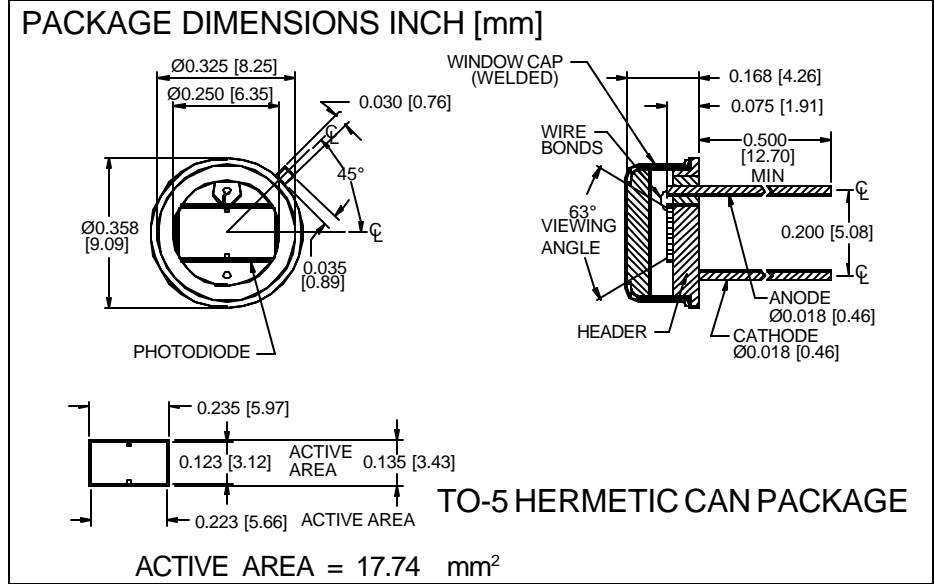


# PHOTONIC DETECTORS INC.

## Silicon Photodiode, U.V. Enhanced Photoconductive Type PDU-C114



### FEATURES

- High speed
- U.V. enhanced
- Low capacitance
- U.V. window

### DESCRIPTION

The **PDU-C114** is a silicon, PIN planar diffused, U.V. enhanced photodiode. Ideal for high speed photoconductive applications. Packaged in a hermetic TO-5 metal can with a U.V. transmitting window.

### APPLICATIONS

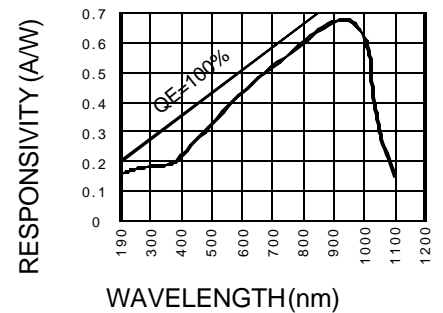
- Spectrometers
- Fluorescent analysers
- U.V. meters
- Colorimeters

### ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

| SYMBOL           | PARAMETER                   | MIN | MAX  | UNITS |
|------------------|-----------------------------|-----|------|-------|
| V <sub>BR</sub>  | Reverse Voltage             |     | 30   | V     |
| T <sub>STG</sub> | Storage Temperature         | -55 | +150 | °C    |
| To               | Operating Temperature Range | -40 | +125 | °C    |
| T <sub>s</sub>   | Soldering Temperature*      |     | +240 | °C    |
| I <sub>L</sub>   | Light Current               |     | 500  | mA    |

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

### SPECTRAL RESPONSE



### ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| SYMBOL             | CHARACTERISTIC             | TEST CONDITIONS                  | MIN | TYP                   | MAX  | UNITS  |
|--------------------|----------------------------|----------------------------------|-----|-----------------------|------|--------|
| I <sub>SC</sub>    | Short Circuit Current      | H = 100 fc, 2850 K               | 190 | 235                   |      | μA     |
| I <sub>D</sub>     | Dark Current               | H = 0, V <sub>R</sub> = 5 V      |     | 3                     | 8    | nA     |
| R <sub>SH</sub>    | Shunt Resistance           | H = 0, V <sub>R</sub> = 10 mV    | 75  | 250                   |      | MΩ     |
| TC R <sub>SH</sub> | RSH Temp. Coefficient      | H = 0, V <sub>R</sub> = 10 mV    |     | -8                    |      | % / °C |
| C <sub>J</sub>     | Junction Capacitance       | H = 0, V <sub>R</sub> = 5 V**    |     | 200                   |      | pF     |
| λ <sub>range</sub> | Spectral Application Range | Spot Scan                        | 190 |                       | 1100 | nm     |
| R                  | Responsivity               | V <sub>R</sub> = 0 V, λ = 254 nm | .12 | .18                   |      | A/W    |
| V <sub>BR</sub>    | Breakdown Voltage          | I = 10 μA                        | 15  | 25                    |      | V      |
| NEP                | Noise Equivalent Power     | V <sub>R</sub> = 10 mV @ Peak    |     | 3.8x10 <sup>-14</sup> |      | W/√Hz  |
| tr                 | Response Time              | RL = 1 KΩ V <sub>R</sub> = 5 V   |     | 65                    |      | nS     |

Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. \*\*f=1 MHz

[FORM NO. 100-PDU-C114 REV N/C]