

XGSPON & XGPON/GPON Combo OLT Optical Transceivers

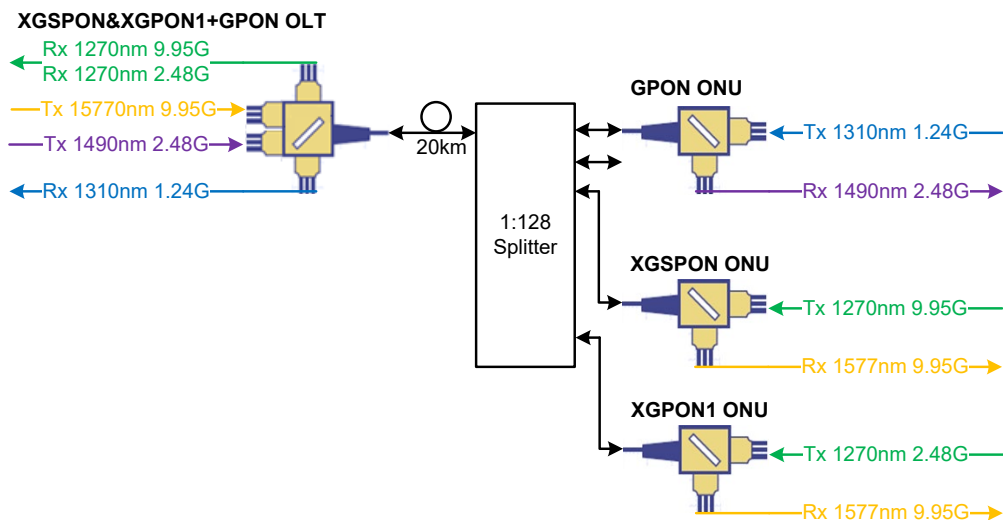
Description

XGSPON&XGPON/GPON Combo OLT, compatible with GPON OLT B+ and XGSPON&XGPON OLT N1, Featuring TX 1490nm 2.488Gbps / Burst RX 1310nm 1.244Gbps, and TX 1577nm 9.95Gbps / Burst RX 1270nm 9.95Gbps, SFP+ form-factor, BIDI SC/UPC Receptacle, 0~70°C Commercial Temperature Range.

Product Features

- Support both ITU-T G.9807.1&G.987.2 XGSPON&XGPON OLT N1 and ITU-T G.984.2 GPON OLT B+ application.
- Single fiberQuad-directional data links, and the four wavelengths can work simultaneously
- XGSPON&XGPON1577nm 9.953G continuous-mode transmitter with EML laser, 1270nm 9.953G&2.488G burst-mode receiver with APD-TIA (withRESET), with GPON1490nm 2.488G continuous-mode transmitter with DFB laser, 1310nm 1.244G burst-mode receiver with APD-TIA(with RESET)
- 2-wire interface for integrated digital diagnostic monitoring
- Digital receiving signal strength indication (RSSI)
- SFP+ MSA package with SC/UPC receptacle optical interface
- +3.3V power supply
- Operating case temperature: 0~70°C
- RoHS compliance

Functional Schematic Diagram



Operating & Storage Conditions

Parameter	Unit	Min.	Typical	Max.
Storage Temperature	°C	-40		85
Operating Case Temp	°C	0		70
Storage Humidity	%	5		90
Operating Relative Humidity	%	5		85
Power Supply Voltage	V	3.135	3.3	3.465
Power Consumption	W			2.8
Damage Threshold for Receiver	dBm	-3		
Bit Rate for Tx 1577nm	Gbps		9.953	
Bit Rate for Rx 1270nm	Gbps	2.488	9.953	
Bit Rate for Tx 1490nm	Gbps		2.488	
Bit Rate for Rx 1310nm	Gbps		1.244	

Characteristics

All performance is specified at whole working temperature and conditions.

