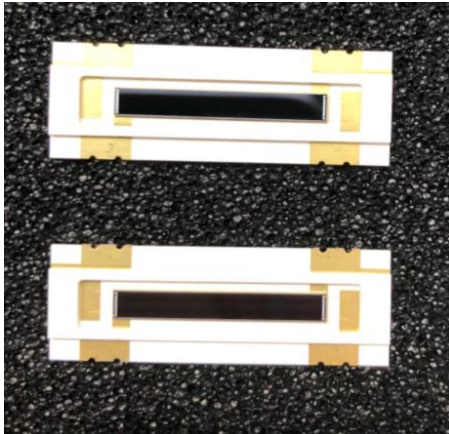


## One Direction Position Sensing Detector PSD0220



### Description

The PSD0220 is according to the Lateral Effect Photodiode principle. It is analogue device and displays excellent position resolution under better system signal to noise ratio.

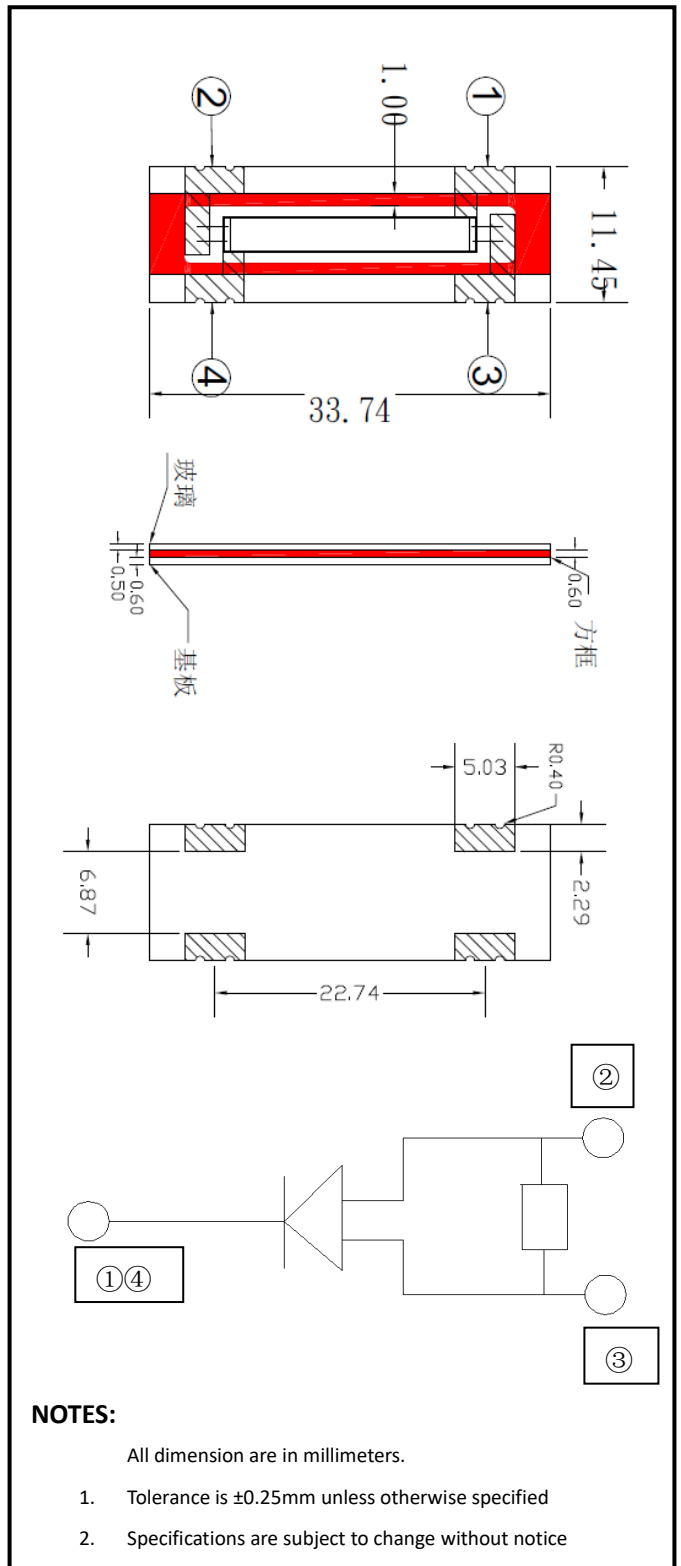
It has low dark current, high linearity in the biased mode. It can also detect the optical power and position of the light sourcing at the same time.

