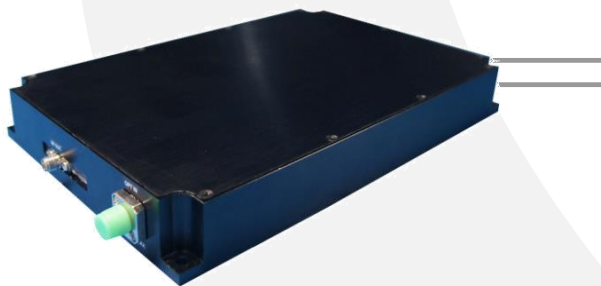# APR-10-M

DEVICE

10 GHz High Gain Avalanche Photoreceiver Module

OVERVIEW

The Optilab APR-10-M is a 10 GHz bandwidth receiver module designed for RF over fiber, antenna remoting, and broadband RF over Fiber applications. It features a high gain transimpedance (Zt) value of 20,000 Ω. The APR-10-M can accept input power as low as -26 dBm. This compact, cost-effective receiver module can provide users with status monitoring through a USB interface. When the APR-10-M RF over fiber receiver module is linked with the LT series of RF over Fiber transmitter modules, the combination provides an excellent solution for ultra-wideband RF to fiber conversion applications. Contact Optilab for more information.
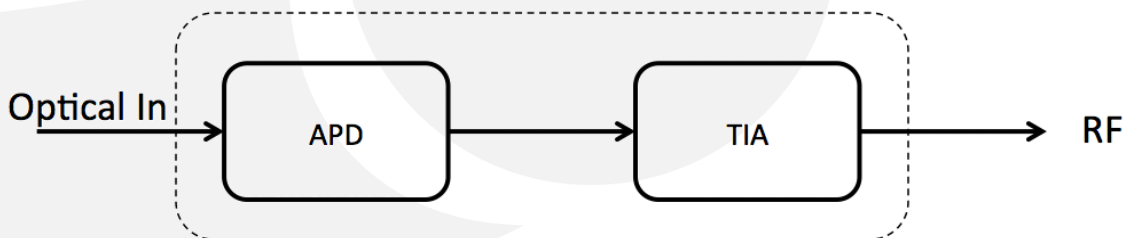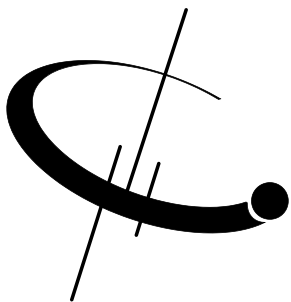
FEATURES

- Typical transimpedance (Zt) value of 20,000Ω
- Useful O/E bandwidth up to 10 GHz
- High sensitivity: -26.5 dBm
- Status monitoring: RS-232
- DC-coupled output
- Single 12 V power supply

USE IN

- Wideband RF Transmission over Fiber
- Analog link operating up to 10 GHz
- Broadband delay-line and signal processing
- Phased and interferometric array antenna
- High speed LIDAR Receiver
- High gain O/E converter

FUNCTIONAL DIAGRAM

APR-10-M

SPECIFICATIONS

GENERAL

Photodiode Wavelength Range	1300 nm to 1610 nm
Operational Bandwidth	10 GHz
AC Transimpedance	1200 ohm @ 750 MHz, Single-end
Small Signal Diff. Conversion Gain	Over 2000 V/W @ 1550 nm
Gain Ripple	± 1.5 dB
Responsivity	0.85 A/W @ 1310 nm typ., 0.90 A/W @ 1550 nm typ., 0.80 A/W @ 1610 nm typ.
Minimum Optical Input	-26 dBm
S21 3 dB Bandwidth	7.5 GHz typ.
S22 Characteristics	12 dB from 130 MHz to 6 GHz; 7 dB from 130 MHz to 8 GHz
Optical Return Loss	27 dB min.
Output Coupling	DC Coupled
Maximum Overload	-5 dBm typ.
Group Delay Deviation	50 ps

MECHANICAL

Operating Temperature	-5ºC to +75ºC
Storage Temperature	-40ºC to +85ºC
Power Supply Requirements	+12 V DC
Optical Connector	FC/APC
RF Output Connector	SMA Connector Female, 50Ω
Local Alarm LED	Optional Input Power
Remote Alarm	RS-232 Interface (standard)
Dimensions	210 mm x 135 mm x 28 mm
Accessories Included	110 V – 240 V AC USB Adaptor & Cable
Housing Precision Mach.	Anodized Aluminum