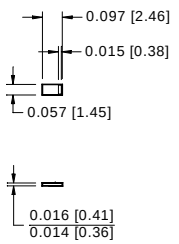
PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Solderable Chips

Photoconductive Type PDB-C603 Photovoltaic Type PDB-V603

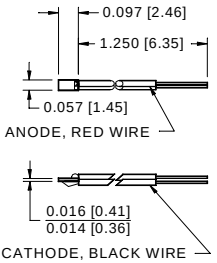
PACKAGE DIMENSIONS INCH (mm)



BARE CHIP

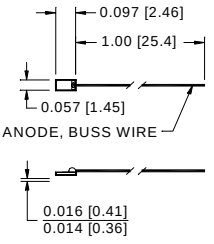
ACTIVE AREA = 2.55 mm²

PDB-C603-1
PDB-V603-1



30 GAGE P.V.C. WIRE

PDB-C603-2
PDB-V603-2



34 GAGE BUSS WIRE

PDB-C603-3
PDB-V603-3

FEATURES

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

DESCRIPTION: Low cost blue enhanced planar diffused silicon solderable photodiode. The **PDB-V603** cell is designed for low noise, photovoltaic applications. The **PDB-C603** cell is designed for low capacitance, high speed, photoconductive operation. They are available bare, PVC or buss wire leads.

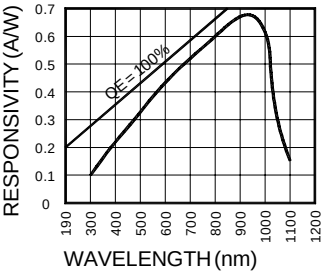
APPLICATIONS

- Optical encoder
- Position sensor
- Industrial controls
- Instrumentation

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

SYMBOL	PARAMETER	PDB-C603		PDB-V603		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-C603			PDB-V603			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
Isc	Short Circuit Current	H = 100 fc, 2850 K	28	32		25	30		μA
I_D	Dark Current	H = 0, V_R = 5 V*		3	5		5	10	nA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	18	40		30	60		MΩ
TC R_{SH}	R_{SH} Temp. Coefficient	H = 0, V_R = 10 mV		-8			-8		% / °C
C_J	Junction Capacitance	H = 0, V_R = 5 V**		25			350		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	25	50		5	15		V
NEP	Noise Equivalent Power	V_R = 0 V @ Peak	3×10^{-13} TYP			4×2^{-14}TYP			W/ $\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 5 V**		12			400		nS

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