Product Specification

10Gbps XFP CWDM Transceiver

PLXFP10GCWB10-xx

PLXFP10GCWB16-xx

PLXFP10GCWB24-xx

V20140815

Product Features

- 9.95Gbps to 11.1Gbps data links
- 40km to 80km with 9/125μm SMF *1
- DFB laser for 18 CWDM waves *1
- Duplex LC Connector
- Hot-pluggable XFP footprint
- Single 3. 3V power supply
- Operating temperature: -5℃ to 75℃
- RoHS
- Digital Diagnostic Monitor (DDM)
- Power Consumption : 1.5W~2.5W *1

Applications

√ 10GBase- CWDM 10GE

√ SDH/SONET

√ 10G Fiber Channel

*1 Notice

Part No.	Laser	Power Budget	Power Consumption
PLXFP10GCWB10-xx	DFP/PIN	10dB	1.5W
PLXFP10GCWB16-xx	DFP/PIN	16dB	1.5W
PLXFP10GCWB24-xx	EML/APD	24dB	2.5W

1. Product Description

The PLXFP10GCWB10-xx / PLXFP10GCWB16-xx/ PLXFP10GCWB24-xx is a 10Gbps enhanced small form factor pluggable XFP transceiver compatible with 10GBASE- CWDM, SDH. It is suitable for Single-mode fiber (SMF) communications in 10Gbps Ethernet/FC/SDH/SONET.

2. Regulatory Compliance

TINOUT transceivers are Class 1 Laser Products comply with FDA regulations. Meet Class 1 eye safety requirements of EN 60825 and the electrical safety requirements of EN 60950.

3. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V_{CC}	-0.5	4	V
Storage Temperature	T_S	-40	85	°C
Operating Case Temperature	T_C	-5	75	°C

4. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	T_C	-5		75	°C
Power Supply Voltage	V_{CC}	3.15	3.3	3.45	V
Power Supply Current	I_{CC3}			400	mA
Data Rate			10		GBps
Max Link Length on 9/125μm SMF	Lmax	Ref *1 Notice			

5. Optical Characteristics

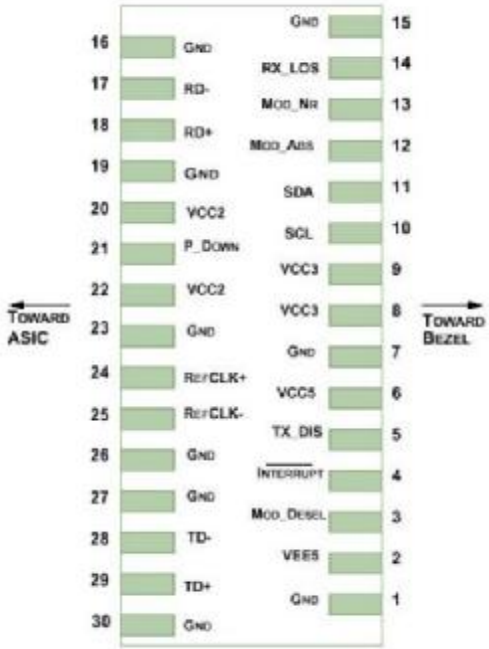
Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
PLXFP10GCWBXX-XX Centre Wavelength	λc	1XX0-8	1XX0	1XX0+8	nm
Centre Wavelength Spacing			0.8		nm
Spectral Width (RMS)	σ			0.3	nm
Average Output Power PLXFP10GCWB10-XX XX=(27,29,31……43)	Pout	-4.5		4	dBm
Average Output Power PLXFP10GCWB16-XX/ PLXFP10GCWB24-XX XX=(45,47,49……61)	Pout	-1		5	dBm
Extinction Ratio PLXFP10GCWB10-XX XX=(27,29,31……43)	ER	6			dB
Extinction Ratio PLXFP10GCWB16-XX/ PLXFP10GCWB24-XX XX=(45,47,49……61)	ER	8			dB
Average Launch Power of Off Transmitter	Poff			-30	dBm
Receiver					
PLXFP10GCWBXX-XX Centre Wavelength	λc	1XX0-8	1XX0	1XX0+8	nm
Receiver Sensitivity/Overload PLXFP10GCWB10-XX XX=(27,29,31……43)	P_{IN}			-15	dBm
	Pmax	5			dBm
Receiver Sensitivity/Overload PLXFP10GCWB16-XX XX=(45,47,49……61)	P_{IN}			-16	dBm
	Pmax	5			dBm
Receiver Sensitivity/Overload PLXFP10GCWB24-XX XX=(45,47,49……61)	P_{IN}			-24	dBm
	Pmax	-7			dBm
LOS De-Assert	LOS_D			-29	dBm
LOS Assert	LOS_A	-32			dBm
LOS Hysteresis		0.5			dB

*1. X= Center Wavelength. Wavelength stablility is achieved within 60 seconds of power up

6. Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Input Differential Impedance	Zin	90	100	110	Ω
Data Input Swing Differential	Vin	200		700	mV
Tx-Dis Disable	Vd	2.0		Vcc	V
Tx-Dis Enable	Ven	0		0.8	V
Receiver					
Data Output Swing Differential	Vout	300		800	mV
Rx-Los Fault	Vlf	-0.5		VCCHOST	V
Rx-Los Normal	Vln	0		0+0.8	V
Output rise and fall time	Tr, Tf			38	ps

7. Pin Descriptions



Pin	Symbol	Description	Ref.
1	GND	Module Ground	
2	VEE5	Optional Power Supply	
3	Mod-Desel		
4	Interrupt		
5	Tx-Dis	Transmitter Disable	

6	VCC5	+5V Power Supply	
7	GND	Module Ground	
8	VCC3	+3.3V Power Supply	
9	VCC3	+3.3V Power Supply	
10	SCL	Serial 2wire interface clock	
11	SDA	Serial 2wire interface data line	
12	Mod-Abs	Module Absent	
13	Mod-NR	Module Not Ready	
14	Rx-Los	Receiver Loss of Signal indicator	
15	GND	Module Ground	
16	GND	Module Ground	
17	RD-	Receiver Inverted data output	
18	RD+	Receiver non-Inverted data output	
19	GND	Module Ground	
20	VCC2	+1.8V Power Supply	
21	P-Down/RST		
22	VCC2	+1.8V Power Supply	
23	GND	Module Ground	
24	Ref CLK+		
25	Ref CLK-		
26	GND	Module Ground	
27	GND	Module Ground	
28	TD-	Transmitter Inverted data input	
29	TD+	Transmitter non-Inverted data input	
30	GND	Module Ground	

8. EEPROM & DDM THRESHOLD

8.1 EEPROM

TABLE (00h)

Reserved for diagnostics functions

TABLE (01h) EEPROM Serial ID Memory Contents

Add.	Size (Bytes)	Name of Field	Hex	Description
BASE ID FIELDS				
128	1	Identifier	06	XFP
129	1	Ext. Identifier	50	TX Ref Clock Input Not Required; Power Consumption Max

				2.5W
130	1	Connector	07	LC
131-138	8	Transceiver	22 00 00 00 00 20 00 00	Transmitter Code
139	1	Encoding	F0	64B/66B, 8B/10B, SONET, NRZ
140	1	BR, Min	63	9.9Gbps
141	1	BR, Min	6F	11.1Gbps
142	1	Length (9um) km	28	40km
143	1	Length (E-50um) m	00	
144	1	Length (50um) m	00	
145	1	Length (62.5um) m	00	
146	1	Length (Copper)	00	
147	1	Device Tech	74	cooled 1550nm EML
148-163	16	Vendor Name	43 2D 4C 49 47 48 54 20 20 20 20 20 20 20 20 20	TINOUT * OEM available
164	1	CDR Support	F8	9.9~11.1Gbps
165-167	3	Vendor OUI	00 00 00	* OEM available
168-183	16	Vendor PN	xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx	* OEM available
184-185	2	Vendor Rev	30 31	01
186-187	2	Wavelength	xxxx	DWDM C-BAND
188-189	2	Wavelength Tolerance	00 14	0.1nm
190	1	Max Case Temp	4B	75℃
191	1	CC-BASE		
EXTENDED ID FIELDS				
192-195	4	Power Supply	64	Max Power Consumption 2W
			78	Max Power Consumption in Power Down Mode is 1.2W
			04	Max Current by 3.3V is 400mA
			00	
196-211	16	Vendor SN	43 4C xx xx xx xx xx xx xx xx xx 20 20 20 20 20	SN of Transceiver (ASCII). Exp. “PLXXXXXXXXX”
212-219	8	Date Code	xx xx xx xx xx xx 20 20	YY/MM/DD Exp. 120727
220	1	Diagnostic Monitoring	08	Average Power
221	1	Enhanced Options	40	Optional Soft TX_DISABLE implemented;
222	1	Aux Monitoring	00	
223	1	CC_EXT	checksum	Checksum for Extened ID
VENDOR SPECIFIC ID FIELDS				

224-255	32	Vendor Specific	FF FF FF……	Depends on Customer Info

8.1 DDM THRESHOLD

PLXFP10GCWB10-xx

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13℃	-8℃	85℃	88℃
Voltage	2.9V	3V	3.6V	3.7V
Tx Bias	15mA	20mA	80mA	85mA
Tx Power	-8dBm	-7dBm	5dBm	6dBm
Rx Power	-18dBm	-15dBm	5dBm	6dBm

