

### FEATURES

- Low noise
- Small size
- High Speed
- Low cost

### DESCRIPTION

The **SD 012-70-62-541** is a 0.3 mm diameter small area silicon avalanche photodiode (APD) that provides high gain and low noise, packaged in a hermetic TO-46 metal can with a flat window.

### APPLICATIONS

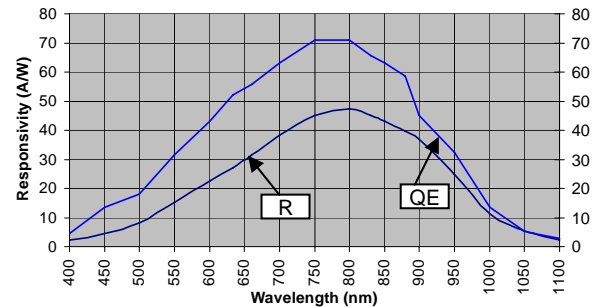
- Military
- Industrial
- Medical

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

| SYMBOL           | PARAMETER              | MIN | MAX  | UNITS |
|------------------|------------------------|-----|------|-------|
| V <sub>BR</sub>  | Reverse Voltage        | 130 | 280  | V     |
| T <sub>STG</sub> | Storage Temperature    | -40 | +85  | °C    |
| T <sub>O</sub>   | Operating Temperature  | -40 | +55  | °C    |
| T <sub>S</sub>   | Soldering Temperature* |     | +240 | °C    |

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

### SPECTRAL RESPONSE



### ELECTRO-OPTICAL CHARACTERISTICS RATING (TA)= 23°C and gain of 100 at 820nm UNLESS OTHERWISE NOTED

| SYMBOL          | CHARACTERISTIC                 | TEST CONDITIONS                 | MIN | TYP  | MAX  | UNITS  |
|-----------------|--------------------------------|---------------------------------|-----|------|------|--------|
| I <sub>D</sub>  | Dark Current                   |                                 |     | 2    | 10   | nA     |
| C <sub>J</sub>  | Junction Capacitance           | f = 1 MHz                       |     |      | 2.5  | pF     |
| I <sub>N</sub>  | Noise Current Spectral Density | f = 100 kHz                     |     | 0.12 |      | pA/√Hz |
| λ range         | Spectral Application Range     | Spot Scan                       | 400 |      | 1100 | nm     |
| R               | Responsivity                   | λ = 660nm, V <sub>R</sub> = 0 V |     | 30   |      | A/W    |
|                 |                                | λ = 830nm, V <sub>R</sub> = 0 V |     | 47   |      |        |
| V <sub>op</sub> | Operating voltage              |                                 | 130 |      | 280  | V      |
| t <sub>r</sub>  | Response Time**                | RL = 50 Ω, λ = 675nm            |     | 0.7  | 1    | nS     |

\*\*Response time of 10% to 90% is specified at 820nm wavelength light.

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.