

SILICON QUADRANT PHOTODIODE



Description

Φ3.57mm active area, low dark current quadrant photodiode
With P on N construction and 28μm gaps.

Features

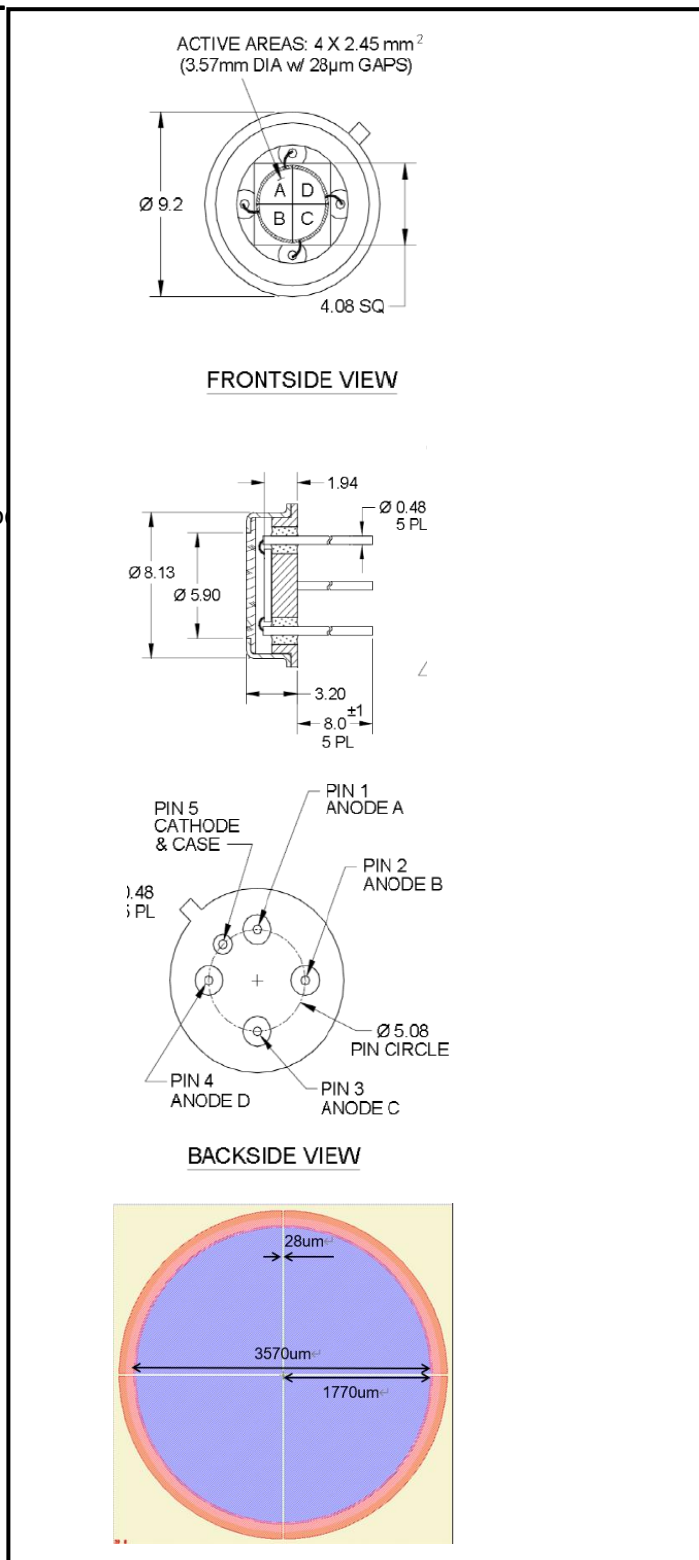
- * Small gap (28μm)
- * Low dark current
- * High resolution
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C
- * Soldering temperature is 260°C @Max.5 seconds at the position of 2mm from the PIN legs.

