FOG Photonics,inc

One Idealphotonics Technology Company

PART NUMBER :QPD-3000I
PRICE:1500USD/EA
LEAD TIME:IN STORE

QPD-3000I InGaAs Quadrant PIN Detector

DESCRIPTION

InGaAs Quadrant PIN Detector, high sensitivity photo-diode for use in infrared instrumentation and sensing applications. High spectral response in the region 800 nm to 1700 nm. Large photosensitive area is 3mmX4 in diameter. Planar-passivated device structure.

FEATURES

Top illumination planar PD
Narrow Element gap,
Low Crosstalk,High reliability
Good Reponsivity homogeneity of each Quadrant

Application

Laser guidance、
Laser positioning、
Laser navigation、
Laser range finder.

ABSOLUTE MAXIMUM RATINGS (T=25°C)

Operating voltage	15V	Operating temperature	-50~+100℃	Power dissipation	100mW
Forward current	10mA	storage temperature	-55~+125℃	Soldering temperature(time)	260℃（10s）

OPTICAL AND ELECTRICAL CHARACTERISTICS (T=25°C)

Parameters	Sym	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	1000~1700			nm
Active diameter	φ	—	3000X4			μm
Element Gap		—	32			μm
Reponsivity	Re	VR=9V,λ=1.55μm,φe=10μW	0.9			A/W
		VR=9V,λ=0.90μm，φe=10μW	0.3			
Max linear power	Φs	VR =9V, RL=50Ω	10			mW
Crosstalk	S_L	VR =9V			2%	
Response time	ts	VR=9V， RL=50Ω		1.0	2.0	ns
Dark current	ID	VR=9V			5.0	nA
Reverse breakdown voltage	VBR	IR=10μA	30			V
-3dB bandwidth	BW	VR=9V,λ=1.55μm，RL=50Ω	100			MHZ
Time On	Ton	VR=9V,λ=1.55μm，RL=50Ω			5	ns
Time Off	T_{off}	VR=9V,λ=1.55μm，RL=50Ω			5	ns
Operating voltage temperature coefficient	δ	Tc=-40～+85°C		0.10	0.15	V/°C
Shunt impedance	Rsh	VR=10mV	75			MΩ
Ununiformity among quadrants	δRe’	VR=9V,λ=1.55μm,φe=10μW			2%	
Ununiformity in quadrant	δRe	VR=9V,λ=1.55μm,φe=10μW			2%	

