

High-Speed Balanced Optical Detection Module

HC--BPRM-10G/25G/40G

Product Features

Easy to use

Response Time < 10ps

High saturated optical power

Integrated low noise amplifier

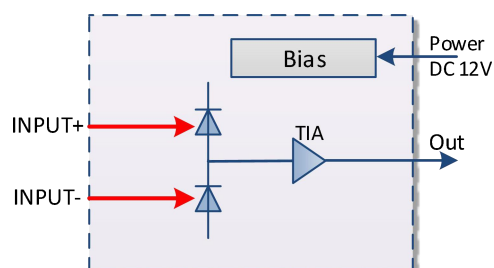
DC 12V single power supply

Spectral range 1000 ~ 1700nm

3dB Bandwidth 10G/25G/40GHz

Common Mode Rejection Ratio 25dB

Can be customized



Application Field

OTDR

Laser radar

Coherent optical communication

Brillouin optical fiber sensing system

Optical coherence tomography (OCT)

Product introduction

These series optical detection module integrates two matched analog PIN detectors with high bandwidth and high linearity and a low-noise broadband transimpedance amplifier. It has the characteristics of high gain, high sensitivity, optional coupling mode and high common-mode rejection ratio, which can effectively reduce the common-mode noise of input light and improve the signal-to-noise ratio of the system. The power supply of the module is positive 12 V, the input of the module is a common single-mode optical fiber, the error of the length of the optical fiber is less than 1 mm, and the electrical

signal is output from the SMA/2.92 mm port. The module is mainly used in the fields of coherent optical communication, laser radar, optical fiber coherent tomography, optical fiber sensing system and the like.

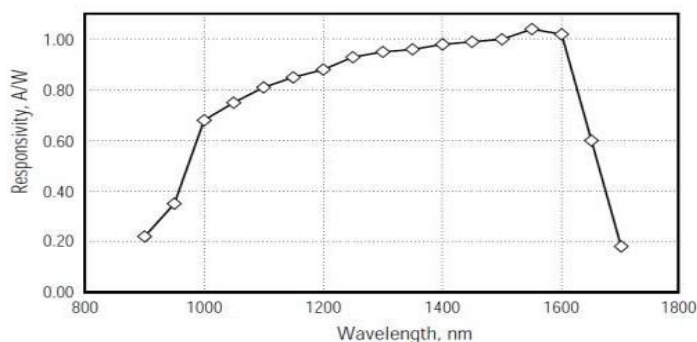
Technical parameters

InGaAs high-speed balanced photodetector module (fiber input)						
Parameter		HC-BPRM-10G-I-FA	HC-BPRM-25G-I-FA	HC-BPRM-40G-I-FA		
Detector type		InGaAs / PIN				
Optical input		FC/APC Flange				
Wavelength range		1000-1700nm				
Peak responsivity		0.94A/W @ 1550 nm	0.85A/W @ 1550 nm	0.7A/W @ 1550 nm		
Crosstalk		>-40dB				
Bandwidth (3dB)	High frequency	RF OUTPUT	>10GHz	>25GHz	>32GHz	
	Low frequency		<30K	<30K	<30K	
Conversion Gain @ 50ohm			500 V/W	500 V/W	500 V/W	
Rise time			35ps	14ps	10ps	
Common Mode Rejection Ratio (CMRR)			>25 dB, Type 30dB	>20 dB, Type 25dB	>20 dB, Type 25dB	
Saturated optical power	Out of balance		4mW	4mW	0.5mW	
	Balance		10mw	10mw	4mW	
Coupling mode			AC only			
Output impedance			50Ω			
Total output noise voltage			<1mVRMS	<1mVRMS	<2mVRMS	
Maximum output voltage		2Vpp	2Vpp	300mVpp		
Output port		SMA(f)	2.92(f)			

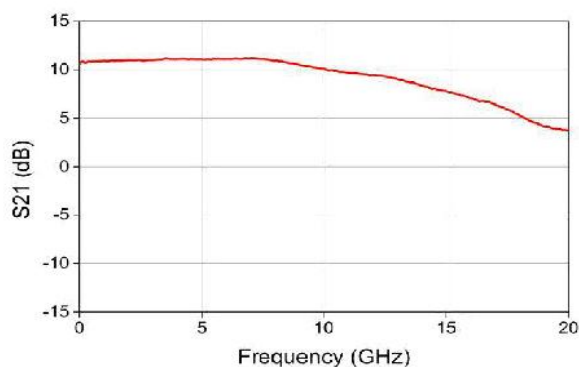
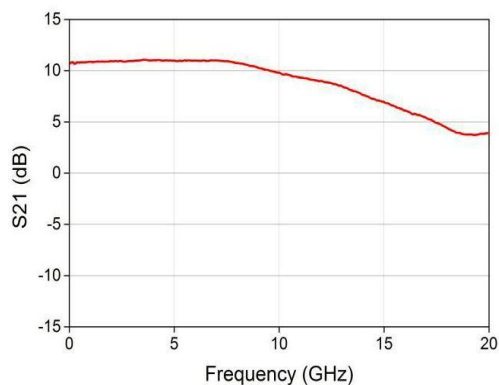
General parameters

Parameter	Typical value	Remark
Power connector	2 p feedthrough capacitor	
Power supply	DC 12V, <100mA	Operating voltage
Photodamage threshold	10mW	Average power
Operating temperature	-20~65 C	
Fiber type	SMF-28e	
Fiber optic connector	2.0mm Narrow Key FC/APC	
Fiber length	1m 10 cm, two-way offset < 1mm	Add connector, inside the module

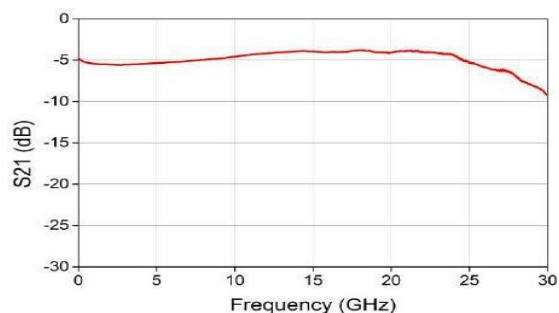
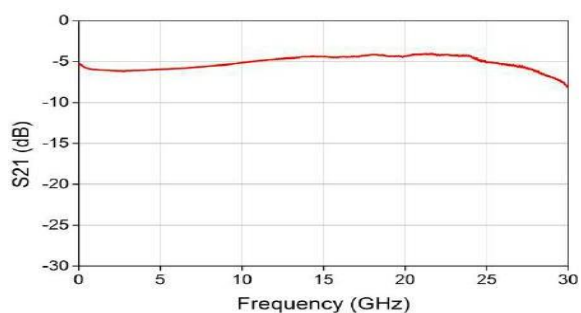
Characteristic curve



Typical spectral response curves



Frequency Response Curve (HC-BPRM-10G-I-FA, Input + & Input-)



Frequency Response Curve (HC-BPRM-25G-I-FA, Input + & Input-)

Mechanical Dimension (in mm)

