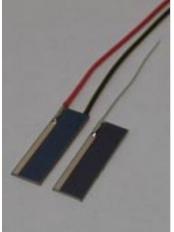
#### PHOTONIC Silicon Photodiode, Blue Enhanced Solderable Chips Photoconductive Type PDB-C612 Photovoltaic Type PDB-V612 DETECTORS INC.



#### PACKAGE DIMENSIONS INCH (mm) - 0.700 [17.78] 0.700 [17.78] 0.700 [17.78] -6.25 [158.7] 1.00 [25.4] -0.035 [0.89] 0.200 [5.08] 0.200 [5.08] 0.200 [5.08] ANODE, RED WIRE ANODE, BUSS WIRE CATHODE, BLACK WIRE 0.016 [0.41] 0.016 [0.41] 0.016 [0.41] 0.014 [0.36] 0.014 [0.36] 0.014 [0.36] BARECHIP 30 GAGE P.V.C. WIRE 30 GAGE BUSS WIRE ACTIVE AREA = 68.7 mm<sup>2</sup> PDB-C612-2 PDB-C612-3 PDB-C612-1 PDB-V612-2 PDB-V612-3 PDB-V612-1 **APPLICATIONS**

### FEATURES

- Blue enhanced
- Photovoltaic type

Photoconductive type

**DESCRIPTION:** Low cost blue enhanced planar diffused silicon solderable photodiode. The PDB-V612 cell is designed for low noise, photovoltaic applications. The PDB-C612 cell is designed for low capacitance, high speed, photoconductive operation. They are available bare, PVC or buss wire leads.

• High quantum efficiency

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

SYMBOL	PARAMETER	PDB-C612		PDB-V612		UNITS	
			MAX	MIN	MAX	oraro	
Vbr	Reverse Voltage		75		25	V	
T <sub>stg</sub>	Storage Temperature	-40	+125	-40	+125	°C	
To	Operating Temperature Range	-40	+100	-40	+100	°C	
Ts	Soldering Temperature		+224		+224	°C	
Ι	Light Current		500		500	mA	

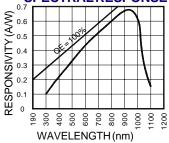
# SPECTRAL RESPONSE

Optical encoder

Position sensor

Instrumentation

Industrial controls



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

SYMBOL	CHARACTERISTIC	TESTCONDITIONS	PDB-C612			PDB-V612			
			MIN	TYP	MAX	MIN	TYP	MAX	UNITS
lsc	Short Circuit Current	H = 100 fc, 2850 K	810	900		720	800		$\mu$ A
ΙD	Dark Current	H = 0, V <sub>R</sub> = 5 V*		75	150		40	80	nA
Rsн	Shunt Resistance	H = 0, V <sub>R</sub> = 10 mV	5	10		7	15		MΩ
TC RSH	RsH Temp. Coefficient	H = 0, V <sub>R</sub> = 10 mV		-8			-8		% / °C
CJ	Junction Capacitance	H = 0, V <sub>R</sub> = 5 V**		300			9000		pF
λrange	Spectral Application Range	Spot Scan	350		1100	350		1100	nm
λρ	Spectral Response - Peak	Spot Scan		940			940		nm
Vbr	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	
tr	Response Time	$RL = 1 K\Omega V_R = 5 V^{**}$		45			2800		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. [FORM NO. 100-PDB-C612-V612 REV A]