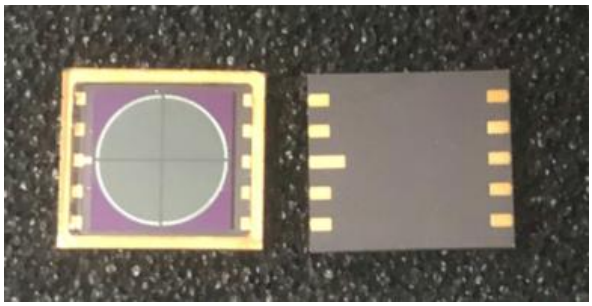
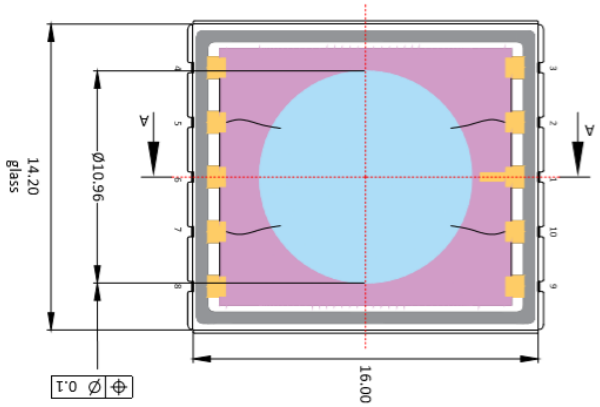
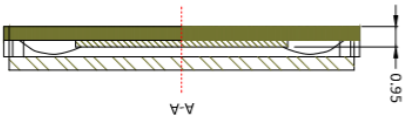
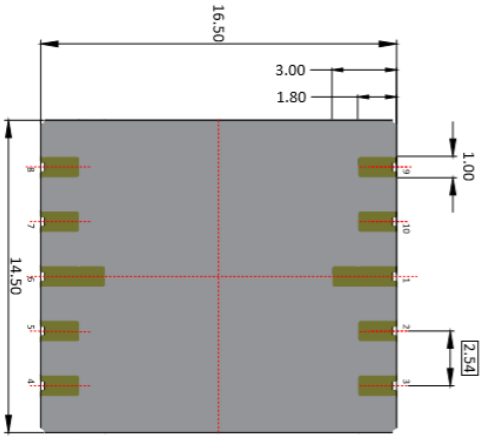
OSQ10-IM

SILICON QUADRANT PHOTODIODE

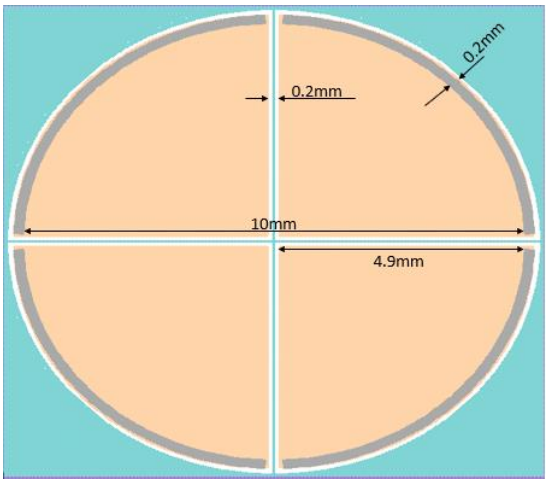








PIN2,5,7,10: Anode 1~4 PIN3: Cathode



Description

Φ10 mm active area , low Dark Current Quadrant Photodiode with P on N construction and 200um gaps. Packaged in a ceramic stem package with resin coating.

Features

* Φ10 mm active area
* Small gap (200um)
* Low dark current
* Operating temperature is from -40 to +80℃
* Storage temperature is from -40 to +100℃

General Ratings

* Type Silicon quadrant photodiode

Applications

* Laser beam position sensor
* Optical tweezers
* Solar tracking system
* Autocollimators
* Ellipsometers
* Laser beam axis alignment

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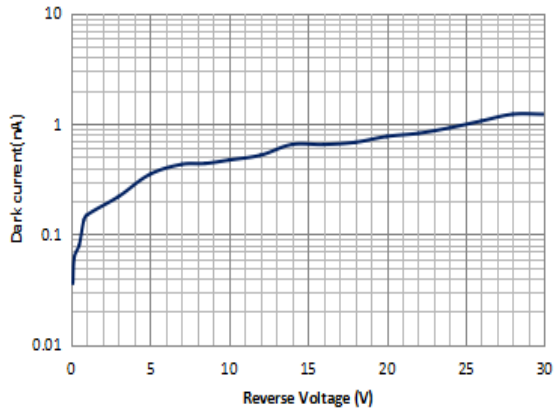
Absolute Maximum Ratings (Ta=25℃)

