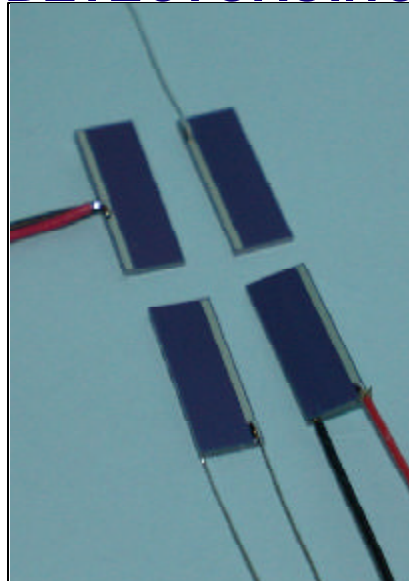


# PHOTONIC DETECTORS INC.

## Silicon Photodiode, Blue Enhanced Solderable Chips Photoconductive Type PDB-C617 Photovoltaic Type PDB-V617



PACKAGE DIMENSIONS INCH (mm)		
<p>BARE CHIP ACTIVE AREA = 62.91 mm<sup>2</sup> PDB-C617-1 PDB-V617-1</p>	<p>ANODE, RED WIRE CATHODE, BLACK WIRE 30 GAGE P.V.C. WIRE PDB-C617-2 PDB-V617-2</p>	<p>ANODE, BUSS WIRE 30 GAGE BUSS WIRE PDB-C617-3 PDB-V617-3</p>
<p>ANODE, BUSS WIRE CATHODE, BUSS WIRE 30 GAGE BUSS WIRE PDB-C617-4 PDB-V617-4</p>	<p>ANODE, RED WIRE CATHODE, BLACK WIRE 30 GAGE P.V.C. WIRE PDB-C617-5 PDB-V617-5</p>	<p>ANODE, RED WIRE CATHODE, BLACK WIRE 30 GAGE P.V.C. WIRE PDB-C617-6 PDB-V617-6</p>

### FEATURES

- Blue enhanced
- Photovoltaic type
- Photoconductive type
- High quantum efficiency

### DESCRIPTION:

Low cost blue enhanced planar diffused silicon solderable photodiode. The **PDB-V617** cell is designed for low noise, photovoltaic applications. The **PDB-C617** cell is designed for low capacitance, high speed, photoconductive operation. They are available bare, PVC or buss wire leads.

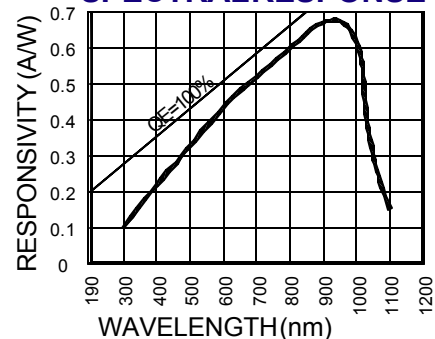
### APPLICATIONS

- Optical encoder
- Position sensor
- Industrial controls
- Instrumentation

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

SYMBOL	PARAMETER	PDB-C617		PDB-V617		UNITS
		MIN	MAX	MIN	MAX	
V <sub>BR</sub>	Reverse Voltage		75		25	V
T <sub>STG</sub>	Storage Temperature	-40	+125	-40	+125	°C
T <sub>O</sub>	Operating Temperature Range	-40	+100	-40	+100	°C
T <sub>S</sub>	Soldering Temperature		+224		+224	°C
I <sub>L</sub>	Light Current		500		500	mA

### SPECTRAL RESPONSE



### ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	PDB-C617			PDB-V617			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
I <sub>SC</sub>	Short Circuit Current	H = 100 fc, 2850 K	625	650		615	640		μA
I <sub>D</sub>	Dark Current	H = 0, V <sub>R</sub> = 5 V*		65	135		35	75	nA
R <sub>SH</sub>	Shunt Resistance	H = 0, V <sub>R</sub> = 10 mV	4.5	9		6.5	13.5		MΩ
TC R <sub>SH</sub>	R <sub>SH</sub> Temp. Coefficient	H = 0, V <sub>R</sub> = 10 mV		-8			-8		% / °C
C <sub>J</sub>	Junction Capacitance	H = 0, V <sub>R</sub> = 5 V**		285			8500		pF
λ <sub>range</sub>	Spectral Application Range	Spot Scan	350		1100	350		1100	nm
λ <sub>p</sub>	Spectral Response - Peak	Spot Scan		940			940		nm
V <sub>BR</sub>	Breakdown Voltage	I = 10 μA	25	50		5	15		V
NEP	Noise Equivalent Power	V <sub>R</sub> = 0 V @ Peak	7.0 x 10 <sup>-13</sup> TYP			2.16 x 10 <sup>-13</sup> TYP			W / √Hz
t <sub>r</sub>	Response Time	RL = 1 KΩ V <sub>R</sub> = 5 V**		40			2500		nS

\*VR=100mV on Photovoltaic type      \*\*VR=0V on Photovoltaic type

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.