PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Photoconductive
Isolated Type PDB-C120-I

PACKAGE DIMENSIONS inch [mm]

Ø0.184 [4.67]
Ø0.155 [3.94]

WINDOW CAP (WELDED)

0.198 [5.03]
0.125 [3.18]
0.500 [12.70] MIN

Ø 0.100 B.C.
PHOTODIODE CHIP

Ø0.210 [5.33]

45°
0.040 [1.02]

Ø0.019 [0.48]
Ø0.016 [0.41]
3 PLACES

0.042 [1.06]

HEADER
CASE GROUND
CATHODE
ANODE

0.027 [0.69] SQ
Ø0.012 [Ø0.30] ACTIVE AREA
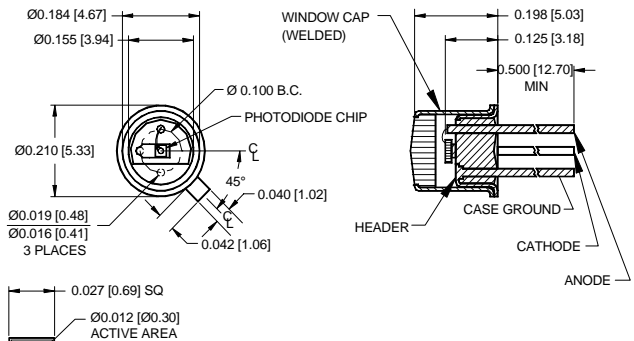
TO-18 HERMETIC CAN PACKAGE

ACTIVE AREA = 0.073 mm^2

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

DESCRIPTION
The **PDB-C120-I** is a silicon, PIN planar diffused, blue enhanced photodiode. Ideal for high speed photoconductive applications. Packaged in a hermetic TO-18 metal can with a flat window and isolated ground lead.

APPLICATIONS
- Fiber optic
- Laser detection
- Light demodulation
- Matched to I.R. LEDs

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		200	V
T_{STG}	Storage Temperature	-65	+150	°C
T_O	Operating Temperature Range	-55	+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

RESPONSIVITY (A/W)
QE = 100%
WAVELENGTH (nm)
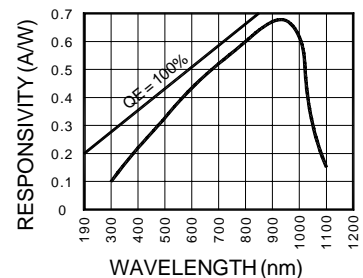
ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{SC}	Short Circuit Current	H = 100 fc, 2850 K	1.2	1.5		μA
I_D	Dark Current	H = 0, V_R = 10 V		0.5	2.0	nA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	400	500		MΩ
TCR_{SH}	RSH Temp. Coefficient	H = 0, V_R = 10 mV		-8		% / °C
C_J	Junction Capacitance	H = 0, V_R = 10 V**		1		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	100	150		V
NEP	Noise Equivalent Power	V_R = 10 V @ Peak		9.0x10^{-15}		W/$\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 50 V		1.0		nS