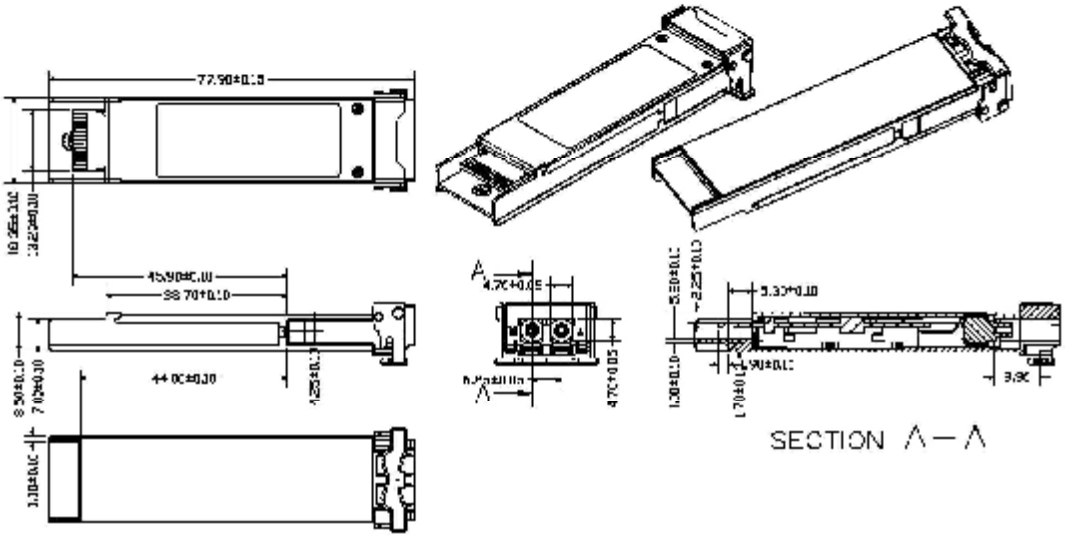
PLXFP10GCWB16-xx

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13℃	-8℃	85℃	88℃
Voltage	2.9V	3V	3.6V	3.7V
Tx Bias	15mA	20mA	80mA	85mA
Tx Power	-5dBm	-3dBm	5dBm	6dBm
Rx Power	-18dBm	-16dBm	5dBm	6dBm

PLXFP10GCWB24-xx

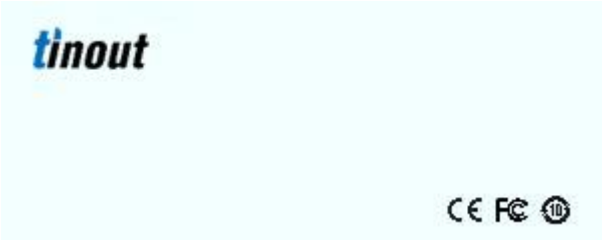
	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13℃	-8℃	85℃	88℃
Voltage	2.9V	3V	3.6V	3.7V
Tx Bias	15mA	20mA	80mA	85mA
Tx Power	-1dBm	0dBm	5dBm	6dBm
Rx Power	-20dBm	-18dBm	-7dBm	-6dBm

9. Mechanical Specifications



10. LABEL

TINOUT offers label OEM design and print.
Label barcode supports code128 and 2D barcode
SIZE: 38mm*15mm



Ordering Information

Part No.	Data Rate	DDM	Wave	Fiber Type	Power Budget	Temp.	Optical Interface
PLXFP10GCWB10-xx	9.95Gbps ~11.1Gbps	yes	*2	SMF	10dB	-5~75℃	LC
PLXFP10GCWB16-xx	9.95Gbps ~11.1Gbps	yes	*3	SMF	16dB	-5~75℃	LC
PLXFP10GCWB24-xx	9.95Gbps ~11.1Gbps	yes	*3	SMF	24dB	-5~75℃	LC

***2**

Wave=1270nm,1290nm,1310nm,1330nm,1350nm,1370nm,1390nm,1410nm,1430nm

*3

Wave=1450nm,1470nm,1490nm,1510nm,1530nm,1550nm,1570nm,1590nm,1610nm

VERSION UPDATE:

VERSION NO.	DATE	UPDATED INFORMATION
V20131010	20131010	1. EEPROM& DDM Threshold updated 2. “LABEL” added 3. Ordering information updated 4. Product picture updated

NOTICE:

TINOUT reserves the right to make changes to this product in this specification without notice, in order to improve product performance.

CONTACT:

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