



Product Specification

10Gbps XFP BIDI Transceiver

PLXFP10GBDXXXXB10

PLXFP10GBDXXXXB16

PLXFP10GBDXXXXB23

V20140812

Product Features

- | 9.95Gbps to 11.1Gbps data links
- | 10km to 60km with 9/125μm SMF *1
- | CWDM/CWDM DFB laser *1
- | **Simplex LC Connector**
- | Hot-pluggable SFP+ footprint
- | Single 3.3V power supply
- | Operating temperature: -5°C to 75°C
- | RoHS
- | Digital Diagnostic Monitor (DDM)
- | Power Consumption :1.5W~2.5W*1

Applications

- √ 10GBASE Ethernet
- √ 10G FC
- √ OC192 / STM64

*1 Notice

PART NUMBER	Power Budget	LASER	Power Consumption
PLXFP10GBDXXXXB10	10dB	DFB/PIN	1.5W



PLXFP10GBDXXXXB16	16dB	DFB/PIN	1.5W
PLXFP10GBDXXXXB23	23dB	DFB/APD	2.5W

1. Product Description

The PLXFP10GBDXXXXBXX is a 10Gbps enhanced small form factor pluggable XFP transceiver compatible with SDH OC192/STM64, 10G BASE Ethernet, 10G FC. It is suitable for Single-mode fiber (SMF) communications in 10Gbps Ethernet/FC/SDH

PART NUMBER	CLASP COLOR
PLXFP10GBDXXXXBXX-A *2	BLUE
PLXFP10GBDXXXXBXX-B *2	GREEN

*2. FOR EXAMPLE:

IF PLXFP10GBD5157BXX-A CLASP COLOR = BLUE, PLXFP10GBD5751BXX-B CLASP COLOR = GREEN

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 _{cc}			600	mA
Data Rate			10		GBps
Max Link Length on 9/125µm SMF	L _{max}	Ref. *1 Notice			

5. Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
PLXFP10GBDXXXXBXX Centre Wavelength	λ_c	1XX0-8	1XX0	1XX0+8	nm
Spectral Width (RMS)	σ			3	nm
Average Output Power PLXFP10GBDXXXXB10 XX=(27,29,31.....43)	P _{out}	-4.5		4	dBm
Average Output Power PLXFP10GBDXXXXB16/ PLXFP10GBDXXXXB23 XX=(45,47,49.....61)	P _{out}	-1		5	dBm
Extinction Ratio PLXFP10GBDXXXXB10 XX=(27,29,31.....43)	ER	4			dB
Extinction Ratio PLXFP10GBDXXXXB16/ PLXFP10GBDXXXXB23 XX=(45,47,49.....61)	ER	8			dB
Average Launch Power of Off Transmitter	P _{off}			-30	dBm
Receiver					
PLXFP10GBDXXXXBXX Centre Wavelength	λ_c	1XX0-8	1XX0	1XX0+8	nm
Receiver Sensitivity/Overload PLXFP10GBDXXXXB10 XX=(27,29,31.....43)	P _{IN}			-15	dBm
	P _{max}	5			dBm
Receiver Sensitivity/Overload PLXFP10GBDXXXXB16 XX=(45,47,49.....61)	P _{IN}			-16	dBm
	P _{max}	5			dBm
Receiver Sensitivity/Overload PLXFP10GBDXXXXB23 XX=(45,47,49.....61)	P _{IN}			-24	dBm
	P _{max}	-7			dBm
LOS De-Assert	LOS _D			-28	dBm

