

OEPD81218R High Speed InGaAs Photodetector

Features

- ❖ Wide Bandwidth
- ❖ Internal Bias-T
- ❖ DC Coupled
- ❖ Hermetically sealed, SMA connector

Applications

- ❖ High Speed Optical-fiber Communication
- ❖ Microwave Photonic Link
- ❖ High speed Test and Measurement



Absolute Maximum Rating

Parameter	Sym.	Rating	Unit
Storage temperature range	TSTG	-45 ~ +85	°C
Operating temperature range	TC	-40 ~ +70	°C
Bias Voltage	VR	12	V
Optical Input Power	Pin	25	mW
Lead soldering temperature	Tp	260 (10s)	°C

Electrical/Optical Characteristics (@TC = 22±3°C)

Parameter	Sym	Test Condition	Parameter values			Unit
			C band	X band	Ku band	
Wavelength range	λ	—	1000~1650			nm
Frequency range	—	—	C band	X band	Ku band	—
Small signal bandwidth	f_{-3dB}	VR=5V, λ =1.55 μ m Pin=1mW, RF _{in} =-10dBm	DC~8	DC~12	DC~18	GHz
Responsivity	Re	VR=5V,Pin=1mW λ =1.55 μ m	≥0.85	≥0.80	≥0.80	A/W
Amplitude Flatness	F	VR=5V, λ =1.55 μ m Pin=1mW, RF _{in} =-10dBm	≤±1.5			dB
Output VSWR	VSWR	VR=5V, λ =1.55 μ m Pin=1mW, RF _{in} =-10dBm	≤2.0:1	≤2.0:1	≤2.5:1	—
Dark current	ID	VR=5V, Pin=0mW	≤20			nA
1dB compression point saturation Input Optical Power	PS	VR=5V, λ =1.55 μ m, RF _{in} =-10dBm, AC modulated	≥10			dBm
Optical return loss	ORL	λ =1.55 μ m	≥27			dB

