12 GHz Bandwidth Amplified Receiver Module

The LR-12-A-M is a 12 GHz bandwidth amplified PIN photodiode receiver module designed for RF over fiber, antenna remoting, and broadband RF signals transmission applications.

Product Description

The LR-12-A-M is a 12 GHz bandwidth amplified PIN photodiode receiver module designed for RF over fiber, antenna remoting, and broadband RF signals transmission applications using single mode optical fiber.

The LR-12-A-M utilizes a wide bandwidth, low distortion PIN photodiode plus a high-gain linear Trans-Impedance Amplifier (TIA) that provides optical to RF conversion to the frequency range beyond 12 GHz. The LR-12-A-M is a highly linear O/E converter that can be used for every type of analog and digital signal. This compact receiver module can provide users with status monitoring through an RS-232 I/O interface. When the LR-12-A-M RF over fiber receiver module is linked with the LT-12-M lightwave transmitter module, the combination provides and excellent choice for ultra-wideband RF to fiber conversion applications.

Features

- Wide Bandwidth, 0.01 GHz to 15 GHz
- High TIA Gain of 500
- Highly Linear for Analog Signal
- Large Dynamic Range
- Low Noise
- Status Monitoring: RS-232 (standard)

Applications

- Wideband RF over Fiber
- Optical Communications to 12.5 Gb/s
- Wimax/LTE/4 G Back Haul
- RF/IF Signal Distribution
- Satellite Communication
- Antenna Remoting

PRODUCT SPECIFICATIONS

Optical Specifications

Operating Wavelength	1250 nm to 1650 nm
Optical Input Level	+3 dBm max.
Repsonsitivity	0.85 A/W @ 1550 nm typ.
Trans-Impedance Gain	500 typ.
Group Delay	±7.0 ps
Optical Return Loss	-30.00 dB typ.
2nd Harmonics Distortion	-70.0 dBc max.
3rd Harmonics Distortion	-75.0 dBc max.
Optical PDL @ 1550 nm	0.05 dB typ., 0.1dB max.

Electrical Specifications

Useful Bandwidth	0.005 GHz to 15 GHz
S21 3 dB Bandwidth	11 GHz min., 12 GHz typ.
S22 Characteristics	< -10 dB to 10 GHz typ.
Output Coupling	AC Coupled
RF Impedence	50 Ω
Ripple over Bandwidth	±1.0 dB
Sensitivity	-19 dBm

Ordering Information

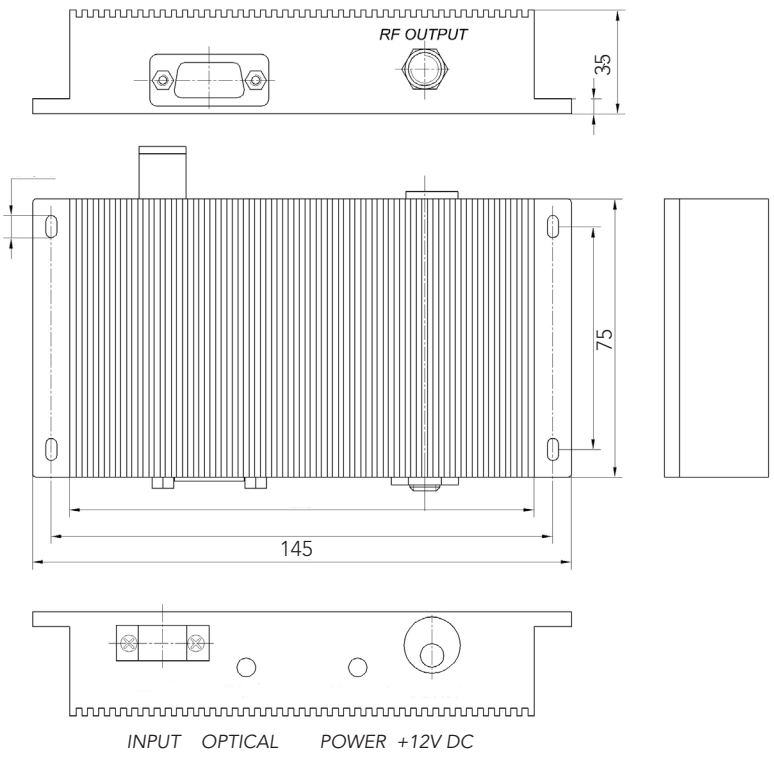
LR-12-A-M

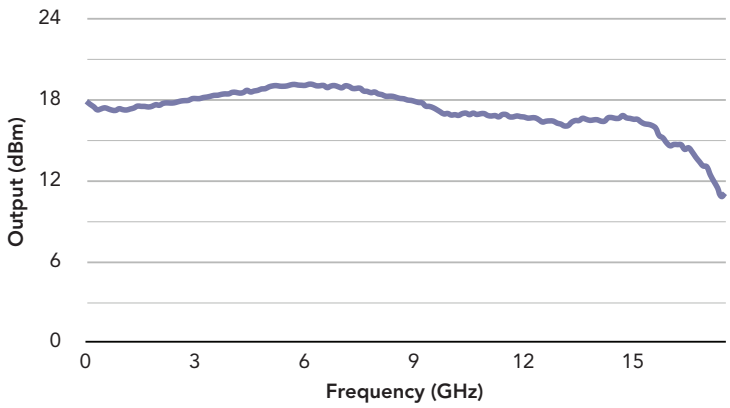
OEQuest.com

To order this product online, visit our site at oequest.com

Optilab 5110 N 44th St, Ste 200L, Phoenix AZ 85018
optilab.com 888-553-3888 602-343-8228 sales@optilab.com

Mechanical Drawing





Typical S21 Response[1]

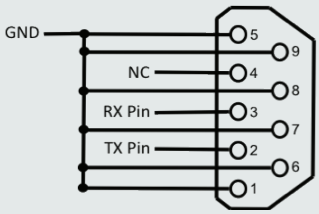
[1] (Measured by Agilent 8703A Lightwave Component Analyzer)

12 GHz Bandwidth Amplified Receiver Module

Mechanical Specifications

Operating Temperature	-40° C to +70° C
Storage Temperature	-55° C to +85° C
Power Supply Requirements	+12 V DC, 500 mA max.,
Optical Connector	SC/APC, FC/APC Optional
RF Connector	K Connector Female, 50 Ω
DC Connector	DB-9 Male
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (Standard)
Dimensions	145 mm x 75 mm x 28 mm
Accessories Included	110 V - 240 V AC Adaptor and RS-232 Cable
Housing	Precision Machined Aluminum, Anodized Surface

PIN Out Diagram



DB-9 Connector

Pins 1, 5, 6, 7, 8, 9	Ground
Pin 4	NC, no connection
Pin 3	RX, pin for receiving data via RS-232
Pin 2	TX, pin for transmitting data via RS-232

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