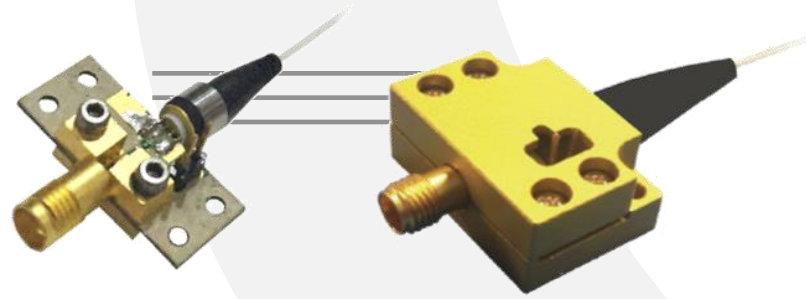


# SPD-15-MM



## DEVICE

# 15 GHz Linear GaAs PIN Photodetector, 850nm, Multimode Fiber

## OVERVIEW

The Optilab SPD-15-MM is a highly linear, 15 GHz bandwidth GaAs PIN photodetector that is optimized for 850 nm operational wavelength w/Multimode Fiber (OM4); it is ideal for use in O/E front-ends requiring wide band frequency response. The coplanar waveguide photodiode design optimizes speed and sensitivity for the 850 nm and assures a 15 GHz frequency response necessary for digital and analog applications. The front-illuminated mesa-structured PIN design allows a high input power level of up to 20 mW. The SPD-15-MM is available in a standard 2-pin package with SMA type RF connector output for ease of assembly and can be ordered with or without the external protective housing. Contact Optilab for more information.

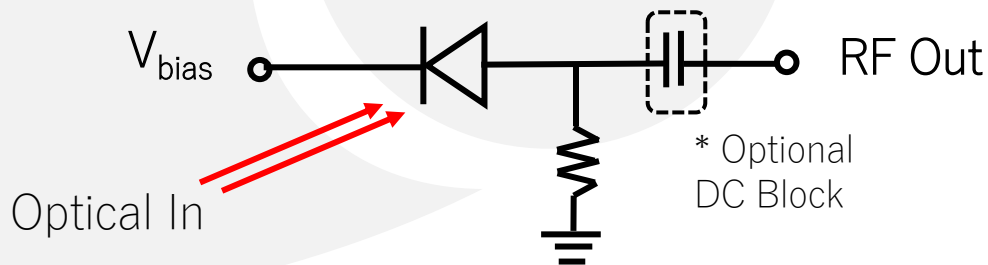
## FEATURES

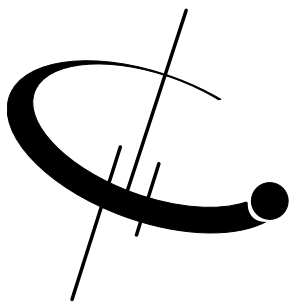
- Optimized for 850nm
- 50um Multimode Fiber (OM4)
- DC to 15 GHz, DC coupled
- Low Bias Voltage
- Responsivity 0.55 A/W @850nm

## USE IN

- 15 GHz Analog RF over Fiber
- 850 nm picosecond pulse detection
- Coherent lightwave systems
- Front-End O/E converter for test instrument

## FUNCTION DIAGRAM





# SPD-15-MM

## SPECIFICATIONS

### GENERAL

Optimized Operating Wavelength	830 nm to 870 nm
Optical Input Level	20 mW Peak max.
S21 3 dB Bandwidth	12 GHz min., 15 GHz typ.
S22 Up to 10 GHz	≤ -10 dB
Responsivity @ 850 nm	0.5 A/W min., 0.55 A/W typ.
Dark Current @ 25 °C, +3V Bias	0.1 nA typ., 10 nA max.
Reverse Bias Voltage	+3V typ., +30V max
Impedance	50 Ω
Coupling	DC-Coupled

