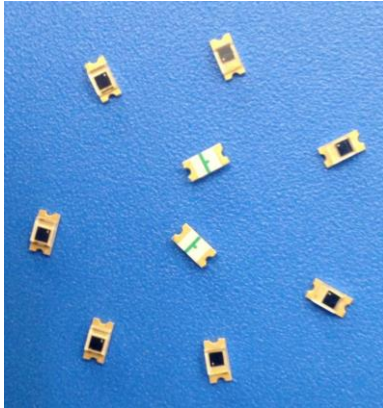


## HIGH SPEED PIN PHOTODIODE



### Description

OSD1-EM is human eye response high-output, high-speed Silicon photodiode which is mount in SMD3216 package.

The low dark current is good for high temperature app.

### Features

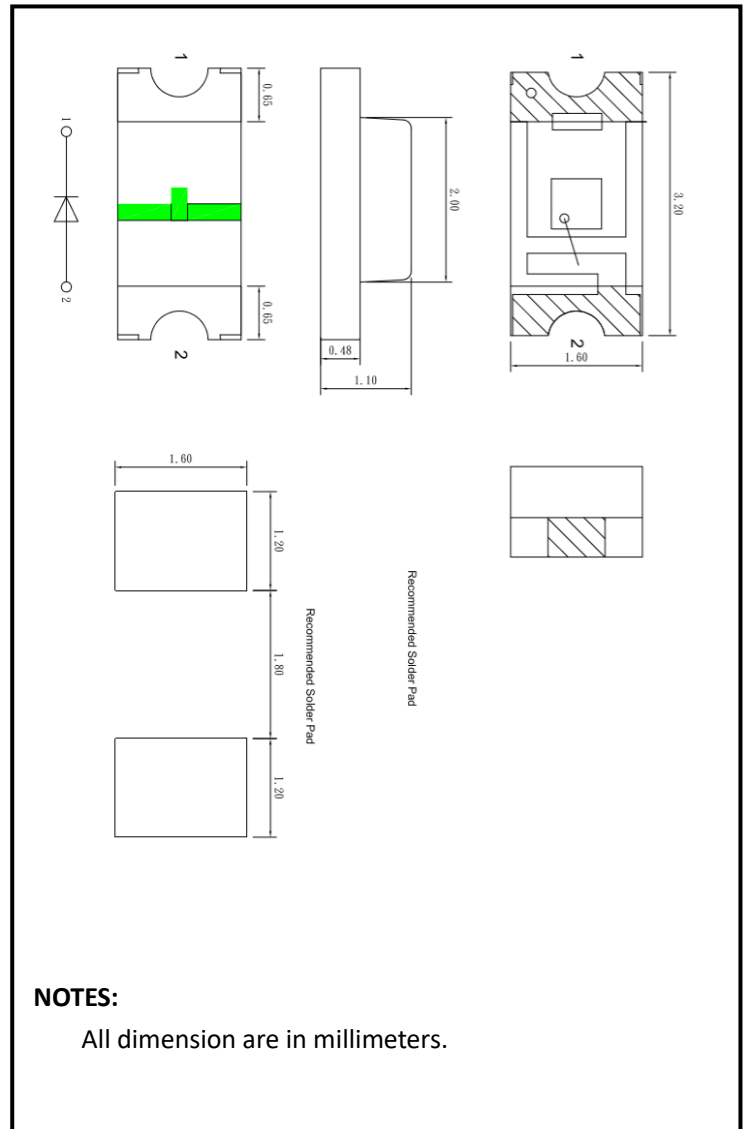
- \* Fast response time
- \* Low dark current
- \* Operating temperature is from -20 to +80°C
- \* Storage temperature is from -40 to +100°C
- \* Reflow solderable

### General Ratings

- \* High Uniformity
- \* High linearity

### Applications

- \*Luminometer
- \* LCD TV
- \*Wearable equipment



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			1.095*1.095		mm <sup>2</sup>
Active area	Dia			0.895*0.895		mm <sup>2</sup>
Short circuit Current	I <sub>sc</sub>	Ev=100lx fc=2856k*		35		μA
Isc Temperature Coefficient	TC I <sub>sc</sub>	2856k		1.1		%/°C
Open Circuit Voltage	V <sub>oc</sub>	Ev=100lx fc=2856k*		498		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I <sub>d</sub>	VR=5V		0.2		nA
		VR=20V		0.8	50	
Rise time	t <sub>r</sub>	VR=0V;λ=530nm;RL=50Ω		1450		ns
Temp coefficient of I <sub>d</sub>	T <sub>CI<sub>D</sub></sub>			0.18		times/°C
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =100μA Ev=0lx	60			V
Junction Capacitance	C <sub>J</sub>	VR=0V f=1MHz		13		pF
		VR=10V f=1MHz		5		
Photo sensitivity	S <sub>R</sub>	550nm		0.45		A/W
Spectral Application Range	λ <sub>range</sub>		350		700	nm
Spectral Response-Peak	λ <sub>p</sub>			550		nm
Angle of half sensitivity	∅			±60		deg
Shunt resistance	R <sub>sh</sub>	VR=10mV		0.33		GΩ
Rsh Temperature Coefficient	TC R <sub>sh</sub>	Ev=100lx , VR=10mV		0.18		%/°C

