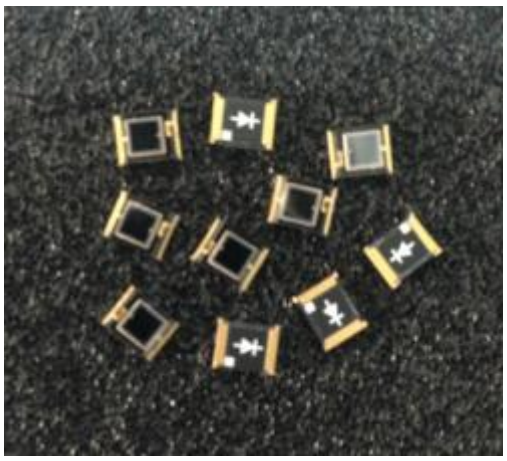
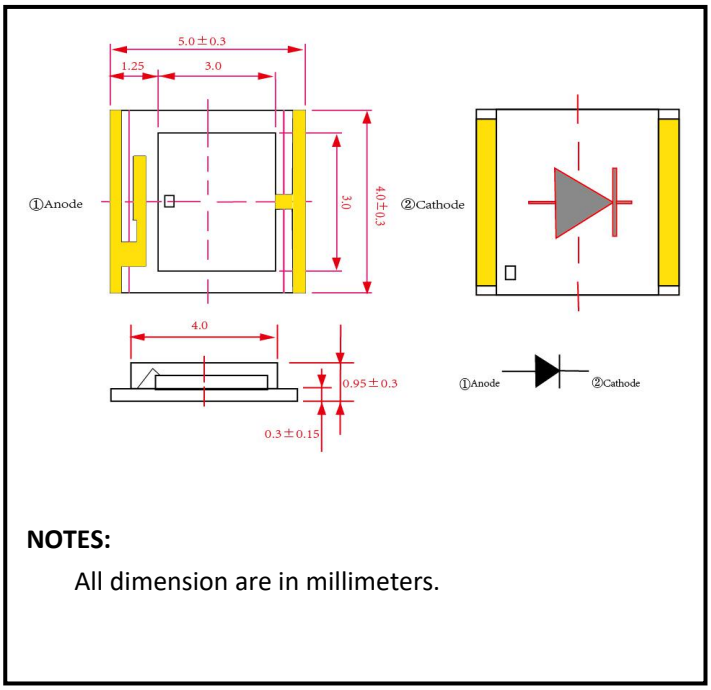
UV Enchanced Photodiode

OSD9-UM





NOTES:

All dimension are in millimeters.

Description

The OSD9-UM is high-output, high sensitivity silicon UV Enhanced photodiode mounted in BT board package Permits wide angular response.

Features

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

General Ratings

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

Applications

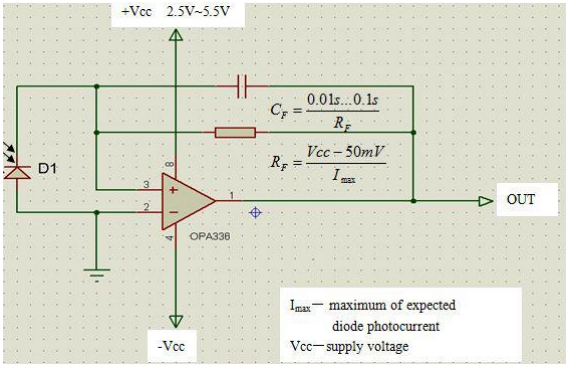
* Analytical instruments
* Water analyzer
* Precision photometry
* Medical equipment
* Fluorescence analyzer
* UV exposure meters
* Pollution monitor

Absolute Maximum Ratings (Ta=25℃)

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 Isc	2856k		1.1		%/℃
Open Circuit Voltage	Voc	Ev=100lx fc=2856k*		360		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/℃
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/℃
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		%/℃
Angular Resp 50% Resp Pt	$\theta_{1/2}$			±60		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}		$cm(Hz/W)^{1/2}$

