

Features:



- Support IEEE802.3-av 10/10G base PR30 symmetric EPON OLT
- Support IEEE802.3-2008 EPON OLT
- Single fiber, Integrated with micro-optics WDM filter
- 1577nm 10G continuous-mode EML laser
- 1490nm 1.25G continuous-mode DFB laser
- Rx with 10G(1270nm)/1.25G(1310nm) compatible burst-mode APD-TIA
- Digital diagnostic INF-8077i compliant
- XFP MSA package with SC/UPC receptacle optical interface
- +3.3V and +5V power supplies
- Operating case temperature:0 to 70 °C
- RoHS with exemption

Regulatory Compliance

Table 1 – Regulatory Compliance

Feature	Standard	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1 (>500V)
Electrostatic Discharge (ESD) at the Faceplate	IEC 61000-4-2	Compatible with Standards 8KV contact discharge, 15 kV air discharge
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B	Compatible with Standards
Laser Eye Safety	FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2	Compatible with Class 1 Laser Product
RoHS Compliance	2011/65/EU	Compatible with Standards With exemption:7C(1)

Absolute Maximum Ratings

Table 2 - Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Storage Temperature	Ts	-40	-	+85	°C	
Operation Case Temperature	TC	0		70	°C	
Supply Voltage	Vcc3	-0.5	-	+4.0	V	
	Vcc5	-0.5		+6.0		
Operating Relative Humidity	RH	-	-	85	%	

Recommended Operating Conditions

Table 3 – Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Supply Voltage	Vcc3	3.14	3.3	3.47	V	
	Vcc5	4.75	5	5.25		
Supply Current	Icc3	-	-	780	mA	
	Icc5			380		
Operating Temperature (Case)	Topr	0	-	70	°C	

Module Characteristics

Table 4 – Optical Characteristics

Transmitter						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
10G Transmitter						
Transmitter Signal Rate			10.3125		Gbps	
Centre Wavelength	λ_c	1575	1577	1580	nm	
Optical Spectrum Width (-20dB)	$\Delta\lambda$			1	nm	
Side Mode Suppression Mode	SMSR	30			dB	
Average Launch Power	P _{OUT}	2		5	dBm	1
Average Launch Power-OFF Transmitter	P _{OFF}			-39	dBm	
Extinction Ratio	EX	6			dB	2

Optical Eye Mask	Compliant With IEEE Std 802.3av™-2009					
1G Transmitter						
Transmitter Signal Rate			1.25		Gbps	
Centre Wavelength	λ_c	1480	1490	1500	nm	
Optical Spectrum Width (-20dB)	$\Delta\lambda$			1	nm	
Side Mode Suppression Mode	SMSR	30			dB	
Average Launch Power	P_{OUT}	2		7	dBm	1
Average Launch Power-OFF Transmitter	P_{OFF}			-39	dBm	
Extinction Ratio	EX	9				3
Optical Eye Mask	Compliant With IEEE Std 802.3™-2008					
10G Receiver						
Transmitter Signal Rate			10.3125		Gbps	
Operating Wavelength	λ_c	1260		1280	nm	
Sensitivity	P_{SEN}			-28	dBm	4
Saturation	P_{SAT}	-6				
Bit Error Ratio	BER			10^{-3}		
Receiver Threshold Settling Time	$T_{settling}$			800	ns	
Loss of Signal Assert	P_{LOSA}	-45	-	-	dBm	
Loss of Signal Deassert	P_{LOSD}			-31	dBm	
1G Receiver						
Transmitter Signal Rate			1.25		Gbps	
Operating Wavelength	λ_c	1260	1310	1360	nm	
Sensitivity	P_{SEN}			-29.78	dBm	5
Saturation	P_{SAT}	-9.38				
Receiver Threshold Settling Time	$T_{settling}$			400	ns	
Loss of Signal Assert	P_{LOSA}	-45	-	-	dBm	
Loss of Signal De-assert	P_{LOSD}			-30	dBm	

Notes:

1. The optical power is launched into 9/125um SMF.
2. Measured with PRBS 2³¹-1 test pattern @10.3125Gbps.
3. Measured with PRBS 2⁷-1 test pattern @1.25Gbps.
4. Measured with a PRBS 2³¹-1 test pattern @10.3125Gbps and ER=6dB, BER =10⁻³

