XGSPON/GPON Combo OLT SFP-DD Optical Transceiver
CLXGSPDD-G-CBOLT-C-N2

Product Features:

- SFP-DD package with SC/UPC receptacle optical connector
- 1577nm TX / 1490nm TX / 1270nm RX / 1310nm RX
- Support both XGSPON and GPON application
- Hot-pluggable capability
- Support hardware TX_Disable function for both XGSPON and GPON
- Low power consumption less than 3.5W over temperature with single 3.3V power supply
- Meet GPON C+, XGSPON C+ application
- Support 20km transmission distance with SMF
- Operating temperature range commercial 0~70°C or industrial -40~85°C

Applications:

- GPON OLT system
- XGSPON OLT system

Functional Characteristics

The following tables list the performance specifications for the various functional blocks of the module.

Table 1 – Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
XGS-PON Transmitter						
Wavelength	λc	1575	1577	1580	nm	
Data Rate	DR		9.953		Gbps	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Launch Power (C+) - EOL	Pav	5		8	dBm	
Dispersion Range		0		400	ps/nm	With condition 20km (1dB penalty)
Extinction Ratio	ER	8.2			dB	
Tx Tolerance to Reflected Power		-15			dB	
Eye Diagram	Compliant With ITU-T G.9807.1					
XGS-PON Receiver						
Wavelength	λc	1260	1270	1280	nm	
Sensitivity @9.953G BER=10^-3	Sen			-29	dBm	ER=6.0dB, PRBS 2^31-1
Sensitivity @2.488G BER=10^-4	Sen			-30.5	dBm	ER=6.0dB, PRBS 2^31-1
Rx Tolerance to Reflected Power		10			dB	
Overload @9.953G		-8			dBm	
Overload @2.488G		-10			dBm	
Receiver Reflectance				-12	dB	
SD Hysteresis			0.5		dB	
GPON Transmitter						
Wavelength	λc	1480		1500	nm	

Data Rate	DR		2.488		Gbps	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Launch Power (C+) - EOL	Pav	3		7	dBm	
Tx Tolerance to Reflected Power		-15			dB	
Extinction Ratio	ER	8.2			dB	
Eye Diagram	Compliant With ITU-T G.984.2					
GPON Receiver						
Receiver Optical Wavelength	λc	1290	1310	1330	nm	
Data Rate	DR		1.244		Gbps	
Sensitivity				-32	dBm	PRBS 2^23-1, ER=8.2dB, BER<10^-5
Overload		-12			dBm	
Rx Tolerance to Reflected Power		10			dB	
Receiver Reflectance				-20	dB	
SD Hysteresis		0.2	0.5		dB	

Table 2 – Electrical and RSSI Timing Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Electrical Characteristics						
Supply Voltage	Vcc	3.14		3.47	V	
Power Consumption				3.3	W	
Input Differential Swing (XGS_TD)	Vin,pp	100	700	850	mV	
Input Differential Swing (GPON_TD)	Vin,pp	100	700	850	mV	
Output Differential Swing (XGS_RD)	Vout,pp	300	700	800	mV	
Output Differential Swing (GPON_RD)	Vout,pp	300	700	800	mV	
LVTTL Input-High	VIH	2		Vcc	V	
LVTTL Input-Low	VIL	0		0.8	V	
LVTTL Output-High	VOH	2.4		Vcc	V	
LVTTL Output-Low	VOL	0		0.4	V	
RSSI Timing						
Package Length		575			us	
RSSI Trigger Delay	Td	25		3000	ns	
RSSI Trigger Pulse Width	Tw	500			ns	
RSSI Reading Available	Tread	500			us	

Ordering Information

Table 3 - Ordering Information

Part No.	Description
CLXGSPDD-G-CBOLT-C/N2	SFP-DD, SC-BIDI, 4 wavelength, XGSPON/GPON, Class C+, 0~70°C, 20km

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