### Features

- \* 20mm\*2mm active area
- \* High position resolution
- \* Good responsibility for 650nm laser
- \* High linearity
- \* Low dark current

### Applications

- \* Laser beam focusing
- \* Distance measurement
- \* triangle distance measurement
- \* Proximity sensor



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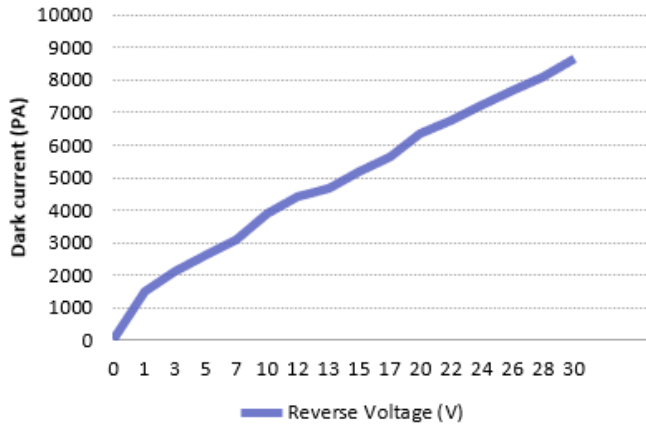


## Absolute Maximum Ratings (Ta=25°C)

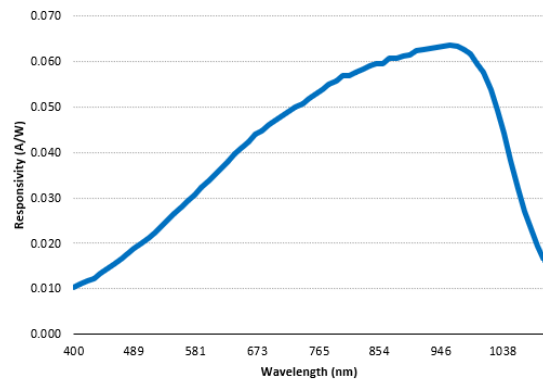
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Active area	A			2*20		mm <sup>2</sup>
Dark current	I <sub>D</sub>	VR=10mV		0.80		pA
		VR=10V		3.80		nA
Rise time	t <sub>R</sub>	V <sub>R</sub> =15V;λ=940nm;R <sub>L</sub> =50Ω		0.5		us
Thermal drift				20	100	ppm/°C
Recommended spot dia.	φ	Diameter	0.2		14	mm
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =10μA Ev=0lx		15	20	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V f=10kHz		6500		pF
		V <sub>R</sub> =10V f=10kHz		60		
Photo sensitivity	S <sub>R</sub>	650nm		0.27		A/W
		940nm		0.51		A/W
Position detection error		λ =650nm;P=0.5μW,spot dia.0.5mm		±0.2	±0.3	%
Noise lim. resolution		λ =650nm;P=0.5μW,spot dia.0.5mm		0.5		μm
Spectral Application Range	λ <sub>range</sub>		400		1100	nm
Spectral Response-Peak	λ <sub>p</sub>			940		nm

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## ■ Dark current vs. reverse voltage

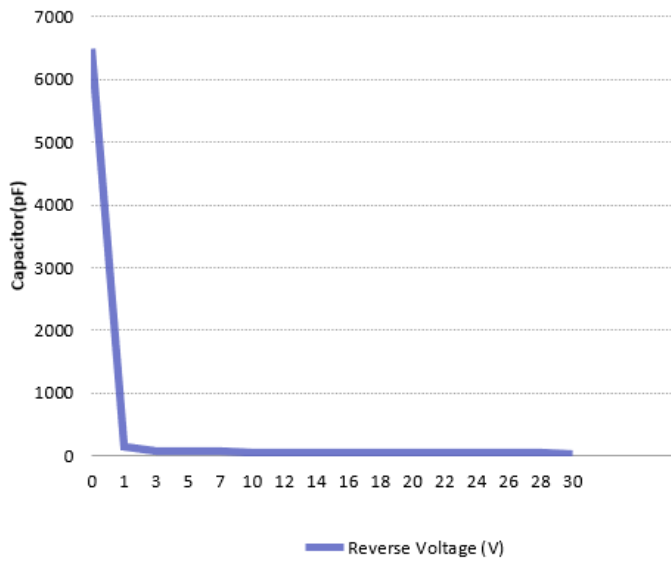


## ■ Spectral response



## ■ Relative Junction Capacitance

VS. Voltage



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