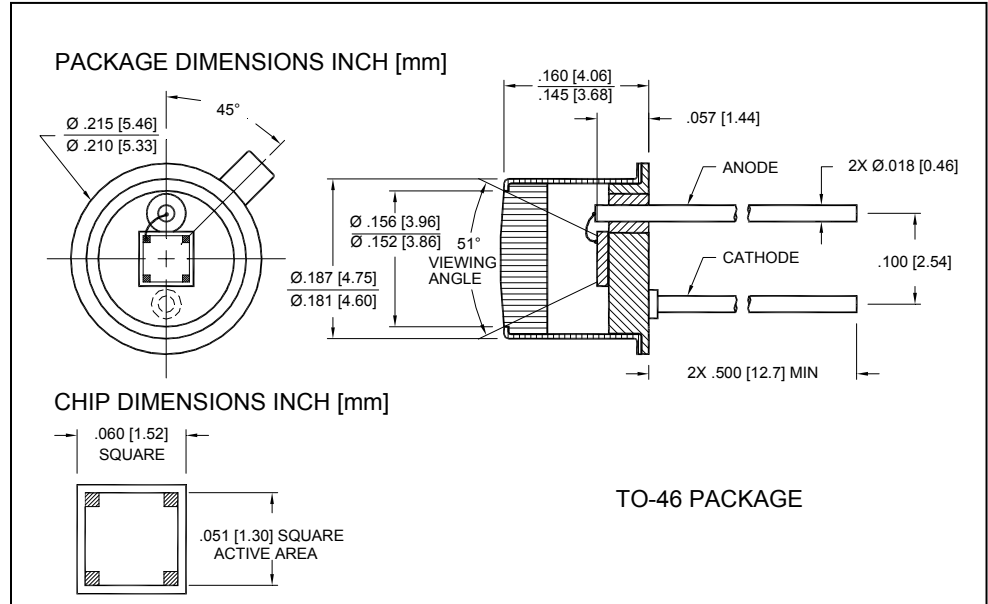




## FEATURES

- Low noise
- Red enhanced
- High shunt resistance
- High response

## DESCRIPTION

The **SD 057-11-21-011** is a general purpose silicon PIN photodiode, red enhanced, packaged in a leaded hermetic TO-46 metal package.

## APPLICATIONS

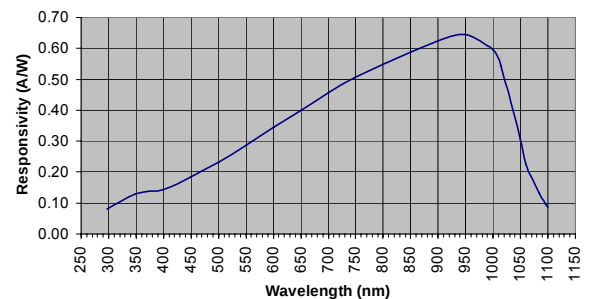
- Instrumentation
- Industrial
- Medical

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

| SYMBOL    | PARAMETER              | MIN | MAX  | UNITS |
|-----------|------------------------|-----|------|-------|
| $V_{BR}$  | Reverse Voltage        |     | 75   | V     |
| $T_{STG}$ | Storage Temperature    | -55 | +150 | °C    |
| $T_O$     | Operating Temperature  | -40 | +125 | °C    |
| $T_S$     | Soldering Temperature* |     | +240 | °C    |

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

## SPECTRAL RESPONSE



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

| SYMBOL            | CHARACTERISTIC             | TEST CONDITIONS              | MIN  | TYP                   | MAX  | UNITS         |
|-------------------|----------------------------|------------------------------|------|-----------------------|------|---------------|
| $I_D$             | Dark Current               | $V_R = 5V$                   |      | 0.5                   | 2.0  | nA            |
| $R_{SH}$          | Shunt Resistance           | $V_R = 10 mV$                | 800  |                       |      | $M\Omega$     |
| $C_J$             | Junction Capacitance       | $V_R = 0V, f = 1 MHz$        |      | 28                    |      | pF            |
|                   |                            | $V_R = 10V, f = 1 MHz$       |      | 6                     |      |               |
| $\lambda_{range}$ | Spectral Application Range | Spot Scan                    | 350  |                       | 1100 | nm            |
| R                 | Responsivity               | $\lambda = 633nm, V_R = 0 V$ | 0.32 | 0.36                  |      | A/W           |
|                   |                            | $\lambda = 900nm, V_R = 0 V$ | 0.50 | 0.55                  |      |               |
| $V_{BR}$          | Breakdown Voltage          | $I = 10 \mu A$               |      | 50                    |      | V             |
| NEP               | Noise Equivalent Power     | $V_R = 5V @ \lambda = 950nm$ |      | $2.8 \times 10^{-14}$ |      | $W/\sqrt{Hz}$ |
| $t_r$             | Response Time**            | $RL = 50 \Omega, V_R = 0 V$  |      | 190                   |      | nS            |
|                   |                            | $RL = 50 \Omega, V_R = 10 V$ |      | 13                    |      |               |

\*\*Response time of 10% to 90% is specified at 660nm 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.