

## SD 197-70-74-661

### Cooled Large Area 10mm Red Silicon APD Module



#### FEATURES

- Low noise
- Small size
- High sensitivity

#### DESCRIPTION

The **SD 197-70-72-661** module Incorporates a 10mm cooled APD, TEC controller, HV supply, and two stage preamplifier, in a small package

#### APPLICATIONS

- Industrial
- Medical

#### ABSOLUTE MAXIMUM RATING\* (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	PARAMETER	MIN	MAX	UNITS
+/- 12 V <sub>S</sub>	Voltage Supplies	+/-11	+/-13	V
+5 V <sub>S</sub>		+4.75	+5.25	
T <sub>STG</sub>	Storage Temperature	-40	+70	°C
T <sub>O</sub>	Operating Temperature	0	+40	°C

\*All specifications apply when APD is at 0°C with a gain of 300 and a load resistance of 50 ohms. Typical HV divider Ratio and voltage gain is 404.

Recommended load on amplifier output is from 50ohms to 1Mohm.

Devices must be mounted to a heat sink with TEC on.

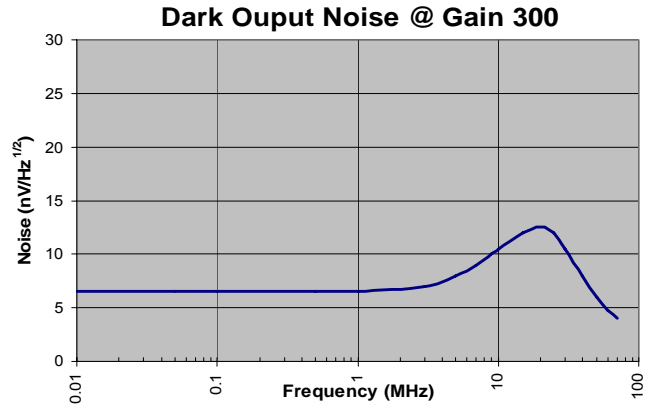
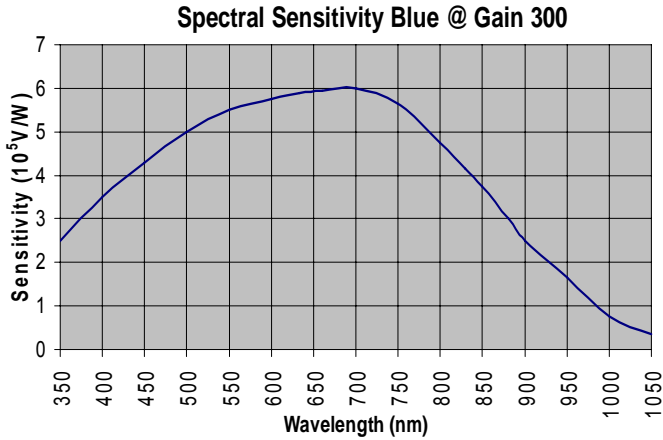
\*\*To activate the external bias control (blue wire), turn the gain adjust fully counter clockwise and place a jumper across J1 the external bias select connector. Input voltage on blue wire 0 to 5 volts. The module must be operated with a heat sink.

#### ELECTRIC WIRING TABLE

WIRE COLOR	ITEM
Red	+12V
Green	GND
Black	-12V
Blue**	External Bias Adjust Input
Orange	HV Monitor
Violet	Temperature Monitor
Gray	Temperature Monitor GND
Yellow	+5V
White	GND for +5V Supply

#### \*ELECTRO-OPTICAL CHARACTERISTICS RATING (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>s</sub>	Current Supply	+12V supply	120		220	mA
		-12V supply	30		50	
		+5V supply	0.8		1.9	
V <sub>os</sub>	Output Offset			±1	±5	mV
λ range	Spectral Application Range	Spot Scan	350		1050	nm
S	Sensitivity	f = 1MHz, λ = 500nm		4.8		10 <sup>5</sup> V/W
NEP	Noise Equivalent Power	f = 1MHz, λ = 500nm		7 x 10 <sup>-15</sup>		W/√Hz
R <sub>o</sub>	Output resistance			50		ohms
	High Cutoff Frequency	λ = 675 nm	11	14		MHz



**Mechanical Dimension in inches**

