



10G EPON ONU PRX30 SFP+

Emetteur-récepteur SFP+ Bidirectionnel pour EPON Asymétrique 10G/1G (ONU) équipé d'un laser DFB haute puissance 1310 nm pour la transmission (1,25 Gbps, 1577 nm) et d'un APD à haute sensibilité 1577 nm pour la réception (10,3125 Gbs).
Portée maximale de 20km sur une fibre SMF.
Alimentation 3,3 Volts.

SKU: GZ-EPON10G1GONU-SC

Product Features

- Single fiber Bidi data links Asymmetric Tx1.25Gbps/Rx10.3125Gbps application
- 0 to 70°C operating case temperature
- Single 3.3V power supply
- SFP+ package with SC Receptacle connector
- Hot-pluggable capability
- High power 1310nm DFB LD and high sensitivity 1577nm APD
- Support 20km transmission distance with SMF
- CML compatible data input/output interface
- Low power dissipation
- Low EMI and excellent ESD protection
- Digital diagnostic monitor interface
- RoHS compliance

Product Applications

- Asymmetric 10GEPON PRX30 ONU

Standard

- Complies with SFP+ MSA (SFF-8431)
- Complies with IEEE 3av
- Complies with SFF-8472 Rev 4
- Complies with FCC 47 CFR Part 15, Class B
- Complies with FDA 21 CFR 1040.10 and 1040.11, Class I

Performance Specifications

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Note
Storage Ambient Temperature	T_{STG}	-40	85	°C	
Operating Case Temperature	T_C	0	70	°C	
Operating Humidity	OH	5	95	%	
Power Supply Voltage	V_{CC}	-0.5	3.6	V	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Operating Case Temperature	T_C	0		70	°C	
Power Supply Voltage	V_{CC}	3.13	3.3	3.47	V	
Power Supply Current	I_{CC}			400	mA	
Nominal upstream line rate			1.25		Gbps	
Nominal downstream line rate			10.3125		Gbps	

Transmitter Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Launch Optical Power	P_{out}	0.62		5.62	dBm	
Extinction Ratio	ER	9			dB	
Centre Wavelength	λ	1290	1310	1330	nm	
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Side Mode Suppression Mode	SMSR	30			dB	
Burst on time	T_{on}			30	ns	
Burst off time	T_{off}			30	ns	
Transmitter and dispersion penalty	TDP			1.4	dB	
Eye Diagram	Compliant With IEEE Std 802.3ah™-2004				PRBS 27-1 test pattern @1.25Gbit/s	

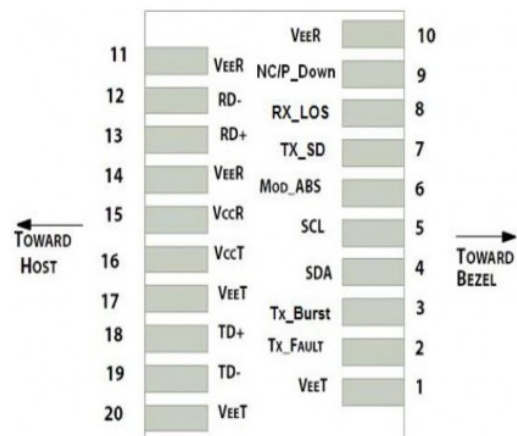
Transmitter Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Differential Impedance	ZIN	90	100	110	Ω	
Data Input Swing Differential	VIN	200		1600	mV	
Burst_ENABLE	Burst Enable	2.0		Vcc	V	
	Burst Disable	0		0.8	V	

