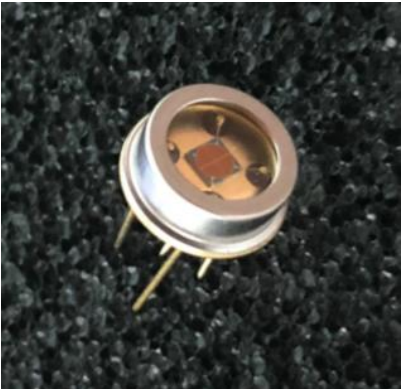


## InGaAs QUADRANT PHOTODIODE



### Description

2mm diameter Low Dark Current InGaAs Quadrant Photodiode with P on N construction and 32um gaps. Packaged in a TO-5 with a hermetic ultra flat fused silicon glass window cap.

### Features

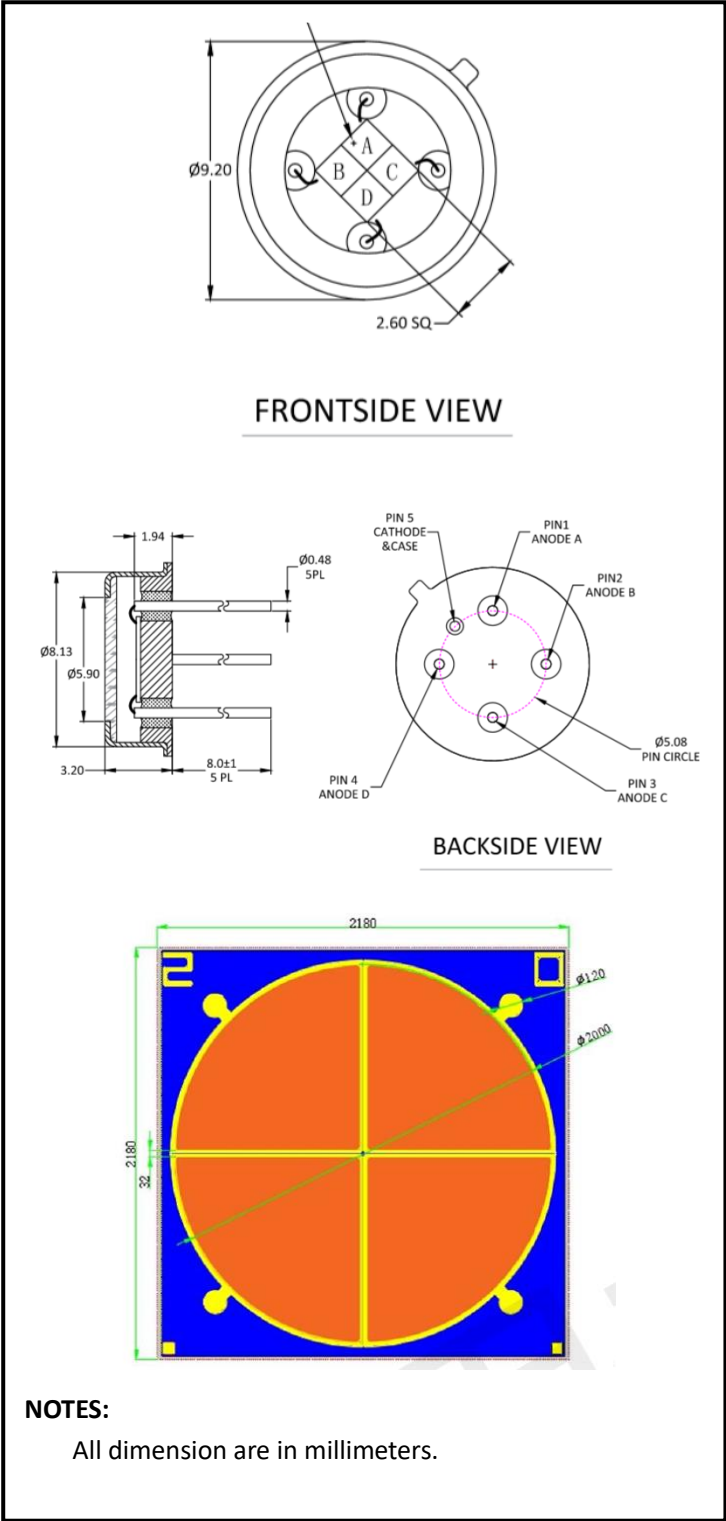
- \* 2mm diameter active area
- \* Small gap
- \* Low dark current
- \* Low crosstalk

### General Ratings

- \* High linearity
- \* High reliability

### Applications

- \* Laser beam position sensor
- \* Laser guidance
- \* Optical tweezers
- \* Minuteness process controller



