

- **30 GHz MICROWAVE BANDWIDTH**
- **INTERNAL RF AMPLIFIER**
- **AC COUPLED**
- **COMPACT LIGHTWEIGHT DESIGN**
- **HIGH RESPONSIVITY**
- **50Ω OUTPUT IMPEDANCE**



The APRR530 Amplified Photo Receiver consists of a broadband microwave InGaAs PIN photodiode internally matched to a low noise post amplifier, providing 14 dB gain from 0.5 to 30 GHz. The amplifier is matched directly to the diode output, improving system ripple response and noise figure.

The APRR530 enables link response to over 30 GHz via direct optical-to-analog RF conversion and amplification for signal remoting, radar communications, and information processing applications.

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.



RF CHARACTERISTICS	Units	Min	Typ	Max
RF -3 dB Bandwidth	GHz	0.5 to 30	0.25 to 32	
Output Impedance	Ω		50	
Output Return Loss	dB	8		

OPTICAL CHARACTERISTICS

Optical Wavelength	nm	1300		1600
Output Response (1550 nm, $R_L=50\Omega$, $T=25^\circ\text{C}$)	V/W	35	40	
Optical Input Power ¹	mW			7
Optical Return Loss	dB	30		

DC CHARACTERISTICS

PIN Diode Bias, V_{pin}	V	3	5	12
Amplifier Drain Bias, V_{dd}	V	4.75	5	5.25
Amplifier Gate Bias, V_g	V	-5.25	-5	-4.75
Drain Current, I_{dd}	mA	130	160	200

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range ²	$^\circ\text{C}$	-40		85
Storage Temperature Range	$^\circ\text{C}$	-40		95

MECHANICAL CHARACTERISTICS

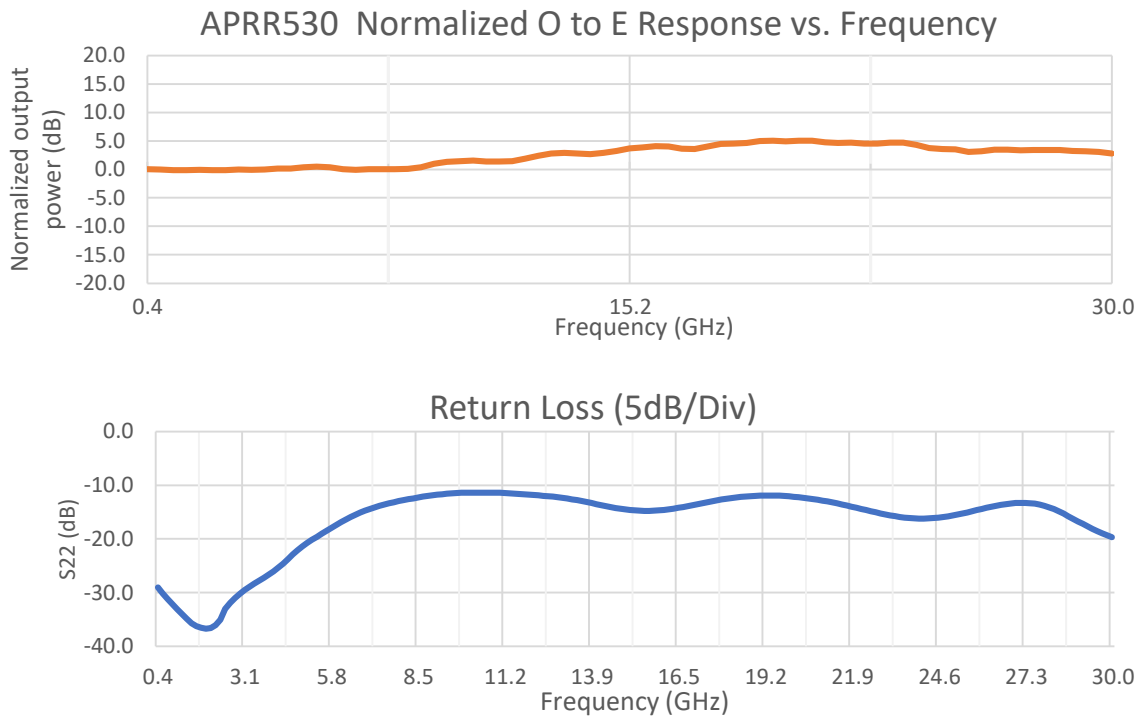
RF Connector	2.92 mm (K) Female
Fiber Pigtail	G.652.D Single Mode, 900 μm buffer, 1 m typ ³
Fiber Connector	FC/APC ⁴
Bias Connectors	0.018" dia. Au plated Kovar pins
Max Weight (Grams)	25

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 connect options available. Consult factory.



APRR530 Typical E/O response and output return loss



APRR530 Mechanical Outline (Inches)

