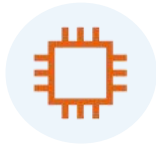


XGS-PON&GPON Combo WDM SFP+ OLT Transceiver (22pin)



Functional Feature

- Single-fiber bi-directional transmission
- SFP+ Package, 2x11 SFP+ Electrical interface
- Single +3.3 Power Supply, Hot-pluggable
- Typical power consumption 2.5W
- Operating case temperature: 0 to 70°C
- Complies with ITU-T G.9807.1
- Compliant with ITU-T G.984.5
- Complies with ITU-T G.984.2

Product Applications

- 10 Gigabits Access networks
- XGS-PON and GPON Combo Access networks

General

The CMPXC-N2C1P2 is a combination of XGS-PON OLT and GPON OLT optical transceiver in an SFP+ housing, and it is compliant to ITU-T G. 9807.1 XGS-PON and ITU-T G.984.2 GPON standard.

This module can support XGS-PON and GPON over a single fiber via coarse wave division multiplexing. XGS-PON feature supports 9.953Gbps continuous-mode transmission by 1577nm EML laser and 9.953Gbps/2.488Gbps burst-mode reception by 1270nm APD/TIA.

GPON feature supports 2.488Gbps continuous-mode transmission by 1490nm DFB laser and 1.244Gbps burst-mode reception by 1310nm APD/TIA.

It has been designed to meet the harshest external operating conditions that include temperature, humidity and EMI interference. The module offers very high functionality and feature integration, accessible via a two-wire serial interface.

Performance Specifications

Absolute Maximum Ratings						
Parameter	Symbol	Min.	Max.	Unit	Note	
Storage Temperature	Tst	-40	+85	°C		
Operating Case Temperature	Tc	0	70	°C		
Input Voltage	-	0	Vcc+0.3	V		
Power Supply Voltage	Vcc-Vee	3.3	3.6	V		
Recommended Operating Conditions						
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Operating Case Temperature	Tc	0	-	70	° C	
Data Rate	TX	9.953Gbps, 2.488Gbps			Gbps	
	RX	9.953Gbps/2.488Gbps, 1.244Gbps				
ODN Class	-	C+			-	

Optical Specification						
Transmitter						
	Parameter	Min.	Typ.	Max.	Unit	Note
GPON Transmitter	Noninal bit rate	2.48832			Gbit/s	-
	Laser type	DFB				-
	Output average power(EOL)	+3	-	+7	dBm	-
	Center wavelength	1480	1490	1500	nm	-

	Spectral width (–20 dB width)	-	-	1.0	nm	-
	Extinction ratio	8.2	-	-	dB	-
	Eye Mask Margin (1000 consecutive snapshots at typical rate and room temperature)	10 % (ITU-T G.984.2 compliant)			%	
	Side-Mode Suppression Ratio	30	-	-	dB	
	Optical Power at Tx_disable	-	-	-39	dBm	-
XGS-PON Transmitter	Noninal bit rate	9.95328			Gbit/s	-
	Laser type	EML				
	Output average power(EOL)	+4	-	+7	dBm	
	Center wavelength	1575	1577	1580	nm	
	Spectral width (–20 dB width)	-	-	1.0	nm	
	Extinction ratio	8.2	-	-	dB	
	Eye Mask Margin (1000 consecutive snapshots at typical rate and room temperature)	10 % (ITU-T G.984.2 compliant)			%	
	Side-Mode Suppression Ratio	30	-	-	dB	-
	Optical Power at Tx_disable	-	-	-39	dBm	
Receiver						
	Parameter	Min.	Typ.	Max.	Unit	Note
GPON Receiver	Operating wavelength	1290	1310	1330	nm	
	Sensitivity @Condition (BER=1*10 ⁻⁴ , 1.244Gbps, PRBS 2 ²³ -1, NRZ, Full Temp. EOL)	-	-	-32	dBm	
	Saturation power(Full Temp. EOL)	-12	-	-	dBm	
	Max Input power	-3	-	-	dBm	
	SD Assert	-	-	-33	dBm	
	SD De Assert	-45	-	-	dBm	
	Receiver reflectance	-	-	-20	dB	
	Optical Return Loss tolerance	10	-	-	dB	
	Isolation @1260~1280nm	30	-	-	dB	
XGS-PON Receiver	Operating wavelength	1260	1270	1280	nm	
	Sensitivity @Condition (BER=1*10 ⁻³ , 2.488Gbps, PRBS 2 ³¹ -1, NRZ, Full Temp. EOL)	-	-	-29.5	dBm	
	Saturation power(2.488Gbps,	-7	-	-	dBm	

