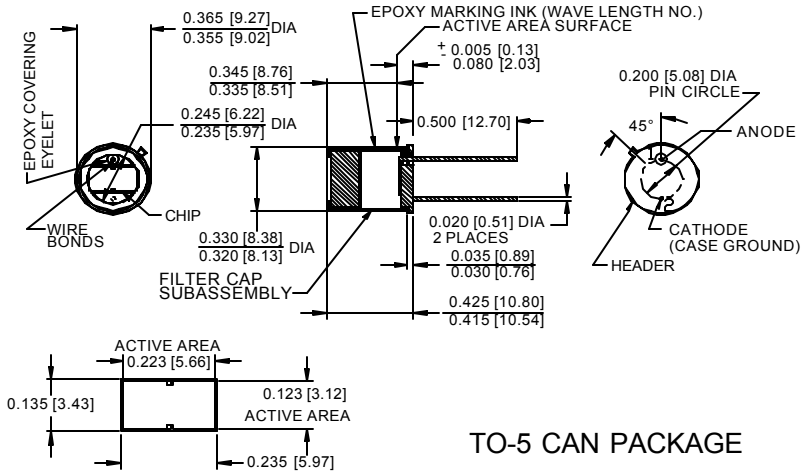
PHOTONIC DETECTORS INC.

Silicon Photodiode, Filter Combination Photovoltaic (center wavelength 436 nm) Type PDB-V443.6

PACKAGE DIMENSIONS INCH [mm]



TO-5 CAN PACKAGE

ACTIVE AREA = 17.74 mm²

FEATURES

- 436 +/- 2 nm CWL
- 10 nm FWHM
- 45% transmission
- 10^{-4} rejection

DESCRIPTION

The **PDB-V443.6** 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-5 metal can.

APPLICATIONS

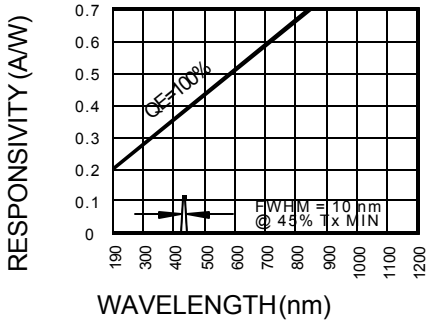
- Spectrophotometry
- Chemistry instrumentation
- Liquid chromatography

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		100	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	150	200		μA
I_D	Dark Current	H = 0, V_R = 10 mV		10	50	pA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	.20	2		GΩ
TC R_{SH}	R_{SH} Temp. Coefficient	H = 0, V_R = 10 mV		-8		% / °C
C_J	Junction Capacitance	H = 0, V_R = 10 V**		1700		pF
CWL	Center Wavelength	(CWL, λo) +/- 2 nm		436		nm
HBW	Half Bandwidth	(FWHM)		10		nm
V_{BR}	Breakdown Voltage	I = 10 μA	50	75		V
NEP	Noise Equivalent Power	V_R = 10 mV @ Peak		$9x10^{-15}$		W/$\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 10 V		1.0		μS

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