1.2 GHz Customer Premise RFoG ONU with 1G/10G PON Pass Through Port

LBON520AC SERIES

Lindsay's RFoG product family includes several optical network units (ONUs). The LBON520AC series is our third generation RFoG premise ONU with xPON pass through port, supporting the overlay of GEPON and 10G EPON with RFoG to coexist on the same fiber network. The LBON520AC ONU incorporates the necessary filtering for proper rejection between the RFoG and 1G/10G PON wavelengths.

The LBON520AC ONU supports 42/54 MHz, 65/85 MHz and 85/102 MHz frequency splits with the downstream frequency band out to 1218 MHz.

- 1610 nm upstream optical wavelength
- 1550 nm downstream optical wavelength

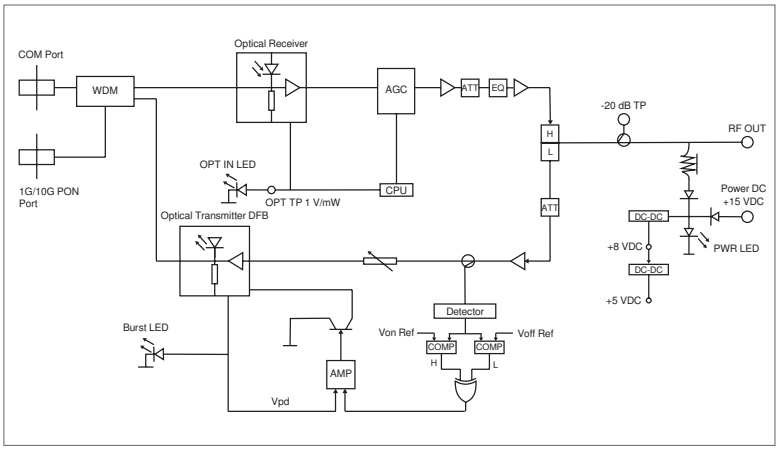
LBON520AC
(front angled view)

The LBON520AC series comes standard with Automatic Gain Control (AGC) and burst-mode return lasers (2 or 3 mW).

FEATURES

- Input Optical Wavelength: 1550 nm
- Optical AGC: -6 to +2 dBm
- Thermally stable DFB burst-mode laser
- Transmit Wavelength: 1610 nm
- Downstream Bandwidth: 102-1218 MHz
- Upstream Bandwidth: 5-85 MHz
- Output RF Level: 20 dBmV at 1002 MHz
- RF Bi-directional Test Point: -20 dB
- Pwr-On, Opt I/P, Opt TX LED indicators
- Future Optional Split: 204/258 MHz

FUNCTIONAL SCHEMATIC



ORDERING INFORMATION

		Fwd Output Level		Total Return Input Power		Laser Type		TX Power		Optical Connector		TX Wavelength		Sub-Split		Power Adaptor
LBON500AC	-	xx	-	xx	-	D	-	x	-	xx	-	xx	-	xx	-	xx
		20 = 20 dBmV		25 = 25 dBmV		D = DFB		2 = 2 mW		SA = SC/APC		61 = 1610 nm		45 = 42/54		00 = None
		36 = 36 dBmV		30 = 30 dBmV				3 = 3 mW		SU = SC/UPC				68 = 65/85		01 = N. America
														81 = 85/102		02 = Europe

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SPECIFICATIONS

Parameter		Specification		
		Min	Typ	Max
Forward Receiver				
Optical Receive Wavelength		1540-1565 nm		
Monitor Voltage		1 V/mW		
Optical Input Power	Optical AGC	-6 to +2 dBm		
RFoG Path Rejection of PON Wavelengths	1260-1540 nm	≤ -30 dB		
	1565-1598 nm	≤ -30 dB		
	1625-1680 nm	≤ -30 dB		
PON Path Rejection of RFoG Wavelengths	1551/1611 nm	≤ -25 dB		
PON Pass Through Port Loss	1G/10G	1 dB		
RF Frequency Range (1)		102-1218 MHz		
Flatness of Frequency Response	f = fmin-1218 MHz		± 1 dB	
Output Return Loss	f = fmin-1218 MHz	16 dB		
Reference Output Level (4)	@ 1000 MHz (± 2 dB)		20 dBmV	
Slope	(± 1 dB)		6 dB	
Optical Input Return Loss		45 dB		
C/N (2)		50 dB	51 dB	
CTB (3)				-65 dB
CSO (5)				-60 dB
Return Transmitter				
Optical Wavelength		1610 nm		
Optical Output Power		2 mW		3 mW
RF Input Level	Total power	20-40 dBmV		
Dynamic Input Range (2)			15 dB	
Frequency Range (1)		5 MHz		85 MHz
Flatness of Frequency Response	f = 5 MHz to fmax		± 0.75 dB	± 1 dB
Input Return Loss	f = 5 MHz to fmax	16 dB		
Optical Output Return Loss		45 dB		
TX OMI (4)		35%		
Laser ON	± 1.5 dB		15 dBmV	
Laser OFF	± 1.5 dB		-4 dBmV	
Power, Environmental & Physical				
Total Power Consumption	15 VDC power pack		≤ 5.2 W	
Operating Humidity		5-95%, non-condensing		
Operating Temperature		-40°C to +65°C (-40°F to +149°F)		
Dimensions (H x W x D)		4.1"H x 6.7"W x 1.5"D (10.4H x 17.0W x 3.9D cm)		
Weight		0.3 kg (0.7 lb)		

NOTES:

(1) Other diplex splits available: 42/54 MHz

(2) -1 dBm optical input; 3.5% OMI/CH; 54-550 MHz analog channels & digital compressed channels above 550-1002 MHz at levels 6 dB below equivalent video

(3) NPR at 30 dB. Measured using a receiver with an equivalent input noise (EIN) of <2.5 pA/Hz0.5 with a link budget of 23 dB (20 km fiber + passive loss). NPR test performed with 80 MHz noise loading

(4) 3.5% OMI/CH

(5) SCTE 174 2010 with a single 39 dBmV tone; 35% ± 3 dB

LINDSAY BROADBAND