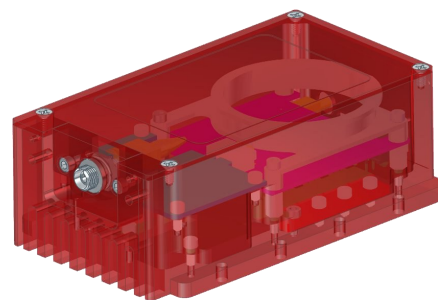


Introduction

Redwave Labs' AD300 is a compact and affordable single-photon detector module with a built-in counter. The AD300 can be fitted with two different diodes based on your needs. Our fiber-coupled InGaAs offering detects photons in the NIR region up to 1600 nm. Our silicon offering has high efficiency values in the near visible region (around 650 nm). The AD300 features active quenching and full digital temperature control. A separate power supply is provided as standard.



Fiber-coupled variant

Specification

Silicon based

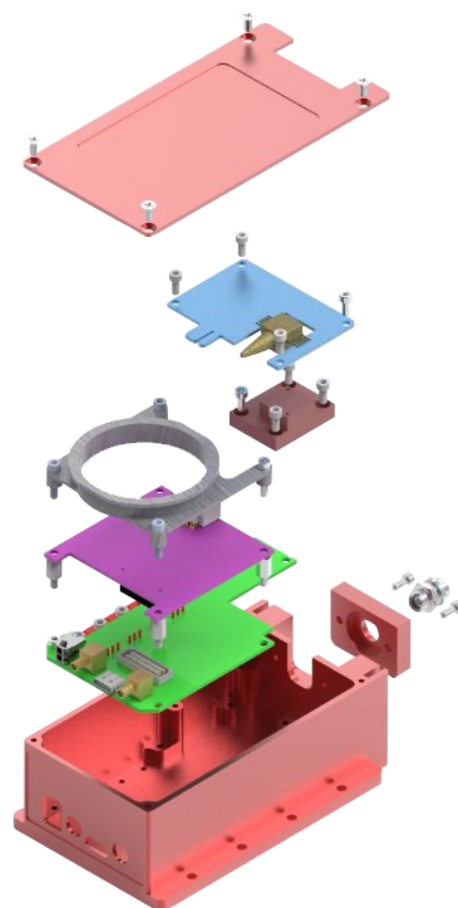
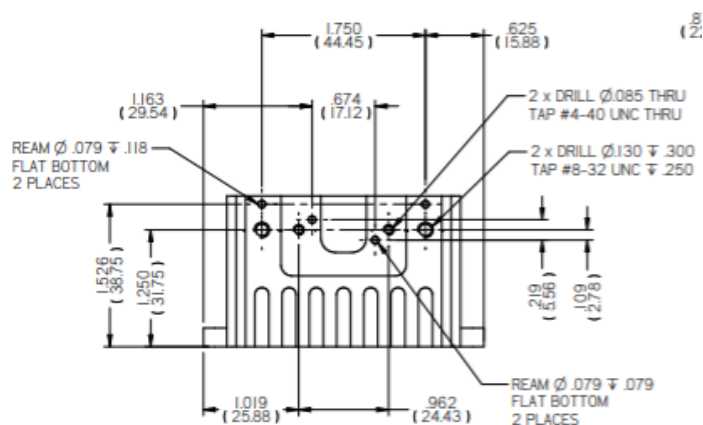
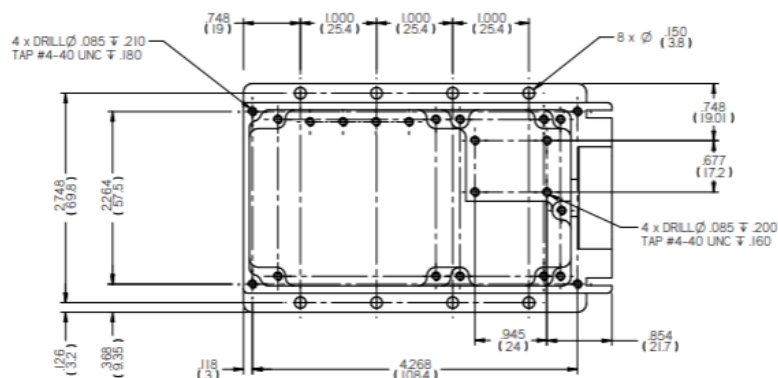
InGaAs based

Features	70% quantum efficiency at 650 nm 55% quantum efficiency at 800 nm Tunable temperature of the diode Low dark and after pulsing rates Software included		Tunable temperature of the diode (down to -40 °C) Low dark and after pulsing rates Software included FC/PC connector	
Applications	Time correlated single photon counting Single molecule detection Laser scanning microscopy Particle physics Spectrophotometry		QKD LIDAR Fluorescence Lifetime Imaging	
Specifications	Parameter	Value	Parameter	Value
Power	Single	+5 V	Single	+5 V
Photodiode	Wavelength	400 – 1100 nm	Wavelength	1100 nm - 1600 nm
	Breakdown Voltage	125V@ 25C	Breakdown Voltage	60 V - 80 V
	Active Area	500 µm		
Single-Photon Detection Probability	At 650nm	0.7	At 1550 nm	0.2
	At 800nm	0.55		
Dark Count Rate		25 @ -20C, typical		2000 @ -40C, typical
Deadtime		65 ns		1.5 us
Output pulse		40 ns		25 ns
Connectors	Power	Molex 2 PIN	Power	Molex 2 PIN
	Output	SMB	Output	SMB
	USB	USB TYPE C	USB	USB TYPE C
	Timing Gate	SMB	Timing Gate	SMB
Weight		350 g		350 g
Storage Temp		-40 to 85 C		-40 to 85 C
Operating Temp		-40 to 85 C		-40 to 85 C

Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
V_{dd}	Supply Voltage	+5	Volt
T_{op}	Operational Temperature	-40 to 85	Deg C
T_{st}	Storage Temperature	-40 to 85	Deg C

Mechanical Information



Parameter	Value	Unit
Length	5.004 (127.1)	Inch (mm)
Width	3.000 (76.2)	Inch (mm)
Height	1.625 (41.28)	Inch (mm)
Weight	350	gram