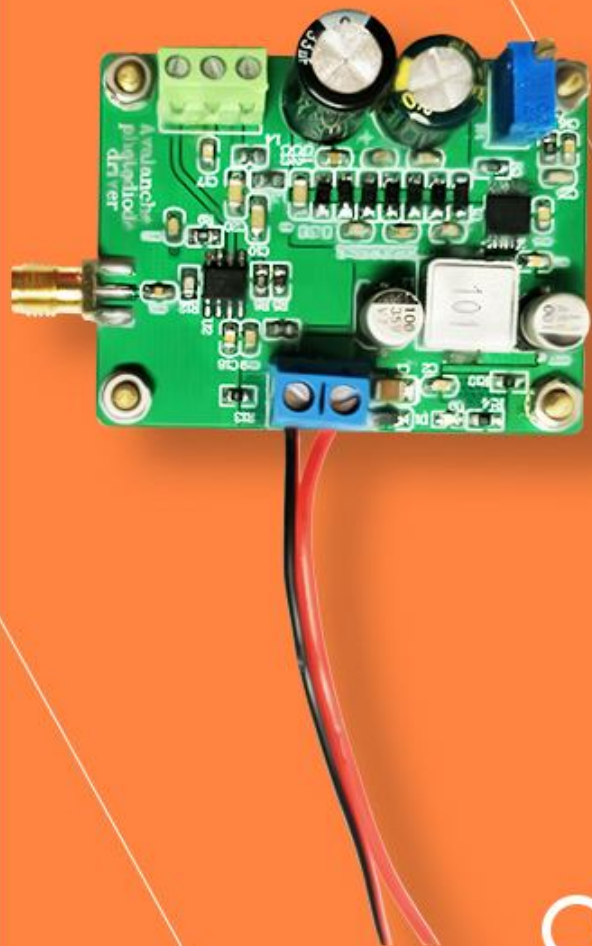


品质



THE MOST EASILY BROKEN THING IN THE WORLD IS THE MAN'S WINE
GLASSOLITICIAN'S PROMISE, GIRLS' DREAMSTEELWIRE-LIKELOVETHE
VIRTUOUSOF MODERNSOCIETY AND THE HOLY HEA

×

APD雪崩光电二极管驱动
光信号接收变送电信号

光电IV转换模块

THE MOST EASILY BROKEN THING IN THE WORLD IS THE MAN'S WINE GLASSOLITICIAN'S PROMISE, GIRLS' DREAMSTEELWIRE-LIKELOVETHE
VIRTUOUSOF MODERNSOCIETY AND THE HOLY HEA

🔍 基本信息

- ▶ 宝贝名称：光电IV转换模块
- ▶ 宝贝供电：12V
- ▶ 尺寸：(PCB) 56mm * 43mm (定位孔) 48mm * 35mm
- ▶ 信号输入：接雪崩光电二极管接收光信号
- ▶ 雪崩光电二极管偏置电压调节范围：70V~180V
- ▶ 宝贝带宽：1KHz~150MHz（默认配置），DC~1KHz（需客户自行配置，将C21改为0欧电阻）