Receiver Characteristics

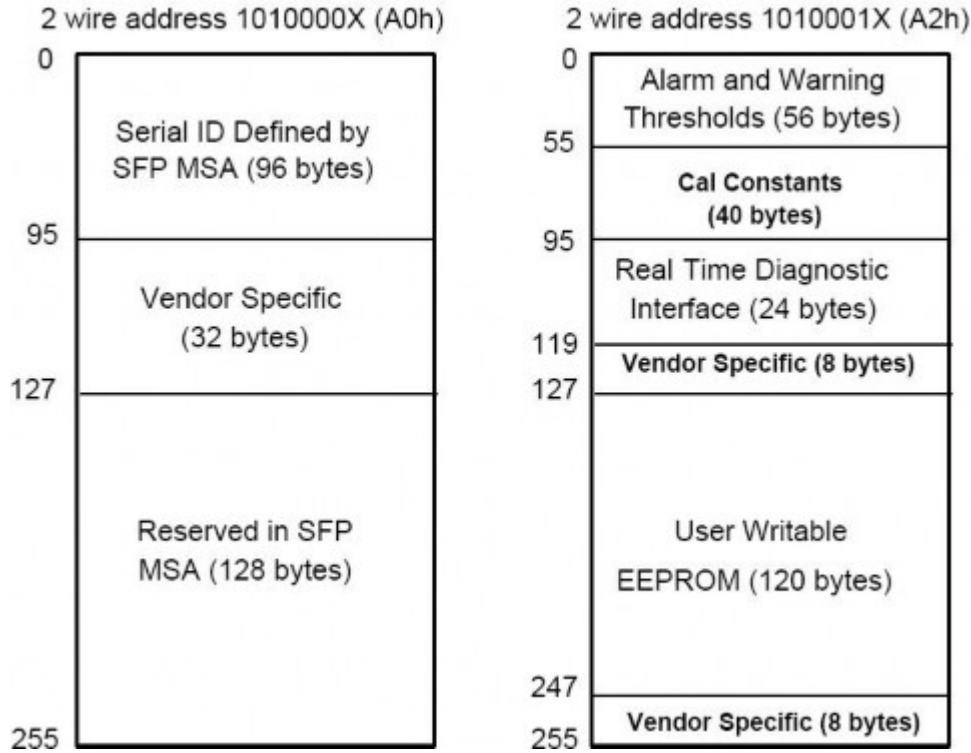
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Optical Center Wavelength	λ_c	1575		1580	nm	
Receiver Sensitivity				-29	dBm	Measured with PRBS 231-1 test pattern@10.3125Gbit/s, BER $\leq 1 \times 10^{-3}$.
Receiver Overload		-8			dBm	
Receiver reflectance				-12	dB	
LOS De-Assert		-38			dBm	
LOS Assert				-30	dBm	
LOS Hysteresis		0.5		6	dB	
Data Output Swing Differential	V _{OUT}	340		850	mV	
LOS	High	2.4		Vcc		
	Low	0		0.4	V	

Pin Definitions and Functions



Pin	Name	Description	Notes
1	VeeT	Module Transmitter Ground	
2	TX Fault	Module Transmitter Fault	Low: normal; High: abnormal
3	TX BURST	Transmitter Burst Enable	LVTTTL Input, Low: transmitter on, Internal pull up
4	SDA	2-wire Serial Interface Data Line	Same as MOD-DEF2 in INF-8074i
5	SCL	2-wire Serial Interface Clock	Same as MOD-DEF1 in INF-8074i
6	Mod_ABS	Module Absent	Connected to VeeT or VeeR in the module
7	TX_SD	Tx Transmitter State Indication	TX_Indication Assert When Transmitter ON
8	Rx_LOS	Loss of Signal	Low: signal detected; High: loss of signal
9	NC/P_Dow n	NC/ Module power down, Putting the module in the power savingmode	Active Low
10	VeeR	Module Receiver Ground	
11	VeeR	Module Receiver Ground	
12	RD-	Inverted Received Data Out	AC-coupled
13	RD+	Non-inverted Received Data Out	AC-coupled
14	VeeR	Module Receiver Ground	
15	VCCR	Module Receiver 3.3 V Supply	
16	VCCT	Module Transmitter 3.3 V Supply	
17	VeeT	Module Transmitter Ground	
18	TD+	Non-Inverted Transmit Data in	
19	TD-	Inverted Transmit Data in	
20	VeeT	Module Transmitter Ground	

