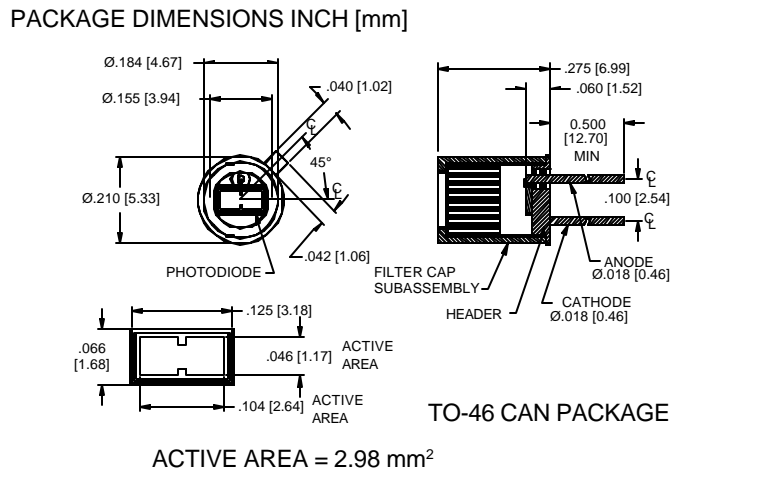


PHOTONIC DETECTORS INC.

Silicon Photodiode, Filter Combination Photovoltaic (center wavelength 488 nm) Type PDB-V448-46



FEATURES

- 488 nm CWL
- 10 nm FWHM
- Large active area

DESCRIPTION

The **PDB-V448-46** is a silicon, PIN planar diffused, photodiode with a narrow band interference filter. The detector filter combination has a narrow 10 nm half bandwidth designed for low noise photovoltaic applications. Packaged in a TO-46 metal can.

APPLICATIONS

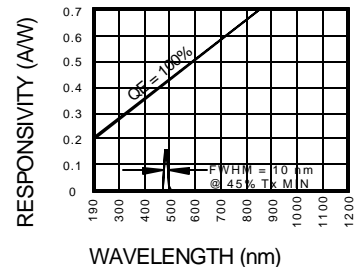
- Spectrophotometry
- Chemistry instrumentation
- Liquid chromatography

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

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
|------------------|-----------------------------|-----|------|-------|
| V _{BR} | Reverse Voltage | | 75 | V |
| T _{STG} | Storage Temperature | -20 | +85 | °C |
| T _O | Operating Temperature Range | -15 | +70 | °C |
| T _S | Soldering Temperature* | | +240 | °C |
| I _L | Light Current | | 0.5 | 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 _{SC} | Short Circuit Current*** | H = 100 fc, 2850 K | 35 | 40 | | μA |
| I _D | Dark Current | H = 0, V _R = 10 V | | 150 | 300 | pA |
| R _{SH} | Shunt Resistance | H = 0, V _R = 10 mV | 1.0 | 6 | | GΩ |
| TC R _{SH} | R _{SH} Temp. Coefficient | H = 0, V _R = 10 mV | | -8 | | % / °C |
| C _J | Junction Capacitance | H = 0, V _R = 0 V** | | 340 | | pF |
| CWL | Center Wavelength | (CWL, λ ₀) +/- 2 nm | | 488 | | nm |
| HBW | Half Bandwidth | (FWHM) | | 10 | | nm |
| V _{BR} | Breakdown Voltage | I = 10 μA | 30 | 50 | | V |
| NEP | Noise Equivalent Power | V _R = 10 mV @ Peak | | 5x10 ⁻¹⁴ | | W/√Hz |
| tr | Response Time | RL = 1 KΩ V _R = 0 V | | 450 | | 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, ***without filter

[FORM NO. 100-PDV-V448-46 REV N/C]