Parameter	Unit	Min.	Typical	Max.
XGSPON1577nm 9.953G Transmitter				
TX Central Wavelength	nm	1575	1577	1580
Spectral Width (-20dB)	nm			1
Side Mode Suppression Ratio	dB	30		
XGSPON Mean Launched Power (N1 BOL)	dBm	2.5		5
XGSPON Mean Launched Power (N1 EOL)	dBm	2		5
Mean Launched Power (TX Off)	dBm			-39
Extinction Ratio	dB	8.2		
Optical Return Loss Tolerance	dB			15
XGSPON Transmitter 20km FiberDispersion Penalty	dB			1
Transmitter Mask (PRBS231-1@9.953G)	Compliant With ITU-TG.9807.1			
XGPON 1577nm 9.953G Transmitter				
TX Central Wavelength	nm	1575	1577	1580
Spectral Width (-20dB)	nm			1
Side Mode Suppression Ratio	dB	30		
XGPON Mean Launched Power (N1 BOL)	dBm	2.5		6
XGPON Mean Launched Power	dBm	2		6

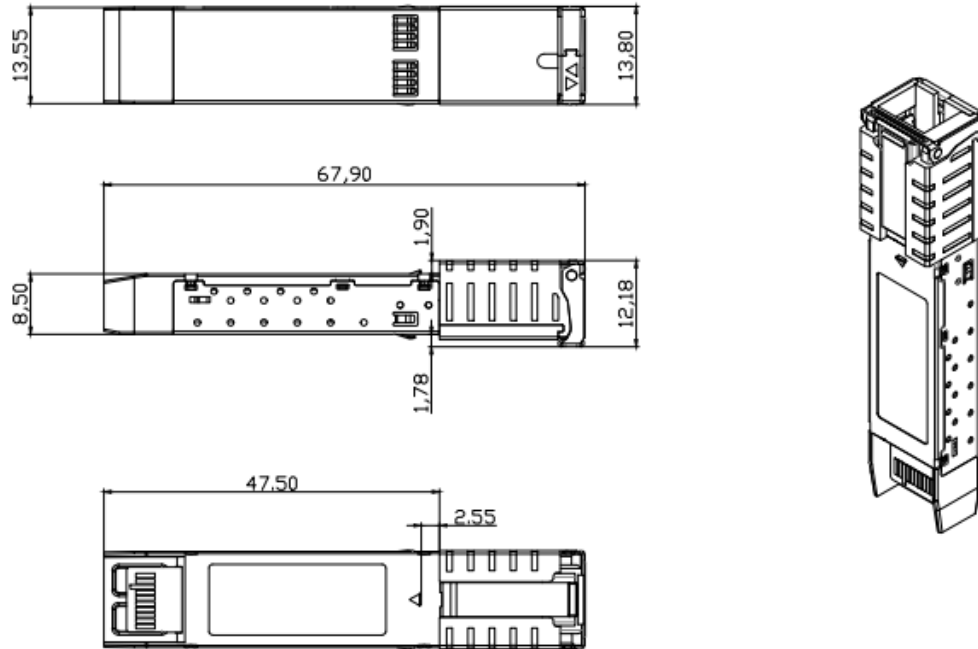
(N1 EOL)				
Mean Launched Power (TX Off)	dBm			-39
Extinction Ratio	dB	8.2		
Optical Return Loss Tolerance	dB			15
XGPON Transmitter 20km FiberDispersion Penalty	dB			0.5
Transmitter Mask (PRBS231-1@9.953G)	Compliant With ITU-T G.987.2			
XGSPON 1270nm 9.953G Receiver				
Receive Wavelength	nm	1260	1270	1280
Sensitivity (N1 BOL) (PRBS231-1@9.953G,ER=8.2, BER<10-3)	dBm			-26.5
Sensitivity (N1 EOL) (PRBS231-1@9.953G,ER=8.2, BER<10-3)	dBm			-26
Overload (N1)	dBm	-4		
Settling time	ns			100
SD Assert Level	dBm			-29
SD De-assert Level	dBm	-45		
SD Hysteresis	dB	0.5		6
XGPON 1270nm 2.488G Receiver				
Receive Wavelength	nm	1260	1270	1280
Sensitivity (N1 BOL) (PRBS223-1@2.488G,ER=8.2, BER<10-4)	dBm			-28
Sensitivity (N1 EOL) (PRBS223-1@2.488G,ER=8.2, BER<10-4)	dBm			-27.5
Overload (N1)	dBm	-6		
SD Assert Level	dBm			-29
SD De-assert Level	dBm	-45		
SD Hysteresis	dB	0.5		6