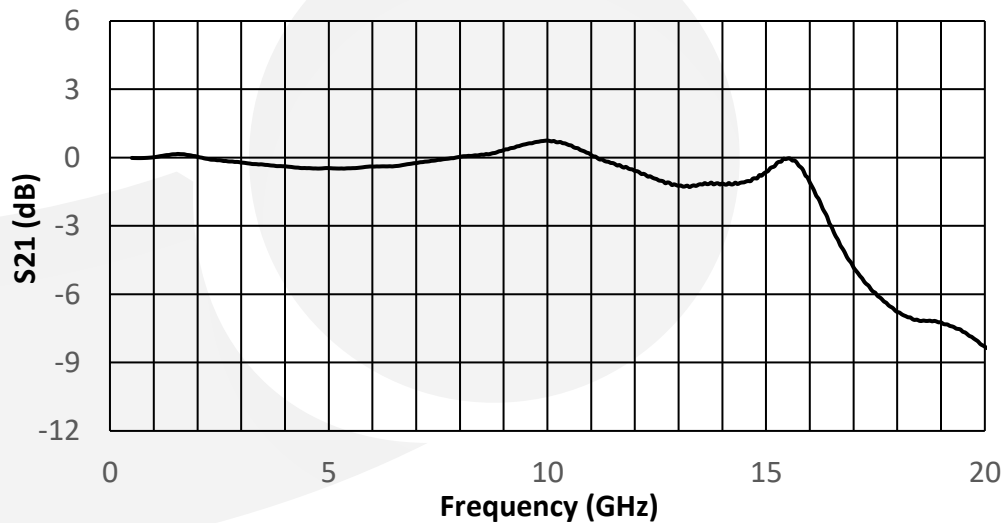
### MECHANICAL

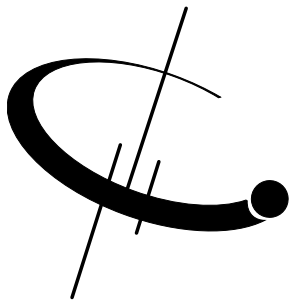
Operating Temperature	-10 °C to +60 °C
Storage Temperature	-55 °C to +75 °C
Operating Humidity	85%
RF Connector	SMA Female
Dimensions	See Drawing Below
Fiber Connector	FC/APC
Optical Fiber	MMF (OM4) 50um

### ABSOLUTE MAXIMUM RATINGS

PIN Bias Voltage	+30 V max.
Optical Peak Input Power	20 mW
Lead Soldering Temp. (10s)	250 °C

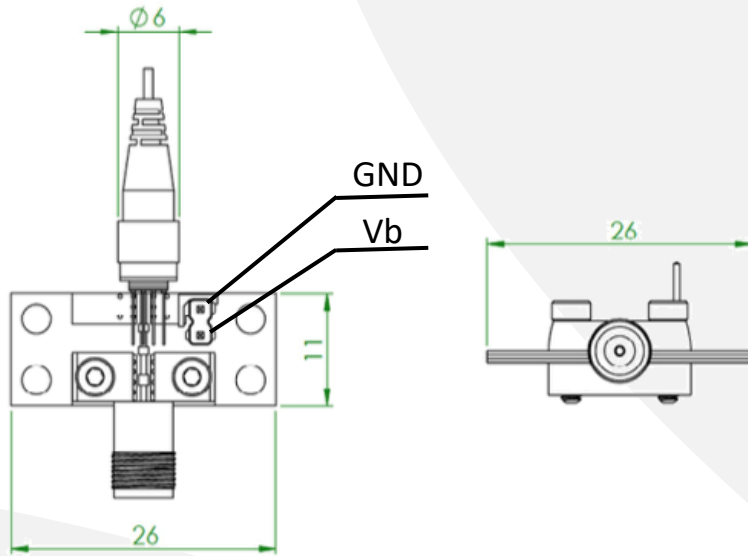
Typical S21 O/E RESPONSE



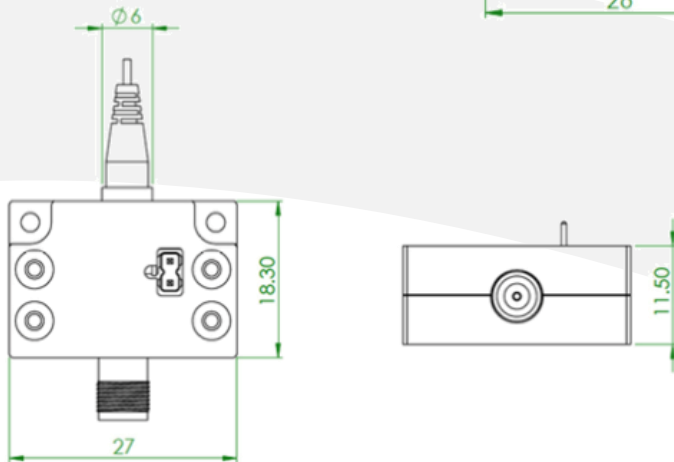


# SPD-15-MM

SPD-15-MM-A Mechanical Drawing



SPD-15-MM-C Mechanical Drawing



**Mechanical Housing Material**  
- Aluminum Alloy

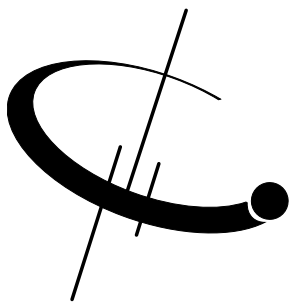
Unit: mm

SPD-15-MM-M: Module



**Ready to use module**  
- Power and Remote Monitoring via USB Port





# SPD-15-MM

## Related Laser Source

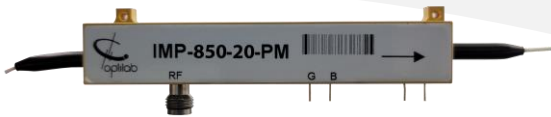
- LD-850-60-CX



The Optilab LD-850-60-CX is an 850 nm laser diode, packaged in compact coaxial housing with single mode fiber pigtail.

## Related Modulator

- IMP-850-20-PM



The Optilab IMP-850-20-PM Intensity Modulator is designed for external modulation of 850 nm laser up to 20 GHz.

## ORDERING OPTIONS

### SPD-15-MM-X

X: A - No Housing, default, C - External Housing

