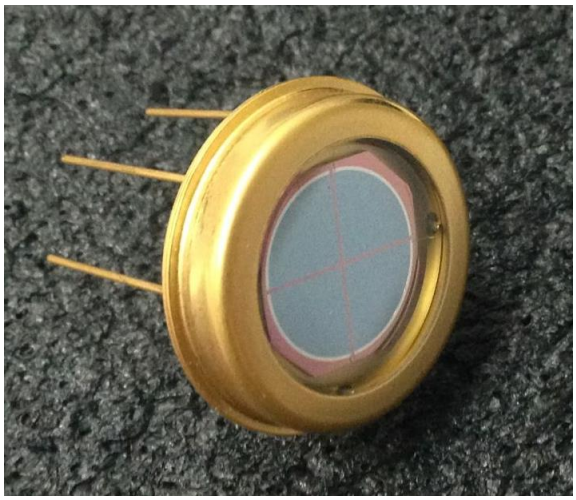
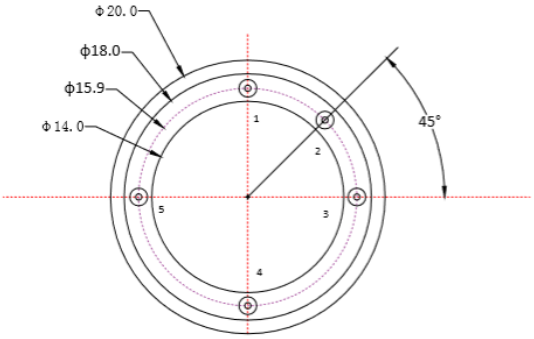
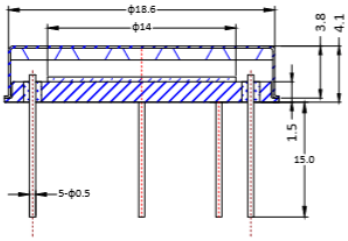
OSQ10-IT

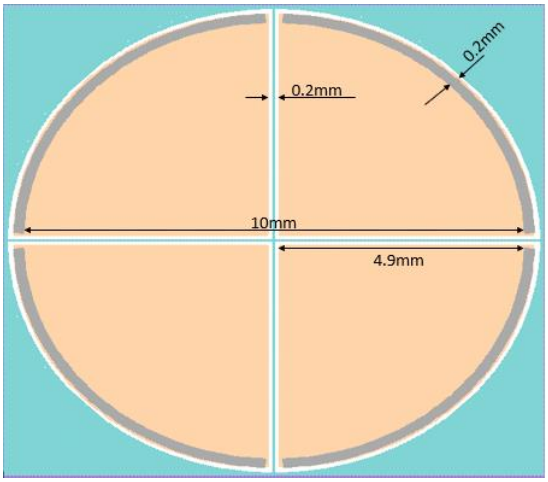
SILICON QUADRANT PHOTODIODE







PIN1，3，4，5：Anode 1~4,　PIN2:Common Cathode



NOTES:

1. All dimension are in millimeters.

Description

Φ10 mm active area , low dark current quadrant Photodiode with P on N construction and 200um gaps. This detector is optimized for high response at 1060nm, And low capacitance, high speed.

Features

* Φ10 mm active area
* Small gap (200um)
* Low dark curren， high speed.
* 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 quadrant photodiode

Applications

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

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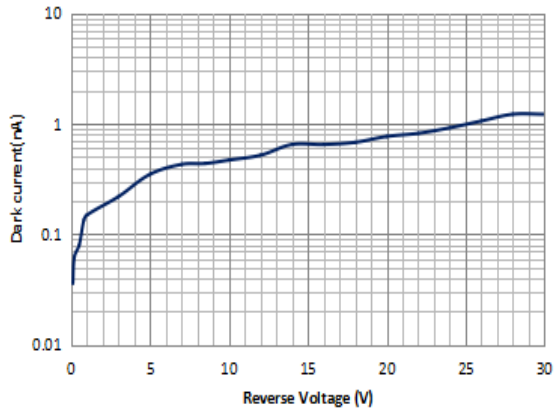
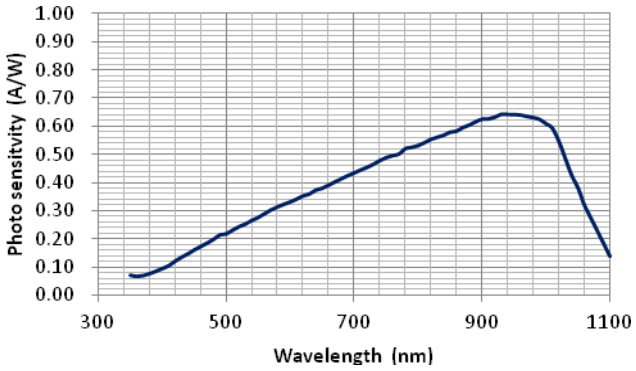
Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Number of elements				4		
Active area (per element)				25		mm^2
Gap		Between elements		200		um
Spectral range			400		1100	μA
Photo sensitivity	S_R	940nm		0.60		A/W
		1064nm	0.28			
Dark current	I_D	V_R=10mV		36		nA
		V_R=50V		10	30	
Rise time	t_R	V_R=50V; λ=1064nm;R_L=50Ω		10		ns
Tempcoeffi-cient of I_D	T_{CID}			0.18		times/℃
Operating voltage	V_{op}		0		150	V
Reverse breakdown voltage	$V_{(BR)R}$	I_R=2μA Ev=0lx	200			V
Junction Capacitance	C_J	V_R=0V f=1MHz		90		pF
		V_R=50V f=1MHz			40	
		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	%
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^{-13}		$W/Hz^{1/2}$
Specific Detectivity	D*	V_R =10V λ=940nm		3.43×10^{13}		$cm(Hz/W)^{1/2}$

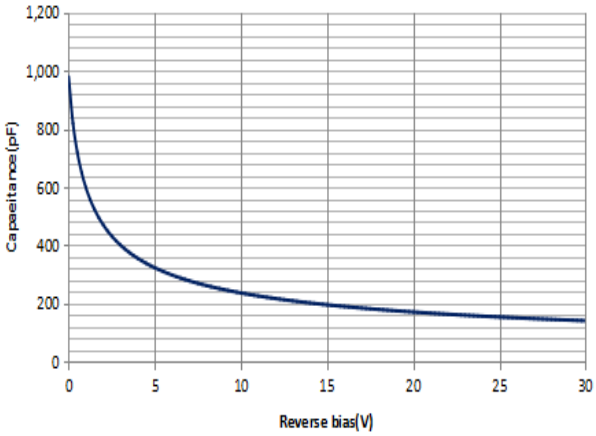
■Dark current vs. reverse voltage



■ Spectral response



■Relative Junction Capacitance vs Voltage



■Quantum efficiency