

## Low noise and high bandwidth InGaAsPIN Balance detector

### RZPD-300M-AC

The RZPD-300M-AC is a low-noise, high-bandwidth InGaAsPIN balancing detector consisting of two balanced photodiodes, ultra-low noise high-speed amplification circuit, and noise floor power supply. The two photodiodes are matched to achieve an excellent common-mode rejection ratio (CMRR) for better noise reduction. It is mainly used in laser wind measurement, laser vibration measurement, optical fiber sensing and other ultra-low and weak light coherent detection.

#### ■ Features

- High transimpedance gain : 30kV/A
- High bandwidth : AC-300Mhz
- Response scope: 800~1700nm
- Low output noise and CMRR

#### ■ Application

- Laser wind measurement
- Laser vibrometry
- Fiber optic sensing
- Ultra-low weak optical coherence detection

#### ■ Maximum absolute rating

parameter	Unit	Symbol	Value
Operating temperature	°C	T <sub>c</sub>	-40 ~ +85
Storage temperature	°C	T <sub>STG</sub>	-55 ~ +100
Saturation input optical power	uW	P <sub>in</sub>	150
Module operating voltage	V	V <sub>cc</sub>	5
Module power consumption	mW	P <sub>w</sub>	800

#### ■ Optoelectronic performance(T=25°C, 5V Power supply , Ri=50 )

Feature parameters	symbol	Value			Unit
		Min	Typ	Max	
Spectral response range		800~1700			nm
-3dBbandwidth	BW	AC-300			Mhz
Detector responsiveness	R <sub>v</sub>		0.95		A/W
Transimpedance gain	G	30			KV/A
Saturation input optical power	P <sub>in</sub>		150		uW
Equivalent noise	NEP		4		pW/ Hz
Common-mode Rejection Ratio	CMRR		30		dB
Output impedance	R <sub>o</sub>		50		
Supply voltage	V <sub>cc</sub>		5		V
Supply current	I <sub>cc</sub>		140		mA
Optical input		FC/APC			
Signal output		SMA			

#### ■ Dimensions