General Ratings

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

Applications

- * Laser beam position sensor
- * Autocollimators
- * Optical tweezers
- * Ellipsometers



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

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Number of elements				4		
Active area (diamater)				Φ3.57		mm
Gap		Between elements		28		um
Spectral range			400		1100	μA
Photo sensitivity	S _R	940nm		0.60		A/W
		635nm		0.40		
Dark current	I _D	V _R =10mV		0.01		nA
		V _R =10V		0.26	2	
Rise time	t _R	V _R =10V; λ =850m;R _L =50Ω		20		ns
Tempcoeffi-cient of I _D	T _{CI_D}			0.18		times/°C
Operating voltage	V _{OP}		0		50	V
Reverse breakdown voltage	V _{(BR)R}	I _R =2μA Ev=0lx	20	50		V
Junction Capacitance	C _J	V _R =0V f=1MHz		161		pF
		V _R =10V f=1MHz		7		
		V _R =50V, R _L =50Ω		2		
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	R _{sh}	V _R =5mV		250		MΩ
Rsh Temperature Coefficient	TC Rsh			0.18		%/°C
Angular Resp 50% Resp Pt	ε _{1/2}			±60		Degrees
Noise Equivalent Power	NEP	V _R =10V λ =940nm		1.8×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ =940nm		5.6×10 ¹³		cm(Hz/W) ^{1/2}

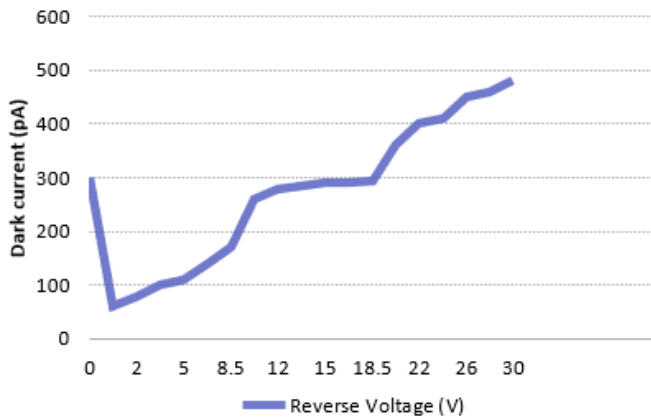
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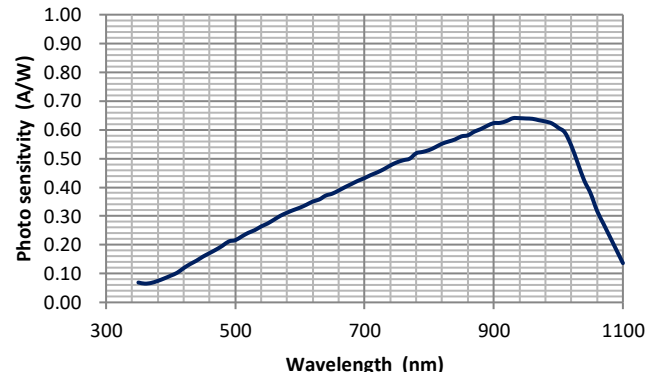
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■ Dark current vs. reverse voltage

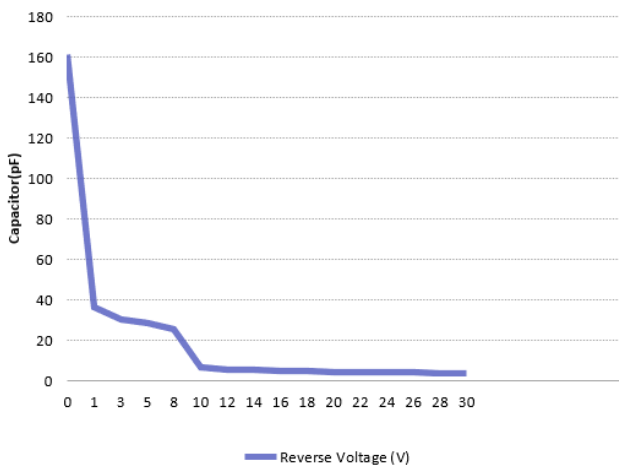


■ Spectral response



■ Relative Junction Capacitance

VS. Voltage



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