5. Measured with a PRBS 2⁷-1 test pattern @1.25Gbps and ER=9dB, BER=10⁻¹²

Table 5 – Electrical Specifications and Timing

Electrical Specifications and Timing						
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Time to Initialize	t_init	-	-	300	ms	
TX Power to initialize	Aop_init	-	-	10	s	
10G Transmitter						
Data Input Differential Swing	V _{IN}	120		820	mVp-p	
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Transmitter Disable Voltage – Low	V _{TDIS, L}	0		0.8	V	
Transmitter Disable Voltage – High	V _{TDIS, H}	2.0		V _{CC3}	V	
Tx Enable Time	T _{on}			2	ms	
Tx Disable Time	T _{off}			10	us	
1G Transmitter						
Data Input Differential Swing	V _{IN}	200		1600	mVp-p	
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Transmitter Fault Indication Voltage – Low	V _{TFI, L}	0		0.8	V	
Transmitter Fault Indication Voltage - High	V _{TFI, H}	2.0		V _{CC3}	V	
Tx Enable Time	T _{on}			2	ms	
Tx Disable Time	T _{off}			10	us	
10G Receiver						
Data Output Differential Swing	V _{OUT}	340		850	mV _{P-P}	
Signal Detected Voltage - Low	V _{Ios, L}	0		0.4	V	
Signal Detected Voltage - High	V _{Ios, H}	2.0		V _{CC3}	V	
Signal Detect Assert Time	T _{LOSA}			512	ns	
Signal Detect Deassert Time	T _{LOSD}			1024	ns	
Output Differential Impedance	R _{out}	90	100	110	Ω	
1G Receiver						
Data Output Differential Swing	V _{OUT}	600		1600	mV _{P-P}	
Signal Detected Voltage - Low	V _{Ios, L}	0		0.4	V	

Signal Detected Voltage - High	$V_{Ios, H}$	2.0		V_{CC3}	V	
Signal Detect Assert Time	T_{LOSA}			512	ns	
Signal Detect Deassert Time	T_{LOSD}			1024	ns	
Output Differential Impedance	R_{out}	90	100	110	Ω	

Notes:

1. See Recommended Interface Circuit.

Recommended Host Board Power Supply Circuit

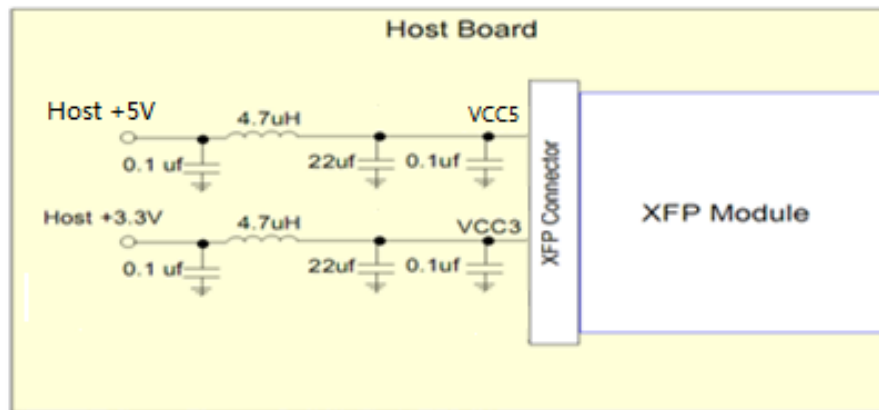


Figure 1 Recommended Host Board Power Supply Circuit

Recommended Interface Circuit

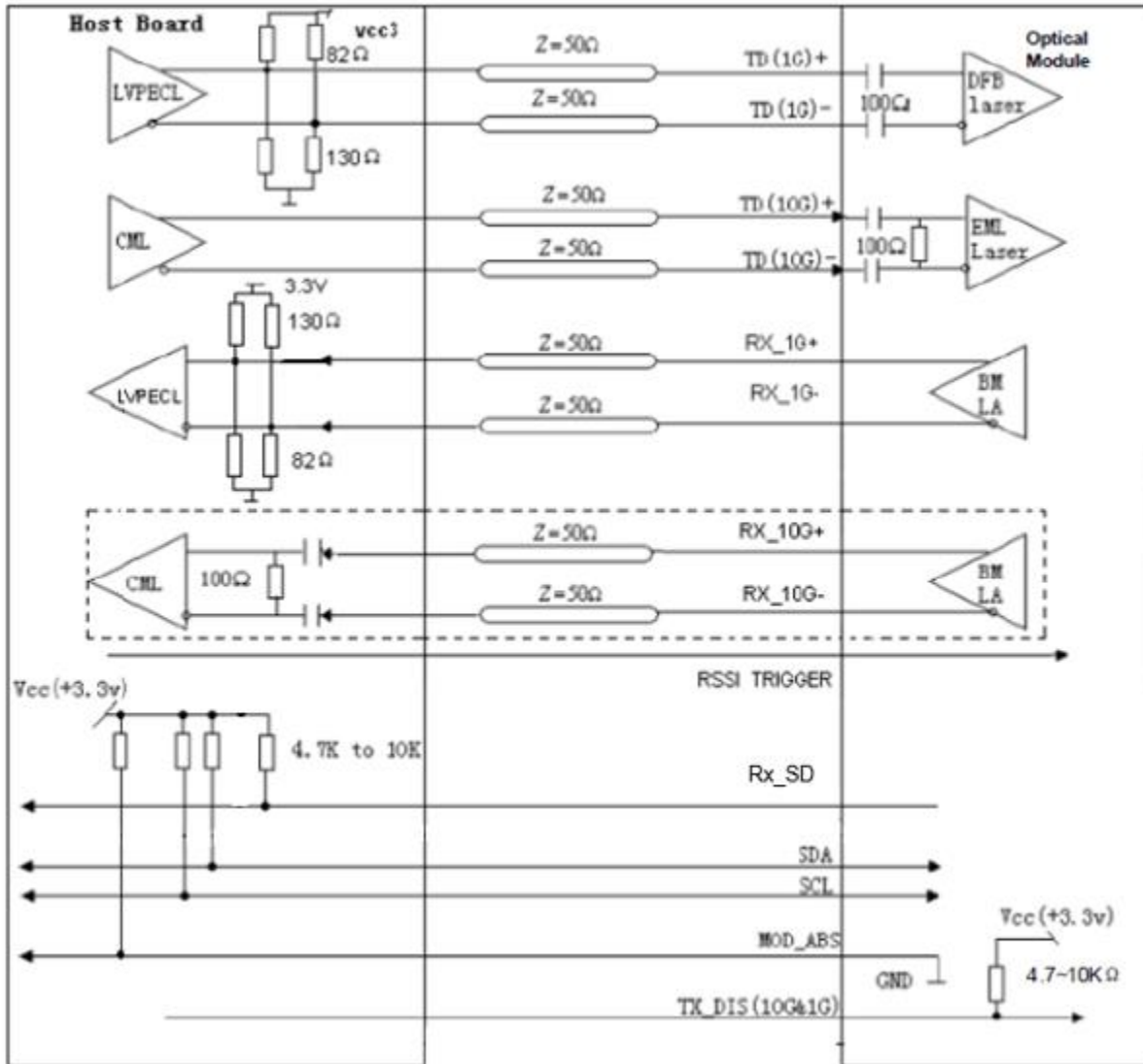


Figure 2 Recommended Interface Circuit

RSSI Timing

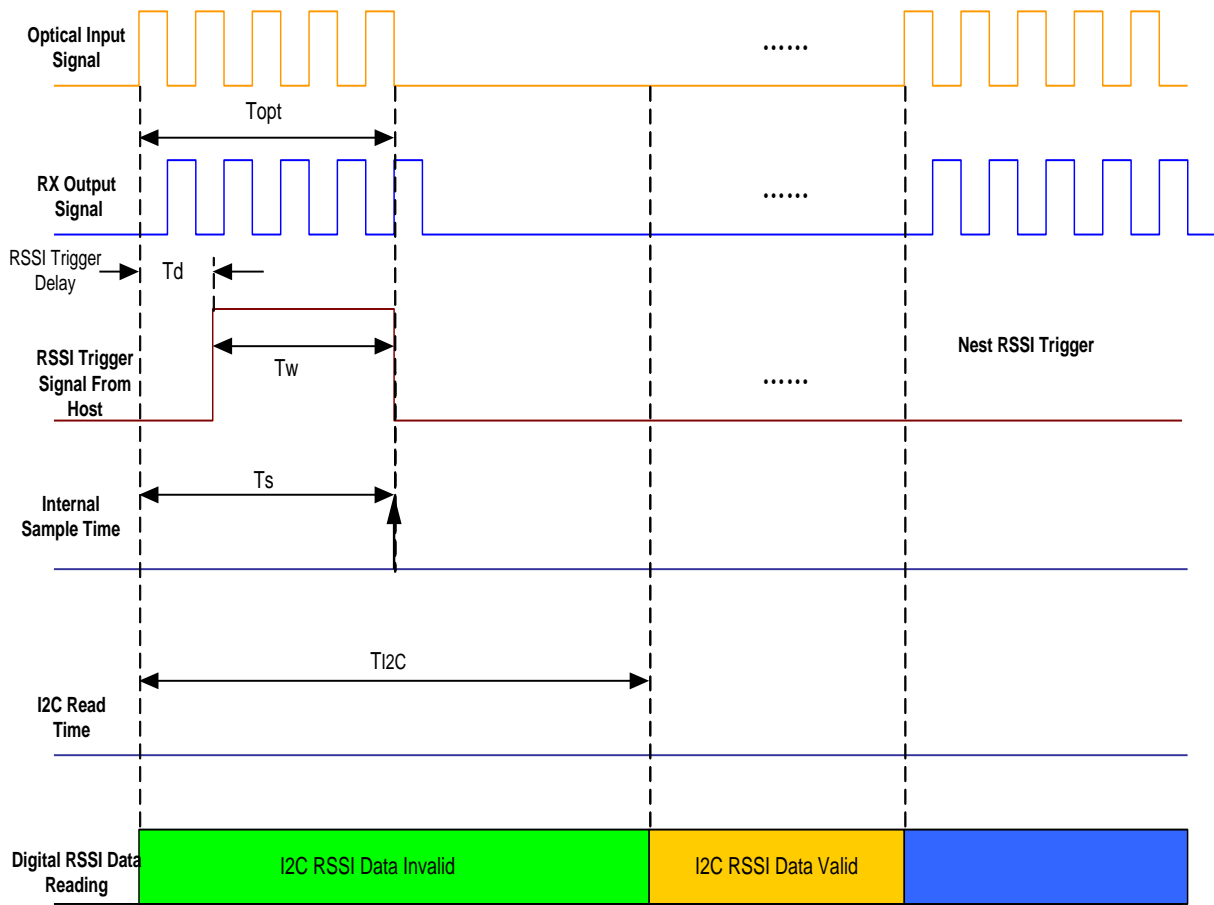


Figure 3 RSSI Timing

Table 6 – RSSI Parameter

Item	Symbol	Min	Typ	Max	unit
Optical Signal Length	T_{opt}	1184	1200	1216	ns
RSSI Trigger Delay	T_d	496	512	528	ns
RSSI Trigger Signal Width	T_w	584	600	616	ns
Internal Sample Time	T_s	1080	1112	1216	ns
I ² C Read Time	T_{I^2C}	500			us

Diagnostics

Table 7 – DDMI

Parameter	Range	Accuracy	Unit	Calibration	Notes
Temperature	0 ~70	±3°C	°C	Internal	LSB equal to 1/256C
Voltage	3 ~ 3.6	±3%	V	Internal	LSB equal to 100uv
Bias Current(10G)	0 ~262	±10%	mA	Internal	10G, LSB equal to 4uA
Bias Current(1G)	0 ~ 262	±10%	mA	Internal	1G,LSB equal to 4uA
Tx Power(10G)	2 ~5	±3dB	dBm	Internal	10G,LSB equal to 0.2uw
Tx Power(1G)	2 ~7	±3dB	dBm	Internal	1G, LSB equal to 0.2uw
Rx Power(10G)	-28~ -6	±3dB	dBm	Internal	10G,LSB equal to 0.1uw
Rx Power(1G)	-30~ -9	±3dB	dBm	Internal	1G,LSB equal to 0.1uw

EEPROM Mapping

Table 8 – EEPROM Serial ID (A0h)

DEC Addr.	HEX Addr.	Field Size (bytes)	Name	Default Value(hex)	Description
0	00	1	Identifier	6	XFP
1	01	1	Signal Conditioner Control	0	
2	02	2	Temp High Alarm	5000	80C
4	04	2	Temp Low Alarm	F600	-10C
6	06	2	Temp High Warning	4B00	75C
8	08	2	Temp Low Warning	FB00	-5C
10	0A	2	VCC3 Voltage High Alarm	8CA0	3.6V
12	0C	2	VCC3 Voltage Low Alarm	7530	3.0V
14	0E	2	VCC3 Voltage High Warning	88B8	3.5V
16	10	2	VCC3 Voltage Low Warning	7918	3.1v
18	12	2	Bias High Alarm (TX_10G)	88B8	140mA(LSB equal to 4uA)
20	14	2	Bias Low Alarm (TX_10G)	00FA	1mA(LSB equal to 4uA)
22	16	2	Bias High Warning (TX_10G)	7EF4	130mA(LSB equal to 4uA)
