

RFoG PICO Node

Description

본 PICO NODE 시리즈 ONU 는 극히 작은 하우징 내에 설계되었다. 이것은 Cable PON (CPON) 응용과 RF over Glass (RFoG) networks를 위해 설계되었다. PICO NODE 시리즈 ONU는 1003 MHz까지 높은 RF 출력 레벨을 제공한다. PICO NODE 시리즈 ONU 특징은 작은 전력 소비와 6KV 과전압 보호이다. 이것은 고밀도 응용으로서, MDU's, 그리고 학교, 병원 그리고 공업단지와 같은 상업적으로 복잡한 곳에 사용하기 위해 이상적이다. 본 PICO NODE 시리즈 ONU 상향 송신기는 Network로부터 원하지 않는 광 신호를 예방하기 위해 burst mode 송신을 이용한다.



Features

- Up to 1003 MHz
- RF output 19 dBmV
- Input optical level test points (1V/mW) Internal WDM splitter
- AGC controlled receiver with -6 to +1 dBm dynamic range
- Blue LED – DC power indicator
- Green LED - Receiver optical power indicator
- Burst mode return transmitter (with Green LED indicator)
- 6 KV surge protection for RF I/O ports, 15kV ESD
- Remote ON/OFF provisioning via front panel connection to an external 3.3V signal
- Provision for battery backup, flexible powering at local or remote sites

Applications

- RFoG
- CPON

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Specification

Receiver Optical Specifications						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Receiving Wavelength	λ	-10	1310/ 1550	+10	nm	Band pass limited by optical filter
Optical Input Power	Pi	-6		+1	dBm	
Optical Power Test Point	--	--	1.0	--	V/mW	
LED active signal	--	--	--	-8	dBm	<-8 dBm: Green LED OFF >-6 dBm: Green
RF Specifications						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Frequency Bandwidth	BW	54	--	1003	MHz	
RF output Impedance	Zout	75			ohms	
RF Flatness	S21	1.6 (peak to peak)			dB	F = 54 to 1003 MHz, following RF up-tilt slope
Output Return Loss	S11	--	--	-16	dB	F = 54 to 1003 MHz
RFI Isolation	--	70	--	--	dB	
AGC	--	+/-3			dB	
Operating RF Output Level @1 GHz w/o QAM OFFSET	--	16	19	22	dBmV/ch	
RF up-tilt	--	2.5	3.0	3.5	dB	F = 54 to 1003 MHz
CNR	--	48	--	--	dB	Note 1
CSO	--	--	--	-60	dBc	Note 1
CTB	--	--	--	-60	dBc	Note 1

1. 77ch NTSC analog carriers (50-550 MHz), 73CH 256QAM input at -6dB, OMI3.5% @ -3.5 dBm received input optical power

Transmitter Optical Specifications (over temperature unless otherwise indicated)						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Output Wavelength	λ	1540/ 1600	1550/ 1610	1560/ 1620	nm	Other options see the order information
Optical Output Power	--	0	3	--	dBm	
TX LED ON-Time	--	250	--	--	ms/burst	Burst enable status
RF Specifications						
Frequency Bandwidth	BW	5	--	42	MHz	North American version
		5	--	65	MHZ	European version
Return Loss	S11	--	--	-16	dB	
Flatness	--		1.5		dB	
NPR *1	--	20			dB	@30dB
OMI	--		8%			@30MHz, 39dBmV input level
LD Operation	--	Burst mode			--	
Burst on delay time	--	--	--	1.5	μ s	@ max 64 QAM rate of 5.12 Msymbol/sec
Burst off delay time	--	--	--	4	μ s	@ max 64 QAM rate of 5.12 Msymbol/sec
RF trigger level on	--	9	10	11	dBmV	CW 30MHz
RF trigger level off	--	3	5	7	dBmV	CW 30MHz

*1: 4x 64QAM channels, 5.12 Msym/s, 23 dB optical loss including 20Km fiber, ORX with -27 dBm sensitivity and 4pA/VHz EIN.

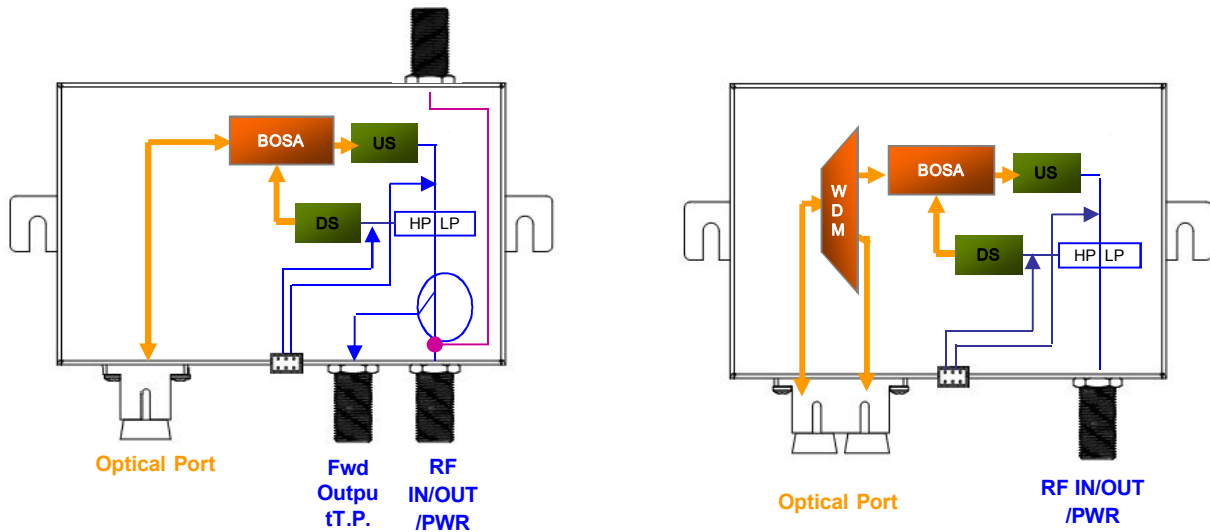
General Specification Parameter	Conditions	Units
Power Consumption	3.5 MAX	
Powering	11~22	VDC
Operating Temperature	-40 to 65	C
Humidity	< 95 (non-condensing)	%
Dimension	LxHxW, 138.3 x 25 x 97	mm
Weight	0.15	Kg

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these conditions. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Unit	Min	Max
Operating temperature	Top	°C	0	65
Storage temperature	Tstg	°C	-40	65
Humidity	H	%		85, non-condensing

Block Diagram



Ordering Information

PNX	-	XX	-	XX	-	X	-	X	-	X	-	X	-	XX	-	XX
Product module: PNA: Pico node A PNB: Pico node B PNC: Pico node C		Return: 13:1310nm 16:1610nm 55:1550nm		Receiver: 13:1310nm 55:1550nm		Frequency Split: 1:42/54 2:55/70 3:65/85 4:85/110		AGC: 1: w AGC		Adaptor & Power inserter: 0:None 1:North America w/o PI 2:Europe w/o PI 3: w/o PI 4:North America w PI 5:Europe w PI 6: w PI		WDM: 0: w/o WDM W:wWDM		Connector: SA:SC/APC SU:SC/UPC FA:FC/APC FU:FC/UPC		Customer: