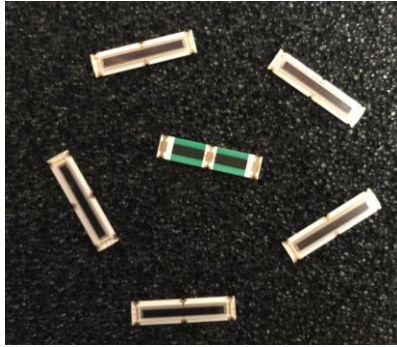


## One Direction Position Sensing Detector PSD0112



### Description

The PSD0112 is according to the Lateral Effect Photodiode principle. It is analogue device and displays excellent position resolution under better system signal to noise ratio.

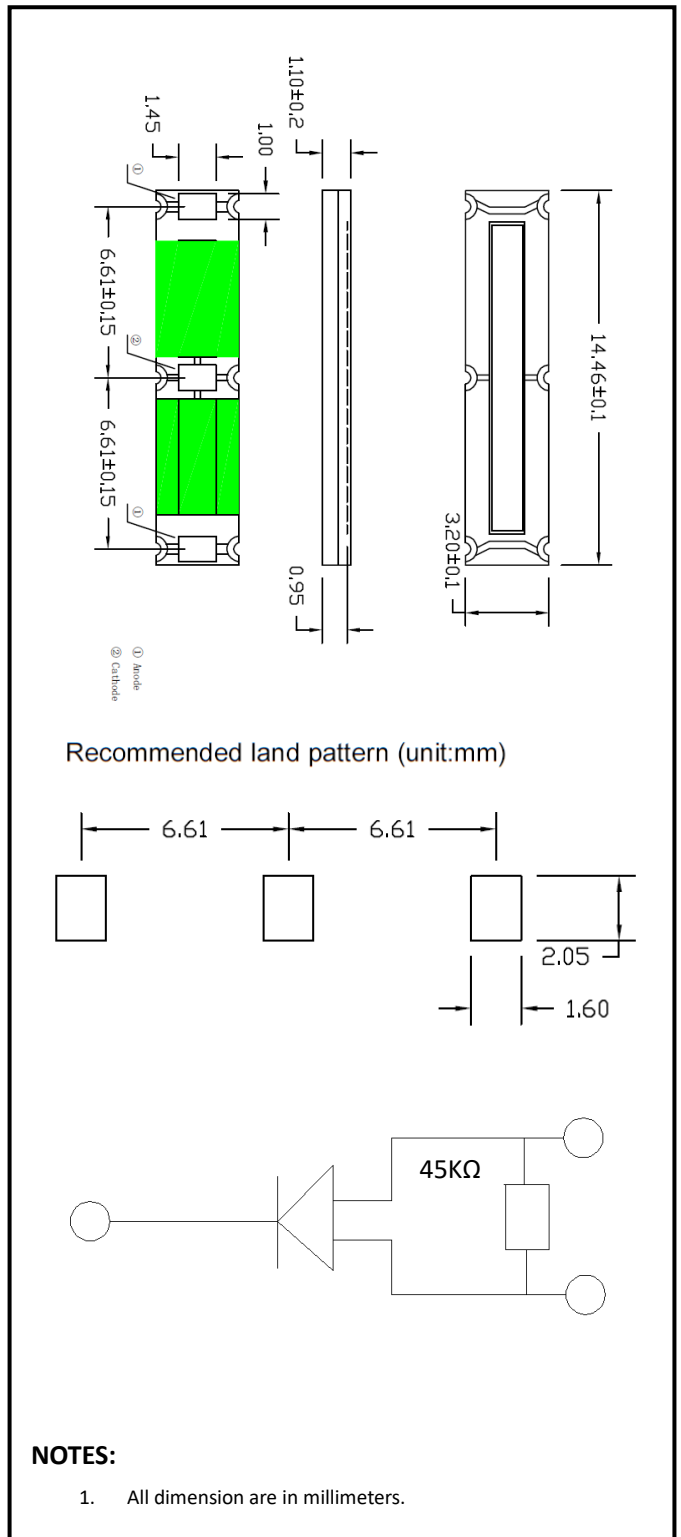
It has low dark current, high linearity in the biased mode. It can also detect the optical power and position of the light sourcing at the same time.

### Features

- \* 11.80mm\*1.01mm 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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OTRON ELECTRONIC TECHNOLOGY CO., LTD

TEL:+86-21-54971821

FAX:+86-21-54971823

EMAIL: [otron.sensor@gmail.com](mailto:otron.sensor@gmail.com)