24	18	2	Bias Low Warning (TX_10G)	01F4	2mA(LSB equal to 4uA)
26	1A	2	TX Power High Alarm(TX_10G)	7B3B	8dBm(LSB equal to 0.2uw)
28	1C	2	TX Power Low Alarm (TX_10G)	0F83	-1dBm(LSB equal to 0.2uw)
30	1E	2	Tx Power High Warning (TX_10G)	61E3	7dBm(LSB equal to 0.2uw)

32	20	2	TX Power Low Warning (TX_10G)	1388	0dBm(LSB equal to 0.2uw)
34	22	2	RX Power High Alarm	0F8D	-4dBm(LSB equal to 0.1uw)
36	24	2	RX Power Low Alarm	0004	-34dBm(LSB equal to 0.1uw)
38	26	2	RX Power High Warning	0C5A	-5dBm(LSB equal to 0.1uw)
40	28	2	RX Power Low Warning	0005	-33dBm(LSB equal to 0.1uw)
42	2A	2	Bias High Alarm (TX_1G)	704E	115MA(LSB equal to 4uA)
44	2C	2	Bias Low Alarm (TX_1G)	00FA	1mA(LSB equal to 4uA)
46	2E	2	Bias High Warning (TX_1G)	6B6C	110mA(LSB equal to 4uA)
48	30	2	Bias Low Warning (TX_1G)	01F4	2mA(LSB equal to 4uA)
50	32	2	TX Power High Alarm(TX_1G)	C350	10dBm(LSB equal to 0.2uw)
52	34	2	TX Power Low Alarm(TX_1G)	1388	0dBm(LSB equal to 0.2uw)
54	36	2	TX Power High Warning(TX_1G)	9B24	9dBm(LSB equal to 0.2uw)
56	38	2	TX Power Low Warning(TX_1G)	1896	1dBm(LSB equal to 0.2uw)
58	3A	2	Reserved	0000	00 00h
60	3C	2	Reserved	0000	
62	3E	2	Reserved	0000	
64	40	2	Reserved	0000	
66	42	2	Reserved	0000	
68	44	2	Reserved	0000	
70	46	2	BER report	0000	
72	48	4	Wavelength Control Registers	xx xx xx xxh	
76	4C	4	FEC Control Registers	xx xx xx xxh	
80	50	bit7	temperature high alarming flag bit	x	
		bit6	temperature low alarming flag bit	x	
		bit5	VCC3 high alarming flag bit	x	
		bit4	VCC3 low alarming flag bit	x	
		bit3	Bias current High Alarming(10G) flag bit	x	
		bit2	Bias current Low Alarming(10G) flag bit	x	
		bit1	TX power High alarming(10G) flag bit	x	
		bit0	Tx power Low alarming(10G) flag bit	x	
81	51	bit7	RX power High alarming flag bit	x	
		bit6	RX power Low alarming flag bit	x	
		bit5	Bias current High Alarming(1G) flag bit	x	