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

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OTRON ELECTRONIC TECHNOLOGY CO., LTD

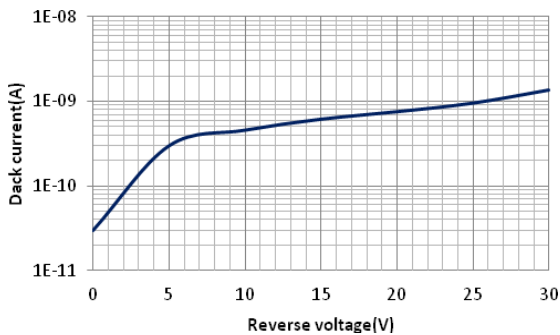
TEL:+86-21-54971821

FAX:+86-21-54971823

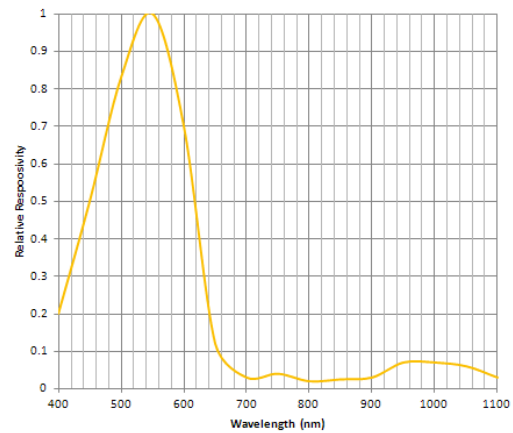
EMAL:frank.shuai@e-otron.com

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

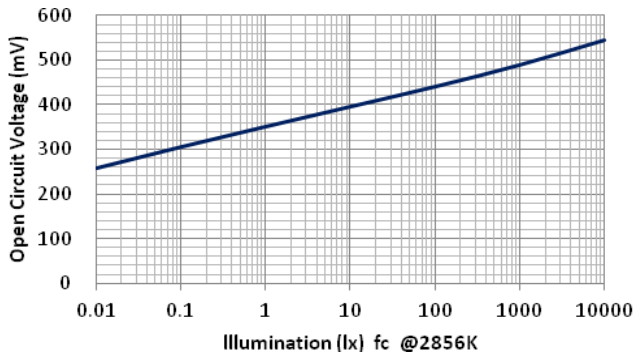
## ■ Dark current vs. reverse voltage



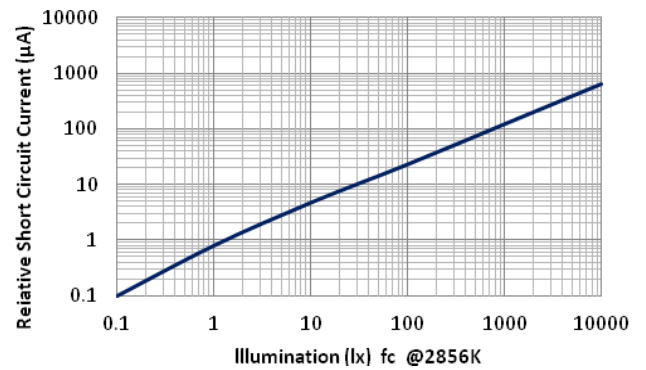
## ■ Spectral response



## ■ Open circuit Voltage vs Illumination

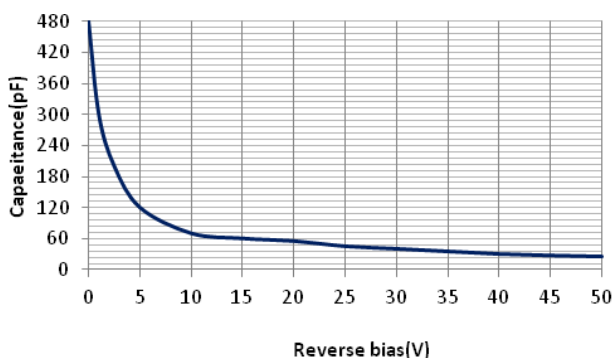


## ■ Relative Short Circuit vs Illumination



## ■ Relative Junction Capacitance

VS. Voltage



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