TYPICAL CHARACTERISTICS

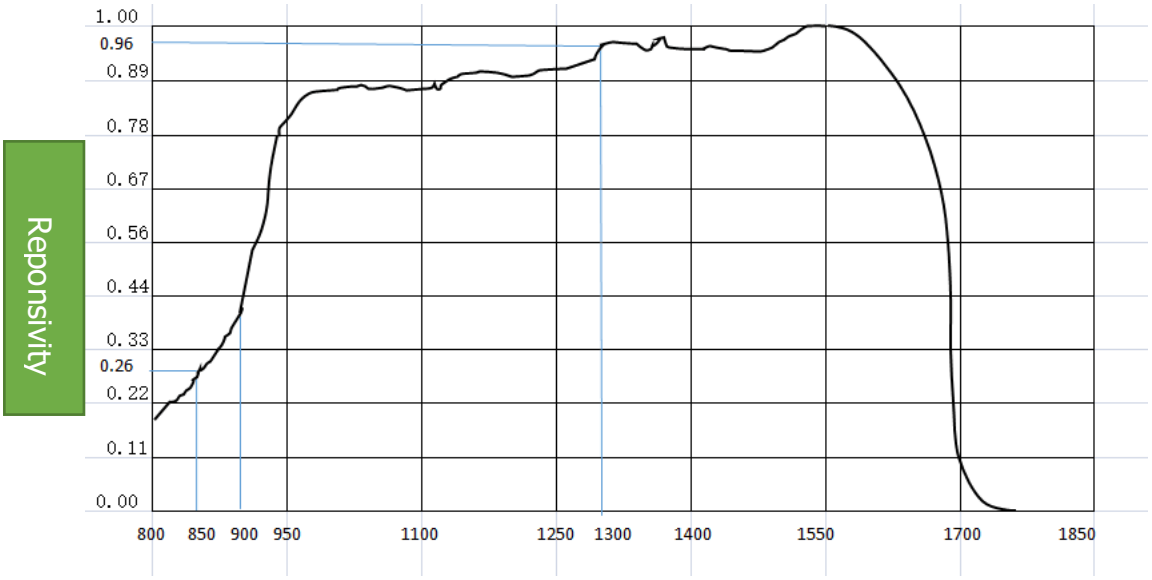
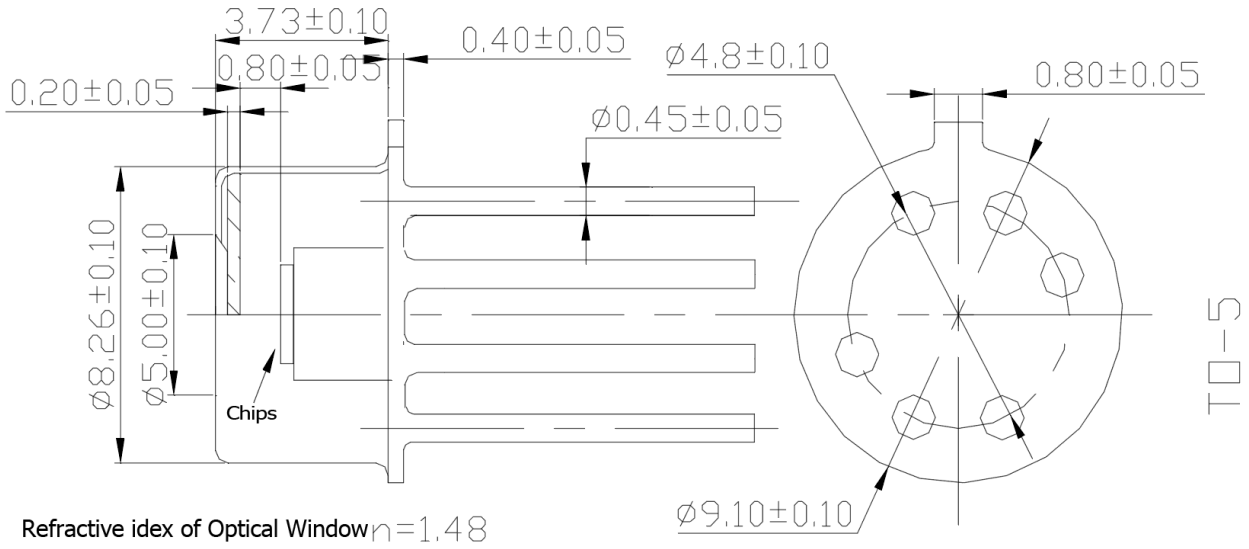


