

GPON OLT

APD

APC

CID

APD

MAC

1490nm DFB

W

1490nm DFB &

class-1

W

a 1310nm

W

W

SD

SD

W

ONU

W

DDM

DDM

W

1310nm

PD

A

W

WDM



Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Operating Voltage	V_{op}	V	3.135	3.3	3.465	
Supply Current	I_{cc}	mA	ñ	ñ	450	
LVPECL differential Data Input Swing		mV	200	ñ	1600	Note1
LVPECL differential Data Output Swing		mV	400	-	1600	Note10
Differential Data input impedance		'	ñ	100	ñ	Note1
Input Signal Level(LVTTL H)		V	2.0	ñ	V_{cc}	
Input Signal Level(LVTTL L)		V	0	ñ	0.8	
Output Signal Level(LVTTL H)		V	2.4	ñ	V_{cc}	
Output Signal Level(LVTTL L)		V	0	ñ	0.4	
Optical Transmitter Characteristics						
Data Rate		Mbps	ñ	2488.32	ñ	
Center Wavelength Range	λ_c	nm	1480	1490	1500	DFB-LD
Spectral Width(@-20Db)	$\Delta\lambda$	nm	ñ	ñ	1	
Side Mode Suppression Ratio	SMSR	dB	30	ñ	ñ	
Launch Optical Power(EOL)	PEOL	dBm	+1.5	ñ	+5	Note2
Off level light		dBm		ñ	-39	Note3
Extinction Ratio	EX	dB	8.2	ñ	ñ	Note4
Total Jitter	J_{total}	UI	ñ	ñ	0.2	
Rise/Fall time(20 80)	Tr/Tf	Ps	ñ	ñ	250	Note5
Optical Return Loss Tolerance		dB	ñ	ñ	15	
Maximum reflectance		dB	ñ	ñ	-12	!!=1.49μm
Eye Diagram	Compliant with ITU-T G.984.2					Note4 Note6

Note1:AC coupled internal(see the recommended circuit below).

Note2:Coupled into 9/125 SMF

Note3:Measured without data input

Note4:Measured with PRBS 2²³-1 test pattern @2.488Gbps

Note5:Measured with the Bessel-Thompson filter OFF

Note6:Mask of diagram as below,



Signal Detect

Burst optical power conversion holding time	Holding Time	ns	350			Figure 2
Burst optical power conversion time		us			500	result can be read out since rising edge of the trigger pulse

Note7: Measured with PRBS 2²³-1 test pattern @1.244Gbps with Tx on, ER=10dB, BER<=10E-10.

Note8: Time from the arrival of data to the output data settling to within 15% of final amplitude and duty-cycle. It is shown in the Figure 1.

Note9: Time from a falling edge on reset signal input to the start of preamble at the data input of the receiver.

Note10: DC coupled internal. Need LVPECL terminal on the hostboard.

Note11: Time from end of previous data burst to beginning of next data burst.

Note12 Measured with PRBS23 Burst data pattern @1.244Gbps.