3HE10551AA-E-PRO

Alcatel-Lucent Nokia® 3HE10551AA-E Compatible TAA Compliant 100GBase-SR4 QSFP28 Transceiver (MMF, 850nm, 100m, DOM, -20 to 85C, MPO)

Features

- SFF-8665 Compliance
- MPO Connector
- Extended Temperature -20 to 85 Celsius
- Multi-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications:

- 100GBase Ethernet
- Access and Enterprise

Product Description

This Alcatel-Lucent Nokia® 3HE10551AA-E compatible QSFP28 transceiver provides 100GBase-SR4 throughput up to 100m over OM4 multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. 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.

Proline'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. 021424

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Ts	-40		85	°C
Case Operating Temperature	Tc	-25		85	°C
Relative Humidity	RH	5		95	%
Data Rate Per Channel			25.78125		Gb/s

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	V_{CC}	3.135	3.3	3.465	V	
Module Supply Current	Icc			750	mA	
Power Dissipation	P_D			2.5	W	
Transmitter						
Input Differential Impedance	Z_{IN}		100		Ω	
Differential Data Input Swing	$V_{IN, P-P}$	180		900	mV_{P-P}	
Receiver						
Output Differential Impedance	Z_O		100		Ω	
Differential Data Output Swing	$V_{OUT, P-P}$	300		850	mV_{P-P}	1
Transition Time (20% to 80%)	Tr,Tf	12			ps	

Notes:

1. Internally AC coupled, but requires an external 100Ω differential load termination.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	Po	-8.4		+2.4	dBm	1
Center Wavelength Range	λc	840	850	860	nm	
Extinction Ratio	EX	2			dB	2
Spectral width (RMS)	$\Delta\lambda$			0.6	nm	
Transmitter and Dispersion Penalty	TDP			4.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram	IEEE Std 802.3bm compatible					
Receiver						
Center Wavelength	λc	840	850	860	nm	
Average Receiver Sensitivity (P_{avg})	S			-11	dBm	3
Average Receiver Sensitivity (P_{avg})	S			-7.5	dBm	4
Receiver Overload (P_{avg})	P_{OL}	2.5			dBm	
Damage Threshold	P_{OL}	3.4			dBm	
Optical Reflectance	ORL			-12	dB	
LOS De-Assert	LOS_D			-11.5	dBm	
LOS Assert	LOS_A	-30			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS $2^{31}-1$ test pattern @25.78125Gbps.
3. Measured with PRBS $2^{31}-1$ test pattern, 25.78125Gb/s, BER$<5E^{-5}$.
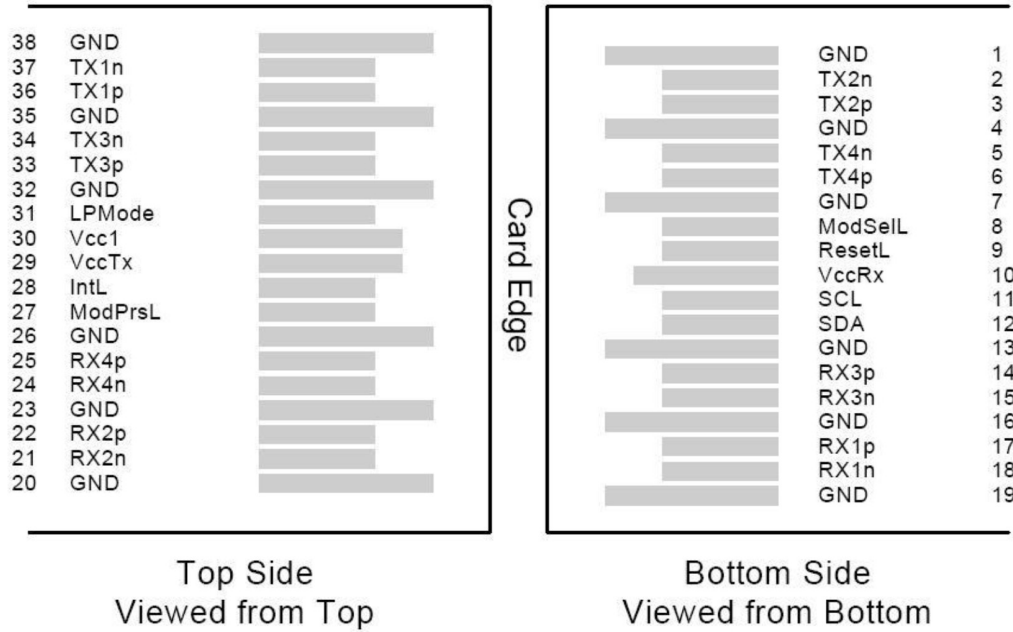4. Measured with PRBS $2^{31}-1$ test pattern, 25.78125Gb/s, BER$<10^{-12}$.

