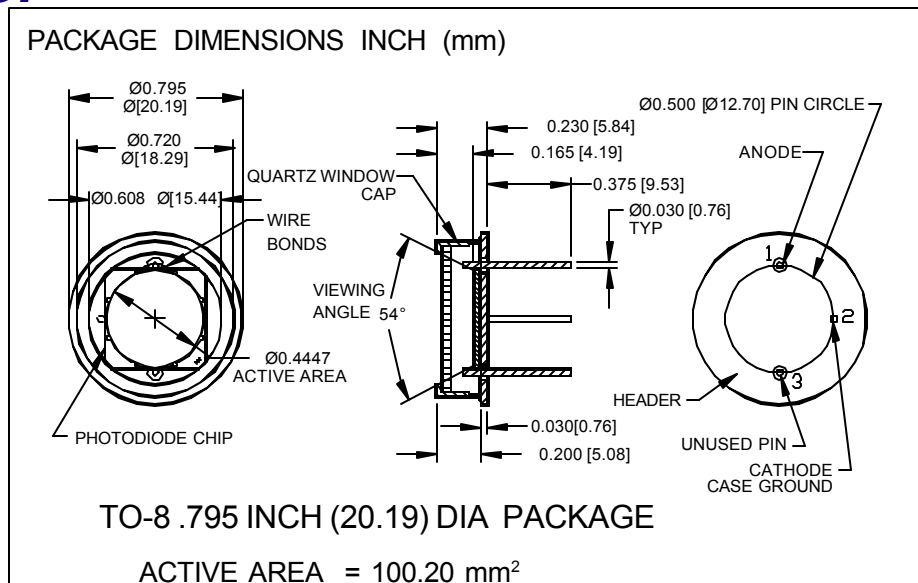
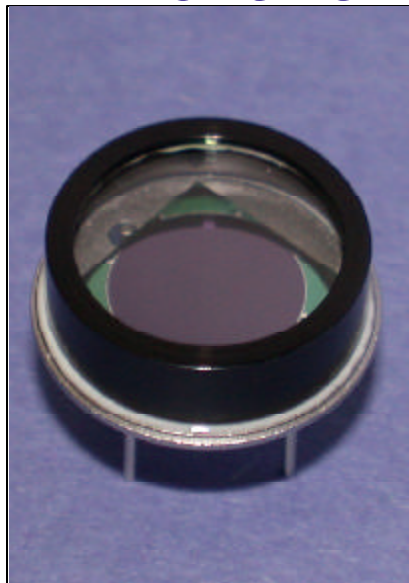


# PHOTONIC DETECTORS INC.

## Silicon Photodiode, U.V. Enhanced Photovoltaic Type PDU-V111-Q



### FEATURES

- Low noise
- U.V. enhanced
- High shunt resistance
- Quartz window

### DESCRIPTION

The **PDU-V111-Q** is a silicon, PIN planar diffused, U.V. enhanced photodiode. Ideal for low noise photovoltaic applications. Packaged in a low cost TO-8 metal can with a flat quartz window.

### APPLICATIONS

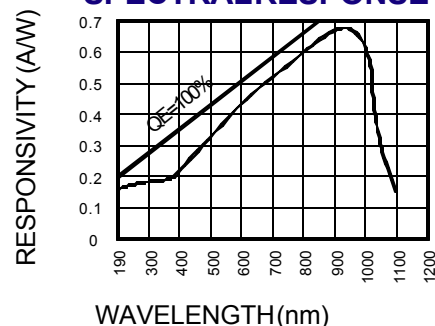
- Spectrometers
- Fluorescent analysers
- U.V. meters
- Colorimeters

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

| SYMBOL           | PARAMETER                   | MIN | MAX  | UNITS |
|------------------|-----------------------------|-----|------|-------|
| V <sub>BR</sub>  | Reverse Voltage             |     | 75   | V     |
| T <sub>STG</sub> | Storage Temperature         | -55 | +150 | °C    |
| T <sub>O</sub>   | Operating Temperature Range | -40 | +125 | °C    |
| T <sub>S</sub>   | Soldering Temperature*      |     | +224 | °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               | 0.9 | 1.2                 |        | mA     |
| I <sub>D</sub>     | Dark Current                      | H = 0, V <sub>R</sub> = 10 mV    |     | 200                 | 333    | pA     |
| R <sub>SH</sub>    | Shunt Resistance                  | H = 0, V <sub>R</sub> = 10 mV    | 30  | 50                  |        | MΩ     |
| TC R <sub>SH</sub> | R <sub>SH</sub> Temp. Coefficient | H = 0, V <sub>R</sub> = 10 mV    |     | -8                  |        | % / °C |
| C <sub>J</sub>     | Junction Capacitance              | H = 0, V <sub>R</sub> = 0 V**    |     | 10,000              | 12,000 | 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                        | 5   | 10                  |        | V      |
| NEP                | Noise Equivalent Power            | V <sub>R</sub> = 10 mV @ Peak    |     | 2x10 <sup>-14</sup> |        | W/√Hz  |
| tr                 | Response Time                     | RL = 1 KΩ V <sub>R</sub> = 0 V   |     | 2000                |        | 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-V111-Q-REV B]