



ACION 230

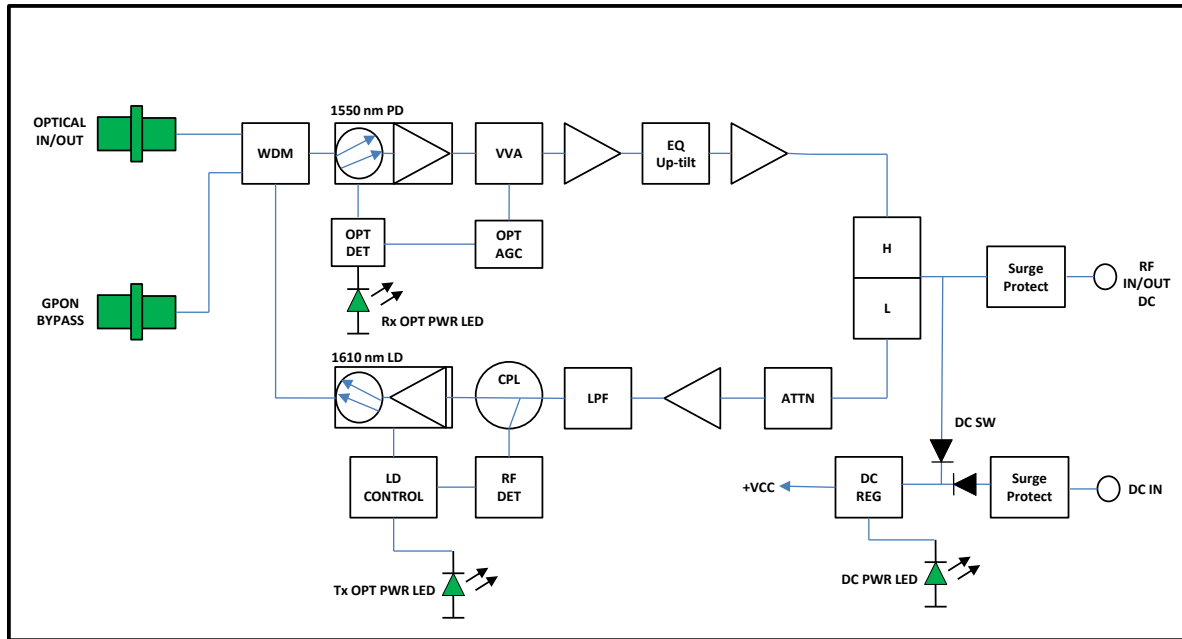
RFOG Mini Optical Node

The ACION 230 RFOG mini optical node with burst mode upstream is a bi-directional optical node for single fiber (WDM) transmission in an RFOG network. It is the ideal platform for delivering video (digital or analog) as well as high-speed data services in a fiber deep or FTTH network. This optical node incorporates superior proven technologies for the RF amplifier and optical components. In the forward receiver path, the node contains an Optical Automatic Gain Control (AGC) circuit to maintain the output level over an input optical power of -6 to 0 dBm. In the return path, the Automatic Optical Control (AOC) circuit is designed to reduce the return noise effectively, to lower the power consumption and prolong the working life. The ACION 230 is very compact in size with excellent performance and has very high reliability required by FTTH/FTTH networks.

Features

- Forward and Return bi-directional optical transmission through single fiber with SC/APC connector
- Optional PON bypass WDM with SC/APC connector
- Return optical transmitter with burst mode operation
- Optical Automatic Gain Control (AGC) for forward path receiver
- Automatic Optical Control (AOC) circuit in return path for reducing return noise
- Receiver optical power LED indicator
- Receiver optical power DC test point
- Return transmitter optical power LED indicator
- Power on/off LED indicator
- Separate +12 VDC power supply port

