Cooled Large Area 10mm Red Silicon APD Module

SD 394-70-72-661



FEATURES

- Low noise
- Small size
- High sensitivity

DESCRIPTION

The **SD 394-70-72-661** 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_S	Voltage Supplies	+/-11	+/-13	V
+5 V_S		+4.75	+5.25	
T_{STG}	Storage Temperature	-40	+70	°C
T_O	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 (Red wire), turn the gain adjust fully counter clockwise and place a jumper across J1 the external bias select connector. Input voltage on Red 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
Red**	External Bias Adjust Input
Orange	HV Monitor
Violet	Temperature Monitor
Gray	Temperature Monitor GND
Yellow	+5V
White	GND for +5V Supply

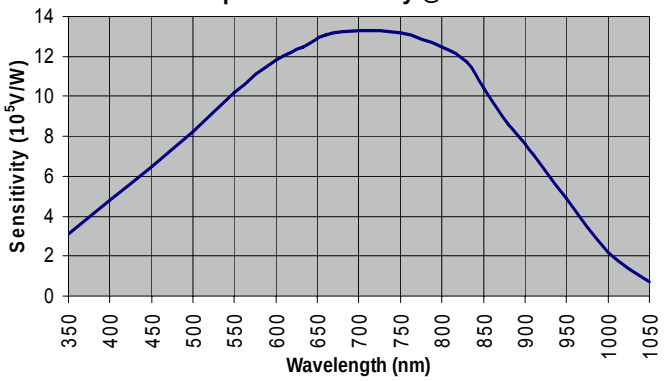
*ELECTRO-OPTICAL CHARACTERISTICS RATING (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_s	Current Supply	+12V supply	120		220	mA
		-12V supply	30		50	
		+5V supply	0.8		1.9	
V_{os}	Output Offset			±1	±5	mV
λrange	Spectral Application Range	Spot Scan	350		1050	nm
S	Sensitivity	f = 1MHz, λ= 500nm		13.5		10^5V/W
NEP	Noise Equivalent Power	f = 1MHz, λ= 500nm		7×10^{-15}		W/ $\sqrt{}$ Hz
Ro	Output resistance			50		ohms
f_{cut}	High Cutoff Frequency	λ= 675 nm	10	11		MHz

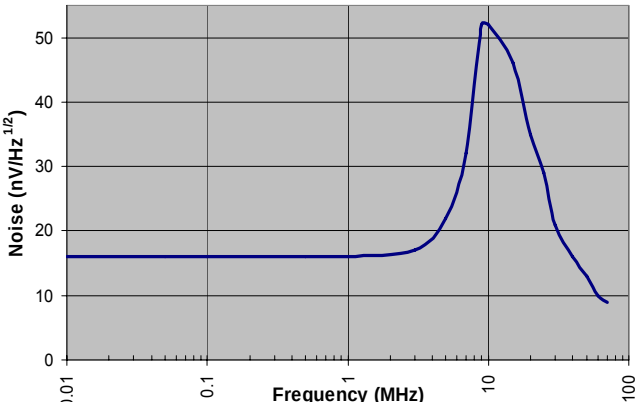
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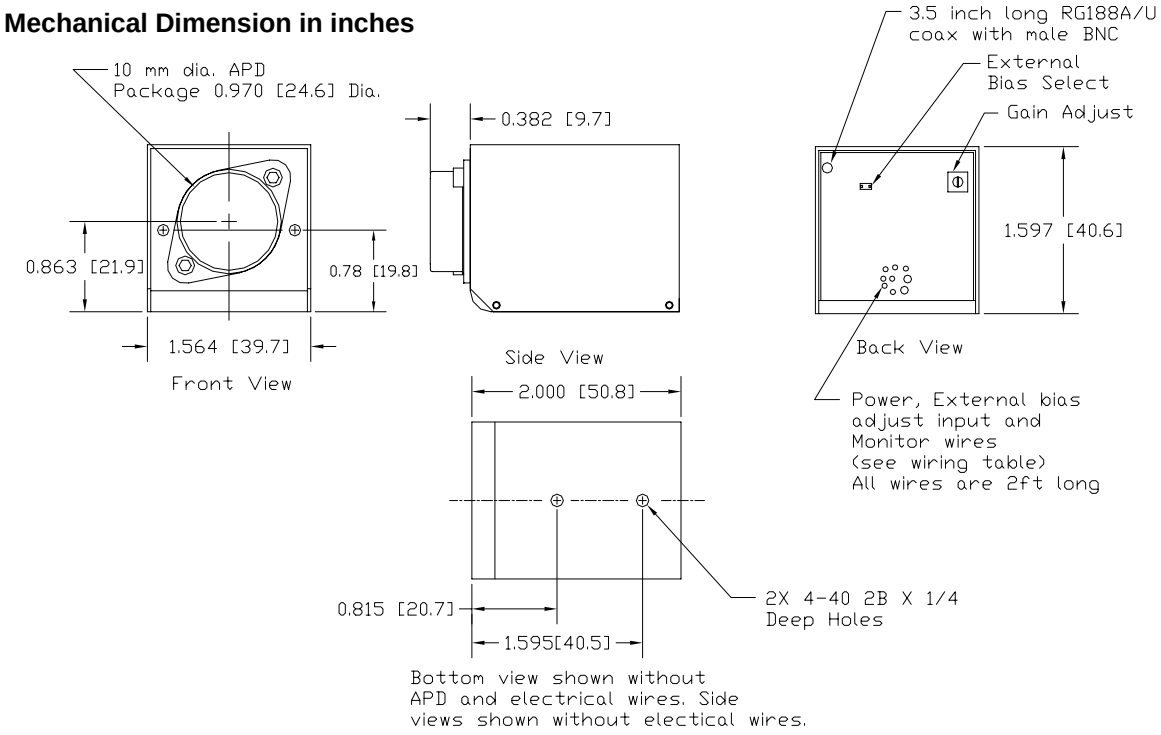
Spectral Sensitivity @ Gain 300



Dark Ouput Noise @ Gain 300



Mechanical Dimension in inches



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