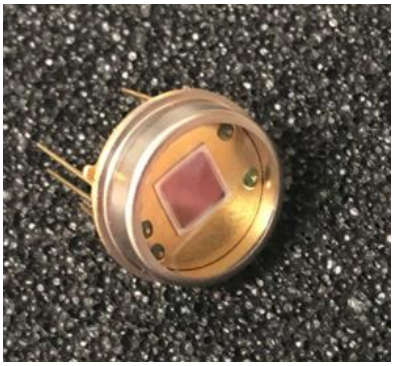
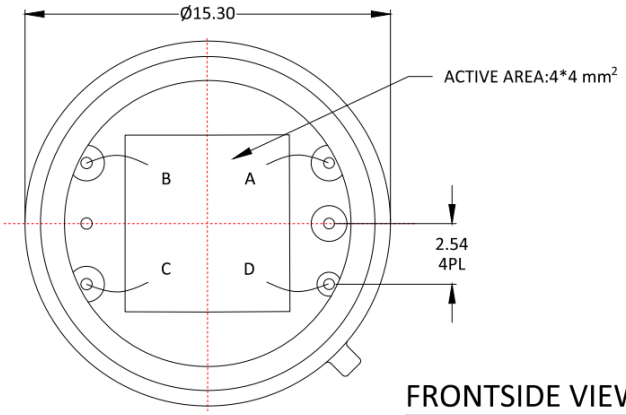
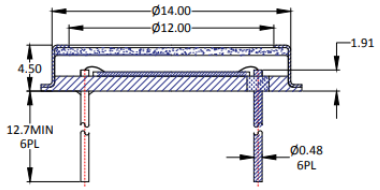
PSD016-IT

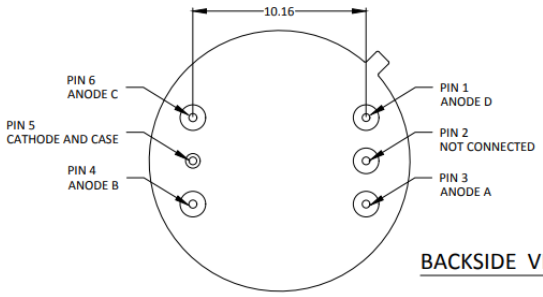
Two-dimensional PSD



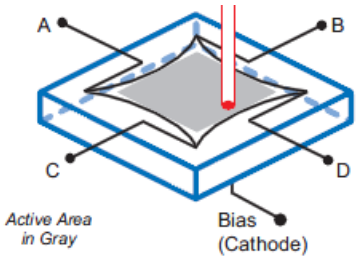


FRONTSIDE VIEW





BACKSIDE VIEW



NOTES:

All dimension are in millimeters.

Description

Tetra-lateral position sensing detector PSD016-IT is Manufactured with one single resistive layer for both one And two dimensional measurements. It feature a Common cathode and four anodes for this two dimensional Position sensing.

It offers high response uniformity, low dark current, and Good position linearity over 80% of the sensing area.

Features

* High responsibility for IR laser.
* High speed response
* Low dark current
* High dynamic range
* Operating temperature is from -40 to +80℃
* Storage temperature is from -40 to +100℃
* soldering temperature is 260℃ @Max.5 seconds at the p

Applications

* Tool alignment and control * Leveling measurements
* Angular measurements
*Automatic range finder systems *3 Dimensional vision

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Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Sensor Type			Pincushion Tetra Lateral Senaor			
Wavelength Range	λ		400-1100			nm
Sensor Size(active area)	A		4×4			mm^2
Recommended Spot Size			ϕ0.2-ϕ3.2			mm
Absolute Position Detection Error(mm)		λ=900nm, VR=5V,	50			μm
Position resolution	⊿R	Io=1uA， B=1KHz	0.7			um
Incident power density	Ist	V_R=5V R_L=1KΩ	10			mw/cm^2
Interelectrode Resistance	R		60			kΩ
Temp. Range	Te		-40~+80			℃
Dark current	I_D	V_R=5V		0.054	10	nA
		V_R=15V		0.15	10	
Breakdown voltege	Ubr	I_R=10μA		100		V
Rise time	t_R	V_R=15V, 650nm, 50Ω		0.60		μs
Junction Capacitance	C_J	V_R=5V,f=1MHz		20		pF
		V_R=15V,f=1MHz		2		
Photo sensitivity	S_R	λ=650nm		0.45		A/W
		λ=900nm		0.58		

