

- **GREATER THAN 20 GHz RF BANDWIDTH**
- **DC COUPLED**
- **COMPACT LIGHTWEIGHT DESIGN**
- **HIGH RESPONSIVITY**
- **POSITIVE SUPPLY VOLTAGE**
- **50Ω OUTPUT IMPEDANCE**



The MPR0020 Microwave Photonics Receiver extends link response to greater than 20 GHz via direct optical-to-analog RF conversion for signal remoting, communications, radar and information processing applications.

The unit consists of a high speed InGaAs PIN photodiode coupled to the RF output connector. It includes internal bias decoupling and can operate over a wide range of supply voltages (+3 to +15V). The detector response covers 1300 to 1600 nm. It is pigtailed with 900μm jacketed, single mode (ITU-T G.652.D compliant) fiber and can be terminated with a variety of optical connector options.

The entire unit is contained in a sealed housing and weighs less than 25 grams.



<b>RF CHARACTERISTICS</b>	Units	Min	Typ	Max
Operational Frequency Band	GHz	0 to 20	0 to 26	
Output Impedance	$\Omega$		50	
Output Return Loss	dB	8		
RF -3 dB Bandwidth	GHz	20	25	

<b>OPTICAL CHARACTERISTICS</b>				
Optical Wavelength	nm	1300		1600
DC Responsivity at 1550 nm / 25°C	A/W	0.75	0.9	
Optical Input Power <sup>1</sup>	mW			10
Optical Return Loss	dB	30		

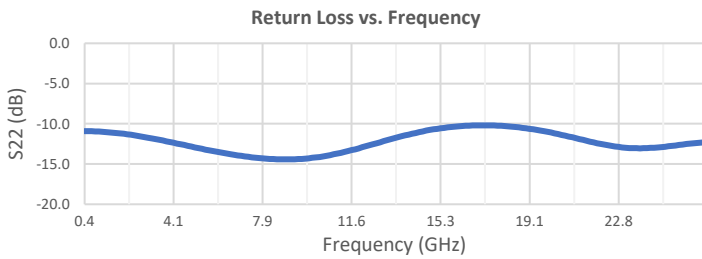
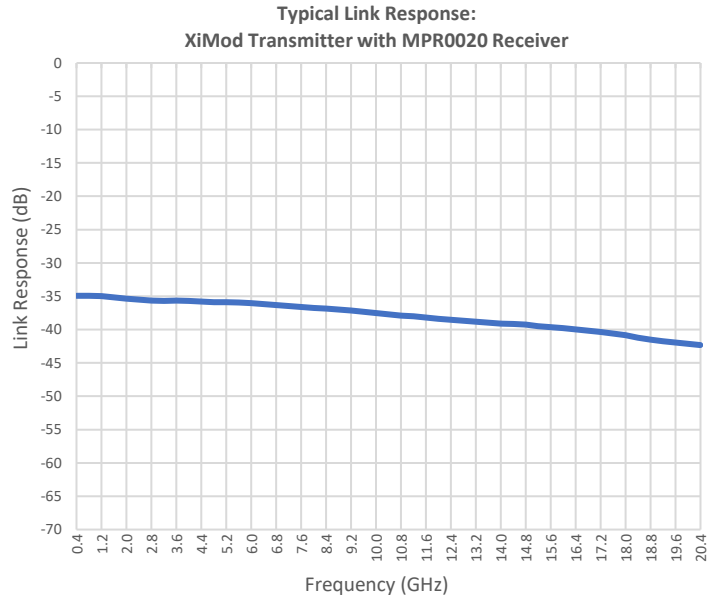
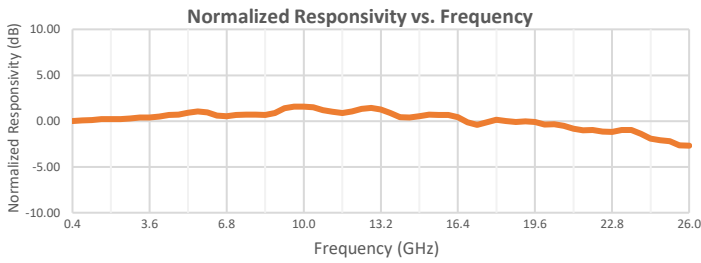
<b>DC CHARACTERISTICS</b>				
V PIN Bias Voltage	V	3	5	15
Dark Current	$\mu$ A		0.008	50

<b>ENVIRONMENTAL CHARACTERISTICS</b>				
Operating Temperature Range <sup>2</sup>	°C	-40		85
Storage Temperature Range	°C	-40		95

<b>MECHANICAL CHARACTERISTICS</b>	
RF Connector	3.5 mm (SMA) female
Fiber Pigtail	G.652.D, single mode 900 $\mu$ m buffer, 1 m typ <sup>3</sup>
Fiber Connector	FC/APC <sup>4</sup>
Bias Connectors	0.018" dia. Kovar pins with Sn/Pb coating
Max Weight (Grams)	25

Notes:

1. Exceeding maximum optical input power may damage the device.
2. Military temperature range available. Consult factory.
3. Other fiber options available. Consult factory.
4. Other connector options available. Consult factory.



## MPR0020 Mechanical Outline