Block Diagrams



Specifications

ACI		ACION 230 RFoG Mini Optical Node				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION			NOTES
			Min.	Typ.	Max.	
Forward Receiver						
Optical Wavelength		nm	1540	1550	1565	
Monitor Voltage	$\lambda = 1550$	V/mW	-	1	-	
Optical Input Power	Continuous	dBm	-6	-	0	
Frequency Range		MHz	54	-	1002	
RF Out Level @ 54MHz	0 to -6 dBm Opt in, AGC on	dBmV	14	15	16	3.5% OMI
RF Out Level @ 1002MHz	0 to -6 dBm Opt in, AGC on	dBmV	18	-	21	3.5% OMI
RF Output Slope	54 to 1002 MHz	dB	3	5	7	
Frequency Response Flatness	54 to 1002 MHz	dB	-2	-	+2	
RF Output Return Loss		dB	16	17	-	
Optical Input Return Loss		dB	45	-	-	
CTB	@0 dBm optical in (no distortion contribution from Tx)	dB	-	-	-60	79ch NTSC + 450 MHz digital loading @ -6dB OMI = 3% Ref to 1550 nm DMTx
CSO		dB	-	-	-60	
CNR	@-6 dBm optical in	dB	48	-	-	
Equivalent Input Noise	Meas. at 55 MHz	PA/(Hz) ^{1/2}	-	-	7	

ACI		ACION 230 RFoG Mini Optical Node				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION			NOTES
Return Transmitter			Min.	Typ.	Max.	
Optical Wavelength (option 1)	-	nm	1290	1310	1330	
Optical Wavelength (option 2)	-	nm	1600	1610	1620	
Optical Output Power	-	dBm	2	3	4	
Optical Monitor Voltage	$\lambda = 1310$ or 1610	V/mW	-	1	-	
Frequency Range	For 42/53 MHz split	MHz	5	-	42	
RF Input Level	4ch	dBmV/ch	30	33	36	
Total Composite RF Input Level	-	dBmV	36	39	42	
Flatness of Frequency Response	5 to 42 MHz	dB	-1	-	+1	
NPR	10 dB Dynamic range minimum	dB	38	-	-	
RF Input Return Loss	5 to 42 MHz	dB	16	17	-	
Optical Output Return Loss	-	dB	45	-	-	
Burst Mode**						
RF Input Transmit OFF=>ON	-	dBmV	13	-	16	
RF Input Transmit ON=>OFF	-	dBmV	-	8	-	
OFF Optical Output Power	Transmitter OFF	dBm	-	-	-30	
Time to 90% optical ON		μ s	-	1.3	-	
Time for optical falls to 10%		μ s	-	1.6	-	
General Parameters						
Total Current Consumption (DC)	@ +12 VDC	mA	-	420	-	
Operating Mounting Base Temperature		$^{\circ}$ C	-20	-	+55	

**Burst mode parameters can be adjusted according to customer's request.

Part Number Ordering Matrix

ACION 230 Configuration Sheet

Customer: _____

Created By: _____

Order Date: _____

ORDERING MATRIX

2018/8/1

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PART NUMBER	A	2	3	0										

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CONFIGURATION

1 = Bi-directional, Single Fiber, Burst Mode

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RETURN OUTPUT POWER

2 = 2mW

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DIPLEX FREQUENCY SPLIT

4 = 42/53 MHz

6 = 65/85 MHz

8 = 85/105 MHz

12

RETURN TRANSMITTER WAVELENGTH

1 = 1310nm

3 = 1610nm

7

FORWARD OUTPUT LEVEL

1 = 21 dBmV @ 1002MHz

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TRANSFORMER TYPE

0 = None

1 = North America

2 = International / Europe

3 = Japan

4 = Australia

5 = Argentina

X = Other (contact product area agent)

8

RETURN INPUT LEVEL

3 = 30 dBmV/ch (4 ch)

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OPTICAL CONNECTOR TYPE

1 = SC/APC

2 = SC/UPC

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RETURN TRANSMITTER TYPE

D = DFB Laser

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CUSTOM FEATURE

0 = None

X = Determined by product manager

NOTES:



ACI Communications, Inc.
23307 66th Avenue South
Kent, WA 98032

Rev A 10-11-2018

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