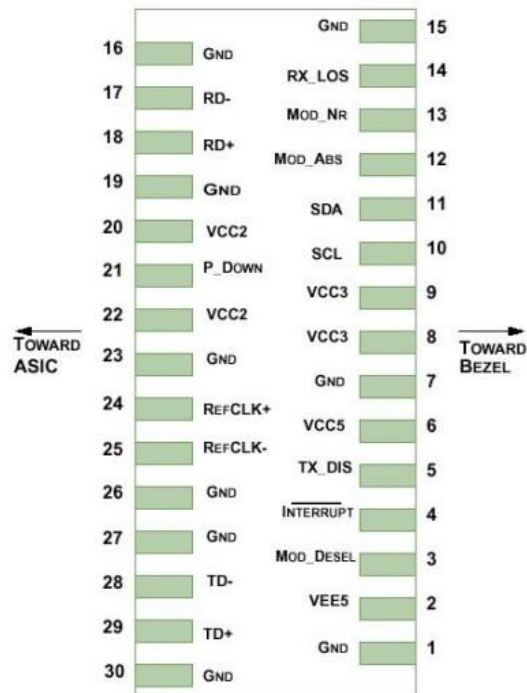


LOS Assert	LOSA	-33			dBm
LOS Hysteresis		0.5			dB

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	44 40 00 00 C0 00 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	14	20km
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	40	1310nm DFB
148-163	16	Vendor Name	43 2D 4C 49 47 48 54 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	63 38/ 67 E8	1270nm/1330nm
188-189	2	Wavelength Tolerance	07 D0	10nm
190	1	Max Case Temp	4B	75 °C
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	SN of Transceiver (ASCII). Exp. "PLXXXXXXXXXX"
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 Extended ID
VENDOR SPECIFIC ID FIELDS				
224-255	32	Vendor Specific	FF FF FF.....	Depends on Customer Info

8.1 DDM THRESHOLD

PLXFP10GBDXXXXB10

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13°C	-8°C	85°C	88°C
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

PLXFP10GBDXXXXB16

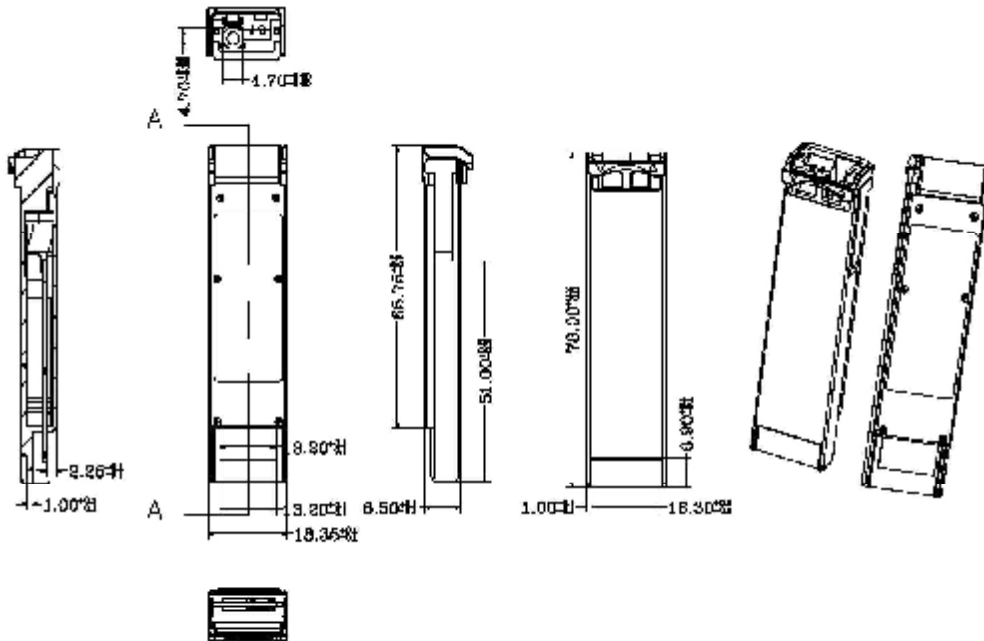
	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13°C	-8°C	85°C	88°C
Voltage	2.9V	3V	3.6V	3.7V
Tx Bias	15mA	20mA	80mA	85mA
Tx Power	-5dBm	-3dBm	5dBm	6dBm
Rx Power	-18dBm	-16dBm	5dBm	6dBm

PLXFP10GBDXXXXB23

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-13°C	-8°C	85°C	88°C
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: 30mm*10mm





Ordering Information

Part No.	Data Rate	DDM	Wave	Fiber Type	Power budget	Temp.	Optical Interface
PLXFP10GBDXXXXB10	9.95Gbps ~11.1Gbps	yes	*3	SMF	10dB	-5~75℃	BiDi LC
PLXFP10GBDXXXXB16	9.95Gbps ~11.1Gbps	yes	*4	SMF	16dB	-5~75℃	BiDi LC
PLXFP10GBDXXXXB23	9.95Gbps ~11.1Gbps	yes	*4	SMF	23dB	-5~75℃	BiDi LC

*3

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

*4

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

VERSION UPDATE:

VERSION NO.	DATE	UPDATED INFORMATION
V20131010	20131010	1. NEW PUBLISHED

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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