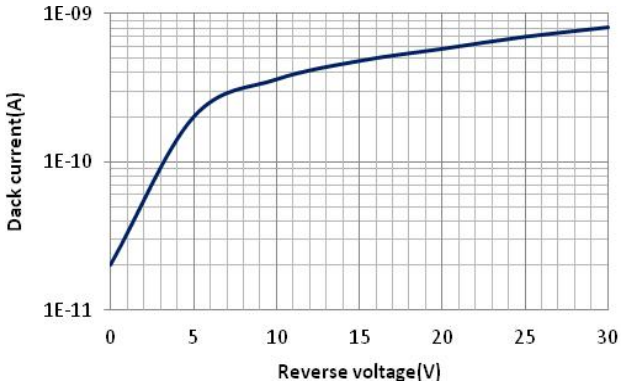
* Ev: Illuminance by CIE standard light source A (tungsten lamp)

■Typical application circuit

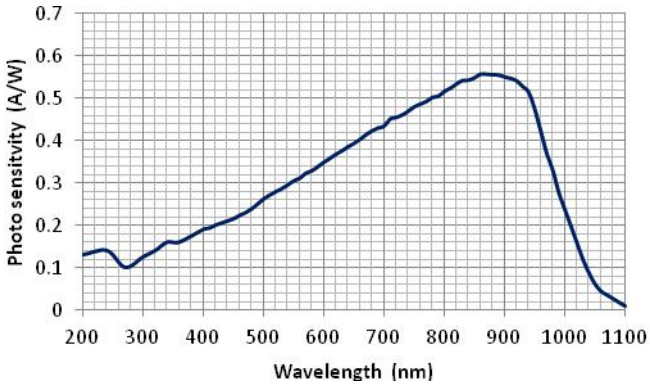


Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

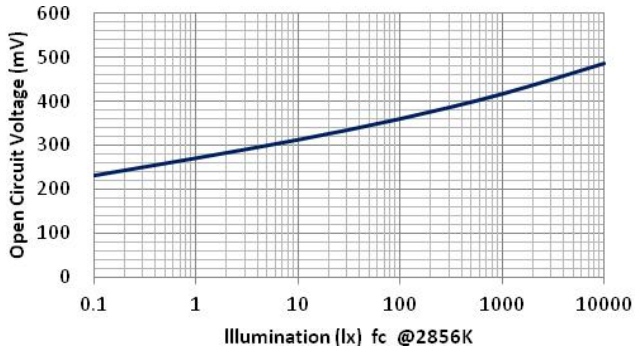
■Dark current vs. reverse voltage



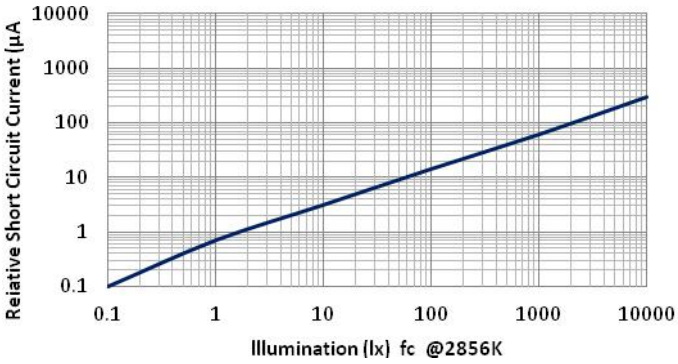
■ Spectral response



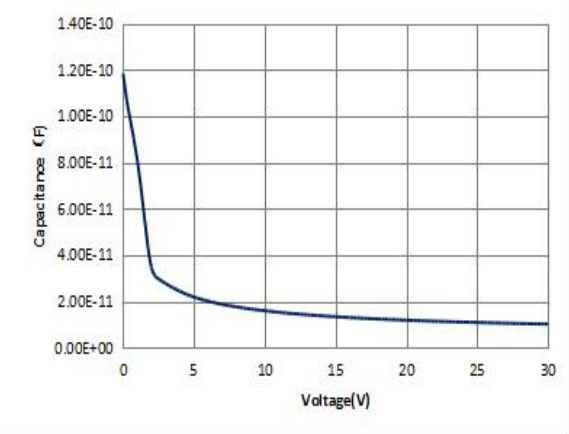
■Open circuit Voltage vs Illumination



■Relative Short Circuit Current vs. Illumination



■Relative Junction Capacitance



■Quantum efficiency