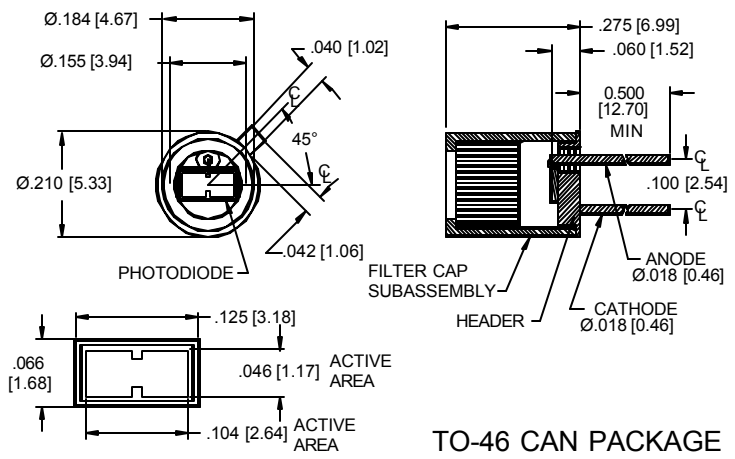
PHOTONIC DETECTORS INC.

Silicon Photodiode, Filter Combination Photoconductive (center wavelength 400 nm) Type PDB-C440-46B

PACKAGE DIMENSIONS INCH [mm]



TO-46 CAN PACKAGE

ACTIVE AREA = 2.98 mm²

FEATURES

- 400 nm CWL
- 40 nm FWHM
- Large active area

DESCRIPTION

The **PDB-C440-46B** is a silicon, PIN planar diffused, photodiode with a wide band interference filter. The detector filter combination has a wide 40 nm half bandwidth designed for high speed photoconductive applications. Packaged in a TO-46 metal can.

APPLICATIONS

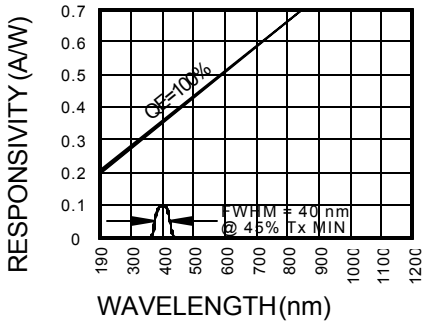
- Spectrophotometry
- Chemistry instrumentation
- Liquid chromatography

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		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_{SC}	Short Circuit Current***	H = 100 fc, 2850 K	40	45		μA
I_D	Dark Current	H = 0, V_R = 10 V		150	300	pA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	.5	1.0		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**		10		pF
CWL	Center Wavelength	(CWL, λo) +/- 2 nm		400		nm
HBW	Half Bandwidth	(FWHM)		40		nm
V_{BR}	Breakdown Voltage	I = 10 μA	70	100		V
NEP	Noise Equivalent Power	V_R = 10 mV @ Peak		1.5×10^{-14}		W/$\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 0 V		10		nS

 **f = 1 MHz, ***without filter