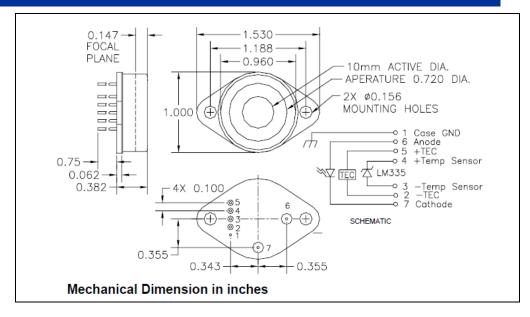


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## **Precision – Control – Results**





#### **DESCRIPTION**

The **SD 394-70-72-591** 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 Switching
- Medical
- Military

#### **ABSOLUTE MAXIMUM RATINGS**

| SYMBOL                | MIN |    | MAX  | UNITS |  |
|-----------------------|-----|----|------|-------|--|
| Gain                  | -   | -  | 350  | -     | T <sub>a</sub> = 23°C UNLESS OTHERWISE NOTED |
| Storage Temperature   | -55 | to | +70  | °C    | -  |
| Operating Temperature | +1  | to | +40  | °C    | -  |
| Soldering Temperature | -   | -  | +240 | °C    | -  |
| TEC Voltage           | -   | to | 4.3  | V     | -  |
| TEC Current           | -   | -  | 2.0  | Α     | -  |
| APD Die Power Diss.   | -   | -  | 0.2  | W     | -  |

<sup>\* 1/16</sup> inch from case for 3 seconds max.



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## **OPTO-ELECTRICAL PARAMETERS**

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

| PARAMETER                      | TEST CONDITIONS                               | MIN  | ТҮР  | 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                   | $\lambda = 750 \text{ nm}, V_R = 0 \text{ V}$ | -    | 135  | -    | Α/W    |
| Operating Voltage              | -   | 1700 | -    | 2000 | V      |
| Response Time**                | RL = 50Ω, $\lambda$ = 675nm                   | -    | 12   | -    | nS     |
| TEC Quiescent Current          | Case Temp = 35°C                              | -    | 0.95 | -    | А      |

<sup>\*\*</sup>Response time of 10% to 90% is specified at 675nm wavelength light.

## **TYPICAL PERFORMANCE**

## **DIRECTIONAL SENSITIVITY**

