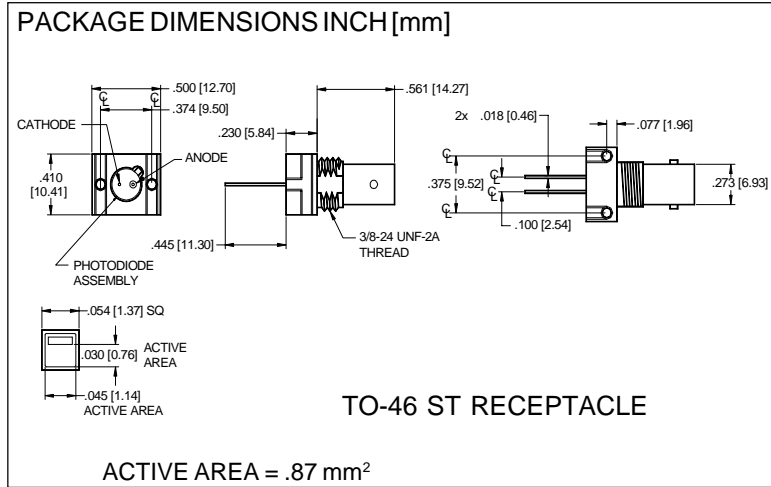


PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Photoconductive Hermetic Fiber Optic Detector Type PDB-C502-ST



FEATURES

- High speed
- Low capacitance
- Blue enhanced
- Low dark current

DESCRIPTION

The **PDB-C502-ST** is a silicon, PIN planar diffused, blue enhanced photodiode. Ideal for high speed photoconductive applications. Packaged in a hermetic, TO-46 ST receptacle.

APPLICATIONS

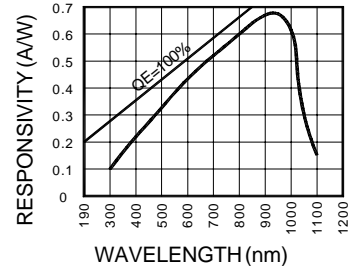
- Industrial controls
- Video systems
- Laser power monitors
- Fiber optic links

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

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
|------------------|-----------------------------|-----|------|-------|
| V _{BR} | Reverse Voltage | | 100 | V |
| T _{STG} | Storage Temperature | -55 | +150 | °C |
| T _O | Operating Temperature Range | -40 | +125 | °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 | 8.5 | 9 | | mA |
| I _D | Dark Current | H = 0, V _R = 10 V | | 45 | 150 | pA |
| R _{SH} | Shunt Resistance | H = 0, V _R = 10 mV | 0.5 | 2 | | GΩ |
| TCR _{SH} | RSH Temp. Coefficient | H = 0, V _R = 10 mV | | -8 | | % / °C |
| C _J | Junction Capacitance | H = 0, V _R = 10 V** | | 4 | | pF |
| λ _{range} | Spectral Application Range | Spot Scan | 350 | | 1100 | nm |
| λ _p | Spectral Response - Peak | Spot Scan | | 950 | | nm |
| V _{BR} | Breakdown Voltage | I = 10 mA | 100 | 125 | | V |
| NEP | Noise Equivalent Power | V _R = 10 V @ Peak | | 10x10 ⁻¹⁴ | | W/√Hz |
| tr | Response Time | RL = 1 KΩ V _R = 50 V | | 3.0 | | 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-PDB-C502-ST REV NC]