

# GEPON OLT

## Optical Module

✔ OLT-GSFP-B+

✔ OLT-GSFP-C+

✔ OLT-GSFP-C++



### Product Features

- Compatible IEEE 802.3ah 1000BASE-PX20+/PX20++ GEPON application
- Applied to EPON OLT for a Single Fiber Bi-directional EPON System
- SFP, Single SC connector, Digital Diagnostic Interface Compliant with SFF-8472
- Burst Digital Receiving Signal Strength Indication (RSSI)
- Single 3.3V power supply
- Operation case temperature -10~70°C for commercial
- RoHS-6 compliance

### Absolute Maximum Ratings

Parameter	Unit	Min.	Typical	Max.
Power Supply	V	0		4.2
Storage Ambient Temperature	°C	-40		85
Operating Case Temperature	°C	-10		70
Operating Relative Humidity	%	5		95
Receiver Damaged Threshold	dBm	0		

### Operating Condition

Parameter	Unit	Min.	Typical	Max.
Power Supply	V	3.1	3.3	3.5
Operating Case Temp for C-temp	°C	-10		70
Operating Relative Humidity	%	5		95
Data Rate(TX/RX)	Gbit/s		1.25	

# Características OLT-B+

All performance is specified at whole working temperature and conditions

Parameter	Unit	Min.	Typical	Max.
<b>Transmitter</b>				
TX Central Wavelength	nm	1480	1490	1500
Spectral Width (-20dB)	nm			1
Side Mode Suppression Ratio (SMSR)	dB	30		
Mean Launched Power	dBm	1.5		5
Mean Launched Power (TX Off)	dBm			-45
Extinction Ratio	dB	8.2		
Optical Return Loss Tolerance	dB	-12		
Transmitter and dispersion Penalty	dB			1
Transmitter Mask(PRBS2 <sup>23</sup> -1 @2.488G)	Compliant With ITU-T G.984.2			
<b>Receiver</b>				
Receive Wavelength	nm	1290	1310	1330
Sensitivity (PRBS2 <sup>23</sup> -1 @1.244G,ER=10,BER<10 <sup>-10</sup> )	dBm			-28
Overload (PRBS2 <sup>23</sup> -1 @1.244G,ER=10,BER<10 <sup>-10</sup> )	dBm	-8		
Receiver Burst Mode Dynamic Range	dB	15		
Damage Threshold for Receiver	dBm	5		
SD Assert Level	dBm			-30
SD De-assert Level	dBm	-45		
SD Hysteresis	dB	0.5		6
WDM Filter isolation to 1550nm	dB	38		
WDM Filter isolation to 1650nm	dB	35		
<b>Electrical Interface Characteristics</b>				
Data Input Swing Differential/TX	mV	200	-	2000
Data Output Swing Differential/RX	mV	400		1600
Date Differential Impedance	Ω	90	100	110
LVTTL Output High	V	2.4		V <sub>cc</sub>
LVTTL Output Low	V	0		0.4
LVTTL Input High	V	2.0		V <sub>cc</sub> +0.3
LVTTL Input Low	V	0		0.8
<b>Timing Characteristics</b>				
Guard Time (T <sub>g</sub> )	ns	25.6		
Reset Pulse Width (T <sub>r</sub> )	ns			12.8
Reset Delay (T <sub>rd</sub> )	ns			12.8
Receiver Preamble Time (T <sub>p</sub> )	ns			140
SD Assert Time (T <sub>SDA</sub> )	ns			100
SD De-assert Time (T <sub>SDD</sub> )	ns			12.8
RSSI Trigger Delay (T <sub>td</sub> )	ns	25		
RSSI Trigger Pulse Width (T <sub>w</sub> )	ns	500		
Internal I2C Delay (T <sub>wait</sub> )	us			500

