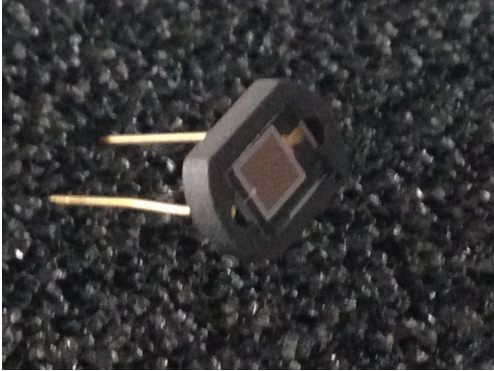


UV Enhanced Photodiode

OSD1133



Description

The OSD1133 is high-output, high sensitivity silicon UV Enhanced photodiode mounted in ceramic stem package with flat UV glass window permits wide angular response.

Features

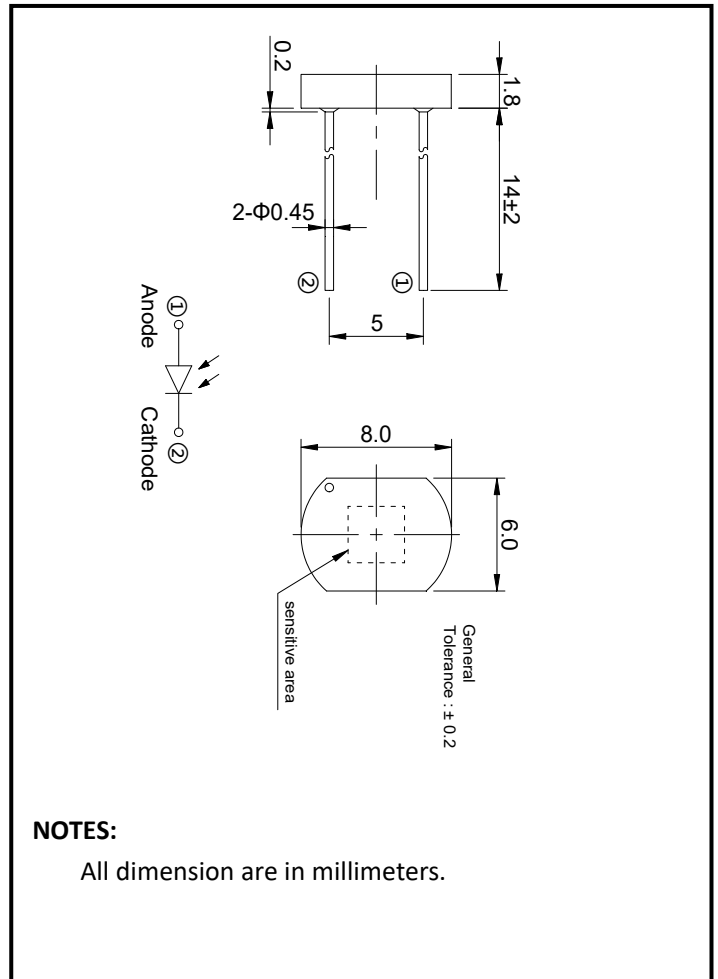
- * High speed response
- * Wide angular response
- * High reliability in demanding environments
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C
- * Soldering temperature is 260°C @Max.5 seconds at the position of 2mm from the PIN legs.

General Ratings

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

Applications

- * Analytical instruments
- * Precision photometry
- * Fluorescence analyzer
- * Pollution monitor
- * Water analyzer
- * Medical equipment
- * UV exposure meters



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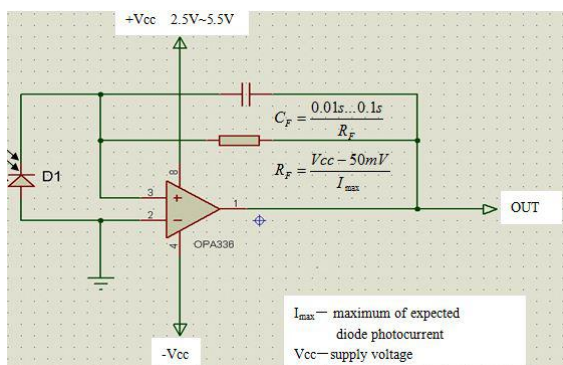
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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size		2.97*2.97			mm ²
Active area	A		2.47*2.47			mm ²
Short circuit Current	I _{sc}	Ev=100lx fc=2856k*		14		μA
Isc Temperature Coefficient	TC I _{sc}	2856k		1.1		%/°C
Open Circuit Voltage	V _{oc}	Ev=100lx fc=2856k*		360		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _D	VR=10mV		30		pA
		VR=10V		480		
Rise time	t _R	V _R =0V;λ=375nm;R _L =50Ω		120		ns
		V _R =10V;λ=375nm;R _L =50Ω		100		
Temp coefficient of I _D	T _{CID}			0.18		times/°C
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	33			V
Junction Capacitance	C _J	V _R =0V f=1MHz		118		pF
		V _R =10V f=1MHz		16		
Photo sensitivity	S _R	190nm		0.14		A/W
		940nm		0.51		
Spectral Application Range	λ _{range}		190		1100	nm
Spectral Response-Peak	λ _p			700		nm
Shunt resistance	R _{sh}	V _R =10mV		0.33		GΩ
Rsh Temperature Coefficient	TC R _{sh}	Ev=100lx , VR=10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±20		Degrees
Noise Equivalent Power	NEP	V _R =10V λ =980nm		1.94×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ =980nm		5.15×10 ¹³		cm(Hz/W) ^{1/2}