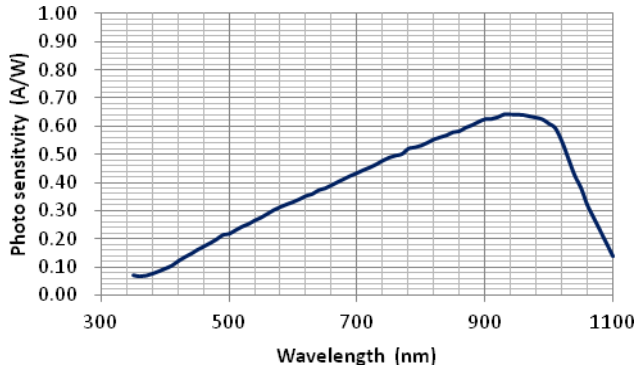
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Recommended Spot Size	Dia		Φ0.1		Φ5	mm
Damage Threshold cw				300		mw/cm²
Damage 10ns Pulse				1500		mj/cm²
Short circuit Current	I_{SC}	Ev=100lx fc=2856k*		90		μA
Isc Tempereture Coefficient	TC Isc	2856k		1.1		%/℃
Open Circuit Voitage	Voc	Ev=100lx fc=2856k*		349		mV
Voc Tempereture Coefficient	TC Voc	2856k		-2.2		mV/℃
Dark current	I_D	V_R=10mV		36		pA
		V_R=10V		470		
Rise time	t_R	V_R=15V; λ =850nm;R_L=50Ω		120		ns
Tempcoeffi-cient of I_D	T_{CID}			0.18		times/℃
Reverse breakdown voltage	$V_{(BR)R}$	I_R=100μA Ev=0lx	30			V
Junction Capacitance	C_J	V_R=0V f=1MHz		978		pF
		V_R=10V f=1MHz		237		
Cut-off frequency	f_{-3dB}	V_R=0V, R_L=50Ω		10		MHz
		V_R=10V, R_L=50Ω		4		
CrossTalk Channel-to-Channel		400-850nm，Adjacent Channel		0.1	0.5	%
		850-1100nm，Adjacent Channels		1	5	
Uniformity of each Element	%		0.8		2	%
Photo sensitivity	S_R	840nm		0.57		A/W
		940nm		0.64		
Spectral Application Range	$ë_{range}$		400		1100	nm
Spectral Response-Peak	$ë_p$			940		nm
Shunt resistance	Rsh	V_R=10mV		0.5		GΩ
Rsh Temperature Coefficient	TC Rsh			0.18		%/℃
Angular Resp 50% Resp Pt	$è_{1/2}$			±60		Degrees
Noise Equivalent Power	NEP	V_R =10V λ =940nm		1.75×10^{-14}		$W/Hz^{1/2}$
Specific Detectivity	D*	V_R =10V λ =940nm		3.43×10^{13}		$cm(Hz/W)^{1/2}$

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

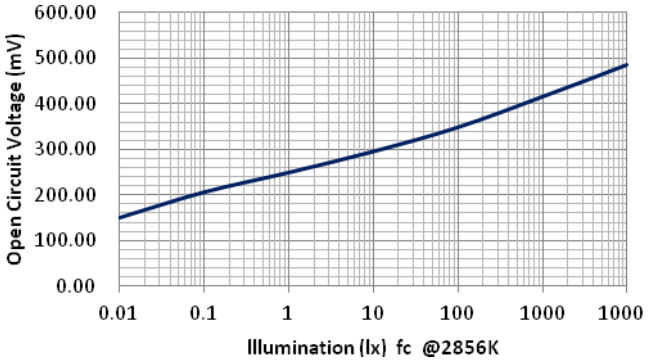
■Dark current vs. reverse voltage



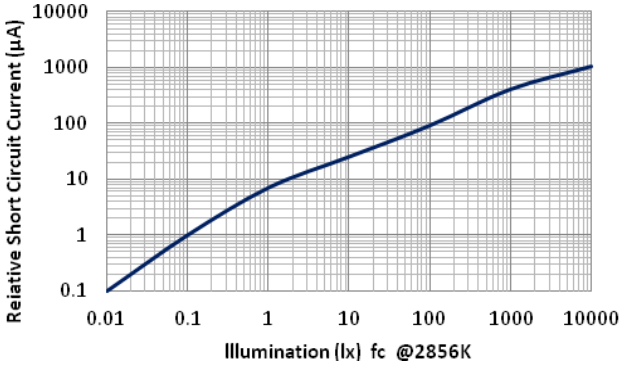
■ Spectral response



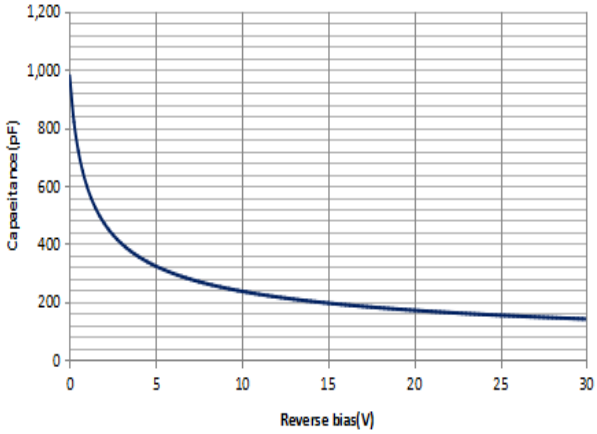
■Open circuit voltage vs Illumination



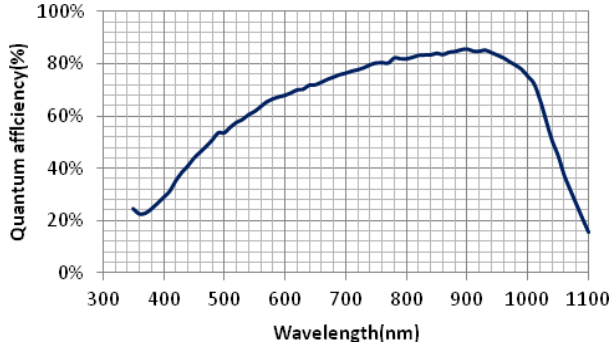
■Relative Short Circuit Current vs. Illumination



■Relative Junction Capacitance VS. Voltage



■Quantum efficiency



Inform e. However, no responsibility is assumed for possible inaccuracies or omission.

Specifications are subject change without notice