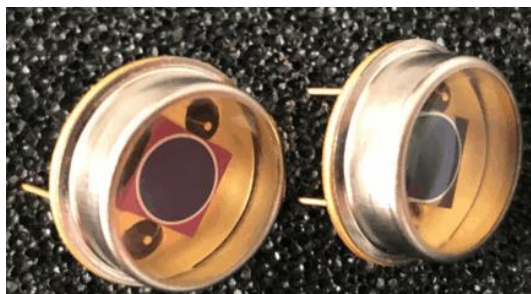


## Silicon PIN Photodiode

### OSD5.05-IT



### Description

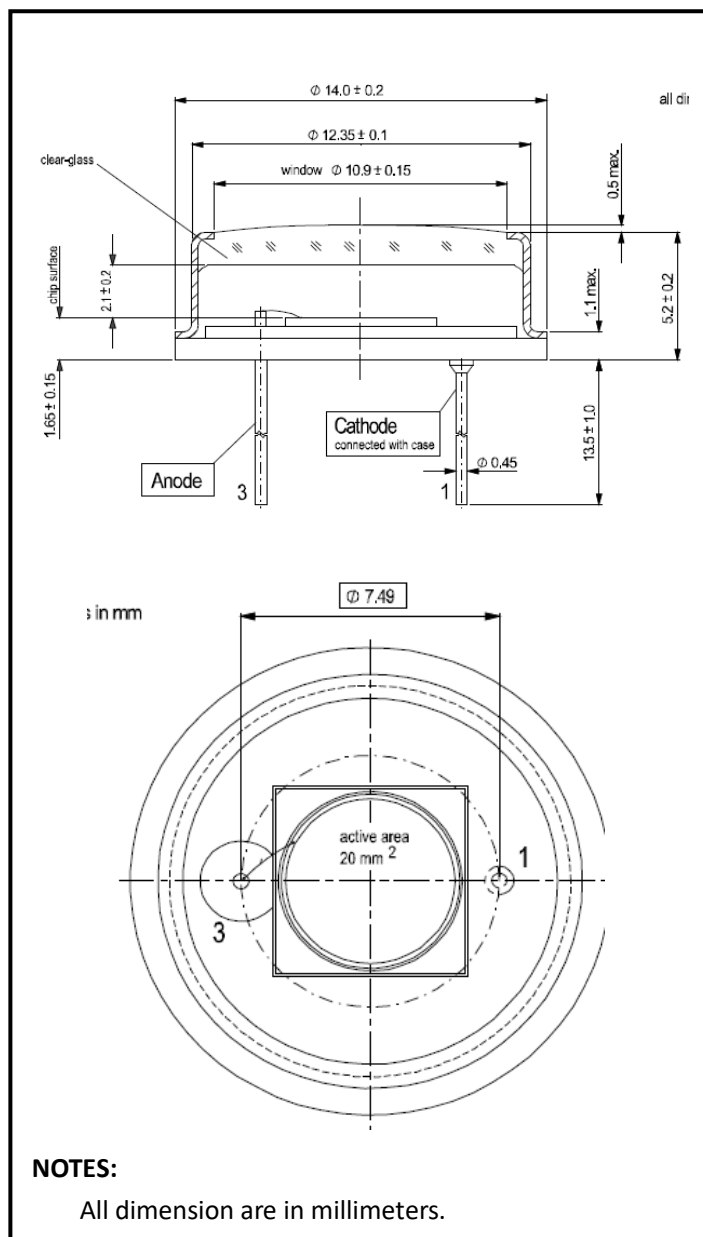
The OSD5-IT is high-output, high sensitivity silicon Photodiode mounted in TO-8 metal can package with flat K9 glass window , permits wide angular response.