Typical Response Curves

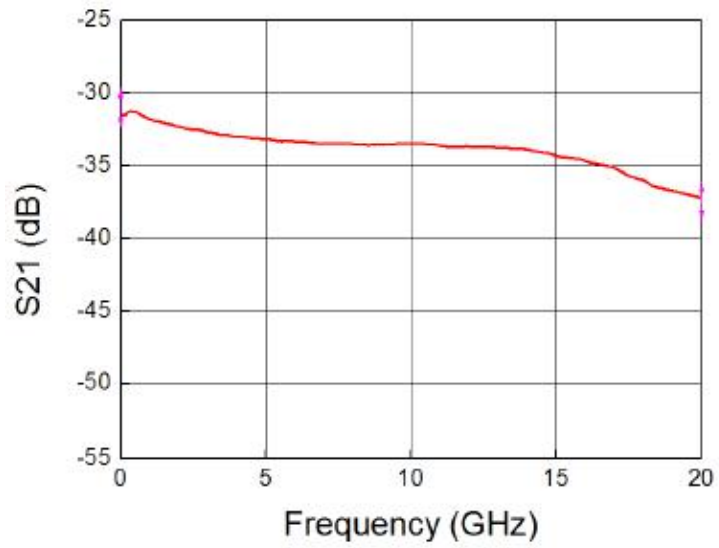


Fig.1 C-Band Photodetector Frequency Response Curve

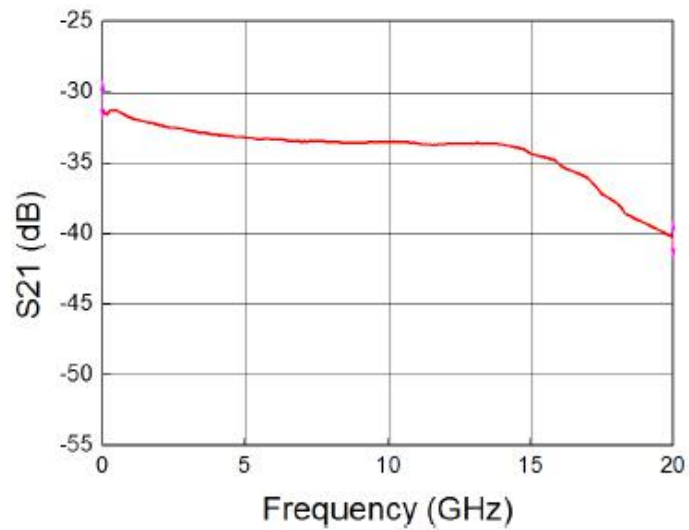


Fig.2 X-Band Photodetector Frequency Response Curve

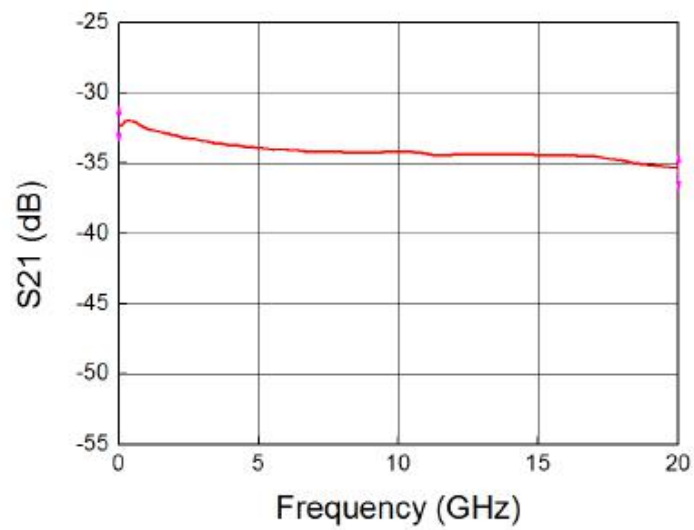
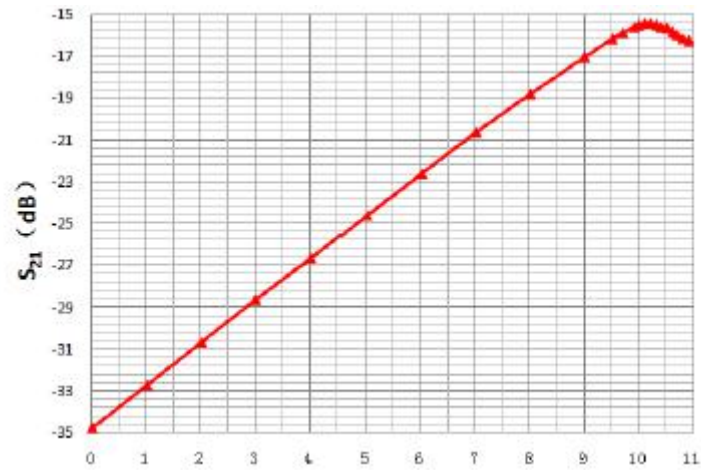


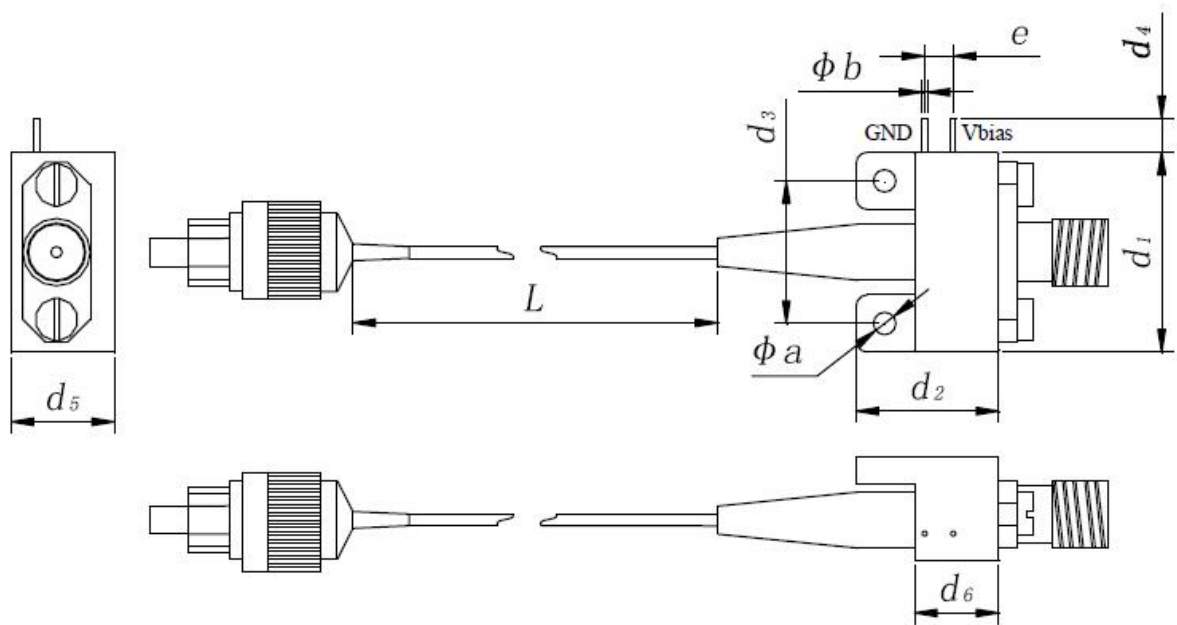
Fig.3 Ku-Band Photodetector Frequency Response Curve



Optical Power(dBm)

Fig.4 1dB Compression Point Saturation Input Optical Power Curve

The packages and the pins (Unit: mm)



outer size

size	symbol									
	d1	d2	d3	e	d4	d5	d6	Φa	Φb	L
Min.	17.8	12.5	12.5	2.4	2.5	9.0	7.5	2.0	0.4	1000
Max.	18.2	13.0	13.0	2.6	3.5	9.4	7.7	2.2	0.5	-

Ordering Information

OEPD81218R -X-X

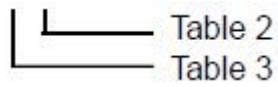


Table 2 Analog Bandwidth

Code	Band	Analog Bandwidth
C	C	DC~8GHz
X	X	DC~12 GHz
Ku	Ku	DC~18 GHz

Table 3 Fiber Connector

Code	Connector Type	Remark
0	No Connector	single-mode 9/125 μ m fiber pigtail
1	FC/APC	
2	FC/PC	

✧ Qualification Information

Photodetector module has passed reliability assurance requirements as specified by GJB 8120-2013.

✧ Precautions

The fiber bending radius no less than 20mm for avoiding fiber damaged.

✧ Be sure the fiber coupling facet is clean before connecting it to opto-circuit.

✧ The suitable ESD protection is required in storage, transportation and using.