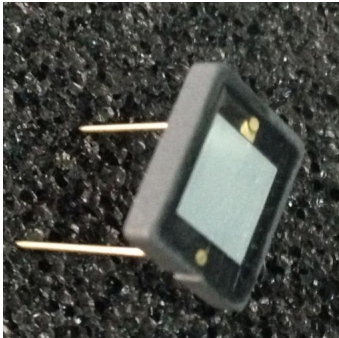


## Large active area Photodiode

### OSD36-YC



## Description

The OSD36-YC is high-output, high sensitivity silicon Photodiode mounted in ceramic stem package, With resin coating, permits wide angular response.

## Features

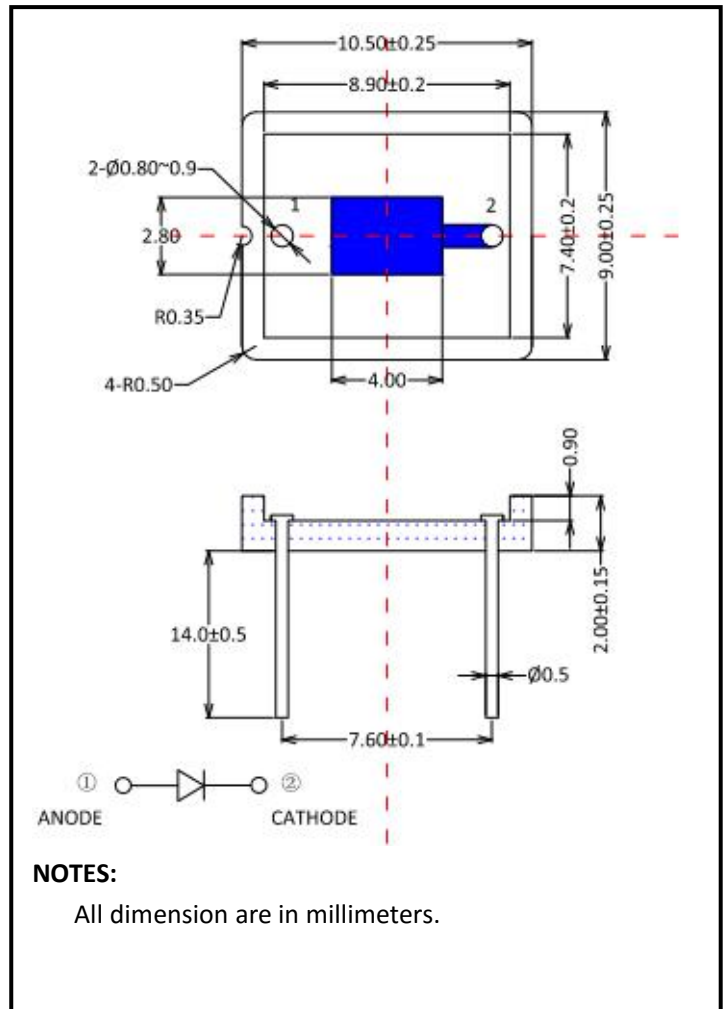
- \* High sensitivity, high speed response
- \* Wide angular response
- \* High reliability in demanding environments
- \* Operating temperature is from  $-40$  to  $+80^{\circ}\text{C}$
- \* Storage temperature is from  $-40$  to  $+100^{\circ}\text{C}$
- \* soldering temperature is  $260^{\circ}\text{C}$  @Max.5 seconds at the position of 2mm from the PIN legs.

## General Ratings

- \* Type Silicon Photodiode
- \* High linearity
- \* Low cost
- \* Low dark current

## Applications

- \* Optical switch
- \* YAG pulse Laser light Monitoring



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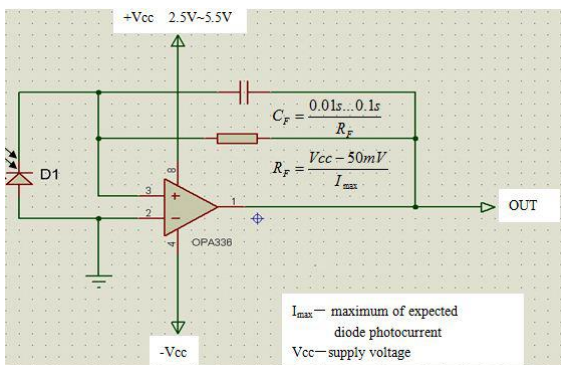
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## Absolute Maximum Ratings (Ta=25°C)

