BPD-M-70G-PM Type 70GHz Balanced Photodetector



Description

The BPD-M-70G-PM is a high-performance balanced photodetector receiver module designed for the C-band wavelength range. It features a typical 3 dB bandwidth of 70 GHz and a responsivity of ≥0.35 A/W. The device integrates an internal bias circuit at the optical port and incorporates a 50 Ω broadband impedance matching network. This product is suitable for applications including DPSK optical communication, instrumentation testing, and LiDAR detection systems.

Features

- Ultra-wide bandwidth
- Integrated internal bias circuit
- High consistency
- High reliability

Specifications

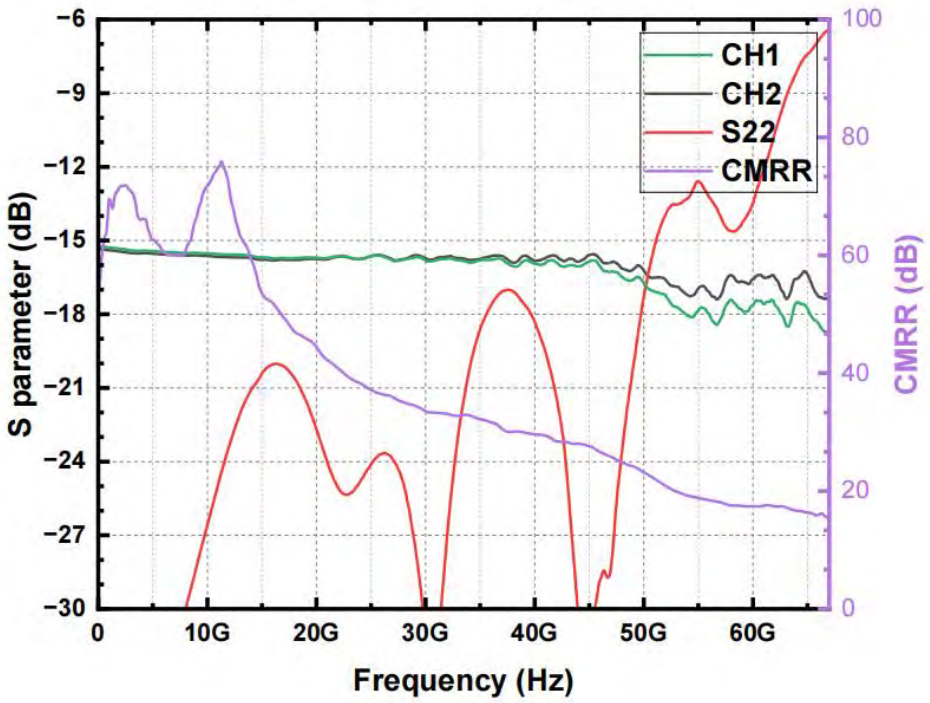
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Wavelength	λ	—	1525	1550	1570	nm
Responsiveness	R	V_{PD+}= +2 V,V_{PD-} = -2V, P_{light}= 0 dBm, λ=1550 nm	0.35	0.4		A/W
Responsivety	Rimb	R_{imb}=10·log10|（RPD+/ RPD-)|		0.3	0.6	dB
Polarization Correlation	PDL			1		dB

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Dark current	Id	V_{PD+} =+2V， V_{PD-} =-2V		20	200	nA
3dB Bandwidth	BW	V_{PD+} = +2V， V_{PD-} = -2 V, P_{light}= 0 dBm, λ = 1550 nm	60	70		GHz
Radio frequency echo reflection	S22	DC-67GHz			-5	dB
Common-mode rejection ratio	CMRR	CMRR=20 ·log10|($S21_{PD+}$-$S21_{PD-}$)/ ($S21_{PD+}$ - $S21_{PD-}$)|		15		dB
Saturation optical power	Psat	V_{PD+} = +2V， V_{PD-} = -2 V, λ=1550 nm		7		dBm

Note: Unless otherwise specified, the test temperature is 25°C.

Typical Test Curve



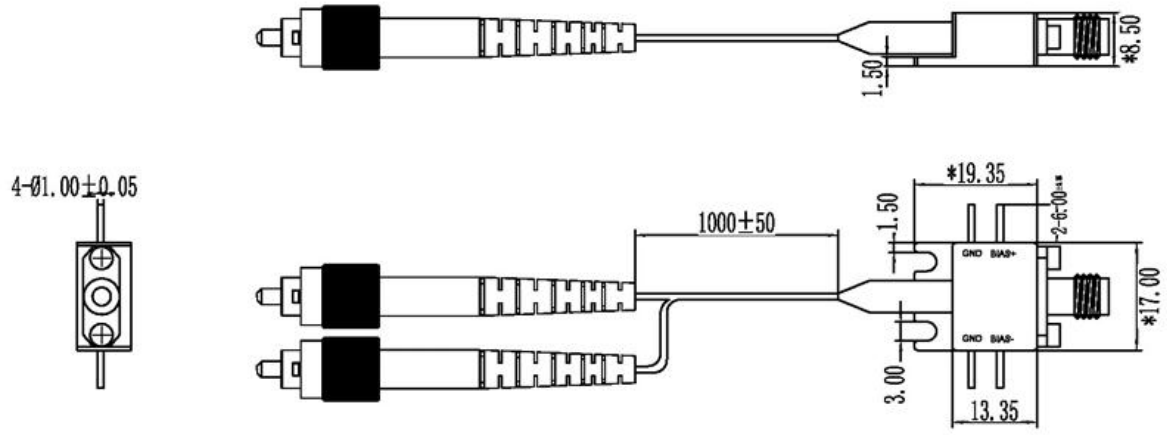
Usage Instructions：

1. Appropriate ESD protection measures should be implemented to prevent electrostatic discharge (ESD) damage.
2. Do not pull or apply excessive force to the tail fiber directly, as this may damage the optical component.
3. Keep the optical connectors clean and free from dust or contaminants to ensure optimal optical performance.

Maximum Absolute Rating Value

Parameters	Symbol	Rated Value	Unit
Optical Power	Ps	10	dBm
Forward Bias Voltage	Vr	5	V
Operating Temperature	Top	-40 ~ +70	°C
Storage Temperature	Tstg	-40 ~ +85	°C
Soldering Temperature	Tp	260 (10s)	°C
Minimum Fiber Bending Radius	Rfiber	20	mm

Dimensions and Pin definitions



Pin	Function declaration
BIAS+	+1–3V (Recommended: +2 V)
BIAS-	- 1 to 3V (Recommended: -2 V)
GND	GND
Optical Fiber Interface	SMF/PMF, FC/APC (wide key),Pin ≤7 dBm (Recommended: 0 dBm)
RF	1.85 mm

Ordering Info

BPD	M	-□X	-YY
Product Type BPD: Balanced Photodetector	Package	3 dB Bandwidth 70 = 70 GHz X: Operating Wavelength Band C = C-Band	Fiber Type Blank = SMF PM = Polarization-Maintaining Fiber