5	SCL	LVTTTL-I/O	2-Wire Serial Interface Clock
6	MOD_AB S	LVTTTL-O	Module Absent, connected to ground in the module
7	RX_Reset	LVTTTL-I	Receiver RESET signal
8	RX_SD	LVTTTL-O	Receiver Signal Detected Indication
9	RSSI_TRI G	LVTTTL-I	Receiver RSSI Trigger signal
10	VeeR		Module Receiver Ground
11	VeeR		Module Receiver Ground
12	RD-	LVPECL-O	Receiver Inverted Data Output
13	RD+	LVPECL-O	Receiver Non-Inverted Data Output
14	VeeR		Module Receiver Ground
15	VccR		Module Receiver 3.3V Supply
16	VccT		Module Transmitter 3.3V Supply
17	VeeT		Module Transmitter Ground
18	TD+	LVPECL-I	Transmitter Non-Inverted Data Input
19	TD-	LVPECL-I	Transmitter Inverted Data Input
20	VeeT		Module Transmitter Ground

Recommended Interface Circuit



Mechanical Specifications



About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

Contact Information

ProLabs US

Email: sales@prolabs.com

Telephone: 952-852-0252

ProLabs UK

Email: salessupport@prolabs.com

Telephone: +44 1285 719 600