<http://www.e-otron.com>



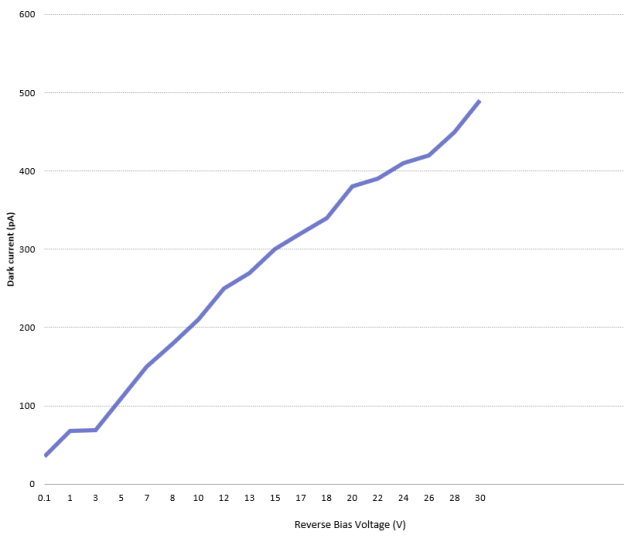
## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size				1.2*12.03		mm <sup>2</sup>
Active area	A			1.01*11.8		mm <sup>2</sup>
Dark current	I <sub>D</sub>	VR=0V		0.01		nA
		VR=5V		0.11		nA
Rise time *	t <sub>R</sub>	V <sub>R</sub> =10V;λ=850nm;R <sub>L</sub> =50Ω		0.5		us
Thermal drift				20	100	ppm/°C
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =100μA Ev=0lx	60		450	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =1V f=10KHz		92.80		pF
		V <sub>R</sub> =10V f=10KHz		25.20		
Photo sensitivity	S <sub>R</sub>	650nm		0.30		A/W
		940nm		0.55		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>		350		1100	nm
Spectral Response-Peak	λ <sub>p</sub>			940		nm
Interelectrode resistance	R <sub>T</sub>	V <sub>R</sub> =100mV	30	50	80	KΩ

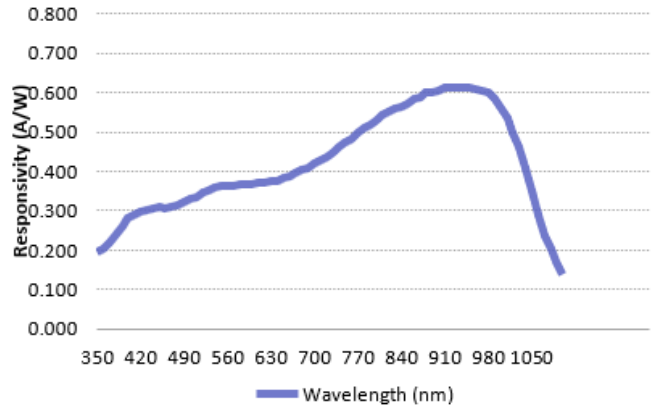
\* Central spot position \*\* Within the scan range spot diameter 0.5mm

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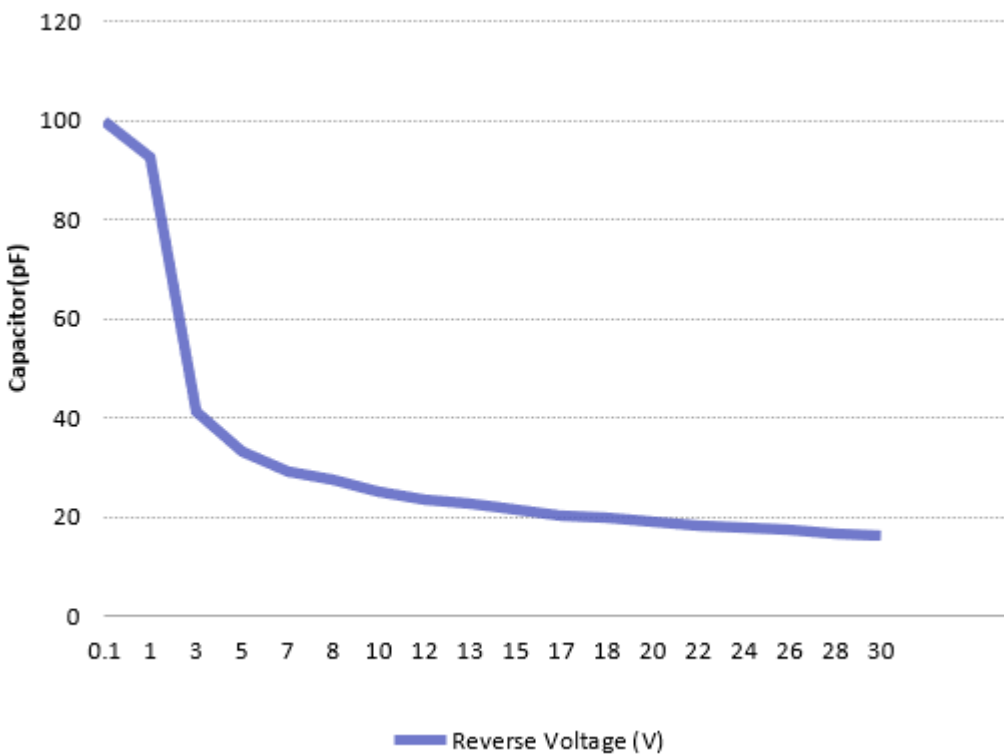
■ Dark current vs. reverse voltage



■ Spectral response



■ Relative Junction Capacitance



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