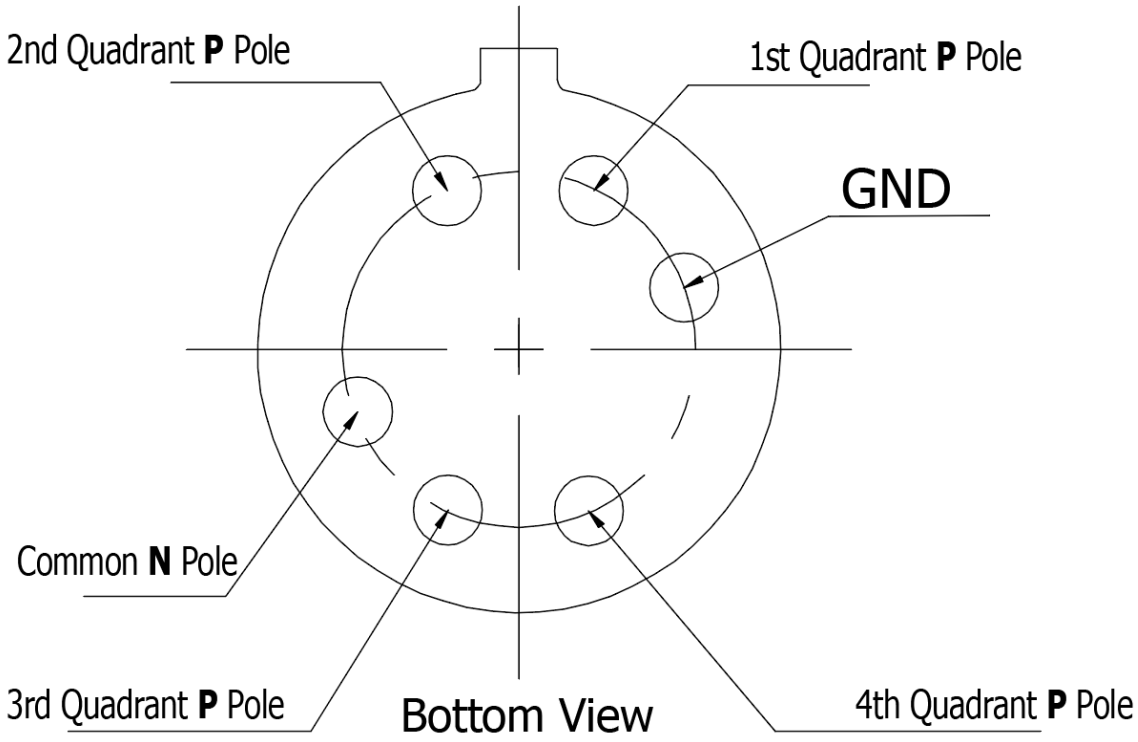
Fig. 1 Wavelength vs. Reponsivity

DIMENSIONAL OUTLINE

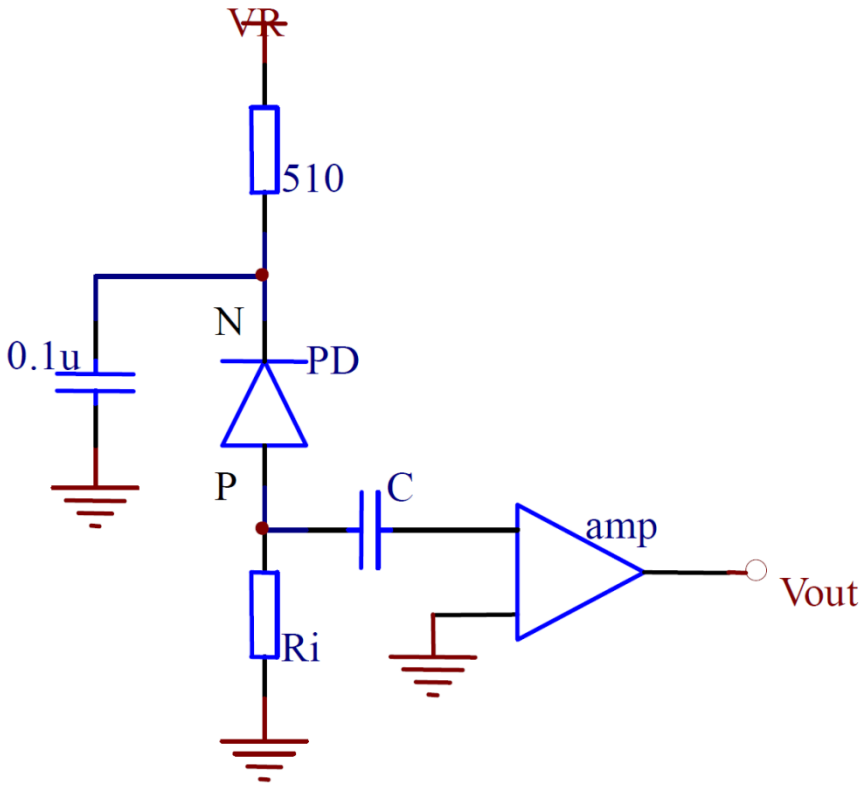


Refractive idex of Optical Window $n=1.48$

41*



Electric circuit



The package and lead

— This detector need feedback of voltage temperature when operating.

—The suitable ESD protecting mersures are recommend in storage,transporting and using.

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