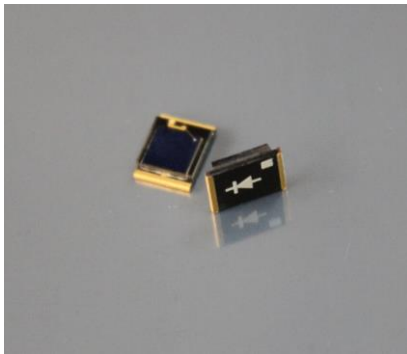


## Selective wavelength photodiode:blue



## Description

The OSD9-BM is device as blue light, narrow wavelength. Optical filter is applied photo diode in COB package, It can get fast response output of high-sensitivity, This Device is ideal for applications such as colorimeters, display color correction, and selectively ambient light detection or rejection.

## Features

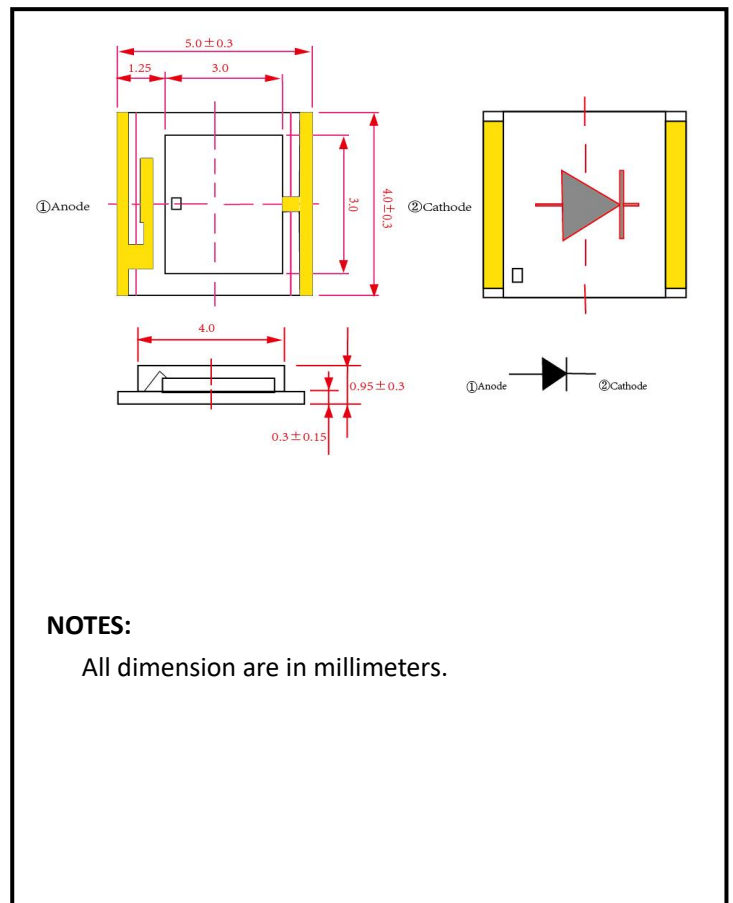
- \* color filter in blue chip
- \* high sensitivity
- \* no optical filter used
- \* Low dark current
- \* Operating temperature is from  $-40$  to  $+80^{\circ}\text{C}$
- \* Storage temperature is from  $-40$  to  $+100^{\circ}\text{C}$
- \* soldering temperature is  $260^{\circ}\text{C}$  @Max.5 seconds at the position of 2mm from the PIN leg.

## General Ratings

- \* peak wavelength: 440nm
- \* spectrum bandwidth 80nm
- \* Chip active area:  $9\text{mm}^2$
- \* High linearity

## Applications

- \* color identification
- \* white balance adjustment
- \* light source color temperature detection



### NOTES:

All dimension are in millimeters.

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Specifications are subject change without notice

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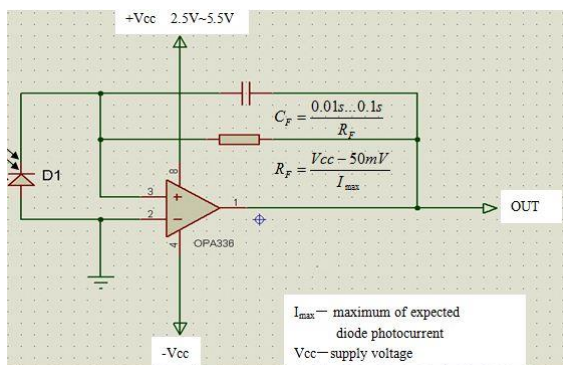
[Http://www.e-otron.com](http://www.e-otron.com)