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



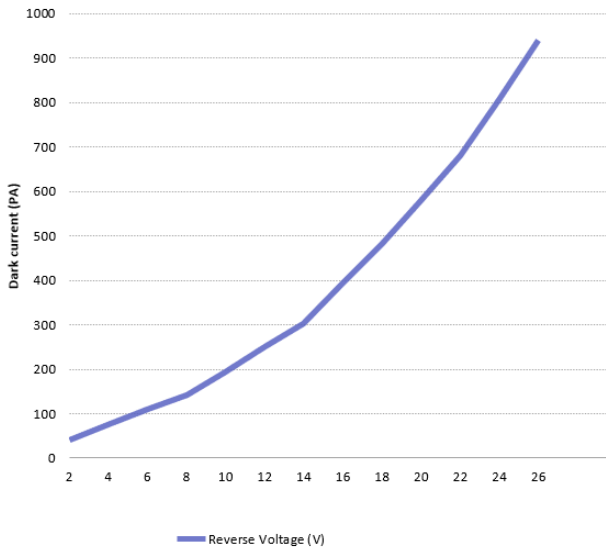
## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Dia.			Φ2		mm
Gap	d	element to element		32		um
Dark current	I <sub>D</sub>	V <sub>R</sub> =1V		0.03		nA
Rise time	t <sub>R</sub>	f=1MHz; λ=1550nm; V <sub>R</sub> =5V, R <sub>L</sub> =50Ω		5		ns
Temp coefficient of I <sub>D</sub>	T <sub>CID</sub>	V <sub>R</sub> =5V		1.2		times/°C
Reverse breakdown voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =10μA Ev=0lx	20			V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V f=10kHz		548		pf
		V <sub>R</sub> =10V f=10kHz		31		Pf
Cross talk Channel- to -Channel		850-1700nm, Adjacent Channels, V <sub>R</sub> =5V	2		5	%
Uniformity of each Element	δ <sub>Re</sub>	V <sub>R</sub> =5V, λ =1500nm, φ e=10μW			2	%
Linearly	∠Re	λ =1500nm, V <sub>R</sub> =5V, Pin: 0.01~10mW	-5		+5	%
Saturation power	L	V <sub>R</sub> =5V,			10	mw
Photo sensitivity	S <sub>R</sub>	1310nm		0.9		A/W
		1550nm		0.95		
Spectral Application Range	λ <sub>range</sub>		800		1700	nm
Spectral Response-Peak	λ <sub>p</sub>			1300		nm
Shunt resistance	R <sub>sh</sub>	V <sub>R</sub> =10mV		25		MΩ
Rsh Temperature Coefficient	TC R <sub>sh</sub>	V <sub>R</sub> =10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ <sub>1/2</sub>			±25		Degrees

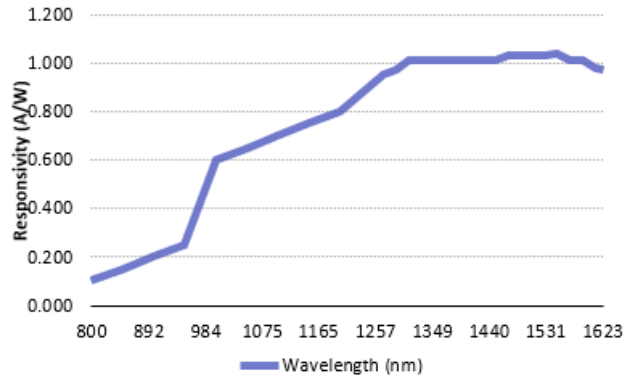
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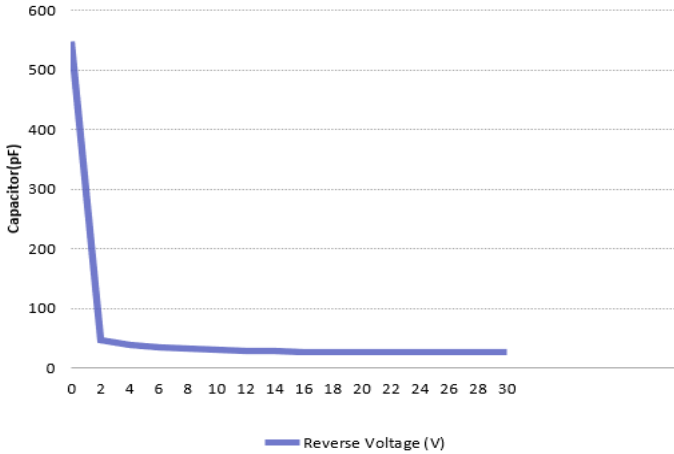
## ■ Dark current vs. reverse voltage



## ■ Spectral response



## ■ Relative Junction Capacitance VS. Voltage



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