1.25GHz Infrared Single Photon Detector

PGA-600

1. General

PGA-600 infrared single photon detector, uses InGaAs/InP Single Photon Avalanche Diode (SPAD) with a 3-stage TEC cooler as the photosensitive element and adopts a sinusoidal gating mode of fixed frequency 1GHz or 1.25GHz. It has the characteristics of high integration, high detection efficiency, low dark count rate and low after-pulse probability. This detector supports internal and external 1GHz or 1.25GHz clock triggering, synchronous clock output, selectable photon detection efficiency and adjustable dead time, and offers user friendly interfaces.

2. Application

- Quantum key distribution
- Quantum optics, biological optics
- Laser ranging
- Atmosphere and water environment detection
- Fluorescence spectrum
- Time-resolved single-molecule spectroscopy

3. Specification

	Specification	Unit
Wavelength Range	1100 ~ 1600	nm
Gating frequency	1 or 1.25	GHz
Number of channels	1 or 2	channel
Adjustable Delay Time	0 ~ 4500	ps
Delay adjustment resolution	5	ps
Detection Efficiency	10%, 15%, 20% & 25%	
Deadtime Range	10 ~ 30000	ns
Deadtime Resolution	10	ns
Storage temperature range	-15 ~ 55	℃
Working temperature range	5 ~ 35	℃
Dimension（W×H×D）	275×138×360	mm
Power Source	100 ~ 240	VAC
Power Consumption	45 typical	W

4. Performance of PGA-600

Parameters					Unit
Detection Efficiency @λ=1550nm	10	15	20	25	%
Max Dark Count Rate	0.8	1.5	2.5	4.0	kHz
Max Afterpulse Probability @Deadtime 40ns	0.8	1.2	1.8	2.5	%

5. Order Information

Part Number：PGA-600-XY

X: S indicates single channel
D indicates dual channels
Y: H indicates Gating frequency - 1.25GHz
L indicates Gating frequency - 1GHz

Beijing RMY Electronics Ltd.
Subject to change without notice