Pin Descriptions

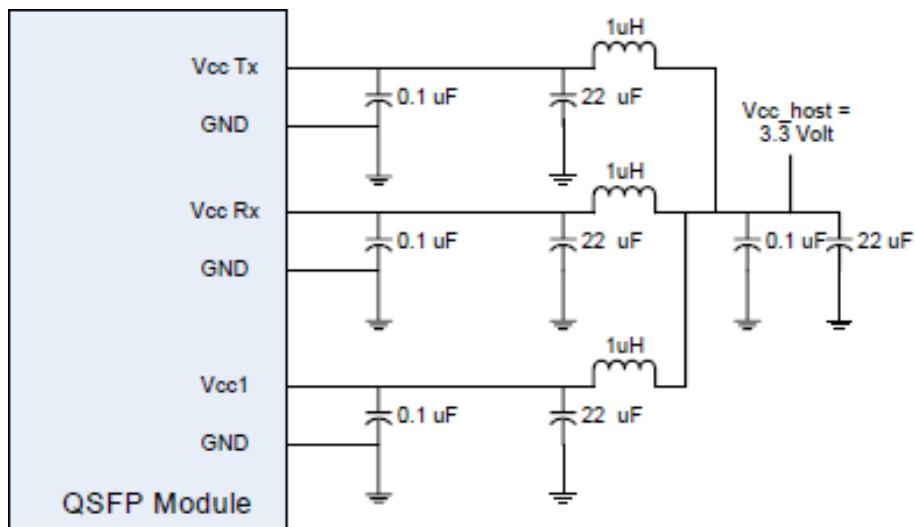| Pin	Logic	Symbol	Name/Descriptions	Ref.
1		GND	Module Ground	1
2	CML-I	Tx2-	Transmitter inverted data input	
3	CML-I	Tx2+	Transmitter non-inverted data input	
4		GND	Module Ground	1
5	CML-I	Tx4-	Transmitter inverted data input	
6	CML-I	Tx4+	Transmitter non-inverted data input	
7		GND	Module Ground	1
8	LVTTL-I	MODSEIL	Module Select	2
9	LVTTL-I	ResetL	Module Reset	2
10		VCCRx	+3.3v Receiver Power Supply	
11	LVCMOS-I	SCL	2-wire Serial interface clock	2
12	LVCMOS-I/O	SDA	2-wire Serial interface data	2
13		GND	Module Ground	1
14	CML-O	RX3+	Receiver non-inverted data output	
15	CML-O	RX3-	Receiver inverted data output	
16		GND	Module Ground	1
17	CML-O	RX1+	Receiver non-inverted data output	
18	CML-O	RX1-	Receiver inverted data output	
19		GND	Module Ground	1
20		GND	Module Ground	1
21	CML-O	RX2-	Receiver inverted data output	
22	CML-O	RX2+	Receiver non-inverted data output	
23		GND	Module Ground	1
24	CML-O	RX4-	Receiver inverted data output	
25	CML-O	RX4+	Receiver non-inverted data output	
26		GND	Module Ground	1
27	LVTTL-O	ModPrsL	Module Present, internal pulled down to GND	
28	LVTTL-O	IntL	Interrupt output should be pulled up on host board	2
29		VCCTx	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPMode	Low Power Mode	2
32		GND	Module Ground	1
33	CML-I	Tx3+	Transmitter non-inverted data input	
34	CML-I	Tx3-	Transmitter inverted data input	
35		GND	Module Ground	1
36	CML-I	Tx1+	Transmitter non-inverted data input	
37	CML-I	Tx1-	Transmitter inverted data input	
38		GND	Module Ground	1

Notes:

1. Module circuit ground is isolated from module chassis ground with in the module.
2. Open collector; should be pulled up with 4.7k-10k ohms on host board to a voltage between 3.15V and 3.6V.
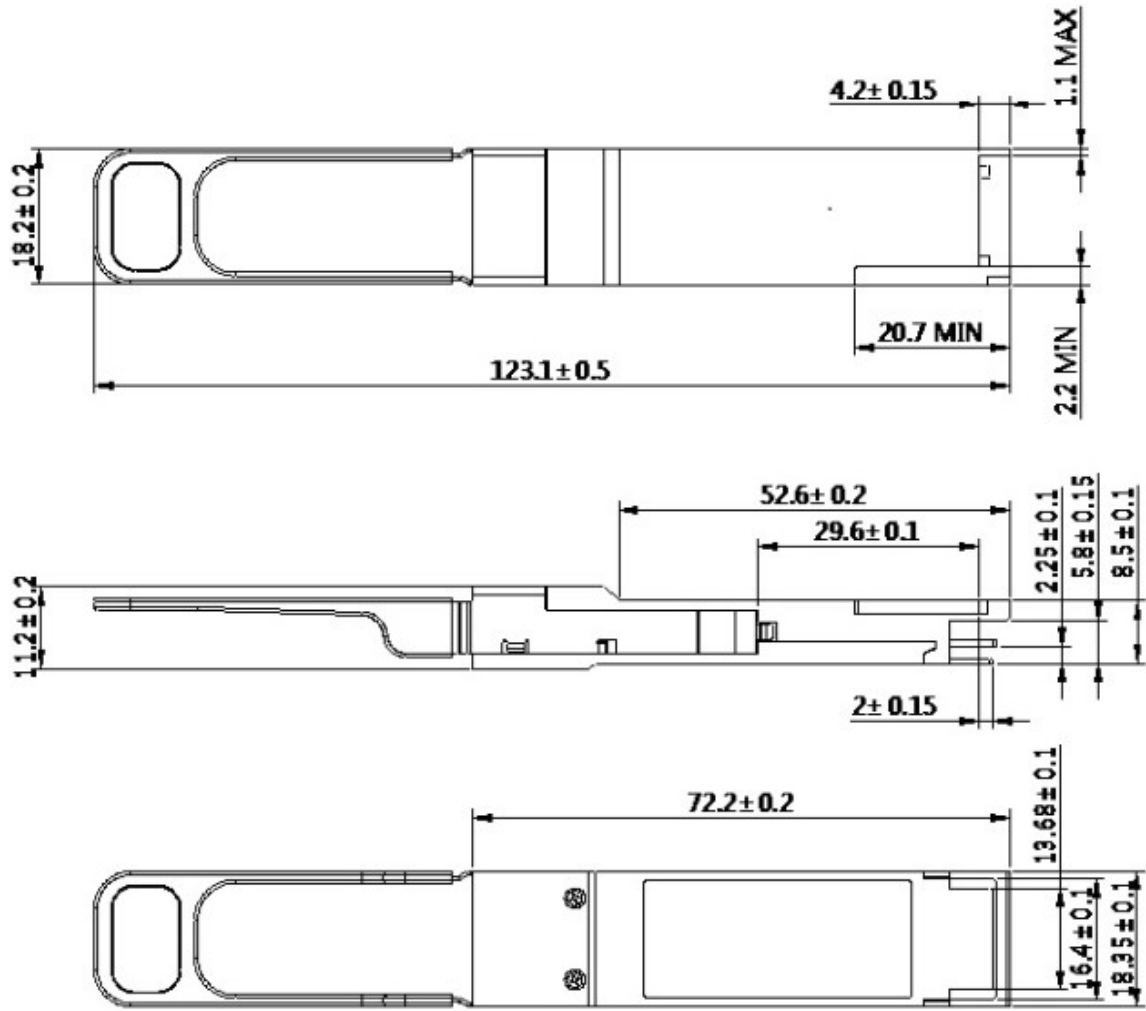
Electrical Pin-out Details

Top Side (Viewed from Top)		Bottom Side (Viewed from Bottom)	
38	GND	GND	1
37	TX1n	TX2n	2
36	TX1p	TX2p	3
35	GND	GND	4
34	TX3n	TX4n	5
33	TX3p	TX4p	6
32	GND	GND	7
31	LPMode	ModSelL	8
30	Vcc1	ResetL	9
29	VccTx	VccRx	10
28	IntL	SCL	11
27	ModPrsL	SDA	12
26	GND	GND	13
25	RX4p	RX3p	14
24	RX4n	RX3n	15
23	GND	GND	16
22	RX2p	RX1p	17
21	RX2n	RX1n	18
20	GND	GND	19

Card Edge

Top Side
Viewed from Top

Bottom Side
Viewed from Bottom

Recommended Host Board Power Supply Filter Network

Mechanical Specifications

About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.

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