		bit4	Bias current Low Alarming(1G) flag bit	x	
		bit3	TX power High alarming(1G) flag bit	x	
		bit2	Tx power Low alarming(1G) flag bit	x	
		bit1	Reserved	0	
		bit0	Reserved	0	
82	52	bit7	temperature high warning flag bit	x	
		bit6	temperature low warning flag bit	x	
		bit5	VCC3 high warning flag bit	x	
		bit4	VCC3 low warning flag bit	x	
		bit3	Bias current High warning(10G) flag bit	x	
		bit2	Bias current Low warning(10G) flag bit	x	
		bit1	Tx Power High Warning (TX_10G) flag bit	x	
		bit0	Tx power Low warning (TX_10G) flag bit	x	
83	53	bit7	RX power High Warning flag bit	x	
		bit6	RX power Low Warning flag bit	x	
		bit5	Bias current High warning(1G) flag bit	x	
		bit4	Bias current Low warning(1G) flag bit	x	
		bit3	TX power High Warning(1G) flag bit	x	
		bit2	TX power Low Warning(1G) flag bit	x	
		bit1	Reserved	0	
		bit0	Reserved	0	
84	54	bit7	TX_NR flag bit (10G)	x	
		bit6	TX_Fault flag bit(10G)	x	Latched Laser Fault condition
		bit5	CDR Unlock flag bit (TX_10G)	x	Latched TX CDR Loss of Lock
		bit4	RX_NR flag bit(10G) flag bit	x	
		bit3	RX POWER Low Flag bit	x	
		bit2	CDR Unlock flag bit (RX_10G)	x	
		bit1	MOD abs flag bit	x	
		bit0	Reset Complete flag bit	x	
85	55	bit7	VAPD Fault flag bit	x	
		bit6	TEC Fault flag bit	x	
		bit5	Wavelength Unlocked flag bit	x	
		bit4	Reserved	0	
		bit3		0	
		bit2		0	
		bit1		0	

		bit0		0	
86	56	bit7	VCC5 High Alarm flag bit	x	
		bit6	VCC5 Low Alarm flag bit	x	
		bit5	VCC3 High Alarm flag bit	x	
		bit4	VCC3 Low Alarm Flag bit	x	
		bit3	VCC2 High Alarm flag bit	x	
		bit2	VCC2 Low Alarm flag bit	x	
		bit1	VCC-5 High Alarm flag bit	x	
		bit0	VCC-5 Low Alarm	x	
87	57	bit7	VCC5 High Warning flag bit	x	
		bit6	VCC5 Low Warning Flag bit	x	
		bit5	VCC3 high warning flag bit	x	
		bit4	VCC3 low warning flag bit	x	
		bit3	VCC2 High Warning Flag bit	x	
		bit2	VCC2 Low Warning Flag bit	x	
		bit1	Vee5 High Warning Flag bit	x	
		bit0	Vee5 Low Warning flag bit	x	
88	58	bit7	Masking bit for high temperature alarming	x	
		bit6	masking bit for low temperature alarming	x	
		bit5	masking bit for VCC3 high alarming	x	
		bit4	masking bit for VCC3 low alarming	x	
		bit3	masking bit for bias current high alarming(10G)	x	
		bit2	masking bit for bias current low alarming (10G)	x	
		bit1	masking bit for TX_Power(10G) high alarming	x	
		bit0	masking bit for tX_Power(10G) low alarming	x	
89	59	bit7	masking bit for RX_Power high alarming	x	
		bit6	masking bit for RX_Power high alarming	x	
		bit5	masking bit for bias current high alarming(1G)	x	
		bit4	masking bit for bias current low alarming(1G)	x	
		bit3	masking bit for TX_Power high alarming(1G)	x	
		bit2	masking bit for TX_Power Low alarming(1G)	x	
		bit1	Reserved	0	
		bit0	Reserved	0	
90	5A	bit7	Masking bit for high temperature warning	x	

