

FCPD InGaAs Photodetector

✧ Features

- Wide Bandwidth
- Incorporated Bias-T
- O/E Hybrid Integrated
- Low Noise, Broadband
- SMA Connector



✧ Applications

- Radar Information Processing
- Electronic Warfare
- Antenna Measurement



✧ Introduce of FCPD

The FCPD is optoelectronic hybrid integrated by broadband InGaAs photodiode. The response wavelength of InGaAs PIN photodiode is 1000 to 1650nm. FCPD can provide the bandwidth of 1GHz , 2.5GHz or customization (maximum 8GHz). The module operates on +5V supply voltages. The optical input port is a standard FC(face-contacted) fiber-optic connector. The RF output port is an SMA compatible connector matched by 50 ohm impedance .

FCPD weighs less than 15 grams.

ROHS 2.0 certificated .

✧ **Product Selection**

Typical & Absolute Maximum Rating				
Parameter	Sym.	Typ	Rating	Unit
Storage temperature range	T _{STG}	-45 ~ +85	-55 ~ +100	°C
Operating case temperature range	T _C	25	-40 ~ +70	°C
Bias Voltage	V _R	+5	+4.75 ~ +5.25	V
Optical Input Power	P _{in}	0	+5	dBm
Burn-out Optical Power	P _B	-	+13	dBm
Lead soldering temperature	T _p	280 (10s)	330 (10s)	°C

Electrical / Optical Characteristics (T _C = 22 ± 3 °C)							
Parameter	Sym	Test Condition	Parameter Values			Unit	
Wavelength Range	λ	—	1000 ~ 1650			nm	
Frequency Range	—	—	L Band	S Band	CM	—	
Small Signal Bandwidth	f _{-3dB}	T _C = 22 ± 3°C	0.03~1	0.03~2.5	0.1~8	GHz	
Responsivity	R _e	V _R = +5V, P _{in} = 1mW	λ = 1310 nm	≥ 0.90	≥ 0.90	≥ 0.90	A/W
			λ = 1550 nm	≥ 0.90	≥ 0.90	≥ 0.90	
Amplitude Flatness	A	T _C = -40 ~ +70 °C	≤ ± 1.5		≤ ± 2	dB	
Output VSWR	VSWR	—	≤ 2		≤ 2.2	—	
Saturation Optical Power	P _s	V _R = +5 V, λ = 1550 nm AC Modulated	+5			dBm	
Saturation RF Output Power	P _{out}	—	-10			dBm	
Dark Current	I _D	—	≤ 10			nA	
Output Impedance	R _L	—	50			Ω	