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

■ Typical application circuit



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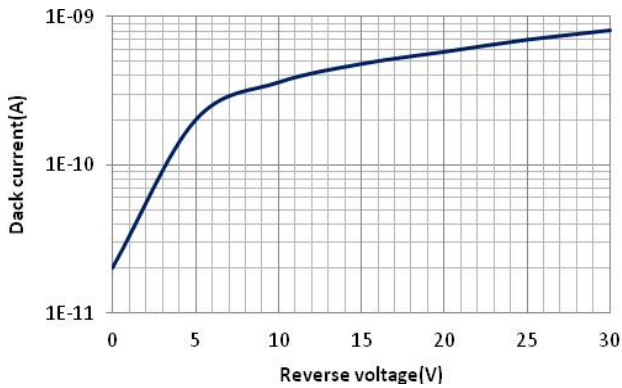
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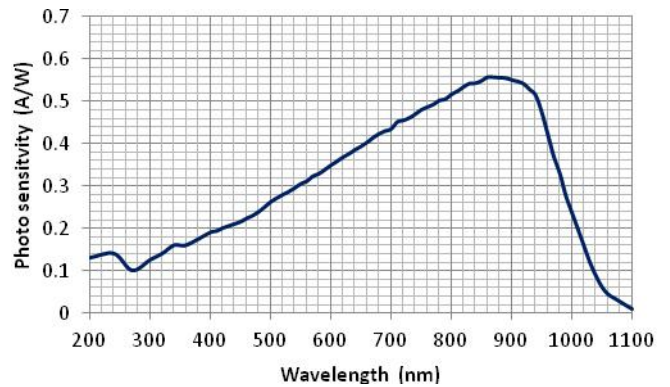
EMAL:frank.shuai@e-otron.com

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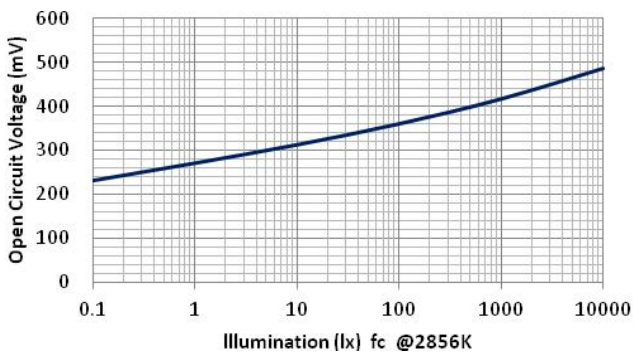
■ Dark current vs. reverse voltage



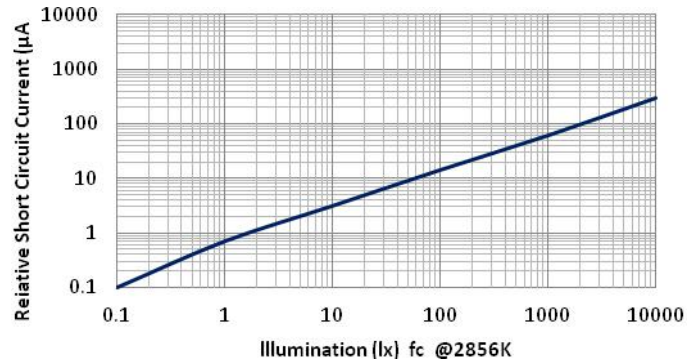
■ Spectral response



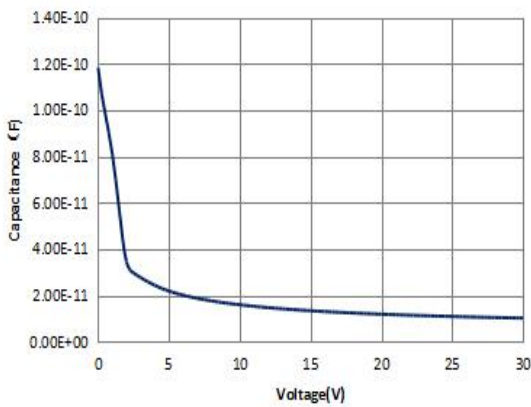
■ Open circuit Voltage vs Illumination



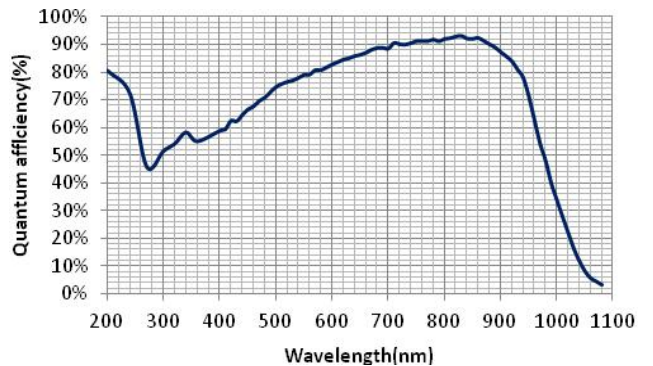
■ Relative Short Circuit Current vs. Illumination



■ Relative Junction Capacitance



■ Quantum efficiency



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