		bit6	masking biit for low temperature warning	x	
		bit5	masking bit for high VCC3 warning	x	
		bit4	masking bit for low VCC3 warning	x	
		bit3	masking bit for TX Bias current high warning(10G)	x	
		bit2	masking bit for TX Bias current low warning(10G)	x	
		bit1	masking bit for TX power high warning(10G)	x	
		bit0	masking bit for TX power low warning(10G)	x	
91	5B	bit7	masking bit for RX_Power high warning	x	
		bit6	masking bit for RX_Power Low warning	x	
		bit5	masking bit for TX Bias current high warning(1G)	x	
		bit4	masking bit for TX Bias current low warning(1G)	x	
		bit3	masking bit for RX power high warning(1G)	x	
		bit2	masking bit for RX power Low warning(1G)	x	
		bit1	Reserved	0	
		bit0	Reserved	0	
92	5C	bit7	M_TX_NR	x	masking bit for TX_NR Status
		bit6	M_TX_Fault 10G)	x	masking bit for laser fault condition
		bit5	M_TX_CDR unlocked	x	masking bit for TX CDR loss for signal
		bit4	M_RX_NR	x	masking bit for RX_NR Status
		bit3	M_RX_LOS	x	masking bit for mirror of RX_LOS
		bit2	M_RX CDR unlocked	x	masking bit for RX CDR loss of signal flag
		bit1	M_MOD_NR	x	Masking bit for Mirror of MOD_NR pin
		bit0	M_Reset Complete	x	Masking bit for Reset Complete Flag
93	5D	bit7	M_APD Supply Fault	x	masking bit for APD supply fault
		bit6	M_TEC Fault	x	masking bit for TEC fault
		bit5	M_Wavelength Unlocked	x	masking bit for wavelength unlocked condition
		bit4	Reserved	0	

		bit3		0	
		bit2		0	
		bit1		0	
		bit0		0	
94	5E	bit7	VCC5 High Alarm Flag bit	x	
		bit6	VCC5 Low Alarm flag bit	x	
		bit5	VCC3 High Alarm flag bit	x	
		bit4	VCC3 Low Alarm Flag bit	x	
		bit3	VCC2 High Alarm flag bit	x	
		bit2	VCC2 Low Alarm flag bit	x	
		bit1	Vee5 High Alarm Flag bit	x	
		bit0	Vee5 Low Alarm Flag bit	x	
95	5F	bit7	VCC5 High Warning flag bit	x	
		bit6	VCC5 Low Warning Flag bit	x	
		bit5	VCC3 high warning flag bit	x	
		bit4	VCC3 Low Warning Fla bit	x	
		bit3	VCC2 High Warning Flag bit	x	
		bit2	VCC2 Low Warning Flag bit	x	
		bit1	Vee5 High Warning Flag bit	x	
		bit0	Vee5 Low Warning Flag bit	x	
96	60	2	temperature	x	LSB equal to 1/256C
98	62	2	VCC3	x	LSB equal to 100uv
100	64	2	bias current (10G)	x	LSB equal to 4uA
102	66	2	TX_POWER(10G)	x	LSB equal to 0.2uw
104	68	2	RX_POWER	x	LSB equal to 0.1uw
106	6A	2	TX_Bias current(1G)	x	LSB equal to 4uA
108	6C	2	TX_POWER(1G)	x	LSB equal to 0.2uw
110	6E	bit7	10G TX_Disable state	x	
		bit6	soft 10G TX_DISABLE	x	
		bit5	MOD_NR State	x	
		bit4	P_DOWN State	x	
		bit3	Soft P_down	x	
		bit2	interrupt	x	
		bit1	RX_LOS	x	
		bit0	Data NOT Ready	x	
111	6F	bit7	TX_NR State	x	
		bit6	TX_Fault state	x	
		bit5	TX_CDR unlocked	x	
		bit4	RX_NR State	x	Can't support, no RX CDR
		bit3	RX_CDR unlocked	x	Can't support no RX CDR
		bit2	reserved	0	
		bit1	TX_Disable state(1G)	x	
		bit0	soft 1G TX Disable	x	
112	70	6	Reserved	0	
118	76	1	serial interface read/write error checking	01	
119	77	4	Password Change Entry Area (Optional) (4 Bytes)	x	
123	7B	4	password entry area	x	

127	7F		page select bye		
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Table 9 – EEPROM Serial ID (Table 01)