## Absolute Maximum Ratings (Ta=25°C)

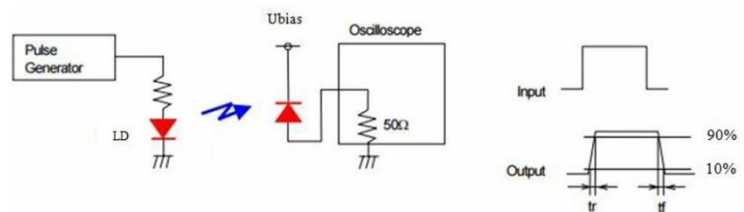
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Dark current	I <sub>D</sub>	V <sub>R</sub> =10mV		20		pA
		V <sub>R</sub> =10V		260		
Rise time	t <sub>R</sub>	V <sub>R</sub> =5V;λ=850nm;R <sub>L</sub> =50Ω		0.1	1	μs
Tempcoeffi-cient of I <sub>D</sub>	T <sub>CI</sub> D			0.18		times/°C
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =100μA E <sub>v</sub> =0lx		35		V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V f=1MHz		99		pF
Photo sensitivity	S <sub>R</sub>	440nm		0.19		A/W
Spectral Application Range	λ <sub>range</sub>		400		540	nm
Spectral Response-Peak	λ <sub>p</sub>			440		nm
Rsh Temperature Coefficient	TC Rsh			0.18		%/°C
Angular Resp 50% Resp Pt	θ <sub>1/2</sub>			±55		Degrees
Noise Equivalent n Power	NEP	V <sub>R</sub> =10V λ=900nm		4.80×10 <sup>-14</sup>		W/Hz <sup>1/2</sup>
Specific Detectivity	D*	V <sub>R</sub> =10V λ=900nm		4.17×10 <sup>12</sup>		cm(Hz/W) <sup>1/2</sup>

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

### ■ Typical application circuit

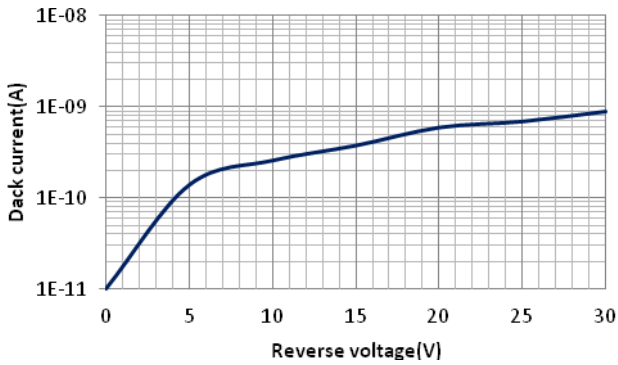


### \*\* Response time measurement circuit:

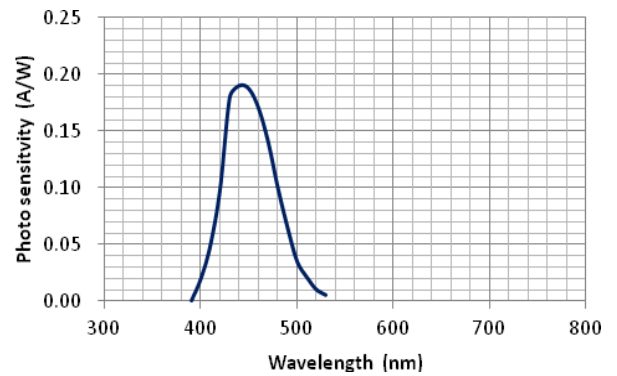


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## ■ Dark current vs. reverse voltage

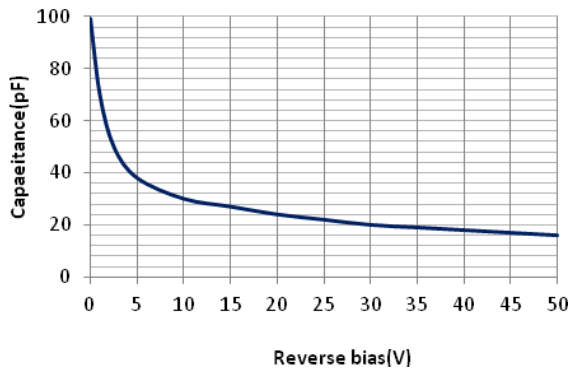


## ■ Spectral response

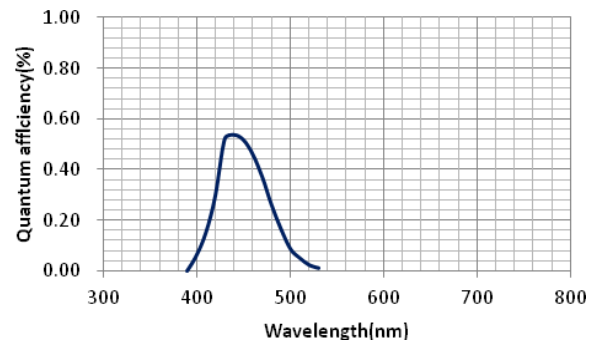


## ■ Relative Junction Capacitance

VS. Voltage



## ■ Quantum efficiency



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