### Features

- \* High speed response
- \* Wide angular response
- \* High reliability in demanding environments
- \* Operating temperature is from -40 to +80°C
- \* Storage temperature is from -40 to +100°C

### Applications

- \* Analytical instruments
- \* Precision photometry
- \* Fluorescence detector
- \* IR/ Laser light Monitoring
- \* Optical measurement equipment
- \* Medical equipment
- \* Spectrophotometry/CT scan



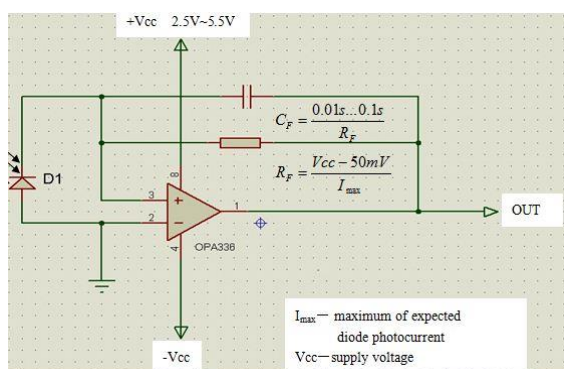
Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

## Absolute Maximum Ratings (Ta=25°C)

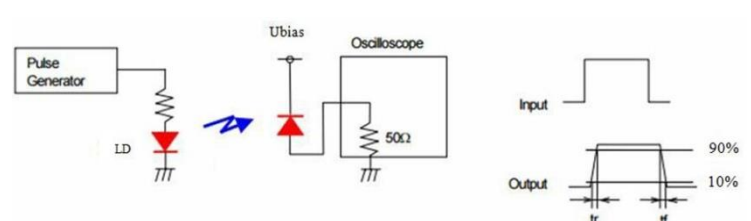
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	S		5.57*5.57			mm <sup>2</sup>
Active area	A		Φ5.05			mm <sup>2</sup>
Dark current	I <sub>D</sub>	V <sub>R</sub> =0V		0.09		nA
		V <sub>R</sub> =5V		0.048		
Rise time**	t <sub>R</sub>	V <sub>R</sub> =10V;λ=850nm;R <sub>L</sub> =50Ω,		25		ns
		V <sub>R</sub> =80V;λ=850nm;R <sub>L</sub> =50Ω,		6		
Temp coefficient of I <sub>D</sub>	T <sub>CID</sub>			0.18		times/°C
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =100μA Ev=0lx	30			V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V f=1MHz		411		pF
		V <sub>R</sub> =10V f=1MHz		35		
Photo sensitivity	S <sub>R</sub>	650nm		0.38		A/W
		940nm		0.64		
Spectral Application Range	λ <sub>range</sub>		400		1100	nm
Spectral Response-Peak	λ <sub>p</sub>			940		nm
Shunt resistance	R <sub>sh</sub>	V <sub>R</sub> =10mV		0.1		GΩ
Rsh Temperature Coefficient	TC R <sub>sh</sub>	Ev=100lx , V <sub>R</sub> =10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ <sub>1/2</sub>			±55		Degrees
Noise Equivalent Power	NEP	V <sub>R</sub> =10V ,λ=940nm		1.5×10 <sup>-14</sup>		W/Hz <sup>1/2</sup>
Specific Detectivity	D*	V <sub>R</sub> =10V ,λ=940nm		6.7×10 <sup>13</sup>		cm(Hz/W) <sup>1/2</sup>

\* Ev: Illuminance by CIE standard light source A (tungsten lamp)

