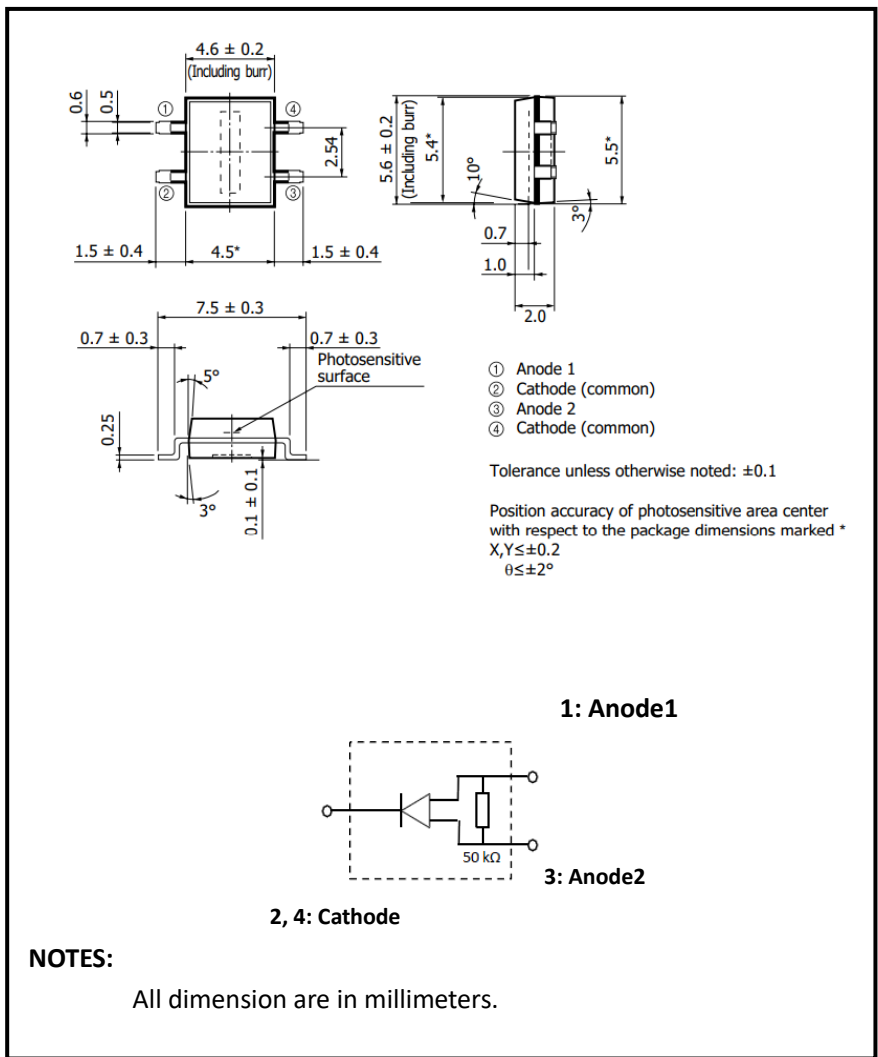
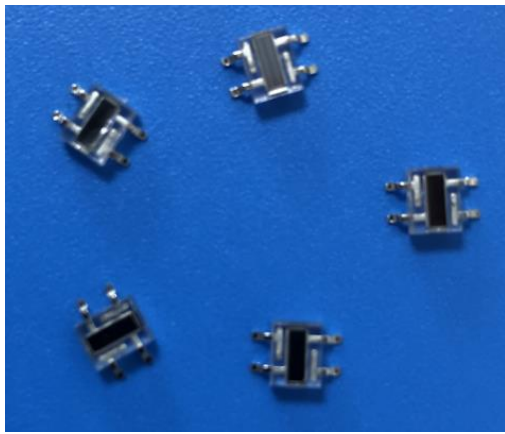


One Direction Position Sensing Detector PSD1545M



Description

The PSD1545M is according to the lateral Effect photodiode principle. It is analogue Device and displays excellent position Resolution under better system signal to Noise ration.

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

Features

- * High position resolution
- * High linearity
- * Operating temperature is from -40 to $+85^\circ\text{C}$
- * Chip active area: $4.54 \times 1.54\text{mm}$
- * High linearity
- * Low dark current

Applications

- * Proximity sensor
- * Laser beam focusing
- * Distance measurement (triangulation)

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice



Absolute Maximum Ratings (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	A				1.54*4.54	mm
Photo sensitivity	S _R	650nm		0.27		A/W
		940nm		0.51		A/W
Forward Voltage	V _F	I _F =10mA, E _v =0lx	0.5		1.3	V
Reverse Voltage	V _{BR}	I _R =100uA	10	30		V
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _D	V _R =5V		12	15	nA
Rise time *	t _R	V _R =10V;λ=865nm;R _L =50Ω		0.20		μs
Junction Capacitance	C _J	V _R =1V f=1MHz		35		pF
		V _R =10V f=1MHz		15		
Spectral Application Range	λ _{range}		350		1100	nm
Spectral Response-Peak	λ _p			940		nm
Angular Resp 50% Resp Pt	θ _{1/2}			±60		Degrees
Interelectrode resistance	R _t	E _v =0lx	30	50	70	kΩ
Noise limited resolution	Res.	λ=632nm, P _o =0.5uW, Spot size= φ 0.5mm		0.05		um
Position detection error **	Pe	λ=632nm, P _o =0.5uW, Spot size= φ 0.5mm		±0.2	±1.0	%

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

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OTRON ELECTRONIC TECHNOLOGY CO., LTD

TEL:+86-21-54971821

FAX:+86-21-54971823

EMAIL: otron.sensor@gmail.com

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