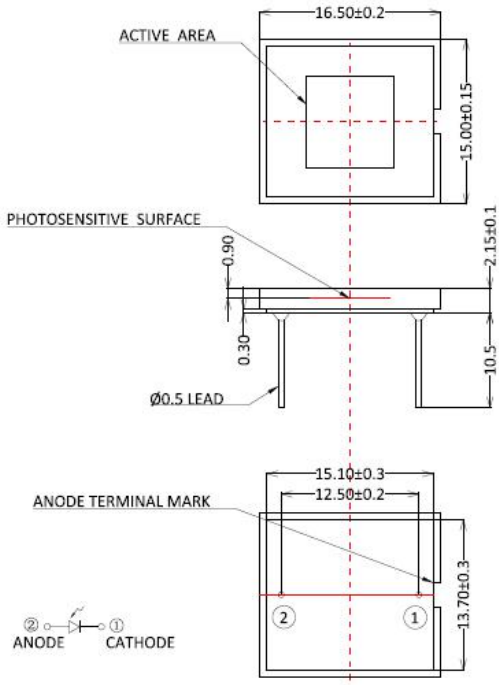
Large active area Photodiode

OSD100-YC



NOTES:

All dimension are in millimeters.

Description

The OSD100-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℃
* 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 Silicon Photodiode
* High linearity
* Low cost
* Low dark current

Applications

* Optical switch
* YAG pulse Laser light Monitoring

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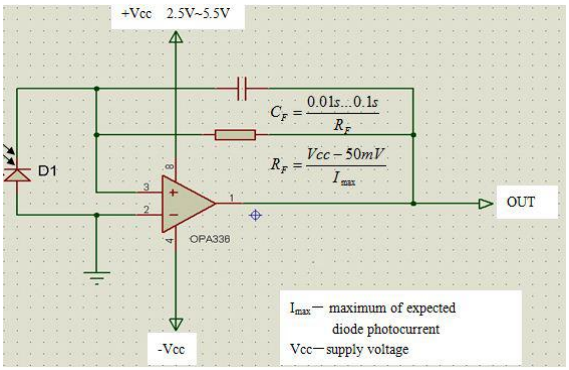
Absolute Maximum Ratings (Ta=25℃)

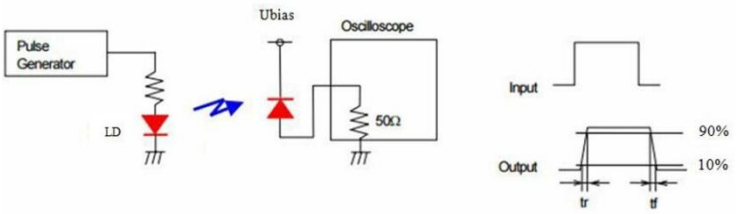
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size			10*10		mm
Active area	A			9.4*9.4		mm^2
Dark current	I_D	VR=10mV		80		pA
		VR=10V		760		
Rise time	t_{R**}	V_R=0V; λ=635nm;R_L=50Ω, f=1kHz，		320		ns
		V_R=5V; λ=635nm;R_L=50Ω, f=1kHz		310		ns
		V_R=10V; λ=635nm;R_L=50Ω, f=1kHz		270		ns
Temp coefficient of I_D	T_{CID}			0.18		times/℃
Reverse breakdown voltage	$V_{(BR)R}$	I_R=100μA Ev=0lx	50			V
Junction Capacitance	C_J	V_R=0V f=1MHz		725		pF
		V_R=10V f=1MHz		140		
Photo sensitivity	S_R	650nm		0.37		A/W
		940nm		0.66		
Spectral Application Range	λ_{range}		400		1100	nm
Spectral Response-Peak	λ_p			1080		nm
Shunt resistance	Rsh	VR=10mV		0.13		GΩ
Rsh Temperature Coefficient	TC Rsh			0.18		%/℃
Angular Resp 50% Resp Pt	$\theta_{1/2}$			±60		Degrees
Noise Equivalent Power	NEP	V_R =10V λ=940nm		2.44×10^{-14}		$W/Hz^{1/2}$
Specific Detectivity	D*	V_R =10V λ=940nm		4.09×10^{13}		$cm(Hz/W)^{1/2}$

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

■Typical application circuit



** Response time measurment Circuit:



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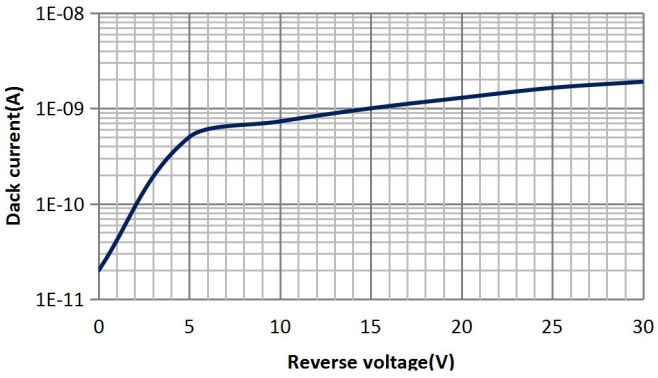
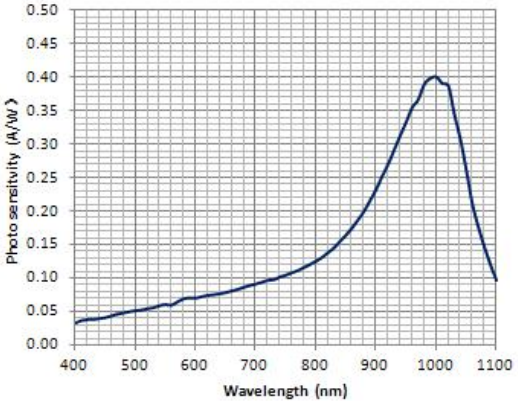
■Dark current vs. reverse voltage



■ Spectral response



■Relative Junction Capacitance VS. Voltage