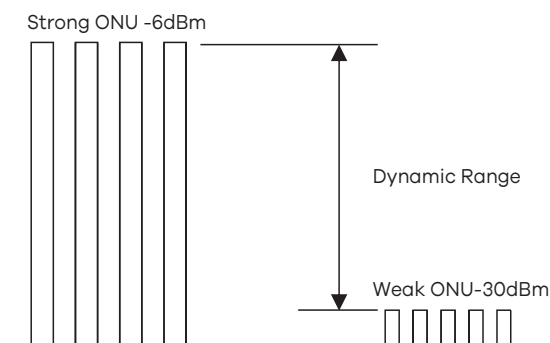
# Características OLT-C+

Parameter	Unit	Min.	Typical	Max.
<b>GSFP-OLT-C+</b>				
<b>TX Central Wavelength</b>	nm	1480	1490	1500
<b>Spectral Width (-20dB)</b>	nm			1
<b>SMSR</b>	dB	30		
<b>Mean Launched Power</b>	dBm	2		7
<b>Mean Launched Power (TX Off)</b>	dBm			-39
<b>Extinction Ratio(Note 1)</b>	dB	9		
<b>TX Total Jitter</b>	UI			0.43
<b>Rise/Fall Time (20%-80%)</b>	ps			260
<b>RIN<sub>is</sub>OMA</b>	dB/Hz			-115
<b>Optical Return Loss Tolerance</b>	dB			-12
<b>Transmitteranddispersion Penalty(20km G.652)</b>	dB			2.3
<b>TX Optical Eye Mask</b>		Compliant With IEEE Std 802.3ah <sup>™</sup> -2004		
<b>Receive Wavelength</b>	nm	1260	1310	1360
<b>Sensitivity (Note 2)</b>	dBm			-30
<b>Overload</b>	dBm	-6		
<b>Receiver Threshold Settling Time</b>	ns			250
<b>RX Dynamic Range(Note 3)</b>	dBm	-30		-6
<b>LOS-Deassert</b>	dBm			-31
<b>LOS-Assert</b>	dBm	-45		
<b>SD Hysteresis</b>	dB	0.5		6
<b>Receiver Reflectance</b>	dB			-12
<b>Electrical Interface Characteristics</b>				
<b>Power Supply Current</b>	mA			300
<b>Data Input Differential Swing</b>	mV	200		1600
<b>Data Differential Impedance</b>	Ω	90	100	110
<b>TTL Input -Low</b>	V	0		0.8
<b>TTL Input -High</b>	V	2.0		Vcc
<b>TTL Output -Low</b>	V	0		0.4
<b>TTL Output -High</b>	V	2.4		Vcc
<b>Data Output Differential Swing</b>	mV	400		1600
<b>Los Assert Time</b>	ns			500
<b>Los Deassert Time</b>	ns			500

Note1: Measured with PRBS 2<sup>7</sup>-1 test pattern @1.25Gbps, Low Pass Filter is on.

Note2: Measured with a PRBS 2<sup>7</sup>-1 test pattern @1.25Gbps and ER=10dB, BER =10<sup>-12</sup>,

Note3: RX Dynamic Range Definition



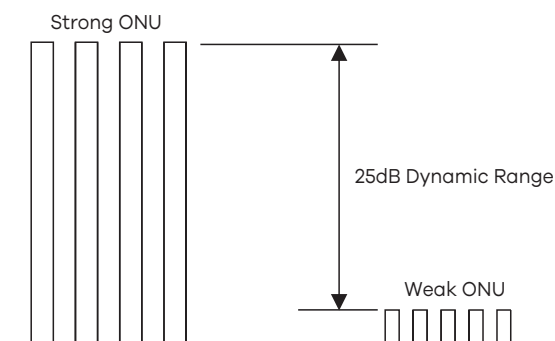
# Characteristics OLT-C++

Parameter	Unit	Min.	Typical	Max.
<b>GSFP-OLT-C++</b>				
<b>TX Central Wavelength</b>	nm	1480	1490	1500
<b>Spectral Width (-20dB)</b>	nm			1
<b>SMSR</b>	dB	30		
<b>Mean Launched Power</b>	dBm	5		8
<b>Mean Launched Power (TX Off)</b>	dBm			-39
<b>Extinction Ratio(Note 1)</b>	dB	9		
<b>TX Total Jitter</b>	UI			0.43
<b>Rise/Fall Time (20%-80%)</b>	ps			260
<b>RIN<sub>is</sub>OMA</b>	dB/Hz			-115
<b>Optical Return Loss Tolerance</b>	dB			-12
<b>Transmitter and dispersion Penalty(20km G.652)</b>	dB			2.3
<b>TX Optical Eye Mask</b>		Compliant With IEEE Std 802.3ah <sup>TM</sup> -2004		
<b>Receive Wavelength</b>	nm	1260	1310	1360
<b>Sensitivity (Note 2)</b>	dBm			-33
<b>Overload</b>	dBm	-6		
<b>Dynamic Rang</b>	dB	25		
<b>Receiver Threshold Settling Time</b>	ns			250
<b>RX Dynamic Range(Note 3)</b>	dBm	-30		-6
<b>LOS-Deassert</b>	dBm			-34
<b>LOS-Assert</b>	dBm	-45		
<b>SD Hysteresis</b>	dB	0.5		6
<b>Receiver Reflectance</b>	dB			-12
<b>Electrical Interface Characteristics</b>				
<b>Power Supply Current</b>	mA			300
<b>Data Input Differential Swing</b>	mV	200		1600
<b>Data Differential Impedance</b>	Ω	90	100	110
<b>TTL Input -Low</b>	V	0		0.8
<b>TTL Input -High</b>	V	2.0		Vcc
<b>TTL Output -Low</b>	V	0		0.4
<b>TTL Output -High</b>	V	2.4		Vcc
<b>Data Output Differential Swing</b>	mV	400		1600
<b>Los Assert Time</b>	ns			500
<b>Los Deassert Time</b>	ns			500

Note1: Measured with PRBS 2<sup>7</sup>-1 test pattern @1.25Gbps, Low Pass Filter is on.

Note2: Measured with a PRBS 2<sup>7</sup>-1 test pattern @1.25Gbps and ER=10dB, BER <10<sup>-12</sup>,

Note3: RX Dynamic Range Definition



# Ordering Information

Model	Description
ERO-KO-OLT-GSFP-B+	GPON OLT B +, 20km, TX 1490nm 2.488Gbps, RX 1310nm 1.244Gbps, SFP form factor, SC/UPC Receptacle, 0~70°C Commercial Temperature
ERO-KO-OLT-GSFP-C+	OLT SFP module, PX 20+ standard, downlink 1.25G/uplink 1.25G, TX wavelength 1490nm, RX wavelength 1310nm, SC interface
ERO-KO-OLT-GSFP-C++	OLT SFP module, PX 20++ standard, downlink 1.25G/uplink 1.25G, TX wavelength 1490nm, RX wavelength 1310nm, SC interface