1029-3501-C

Optelian® 1029-3501 Compatible TAA 100/200GBase-DWDM CFP2 Transceiver (SMF, 1528.77nm to 1568.36nm, 80km, LC)

Features:

- CFP MSA 1.0 Compliance
- Duplex LC Connector
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 200GBase Ethernet
- Access and Enterprise

Product Description

This Optelian® 1029-3501 compatible CFP2 transceiver provides 100/200GBase-DWDM throughput up to 80km over single-mode fiber (SMF) using a wavelength of 1528.77nm to 1568.36nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Optelian® 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. It is built to meet or exceed the specifications of Optelian®, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. 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.")

TAA COMPLIANT

Rev. 011926

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc			3.6	V	
Input Voltage		-0.3		Vcc + 0.5	V	
RX Input Power	Prx			17	dBm	1
Operating Relative Humidity	RHop	5		85	%	2
Storage Temperature	Ttrs	-40		+85	°C	
Operating Case Temperature (long term)	Tcase	-5		70	°C	
Operating Case Temperature (short term)	Tcase	-5		75	°C	
Storage / Transportation RH	RHst	5		93	%	

Note:

1. This should be considered an operating fault condition experienced for only short timeframe and should not result in damage; above it could risk damage.
2. Constant humidity ratio of 0.026 kg water/kg dry air not to be exceeded according to GR-63.

Power Supplies

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
+3.3V Supply Voltage	Vcc	3.2	3.3	3.4	V	
+3.3 V Supply current (200G, 16QAM with SD-FEC)	Icc			6.1	A	
+3.3 V Supply current -5°C to 70°C	Icc			TBD	A	
Power dissipation -5°C to 70°C **QPSK with HDFEC** **QPSK with SDFEC** **8QAM** **16QAM**	Pdiss		 15.5 17.5 21.5 20.5		 W W W W	

Optical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Baud rate	Per IQ modulator	27.95		43	GBaud	
Mean modulated output power	DP_QPSK	-5		2	dBm	
Mean modulated output power	DP-8QAM	-5		2	dBm	
Mean modulated output power	DP-16QAM	-5		2	dBm	
Shuttered output power				-35	dBm	
Wavelength range		1528.77		1568.36	nm	
Frequency range		191.150		196.100	THz	
Default channel grid spacing	Tunable across C-band		50		GHz	
Fine tune frequency resolution		0.1			GHz	
Wavelength deviation	± 20 pm	-1.5		+1.5	GHz	
On-grid tuning range	Unshuttered tuning	-6		+6	GHz	
Lorentzian linewidth	Tx and LO		300		kHz	
OSNR	Inband	35			dB	
OSNR	Outband	45			dB	
Optical transmitter turn on time 1	Warm start			1	s	
Optical transmitter turn on time 1	Cold start			60	s	
Optical transmitter turn off time	From TX_DIS activated			10	ms	
Transmitter channel tuning				60	s	
Optical return loss	Towards the module	27			dB	
Receiver						
Frequency range		191.150		196.100	THz	
Average optical input power		-20		+13	dBm	
Receiver dynamic range		-20		0	dBm	
VOA range	On input signal	10			dB	
VOA step size				0.4	dB	
VOA response time				100	ms	
Signal input monitor accuracy		-2.5		+2.5	dB	
Optical return loss				27	dB	
Required OSNR DP-QPSK (10-15 post FEC error rate)	SDFEC		11.4		dB/0.1 nm	
Required OSNR DP-8QAM (10-15 post FEC error rate)	SDFEC		18.1		dB/0.1nm	
Required OSNR DP-16QAM (10-15 post FEC error rate)	SDFEC		19.8		dB/0.1nm	
Chromatic dispersion tolerance	QPSK 8QAM 16QAM			40 20 16	ns/nm	

DGD tolerance	QPSK 8QAM 16QAM			90 45 45	ps ps ps	
SOPMD tolerance	QPSK 8QAM 16QAM		2500 2500 1000		ps^2 ps^2 ps^2	
Acquisition time				30	ms	

