

# High-Speed, High Power Photodetector

The high speed photodiode, PD-200, is hermetically sealed, high reliability, low harmonic distortion photodiode modules designed for high optical power applications with minimum bandwidth of 20 GHz. The device is well suited for receiver applications with optical pre-amplification, and is available either with or without an internal 50Ω termination. The photodiode module is available with a V-connector package.

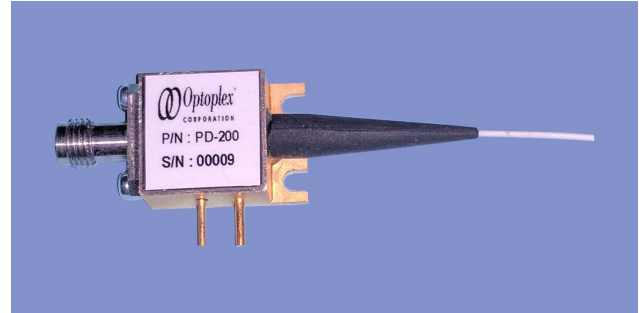


Figure 1, High-Speed, High Power Photodetector Model: PD-200

## Features:

- High Current Handling (up to 20 mA)
- Lowest PDL (typical 0.05 dB)
- Useable spectral wavelength range of 800-1650 nm
- Low Group Delay
- Low Harmonic Distortion
- V-connector (SMA)
- Bellcore GR-468 Qualified

## Applications:

- Optically Amplified Systems
- RZ, NRZ, Super FEC Formats to 20 Gb/s
- High Dynamic Range, Analog RF Links over Fiber
- Rapid Doppler-Shift LIDAR Measurements
- Coherent Lightwave Systems
- Ideal Front-End O/E Converter for Test Instruments

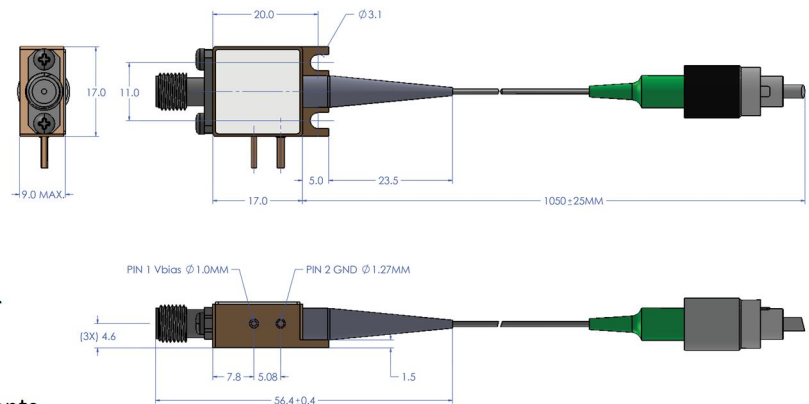


Figure 2, Mechanical Drawing

## Optical and Electrical Performance

Parameter	Min	Typical	Max	Units
Responsivity (1480 nm-1620nm)	0.5	0.65	-	A / W
Logic Sense / Coupling	Positive Non-Inverting / DC 50 Ω			
3 dB Bandwidth	18	22	-	GHz
Rise Time/ Fall Time/ FWHM	-	16	-	ps
Dark Current @ 25C, 5V	-	10	100	nA
Electrical Return Loss	-	- 10	-	dB
Optical Return Loss	27	30	-	dB
Bias Voltage	2.8	3.3	3.8	V
PDL @ 1550 nm	-	0.3	0.5	dB

## Absolute Maximum Rating

Parameter	Specification	Unit
Operating Temperature Range	-40 to + 70	$^{\circ}\text{C}$
Storage Temperature Range	- 55 to + 85	$^{\circ}\text{C}$
Photodiode Bias $V_{\text{bd}}$	+5.0	V
Optical Input Power Damage Threshold	+16	<i>dBm peak</i>
Lead Soldering Temperature (10 s)	250	$^{\circ}\text{C}$

## Measured Performance

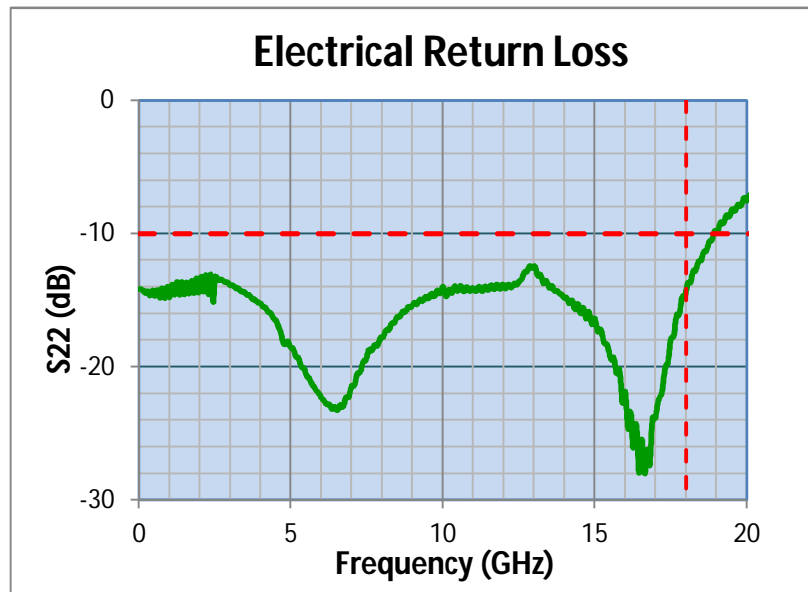


Figure 3, Electrical Return Loss

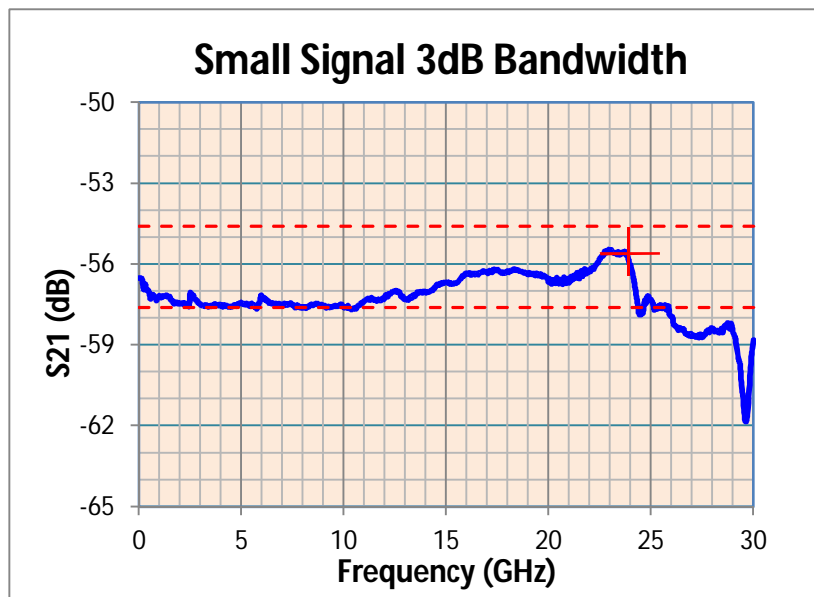


Figure 4, Small Signal 3dB Bandwidth