### Typical application circuit



### \*\* Response time measurement Circuit:



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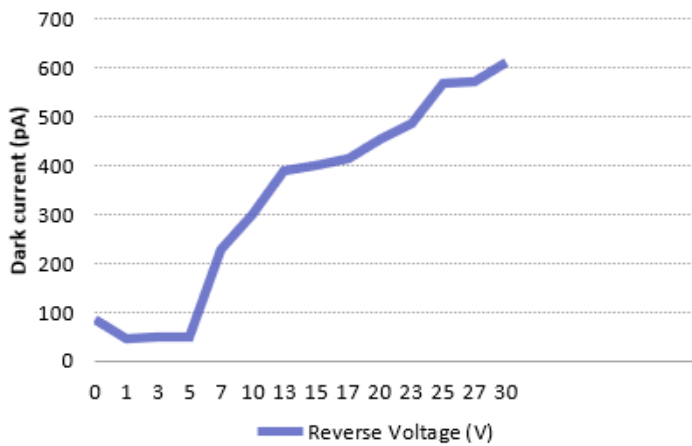
TEL:+86-21-54971821

FAX:+86-21-54971823

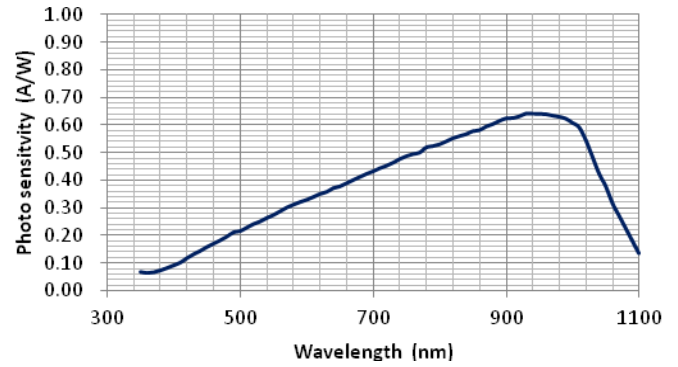
EMAIL: [otron.sensor@gmail.com](mailto:otron.sensor@gmail.com)

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

## ■ Dark current vs. reverse voltage

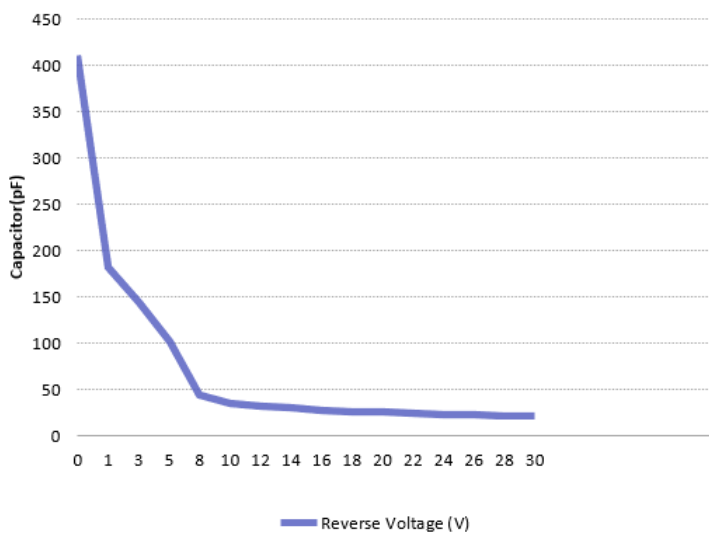


## ■ Spectral response

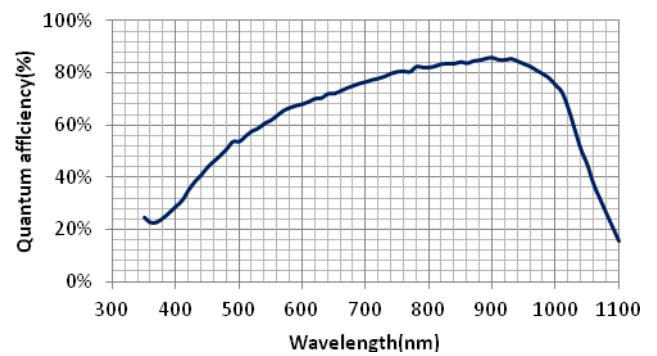


## ■ Relative Junction Capacitance

VS. Voltage



## ■ Quantum efficiency



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