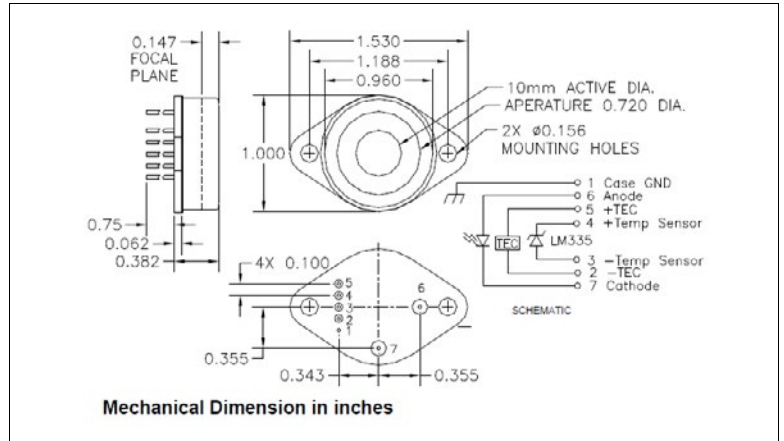


### Cooled Large Area Blue Silicon Avalanche Photodiode

**SD 394-70-74-591**

**Precision – Control – Results**



**DESCRIPTION**

The **SD 394-70-74-591** is a cooled large area silicon avalanche photodiode (APD) that provides high gain and low noise, in a hermetic TO-3 package.

**FEATURES**

- Low Noise
- Small Size
- High Speed
- Low Cost

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**APPLICATIONS**

- Industrial
- Medical
- Military

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN	MAX	UNITS	
Gain	-	350	-	$T_a = 23^\circ\text{C}$ UNLESS OTHERWISE NOTED
Storage Temperature	-55	+70	$^\circ\text{C}$	-
Operating Temperature	+1	+40	$^\circ\text{C}$	-
Soldering Temperature*	-	+240	$^\circ\text{C}$	-
TEC Voltage	-	4.3	V	-
TEC Current	-	2.0	A	-
APD Die Power Diss.	-	0.2	W	-

\* 1/16 inch from case for 3 seconds max

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

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### Cooled Large Area Blue Silicon Avalanche Photodiode

**SD 394-70-74-591**

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**OPTO-ELECTRICAL PARAMETERS**

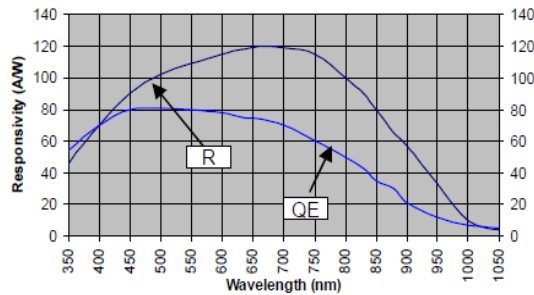
T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	-	-	15	35	nA
Junction Capacitance	f = 1 MHz	-	50	-	pF
Noise Current Spectral Density	f = 100 kHz	-	1.5	2.5	pA/√Hz
Spectral Application Range	Spot Scan	350	-	1050	nm
Responsivity	λ = 500 nm, V <sub>R</sub> = 0 V	-	35	-	AW
Operating Voltage	-	1700	-	2000	V
Response Time**	RL = 50Ω, λ = 675nm	-	12	18	nS
TEC Quiescent Current	Case Temp = 35°C	-	0.95	-	A

\*\*Response time of 10% to 90% is specified at 675nm wavelength light.  
All specifications are with the APD internally cooled to 0°C and a gain of 300.

**TYPICAL PERFORMANCE**

**DIRECTIONAL SENSITIVITY**



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