EEPROM Information

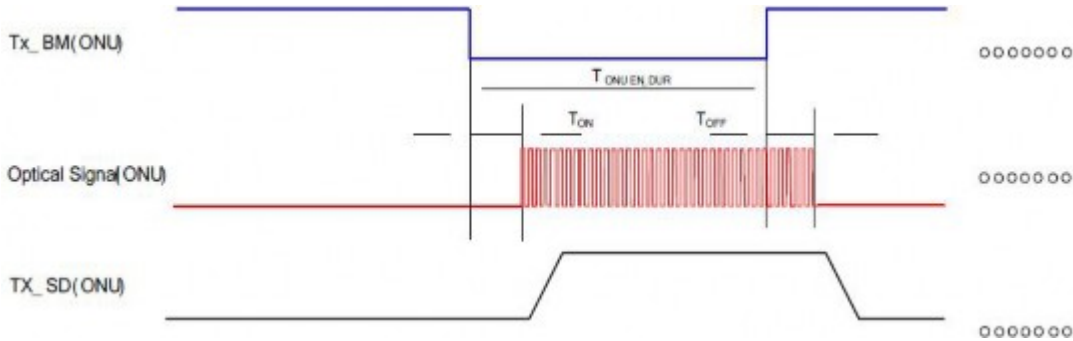


DDM Interface

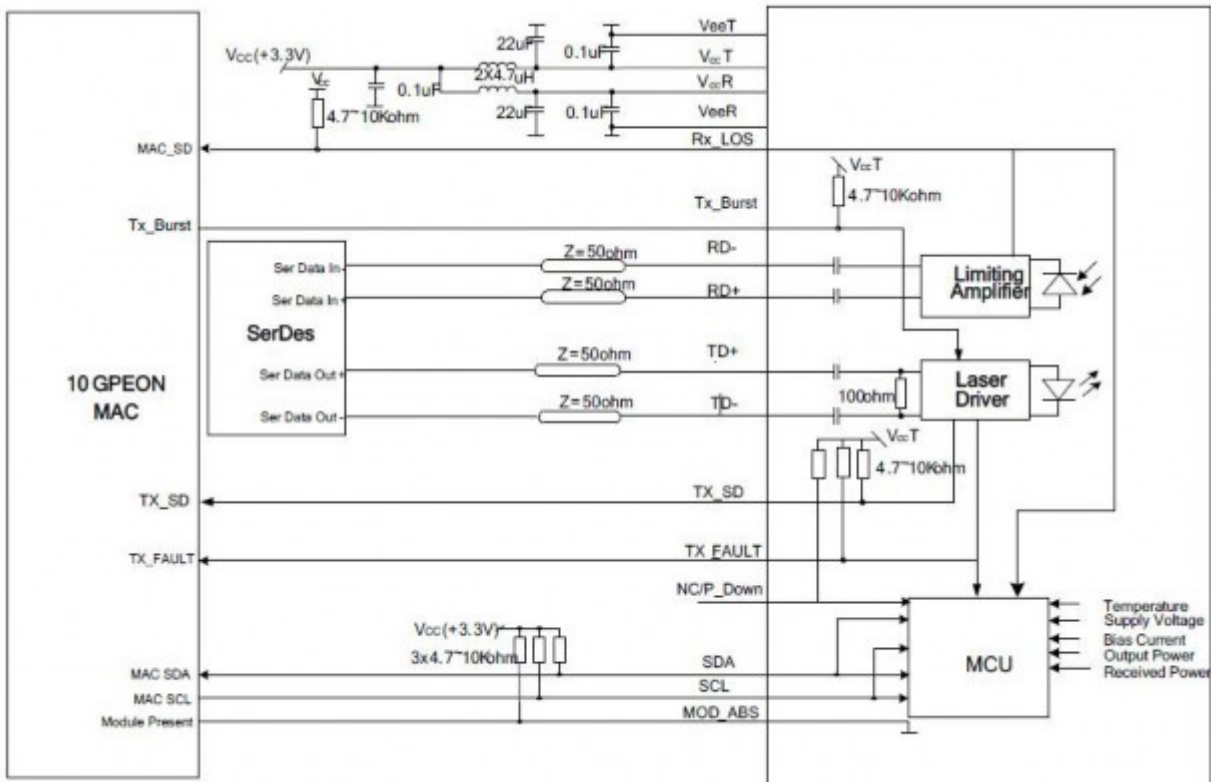
Five transceiver parameter values are monitored. The following table defines the monitored parameter's accuracy.

Parameter	Range	Accuracy	Calibration
Temperature	0 to 70°C	±3°C	Internal
Voltage	3 to 3.65V	±3%	Internal
Bias Current	0 to 100mA	±10%	Internal
TX Power	0.62 to 5.62dBm	±3dB	Internal
RX Power monitor	-29 to -8dBm	±3dB	Internal

Typical ONU Timing Sequence



Typical Interface Circuit



Package Dimensions