Parameter	Unit	Min.	Typical	Max.
GPON 1490nm 2.488G Transmitter				
TX Central Wavelength	nm	1480	1490	1500
Spectral Width (-20dB)	nm			1
Side Mode Suppression Ratio	dB	30		
Mean Launched Power (B+ BOL)	dBm	2.5		5

Mean Launched Power (B+ EOL)	dBm	1.5		5
Mean Launched Power (TX Off)	dBm			-39
Extinction Ratio	dB	8.2		
Optical Return Loss Tolerance	dB			15
GPON Transmitter 20km FiberDispersion Penalty	dB			1
Transmitter Mask(PRBS223- 1@2.488G)	Compliant WithITU-TG.984.2			
GPON 1310nm 1.244G Receiver				
Receive Wavelength	nm	1290	1310	1330
Sensitivity (B+ BOL) (PRBS223-1@1.244G,ER=10,BER<10- 10)	dBm			-29
Sensitivity (B+ EOL) (PRBS223-1@1.244G,ER=10,BER<10- 10)	dBm			-28
Overload (B+)	dBm	-8		
Receiver Burst Mode Dynamic Range	dB	15		
SDAssert Level	dBm			-30
SDDe-assert Level	dBm	-45		
SD Hysteresis	dB	0.5		6

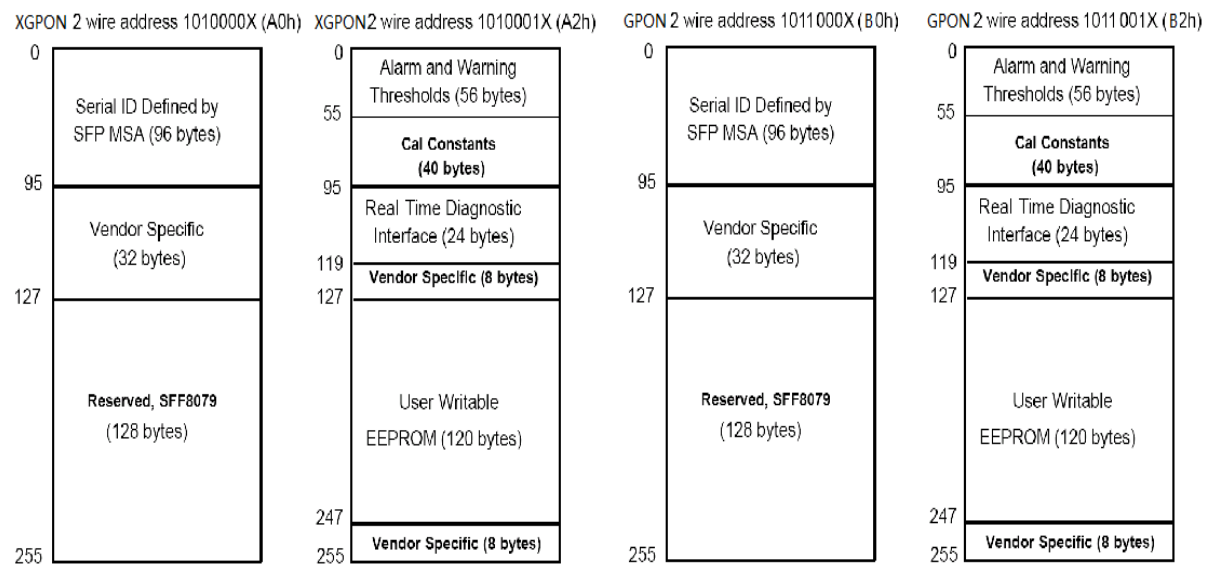
Parameter	Unit	Min.	Typical	Max.
Electrical Interface Characteristics				
XGSPON&XGPON Data Input Swing Differential/TX	mV	120		800
XGSPON&XGPONData Output Swing Differential/RX	mV	400		800
GPONData Input Swing Differential/TX	mV	200		1600
GPONData Output Swing Differential/RX	mV	1200		2000
Data Differential Impedance	Ω	90	100	110
LVTTTL Output High	V	2.4		Vcc
LVTTTL Output Low	V	0		0.4
LVTTTL Input High	V	2.0		Vcc+0.3
LVTTTL Input Low	V	0		0.8

Mechanical Drawings



Unit: mm

EEPROM Memory Map



Ordering Information

Ordering P/Ns	Description
D272RR-SSCB	XGSPON&XGPON/GPON Combo OLT

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