DEC Addr.	HEX Addr.	Field Size (bytes)	Name	Default Value	Description
128	80	1	Identifier	06h	XFP
129	81	1	Ext.Identifier	B0h	
130	82	1	Connect	01h	SC/UPC
131	83	8	Transceiver	00 00 00 80 00 00 00 00h	BASE-PX
139	8B	1	Encoding	80h	64/66B
140	8C	1	BR-Min	67h	10.3125Gbps
141	8D	1	BR_Max	67h	
142	8E	1	length (SMF)-Km	14h	20Km
143	8F	1	length (E-50um)	00h	
144	90	1	length (20um)	00h	
145	91	1	length(62.5um)	00h	
146	92	1	length(copper)	00h	
147	93	1	Device Tech	F6h	EML Laser and APD Detector
148	94	16	Vendor Name	'sourcephotonics" ASCII	
164	A4	1	CDR support which rate	40h	support 10.3Gbps
165	A5	3	vendor OUI	00 1F 22	
168	A8	16	vendor PN	58 50 50 58 45 30 52 33 43 44 46 44 20 20 20 20	XPP-XE0-R3-CDFD
184	B8	2	Vendor rev	30 31	01 version
186	BA	2	wavelength	7B 34h	1577nm
188	BC	2	wavelength tolerance	03 E8h	5nm
190	BE	1	Mac Case Temp	4Bh	75C
191	BF	1	CC_BASE	xxh	
192	C0	4	power supply	C8 00 8A 00h	4W,I _{CC5} =400mA,I _{CC3} =1000mA
196	C4	16	vendor SN	xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xxh	
212	D4	8	Date Code	xx xx xx xx xx xx xx xxh	
220	DC	1	Diagnostic monitoring type	08h	average power ,no BER support
221	DD	1	Enhanced Option	40h	soft diasble implemented
222	DE	1	AUX monitoring	27h	+3.3v supply voltage
223	DF	1	CC_EXT	xxh	
224	E0	2	wavelength for 2.5G	00 00h	
226	E2	2	wavelength for 1.25G	74 68h	1490nm

228	E4	28	vendor Specific	XX xxh	
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Pin Definitions

Table 10 – Pin-out

Pin	Logic	Symbol	Name/Description	
1		GND	Module Ground	1
2	LVPECL-I	TX_1G+	Transmitter Non-Inverted Data Input(1G), AC Coupled	
3	LVPECL-I	TX_1G-	Transmitter Inverted Data Input(1G) AC Coupled	
4		GND	Module Ground	
5	LVTTL-I	TX_DIS	Turn off Transmitter Laser Out, Control 10G and 1G Transmitter	2
6		V _{CC5}	+5V Power Supply(For TEC)	
7		GND	Module Ground	
8		V _{CC3}	+3.3V Power Supply(TX)	
9		V _{CC3}	+3.3V Power Supply(RX)	
10	LVTTL-I	SCL	2-Wire Serial Interface Clock	
11	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line	
12	LVTTL-O	MOD_ABS	Module Absent Indication	
13		NC	Not Connect	
14	LVTTL-O	RX_SD	Receiver Signal Detection	3
15		GND	Module Ground	
16		GND	Module Ground	1
17	CML-O	RX_10G-	Receiver Inverted Data Output(10G),DC coupled	
18	CML-O	RX_10G+	Receiver Non-Inverted Data Output(10G), DC coupled	4
19		GND	Module Ground	1
20	LVPECL-O	RD_1G-	Receiver Inverted Data Output(10G),DC coupled	
21	LVPECL-O	RD_1G+	Receiver Non-Inverted Data Output(10G), DC coupled	4
22		NC	Not Connect	
23	LVTTL-I	RX_RSSI_TR IG	RSSI Trigger Input	
24		NC	Not Connect	
25		NC	Not Connect	
26		NC	Not Connect	
27		GND	Module Ground	1

28	CML-I	TD-	Transmitter Inverted Data Input(10G), AC Coupled	5
29	CML-I	TD+	Transmitter Non-Inverted Data Input(10G).AC Coupled	
30		GND	Module Ground	1

Note

1. Module ground pins GND are isolated from the module case and chassis ground within the module.
2. Tx_Diable is an input that is used to shut down the transmitter optical output. It is pulled up within the module with a 4.7-10 KΩ resistor.
3. Shall be pulled up with a 4.7K-10KΩ resistor to a voltage between 3.14V and 3.45V on the host board.. (See Recommended Interface Circuit)
4. They are DC-coupled, differential lines with 100Ω differential termination inside the module
5. They are DC coupled 100 Ω differential lines which should be terminated with 100 Ω (differential) at the user SERDES. (See Recommended Interface Circuit)