✧ Typical Response Curves

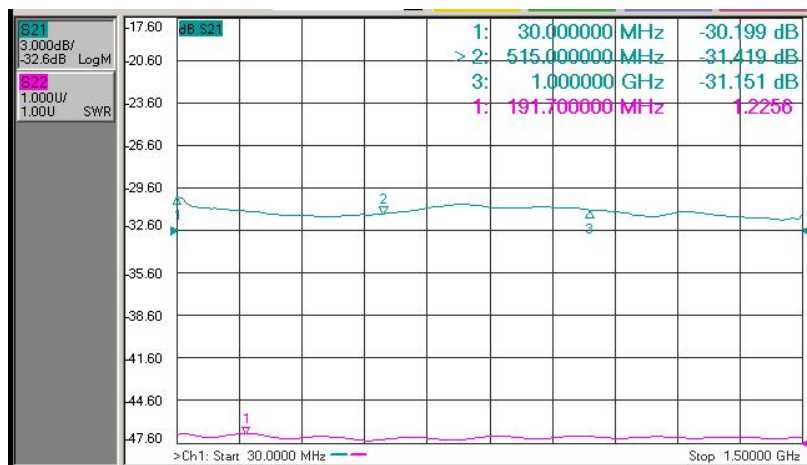


Fig . 1 L- Band FCPD InGaAs Photodetector Frequency Response

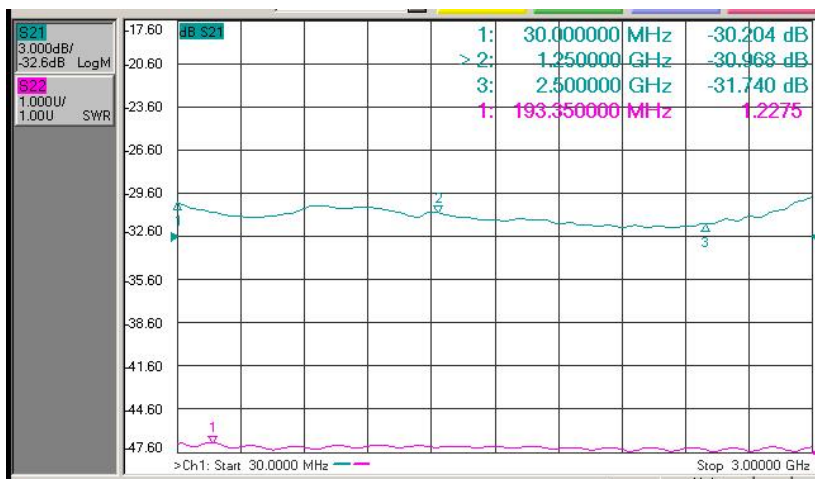


Fig . 2 S- Band FCPD InGaAs Photodetector Frequency Response

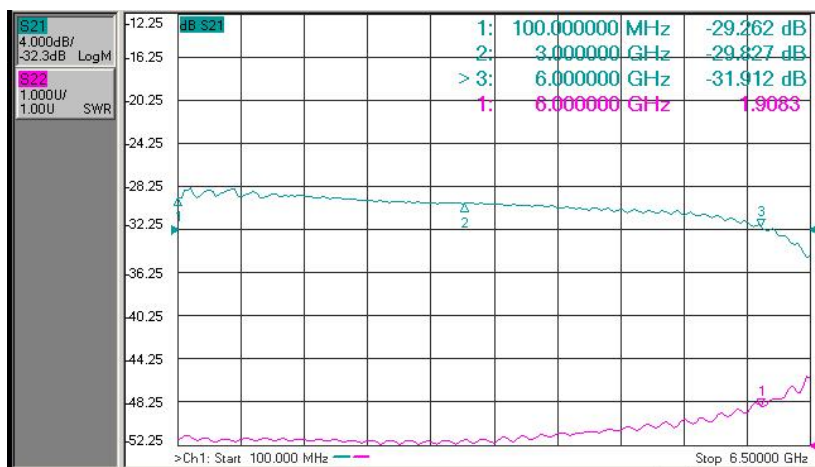
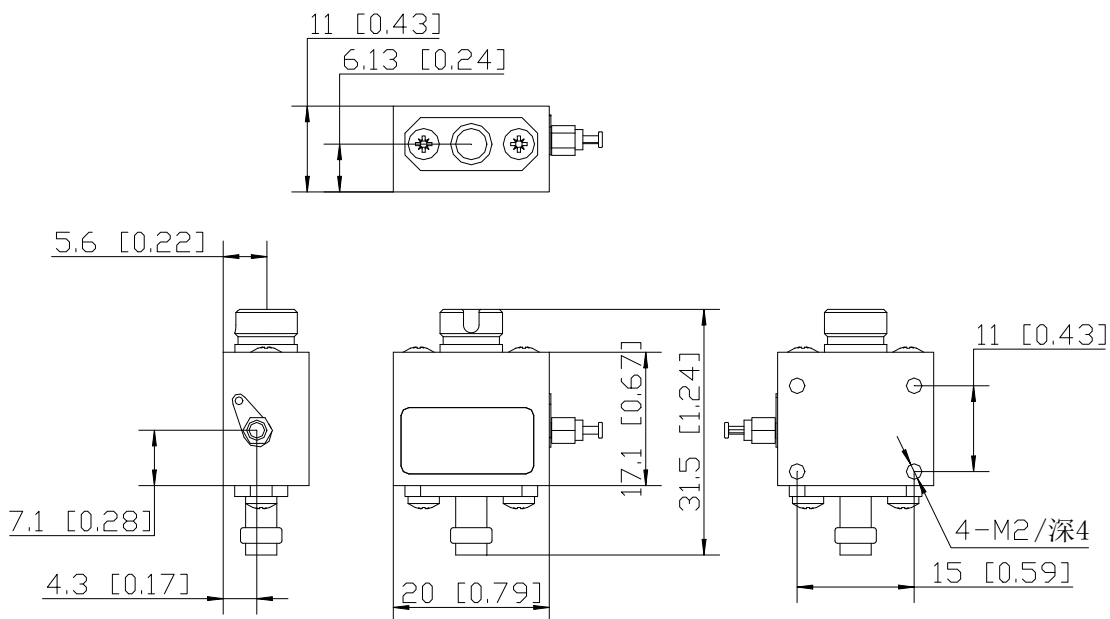


Fig . 3 C- Band FCPD InGaAs Photodetector Frequency Response

✧ **Dimension and Pins (Unit: mm[inch])**



Optical Connector: FC(face-contacted) fiber-optic connector

RF Connector: SMA

✧ **Ordering Information**



Sheet 1:

Code	Analog Bandwidth
L	0.03 ~ 1 GHz
S	0.03 ~ 2.5 GHz
CM	Customization (≦ 8GHz)

✧ **Precautions**

- Be sure the fiber coupling facet is clean before connecting it to opto-circuit .
- RF interface and optical interface shall be covered with dust cap when not in use.
- The suitable ESD protection is required in storage, transportation and using .