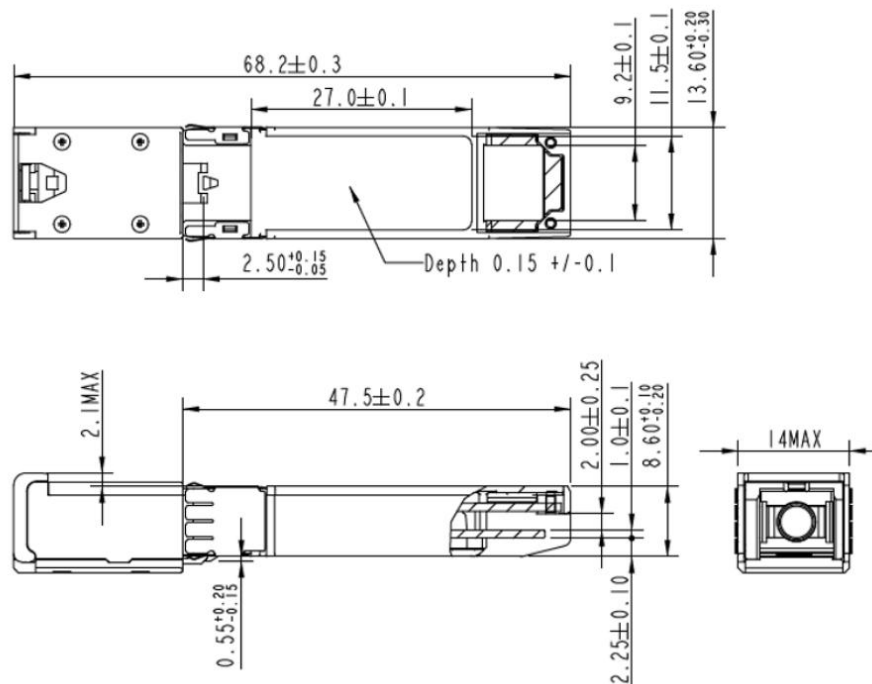
Full Temp. EOL)					
Sensitivity @Condition (BER= 1×10^{-3} , 9.953Gbps, PRBS $2^{31}-1$, NRZ, Full Temp. EOL)	-	-	-28	dBm	
Saturation power(9.953Gbps, Full Temp. EOL)	-7	-	-	dBm	
Max Input power	-3	-	-	dBm	
SD Assert	-	-	-30.5	dBm	
SD De Assert	-45	-	-	dBm	
Receiver reflectance	-	-	-20	dB	
Optical Return Loss tolerance	10	-	-	dB	
Isolation @1260~1280nm	30	-	-	dB	

EEPROM Information

Digital Diagnostic Monitor Accuracy

Parameter	Unit	Requirements	Calibration
Internal Temperature	°C	$\pm 3^{\circ}\text{C}$	
Power Supply Voltage	%	$\pm 3\%$	
Bias Current	%	$\pm 10\%$	The unit is 4uA
Rx Optical Power	dB	$\pm 2\text{dB}$	The unit is 0.1uW
Tx Optical Power	dB	$\pm 2\text{dB}$	The unit is 0.2uW

Package Diagram



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