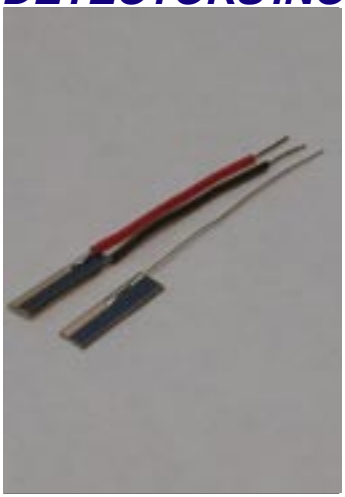
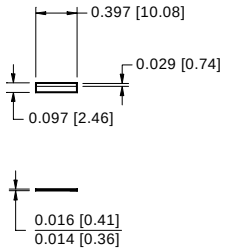
PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Solderable Chips

Photoconductive Type PDB-C607 Photovoltaic Type PDB-V607

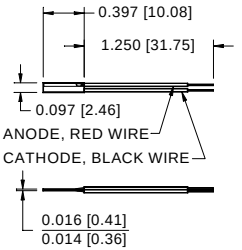


PACKAGE DIMENSIONS INCH (mm)



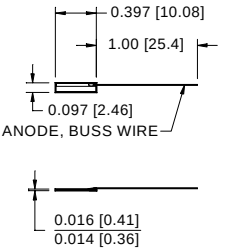
BARE CHIP

ACTIVE AREA = 14.5 mm²
PDB-C607-1
PDB-V607-1



30 GAGE P.V.C. WIRE

PDB-C607-2
PDB-V607-2



30 GAGE BUSS WIRE

PDB-C607-3
PDB-V607-3

FEATURES

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

DESCRIPTION: Low cost blue enhanced planar diffused silicon solderable photodiode. The **PDB-V607** cell is designed for low noise, photovoltaic applications. The **PDB-C607** cell is designed for low capacitance, high speed, photoconductive operation. They are available bare, PVC or buss wire leads.

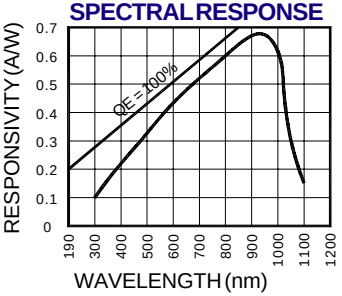
APPLICATIONS

- Optical encoder
- Position sensor
- Industrial controls
- Instrumentation

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

SYMBOL	PARAMETER	PDB-C607		PDB-V607		UNITS
		MIN	MAX	MIN	MAX	
V_{BR}	Reverse Voltage		75		25	V
T_{STG}	Storage Temperature	-40	+125	-40	+125	°C
To	Operating Temperature Range	-40	+100	-40	+100	°C
Ts	Soldering Temperature		+224		+224	°C
I_L	Light Current		500		500	mA

SPECTRAL RESPONSE



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

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	PDB-C607			PDB-V607			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
Isc	Short Circuit Current	H = 100 fc, 2850 K	165	185		165	185		μA
I D	Dark Current	H = 0, V_R = 5 V*		15	35		25	50	nA
Rsh	Shunt Resistance	H = 0, V_R = 10 mV	6	15		10	30		MΩ
TC Rsh	Rsh Temp. Coefficient	H = 0, V_R = 10 mV		-8			-8		% / °C
Cj	Junction Capacitance	H = 0, V_R = 5 V**		125			2400		pF
λrange	Spectral Application Range	Spot Scan	350		1100	350		1100	nm
λp	Spectral Response - Peak	Spot Scan		940			940		nm
V_{BR}	Breakdown Voltage	I = 10 μA	50	100		5	10		V
NEP	Noise Equivalent Power	V_R = 0 V @ Peak	8 x 10^{-13} TYP			9 x 10^{-14} TYP			W/ $\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 5 V**		25			1000		nS

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