1mm InGaAs Quadrant APD Detector TO39 Package



Description

PL-1700-IGA-QD1-TO InGaAs Quadrant APD Detector, high sensitivity photo-diode for use in infrared instrumentation and sensing applications. High spectral response in the region 800 nm to 1700 nm. The photosensitive area is 1mm 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

Specifications

Electrical/Optical Characteristics (Tsub=25°C, CW bias unless stated otherwise)

Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	V=39.5V		1000~1700		nm
Active diameter	φ	-		1		mm
Element gap	d			100		um
Max Multiplication Gain	M			20		

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Reponsivity	Re	λ=1.55μm,M=10,Pin =10μw	9	9.5		A/W
Reverse breakdown voltage	VBR	IR =100μA	40		60	V
Response Time	Rt	f=1MHZ,RL=50Ω		1.5	3.0	ns
Operation Voltage Temp Coefficient	Tc	Tc=-40~+85℃		0.1	0.15	V/℃
Dark current	ID	M=10		25	100	nA
Total capacitance	C	f=1MHZ,M=10		10	15	pF
Crosstalk	SL	M=10			10	%

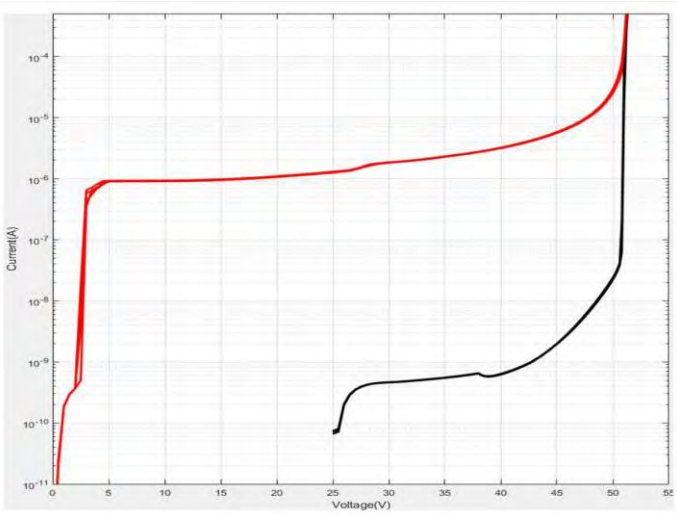
Note: This Detector requires a feedback of Voltage Temperature when Operating.

Typical characteristical curve

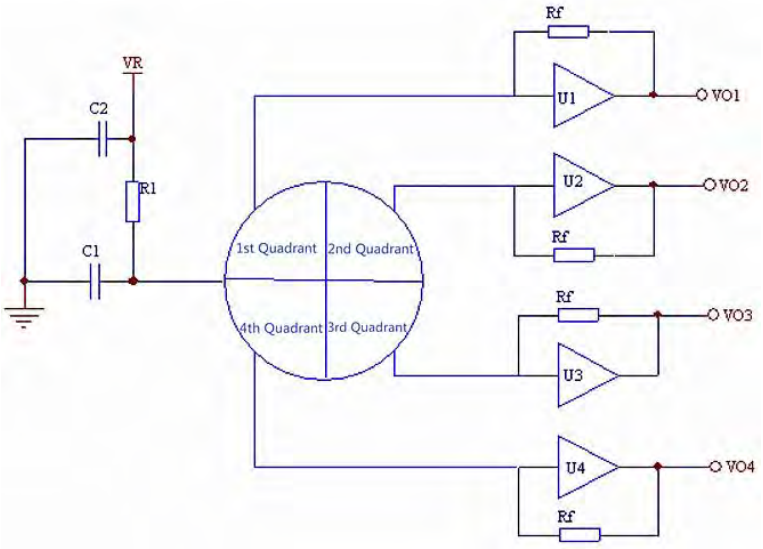
Responsivity, R (A/W)



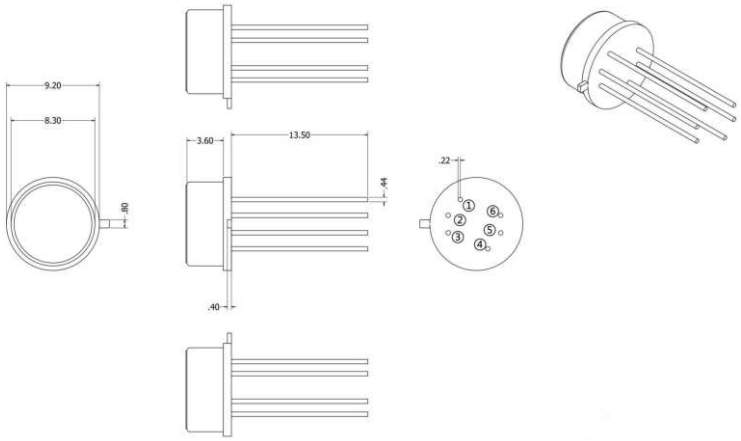
Quadrant APD I-V Curves



Application electric circuit



Dimensions and Pin definitions



1	GND	3	2nd Quadrant P +	5	3rd Quadrant P +
2	1st Quadrant P +	4	Common N- Pole	6	4th Quadrant P +

Absolute Maximem Ratings

Operating voltage	0.99X VBR	Operating temperature	-50~+85℃	Power dissipation	100mW
Forward current	10mA	storage temperature	-55~+125℃	Soldering temperature	260℃（10s）

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Ordering Info

PL-□□□□-☆-QD▽-XXX

□□□□：Cut off Wavelength

400: 400nm

900: 900nm

1700: 1700nm

2100: 2100nm

2400: 2400nm

2700: 2700nm

☆: Material

IGA: InGaAs

SiA: Si

▽: Active Area(Single element)

1: 1mm

2: 2mm

….

3: 3mm

XXX: Package/Fiber and Connector Type

TO: TO39 Package

FSA=SMF-28E Fiber coupled+ FC/APC

FSP=SMF-28E Fiber coupled + FC/PC

FPP=PM Fiber Fiber coupled + FC/PC

FPA=PM Fiber Fiber coupled + FC/APC

User Safety

Safety and Operating Considerations

This device operates under reverse bias voltage, and the polarity of the device can't be reversed.

Operating the Photodiode outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with this component cannot exceed maximum peak optical power.

ESD PROTECTION—Electrostatic discharge (ESD) is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces, and rigorous antistatic techniques when handling Photodiodes.