Coversion Formula:

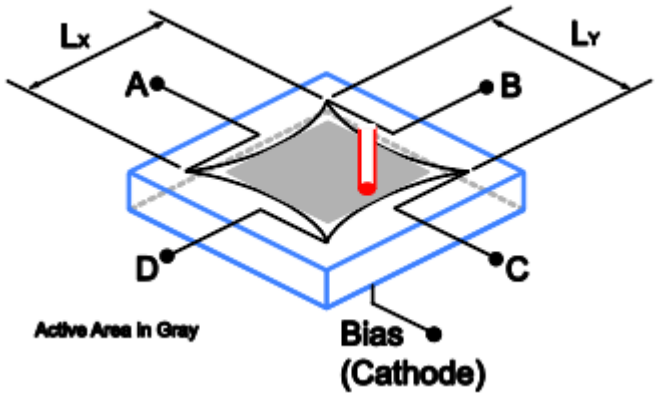
$\Delta x = (A + D) - (B + C)$

$\Delta y = (A + B) - (C + D)$

$SUM = (A + B + C + D)$

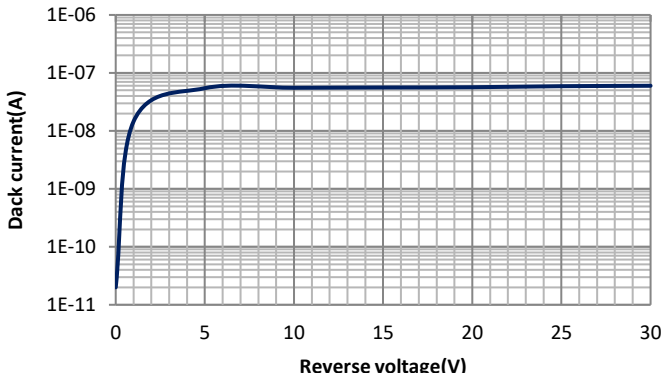
$x = Lx(\Delta x)\ /2\ SUM$;

$y = Ly\ (\Delta y)/\ 2\ SU$M

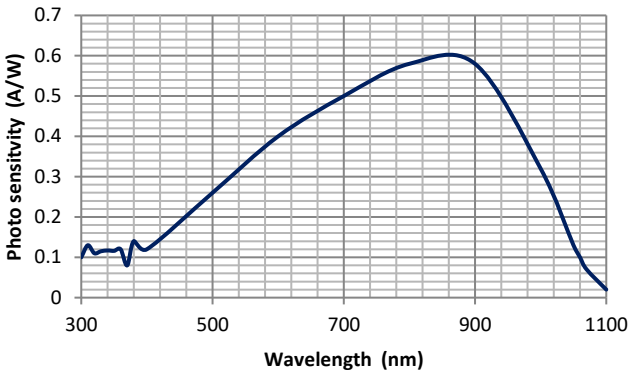


Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

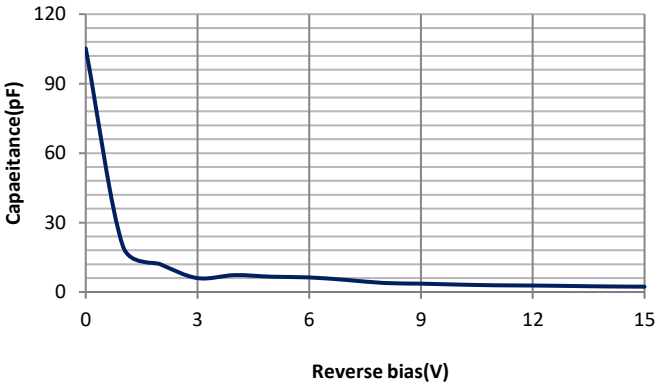
■Dark current vs. reverse voltage



■ Spectral response



■Relative Junction Capacitance VS. Voltage



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