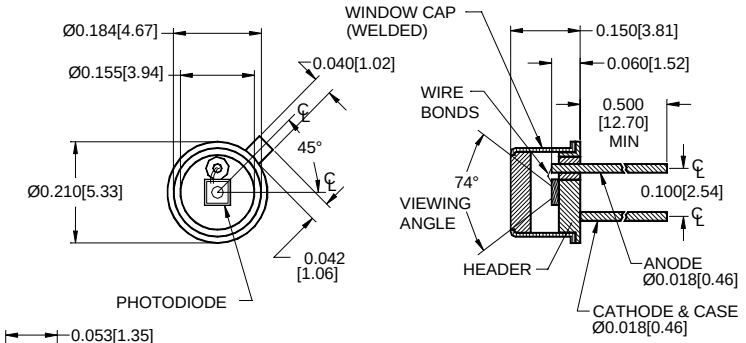
PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Photovoltaic
Type PDB-V101

PACKAGE DIMENSIONS inch [mm]



TO-46 HERMETIC CAN PACKAGE

ACTIVE AREA = 0.31 mm²

FEATURES

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

DESCRIPTION

The **PDB-V101** is a silicon, PIN planar diffused, blue enhanced photodiode. Ideal for low noise photovoltaic applications. Packaged in a hermetic TO-46 metal can with a flat window.

APPLICATIONS

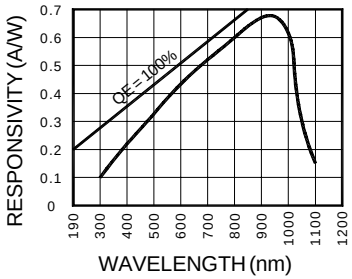
- Instrumentation
- Industrial controls
- Laser detection
- Particle detection

ABSOLUTE MAXIMUM RATING (TA=25°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 Range	-40	+125	°C
T_S	Soldering Temperature*		+240	°C
I_L	Light Current		.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	4	4.5		μA
I_D	Dark Current	H = 0, V_R = 10 V		20	45	pA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	1	1.6		GΩ
TCR_{SH}	RSH Temp. Coefficient	H = 0, V_R = 10 mV		-8		% / °C
C_J	Junction Capacitance	H = 0, V_R = 0 V**		115		pF
λ range	Spectral Application Range	Spot Scan	350		1100	nm
λp	Spectral Response - Peak	Spot Scan		950		nm
V_{BR}	Breakdown Voltage	I = 10 μA	30	50		V
NEP	Noise Equivalent Power	V_R = 10 mV @ Peak		$2.5x10^{-15}$		$W/\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 0 V		450		nS