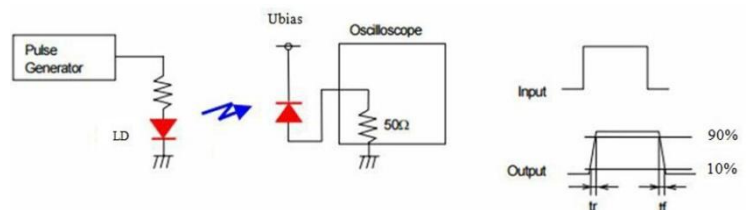
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size		6.0*6.0			mm
Active area	A		5.706*5.706			mm <sup>2</sup>
Dark current	I <sub>D</sub>	VR=10mV		80		pA
		VR=10V		760		
Rise time	t <sub>R**</sub>	V <sub>R</sub> =0V; λ=635nm; R <sub>L</sub> =50Ω, f=1kHz,		320		ns
		V <sub>R</sub> =5V; λ=635nm; R <sub>L</sub> =50Ω, f=1kHz		310		ns
		V <sub>R</sub> =10V; λ=635nm; R <sub>L</sub> =50Ω, f=1kHz		270		ns
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	50			V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V f=1MHz		286		pF
		V <sub>R</sub> =10V f=1MHz		57		
Photo sensitivity	S <sub>R</sub>	940nm		0.35		A/W
		1080nm		0.40		
Spectral Application Range	λ <sub>range</sub>		400		1100	nm
Spectral Response-Peak	λ <sub>p</sub>			1080		nm
Shunt resistance	R <sub>sh</sub>	VR=10mV		0.13		GΩ
Rsh Temperature Coefficient	TC Rsh			0.18		%/°C
Angular Resp 50% Resp Pt	θ <sub>1/2</sub>			±60		Degrees
Noise Equivalent Power	NEP	V <sub>R</sub> =10V λ=940nm		2.44×10 <sup>-14</sup>		W/Hz <sup>1/2</sup>
Specific Detectivity	D*	V <sub>R</sub> =10V λ=940nm		4.09×10 <sup>13</sup>		cm(Hz/W) <sup>1/2</sup>

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

### Typical application circuit

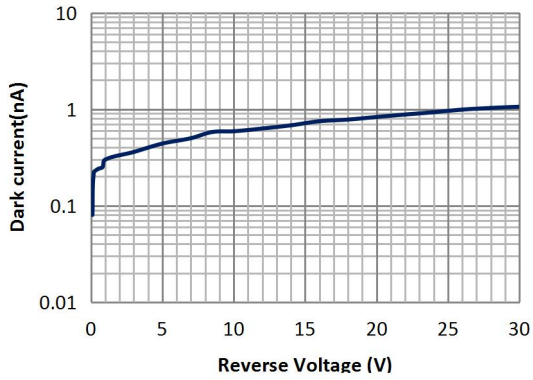


### \*\* Response time measurement Circuit:

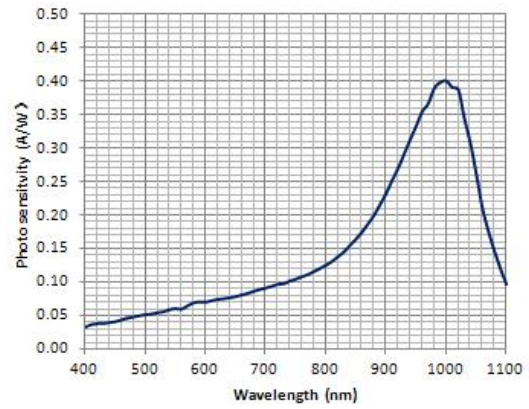


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## ■ Dark current vs. reverse voltage

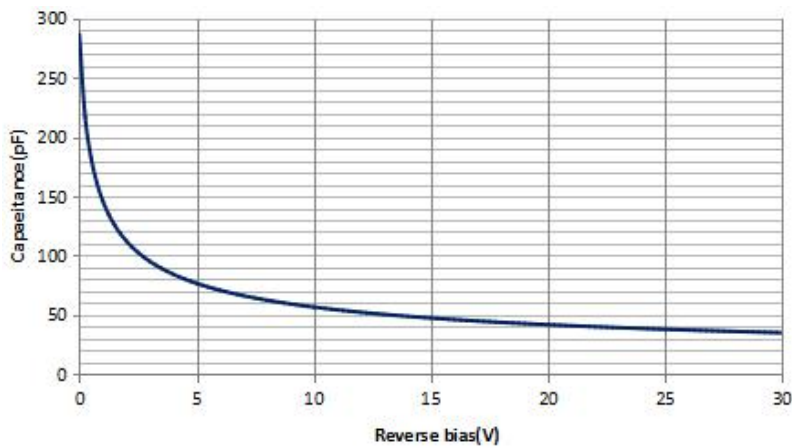


## ■ Spectral response



## ■ Relative Junction Capacitance

VS. Voltage



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