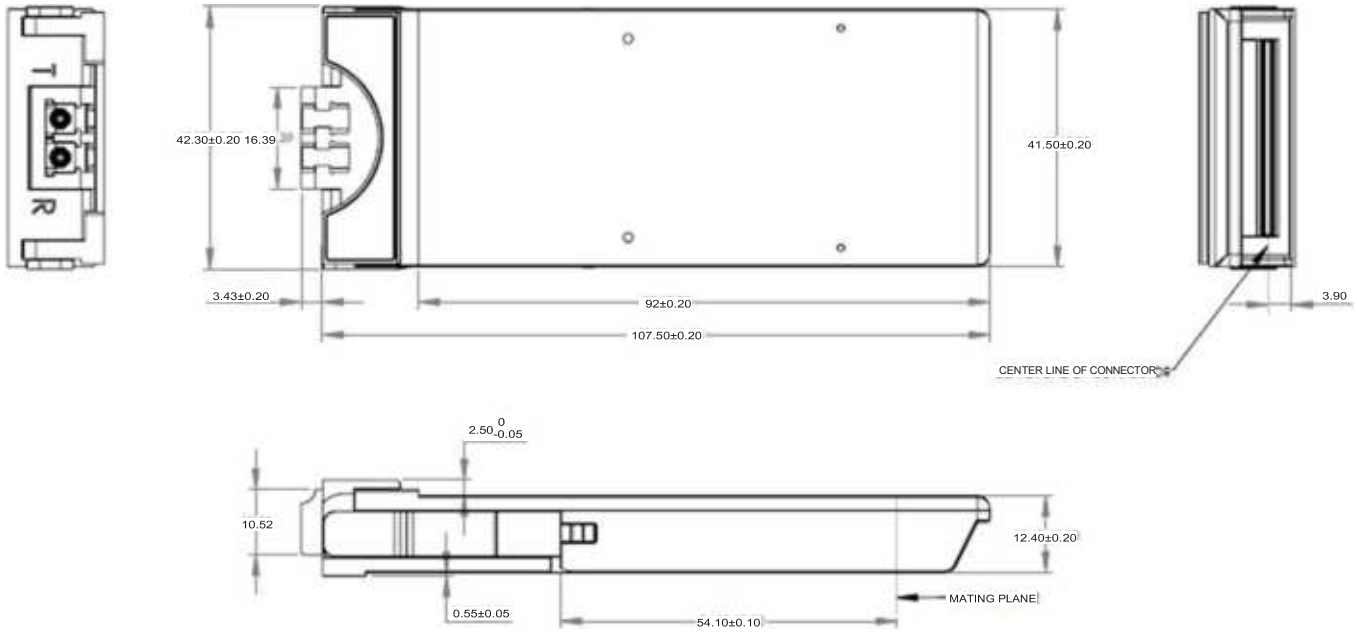
Notes:

1. Absolute tuning speed dependent on required power/wavelength mask requirements

Pin Descriptions

Bottom Row		Top Row		Bottom Row		Top Row	
Pin	**Name**	**Pin**	**Name**	**Pin**	**Name**	**Pin**	**Name**
1	GND	**104**	GND	**27**	MOD_ABS	**78**	(REFCLKp)
2	TX_OHIOn	**103**	TX1_0n	**28**	MOD_RSTn	**77**	GND
3	TX_OHIOp	**102**	TX1_0p	**29**	GLB_ALRMn	**76**	RX1_0n
4	GND	**101**	GND	**30**	GND	**75**	RX1_0p
5	RX_OHIOn	**100**	TX0_3n	**31**	MDC	**74**	GND
6	RX_OHIOp	**99**	TX0_3p	**32**	MDIO	**73**	RX0_3n
7	3.3V_GND	**98**	GND	**33**	PRTADR0	**72**	RX0_3p
8	3.3V_GND	**97**	TX0_2n	**34**	PRTADR1	**71**	GND
9	3.3V	**96**	TX0_2p	**35**	PRTADR2	**70**	RX0_2n
10	3.3V	**95**	GND	**36**	SWDIO	**69**	RX0_2p
11	3.3V	**94**	TX1_1n	**37**	BER threshold alarm	**68**	GND
12	3.3V	**93**	TX1_1p	**38**	DSP_UARTT0_TX	**67**	RX1_1n
13	3.3V_GND	**92**	GND	**39**	3.3V_GND	**66**	RX1_1p
14	3.3V_GND	**91**	TX1_2n	**40**	3.3V_GND	**65**	GND
15	HOST_INT	**90**	TX1_2p	**41**	3.3V	**64**	RX1_2n
16	SWCLK	**89**	GND	**42**	3.3V	**63**	RX1_2p
17	PRG_CNTL1	**88**	TX0_1n	**43**	3.3V	**62**	GND
18	PRG_CNTL2	**87**	TX0_1p	**44**	3.3V	**61**	RX0_1n
19	PRG_CNTL3	**86**	GND	**45**	3.3V_GND	**60**	RX0_1p
20	PRG_ALRM1	**85**	TX0_0n	**46**	3.3V_GND	**59**	GND
21	PRG_ALRM2	**84**	TX0_0p	**47**	OHIO_REFCLKn	**58**	RX0_0n
22	PRG_ALRM3	**83**	GND	**48**	OHIO_REFCLKp	**57**	RX0_0p
23	GND	**82**	TX1_3n	**49**	GND	**56**	GND
24	TX_DIS	**81**	TX1_3p	**50**	MUX_UART_RX	**55**	RX1_3n
25	RX_LOS	**80**	GND	**51**	MUX_UART_TX	**54**	RX1_3p
26	MOD_LOPWR	**79**	(REFCLKn)	**52**	GND	**53**	GND

Mechanical Specifications



About ProLabs

Our extensive experience comes as standard. For over 20 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 more than 100 optical switching and transport platforms.

A 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 1.6T 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.

The Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure compatible products, and immediate answers to your questions. 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.



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