K·W

APD雪崩光电二极管驱动

光信号接收变送电信号

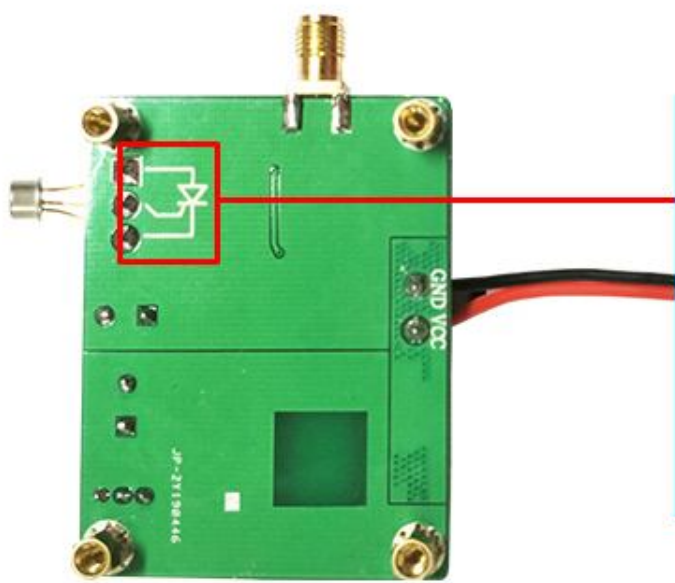
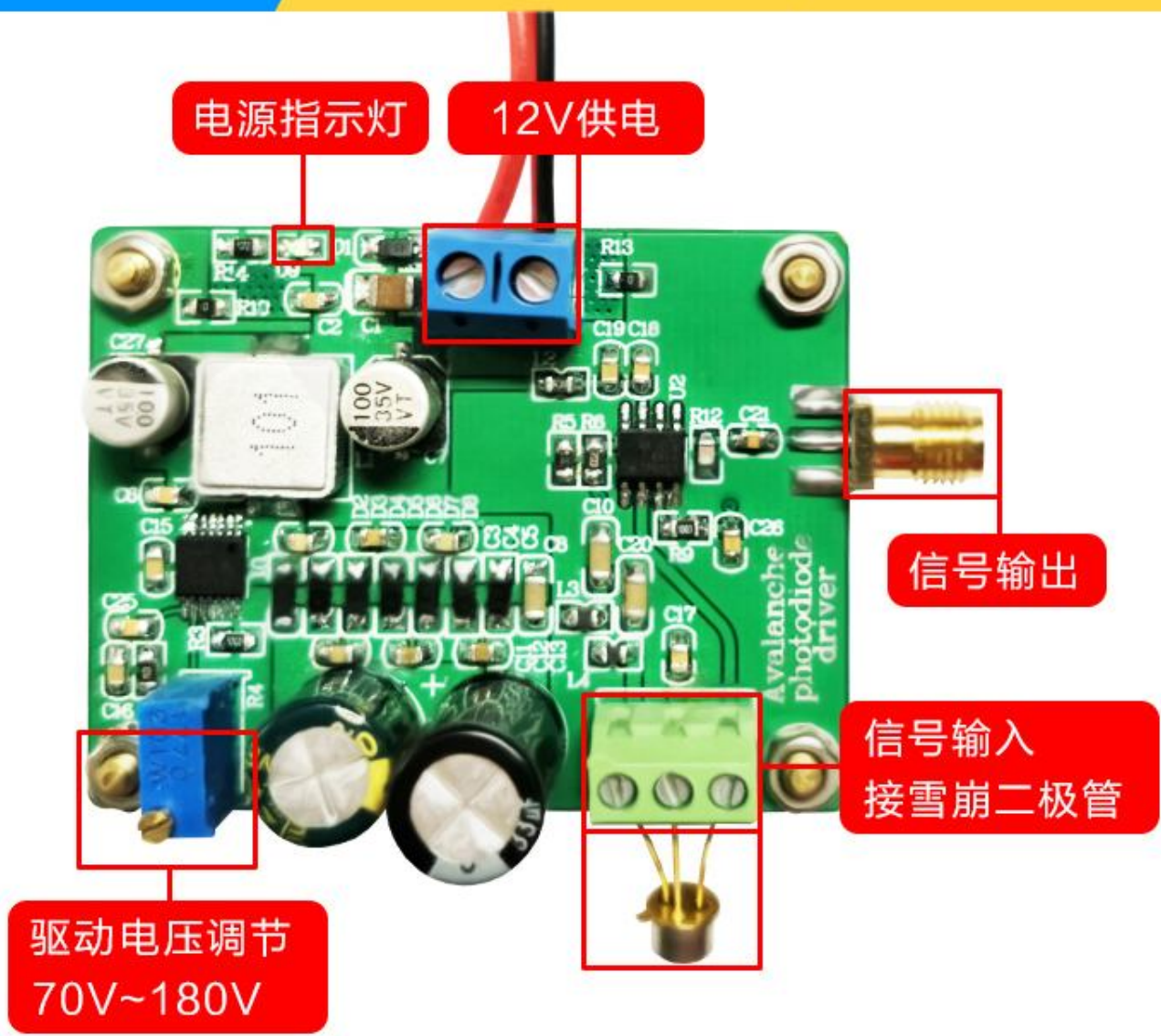
本模块将雪崩光电二极管接收到的光信号变送为电信号进行处理

真实还原光传输的各类波形信号，从而实现光电转换。

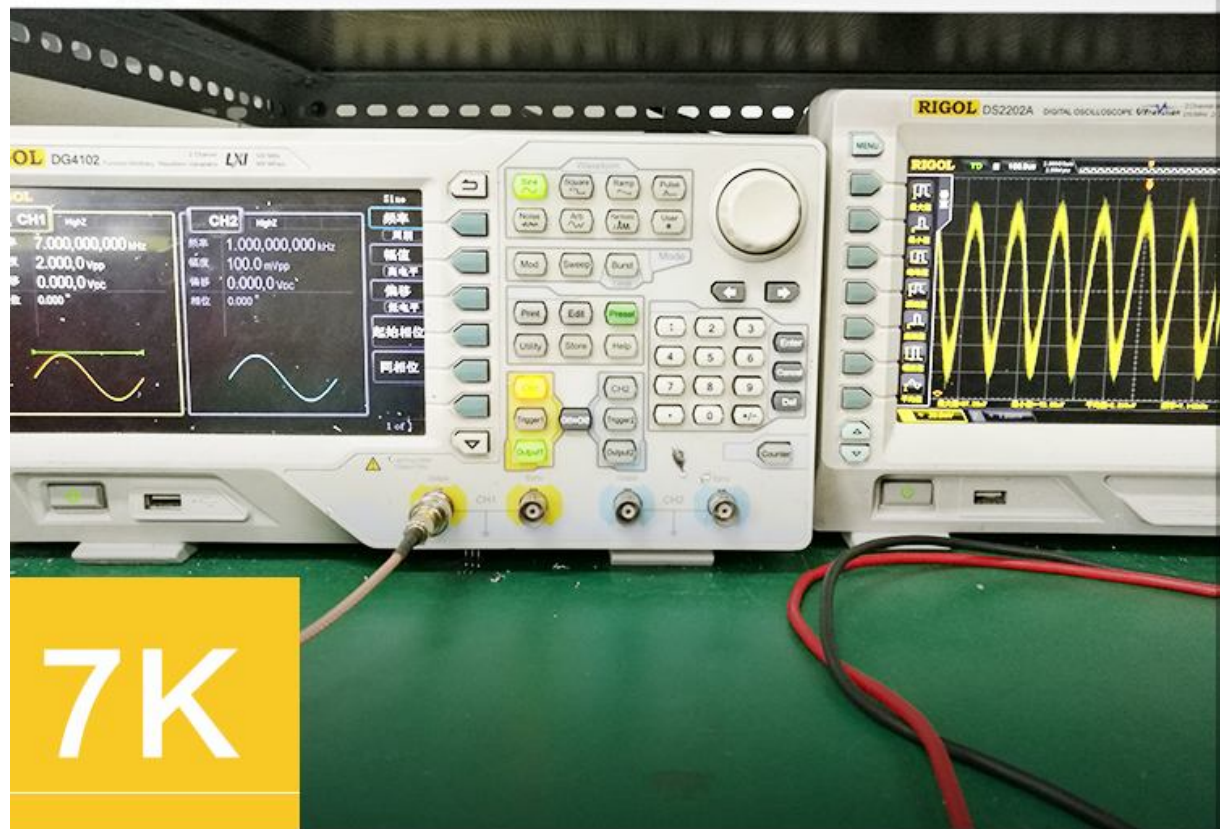
配合本店光信号发射模块可实现信号的光通信。

功能示意

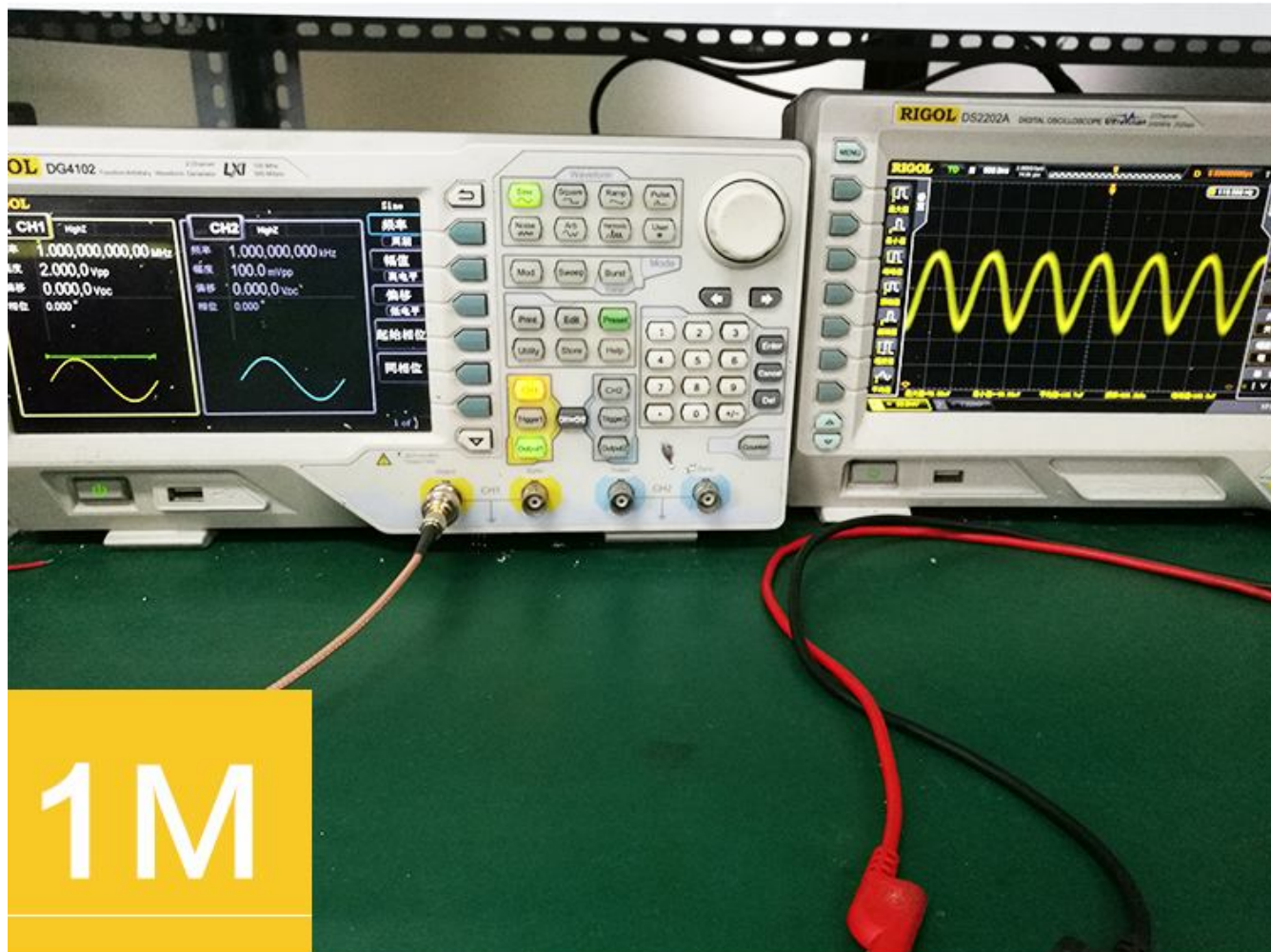
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All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Shanghai Optosens Electronics Co., Ltd.



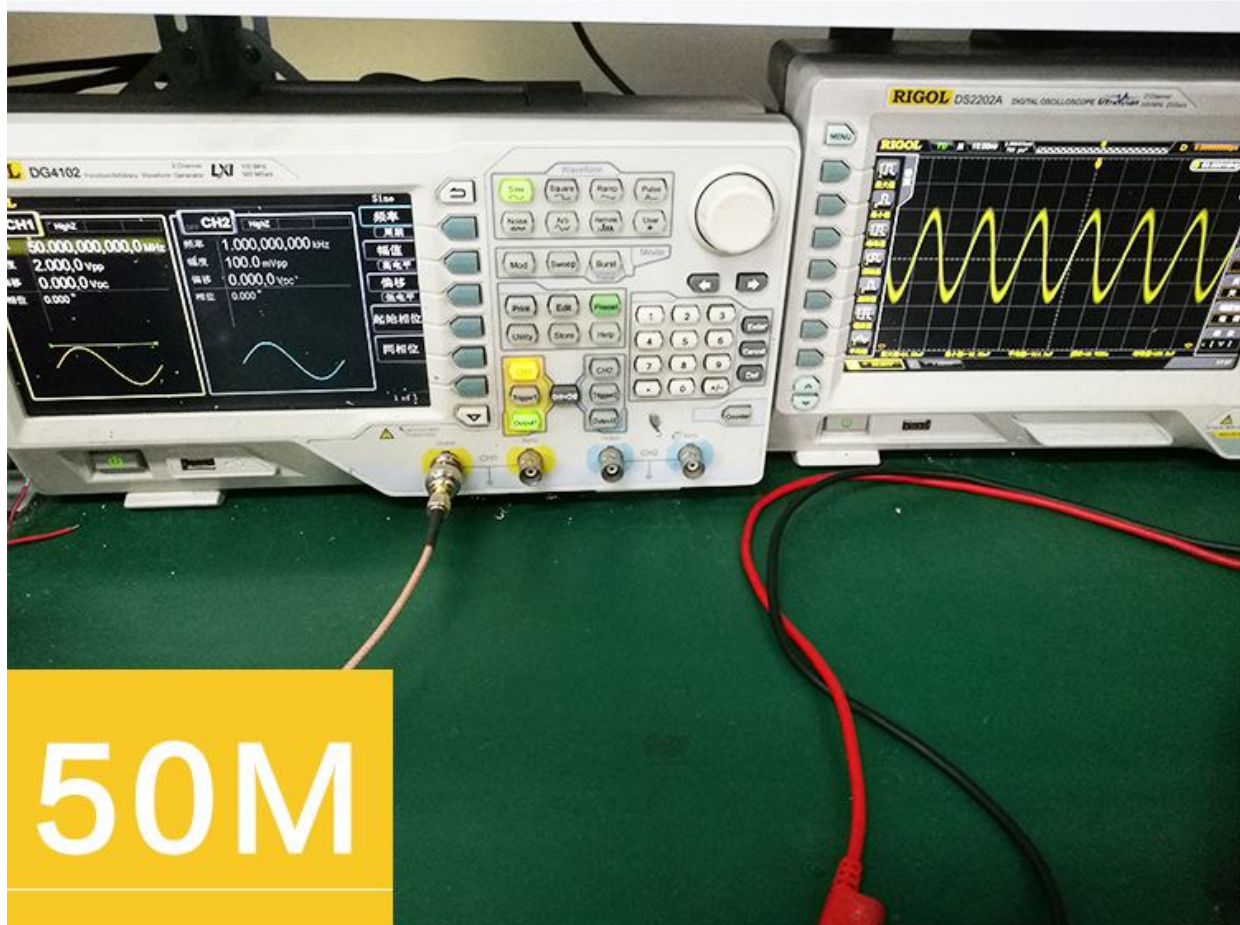
模块背面丝印有显
雪崩二极管连接方向



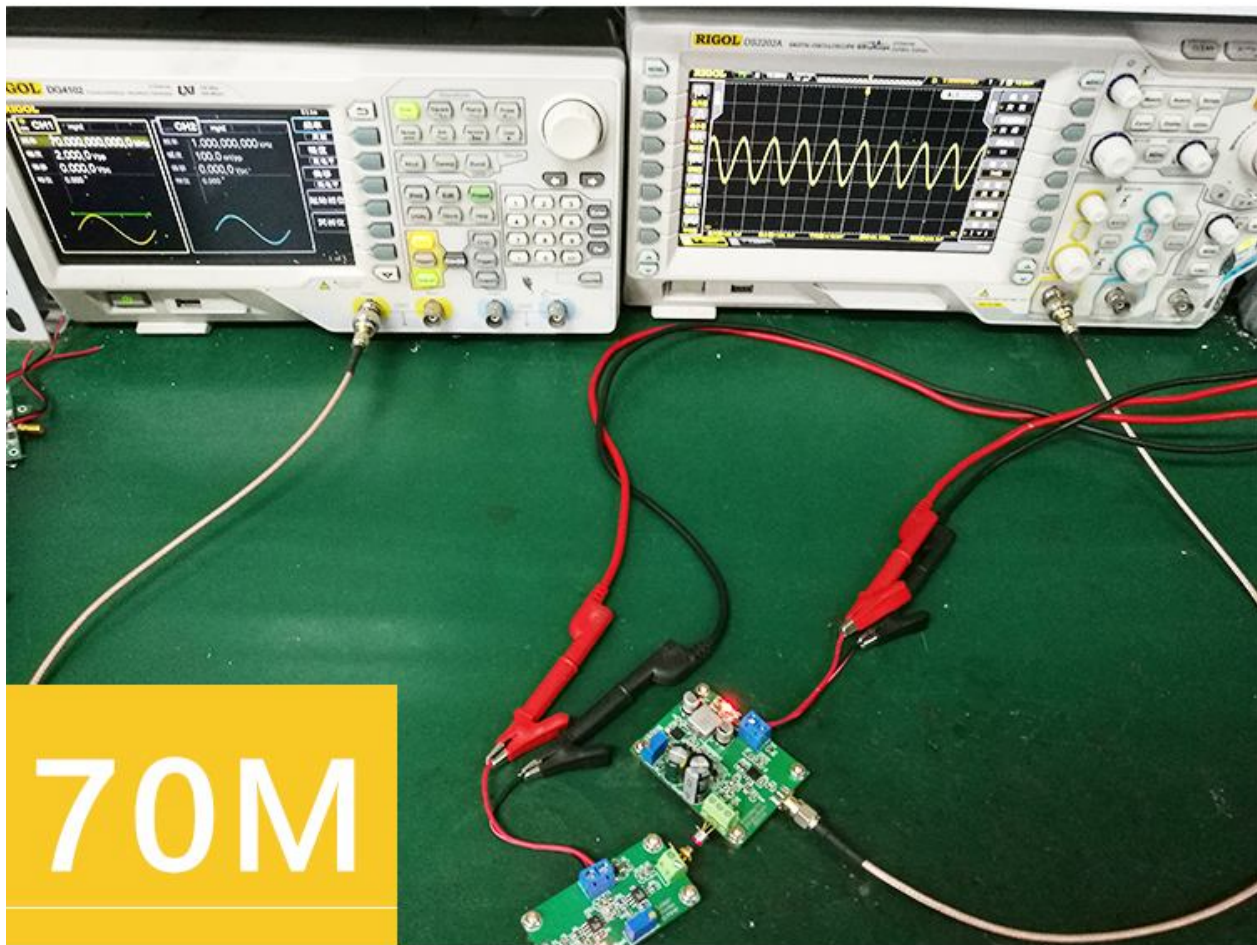
左边由信号发生器给发射模块输入7KHz，2Vpp的正弦波信号经过两个模块的电光-光电转换后得到右边示波器效果图，频率为7.143KHz



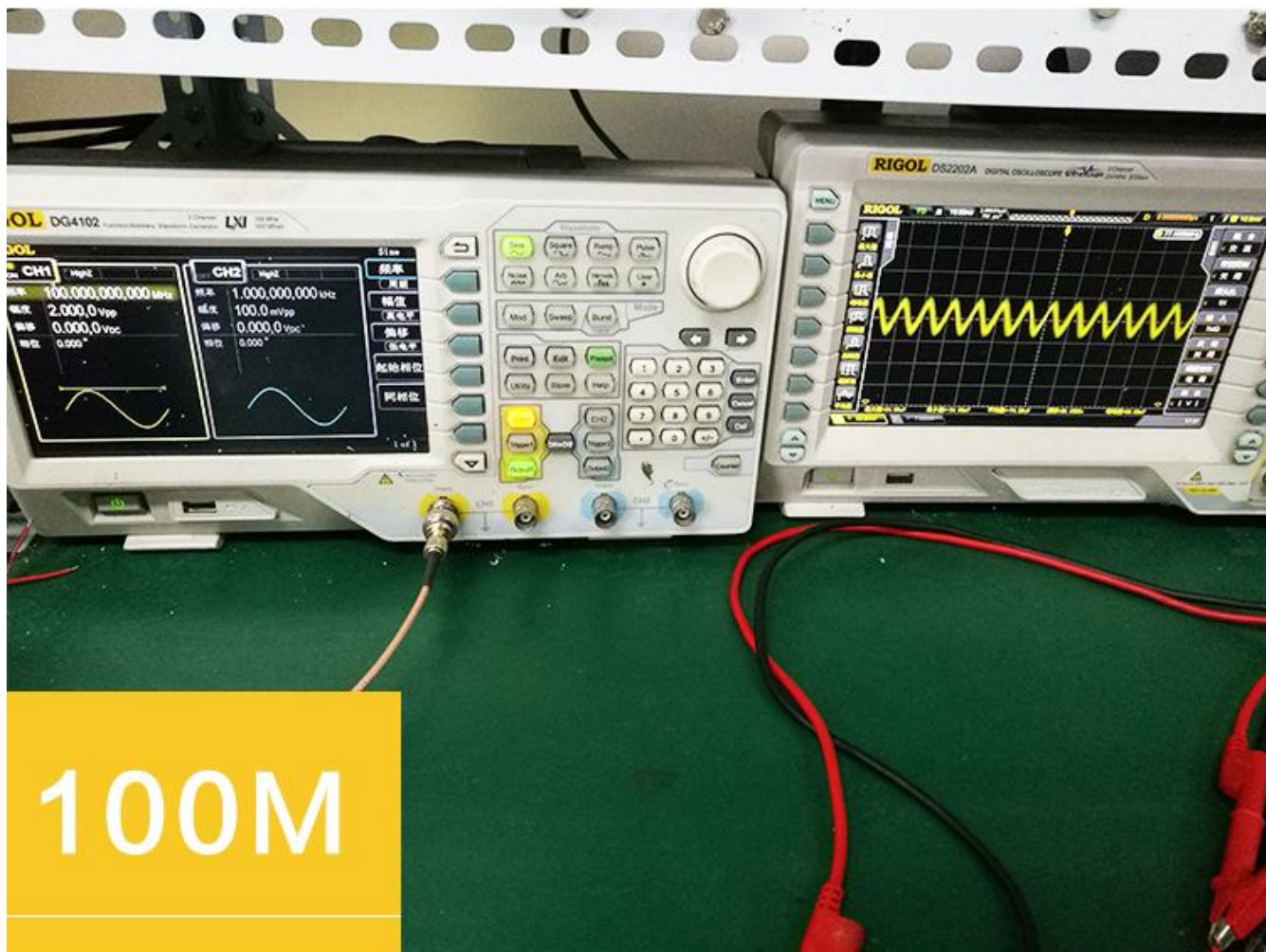
左边由信号发生器给发射模块输入1MHz，2Vpp的正弦波信号经过两个模块的电光-光电转换后得到右边示波器效果图，频率为985.2KHz



左边由信号发生器给发射模块输入50MHz，2Vpp的正弦波信号经过两个模块的电光-光电转换后得到右边示波器效果图，频率为49.75MHz



左边由信号发生器给发射模块输入70MHz，2Vpp的正弦波信号经过两个模块的电光-光电转换后得到右边示波器效果图，频率为69.93MHz



左边由信号发生器给发射模块输入100MHz，2Vpp的正弦波信号经过两个模块的电光-光电转换后得到右边示波器效果图，频率为96.15MHz

本店所配雪崩光电二极管规格

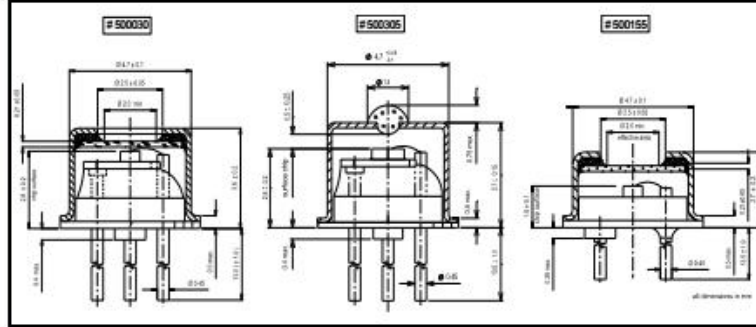
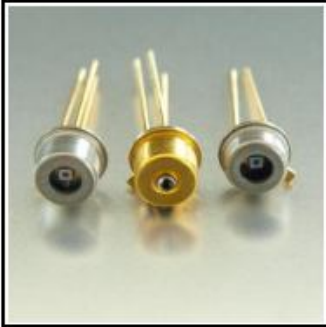


First Sensor APD Data Sheet

Part Description AD500-8 TO

Order # 500030; 500305; 500155

Version 14-08-14



Features

- APD with 0.2 mm² active area
- 500 μm diameter active area
- High gain at low bias voltage
- Fast rise time, low capacitance
- Optimum gain: 50-60

Description

Circular active area APD chip with 500 μm diameter. Metal can type hermetic TO52 package with clear glass window. Three TO52 types available, customization on request.

Application

- Laser range finder
- High speed photometry
- High speed optical communications
- Medical equipment

RoHS

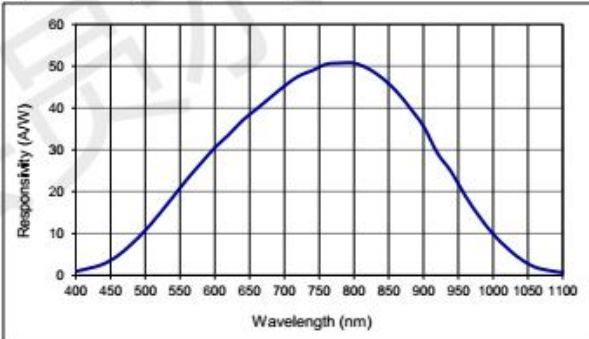
2002/95/EC



Absolute maximum ratings

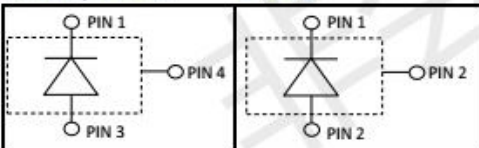
Symbol	Parameter	Min	Max	Unit
T _{STG}	Storage temp	-55	125	°C
T _{OP}	Operating temp	-40	100	°C
M _{max}	Gain (I _{PD} = 1 nA)	200		
I _{PEAK}	Peak DC current		0.25	mA

Spectral response (M = 100)



500030; 500305

500155



Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 500			μm
	Active area		0.196			mm ²
I _D	Dark current	M = 100		0.5	1.0	nA
C	Capacitance	M = 100		2.2		pF
	Responsivity	M = 100; λ = 800 nm	45	50		A/W
t _r	Rise time	M = 100; λ = 905 nm; R _L = 50 Ω		0.35		ns
	Cut-off frequency	-3dB		1		GHz
V _{BR}	Breakdown voltage	I _R = 2 μA, V _{BR} - binning available*	80		160	V
	Temperature coefficient	Change of V _{BR} with temperature		0.45		V/K
	Excess noise factor	M = 100		2.2		
	Excess noise index	M = 100		0.2		

*please add a "01" to the order number for VBR-class 80V-120V and a "02" for VBR-class 120V-160V

European, International Sales:

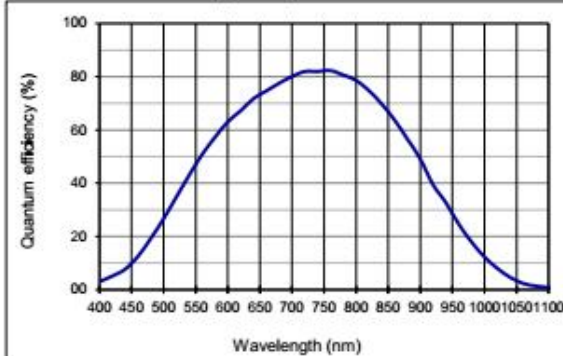
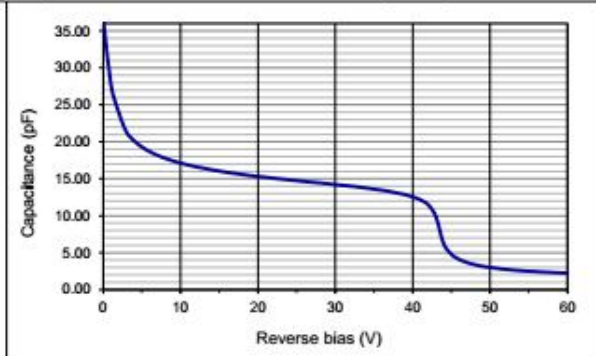
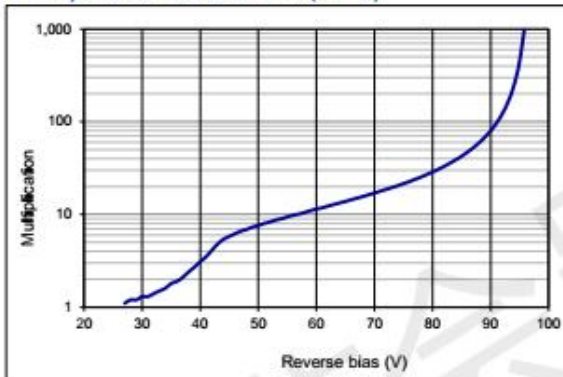
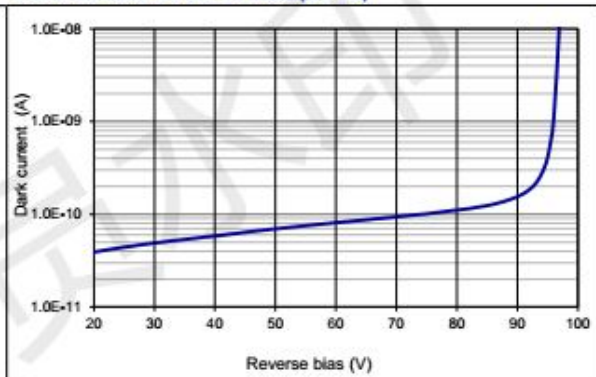
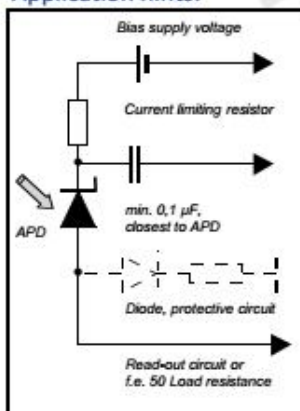


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Quantum efficiency (23 °C)

Capacitance as fct of reverse bias (23 °C)

Multiplication as fct of bias (23 °C)

Dark current as fct of bias (23 °C)

Application hints:


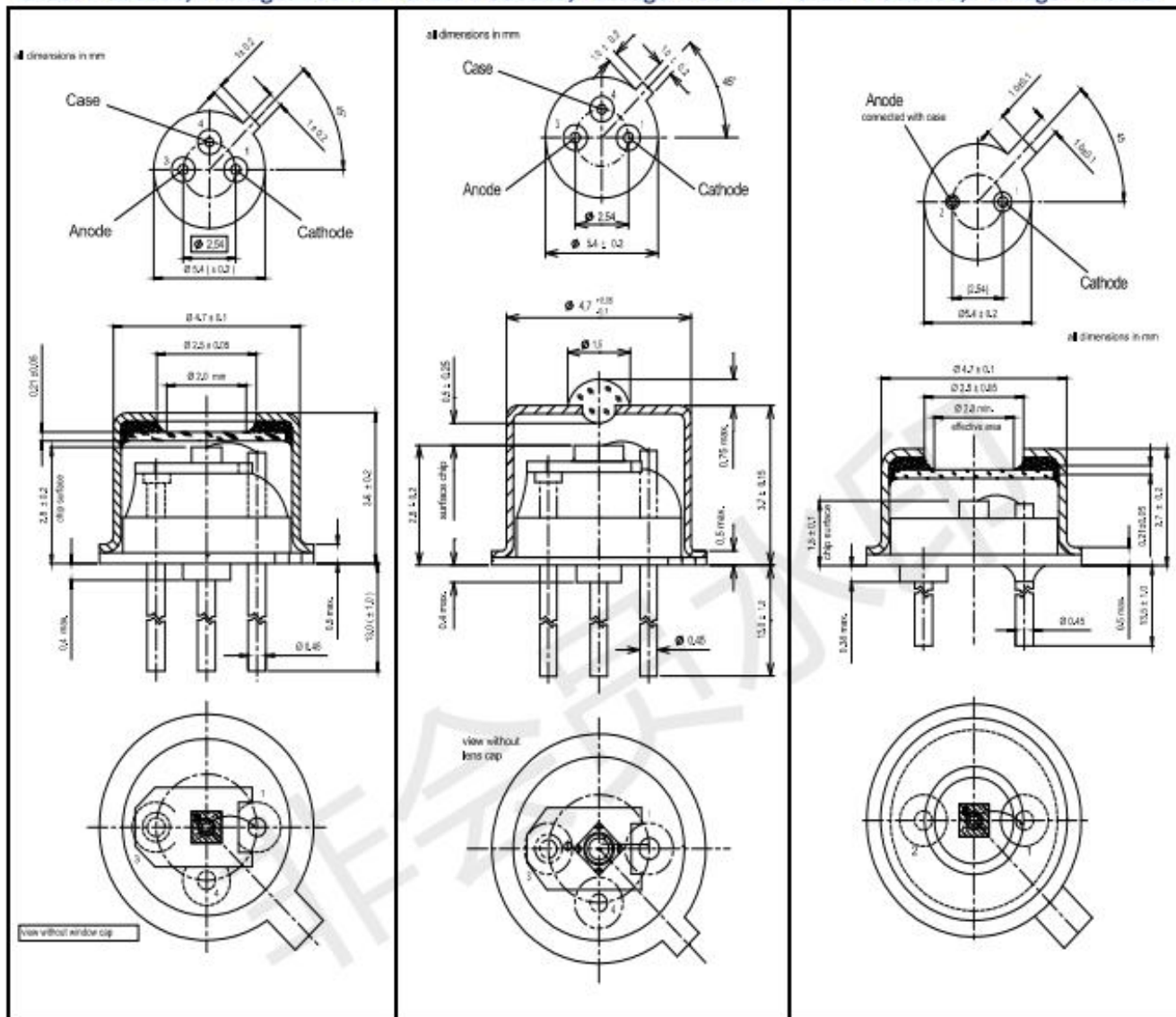
- Current should be limited by a protecting resistor or current limiting - IC inside the power supply
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please consider basic ESD protection while handling
- Use low noise read-out - IC
- For further questions please refer to document "Instructions for handling and processing"
- Optimum gain: 50-60

European, International Sales:


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 F +1 818 889 7053
sales.us@first-sensor.com

Order # 500030, Package: TO52S1
Order # 500305, Package: TO52S2
Order # 500155, Package: TO52S3

Package dimension:

Small quantities: Foam pad, boxed (12 cm x 16.5 cm)