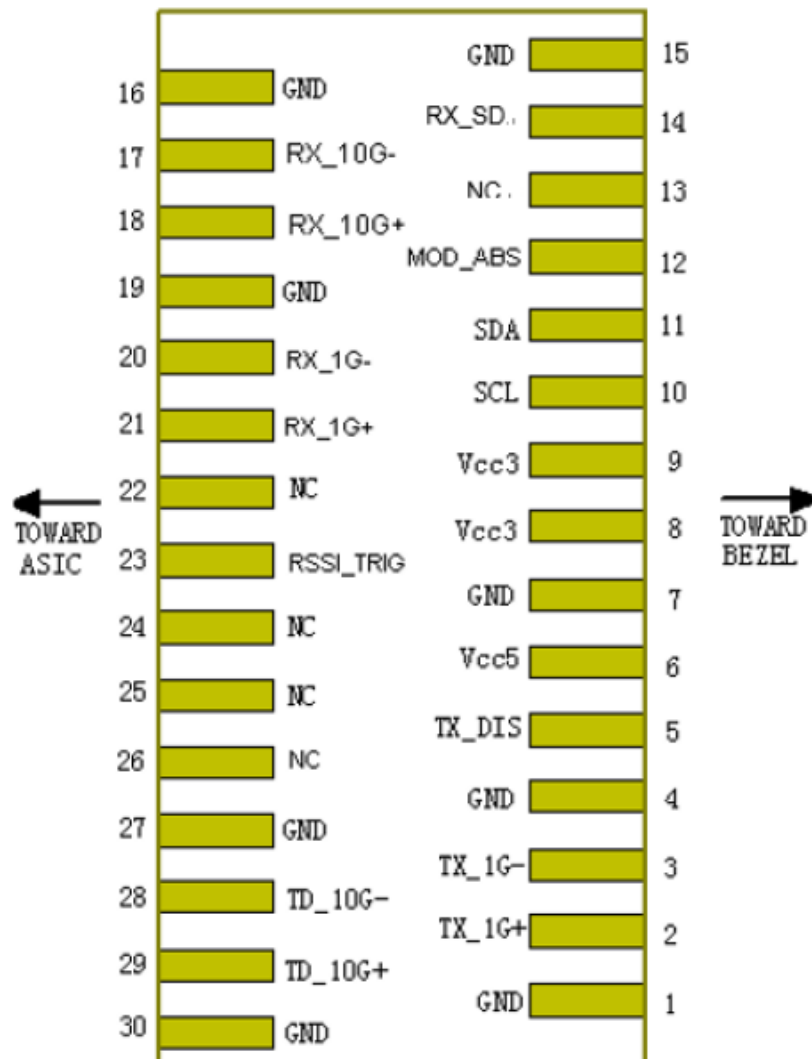
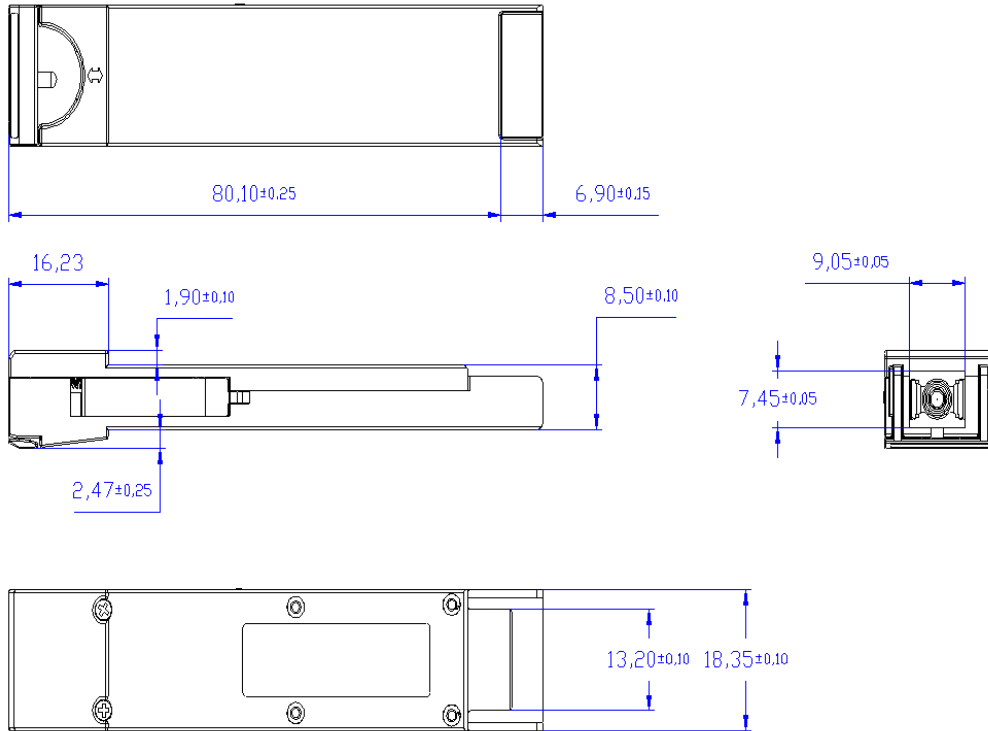


Figure 4 PIN-OUT

Package Diagram



Ordering Information

Table 11 - Ordering Information

Part No.	Application	Data Rate	Laser Source	Fiber Type
XPP-XE0-R3-CDFD	10/10G Base PR30 OLT	Tx1 1.25Gbps Tx2 10.3125Gbps Rx 10.3125Gbps/1.25Gbps	1490 nm DFB 1577 nm EML	SMF

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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Contacts

US Headquarters

8521 Fallbrook Ave, Suite 200
West Hills, CA 91306, USA
Tel: +1(818) 773-9044
Fax: +1(818) 576-9486

China

Building #2&5, West Export
Processing Zone No. 8 Kexin Road,
Hi-Tech Zone Chengdu, 611731, China
Tel: +86-28-8795-8788
Fax: +86-28-8795-8789

Taiwan

9F, No 81, Shui Lee Rd.
Hsinchu, Taiwan R.O.C.
Tel: +886-3-5169222
Fax: +886-3-5169213

www.sourcephotonics.com