



10G InGaAs Pin Photodiode

Description

The P10-TO is a 10G InGaAs Pin Photodiode in a pigtailed TO can. The device features customizable optical connector and fiber length. Featuring low dark current and high sensitivity in a hermetic package.

Features

- Dark Current ~ 1 nA (typical)
- High Sensitivity ~ -16 dBm
- Terminal Capacitance 1 pF at $V_{BR90\%}$
- 8 GHz Cutoff Frequency
- Ability to choose desired optical connector.
- Ability to choose desired fiber length.



Applications

- 10G RFoF
- 10G Base-L Ethernet
- Fiber Optic Sensors



Electro-Optical Characteristics ($T_{op} 23 \pm 3^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Response Spectrum	λ	1100		1650	nm	
Dark Current	I_d		0.1	1	nA	$V_r = 5.0 V$
Reverse Breakdown Voltage	V_{BR}		5		V	$I = 10 \mu A$
Responsivity	Re		0.8		A/W	$\lambda = 1310 P_{in} 0.5 mW V = 1.0v$
Bandwidth	BW		10		GHz	$\lambda = 1310 P_{in} 0.5 mW V = 3.0v$
Capacitance	C_p		200		fF	$F = 1 MHz V = 5.0 v$
Saturation power	P			10	dBm	$V_r = 5V$
Sensitivity			-16		dBm	
Optical Return Loss	ORL		40		dB	1310 nm

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min.	Max.	Unit
Reverse Voltage	V_r			15	V
Forward Current	I_F			8	mA
Reverse Current	I_R			0.5	mA
Optical Input power	P_{in}			10	mW
Storage Temperature	T_{stg}		-25	90	$^{\circ}C$
Storage Humidity	H_{stg}			85	% r.H.
Operating Temperature	T_{op}		-10	80	$^{\circ}C$
Soldering Temperature	T_{st}	60 sec		200	$^{\circ}C$
ESD Susceptibility		HBM	100		V

Operating at maximum ratings for a prolonged period will cause damage to the device.



Pin Configuration

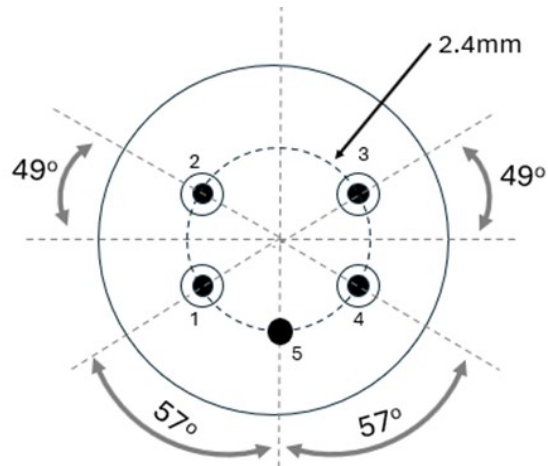


Fig 1A: Bottom View

Pin Number	Function
1	PD Anode (+)
2	No Connection (NC)
3	No Connection (NC)
4	Photodiode Cathode (+)
5	Case Ground (GND)

Table 1: Device Pin out

Device Dimensions

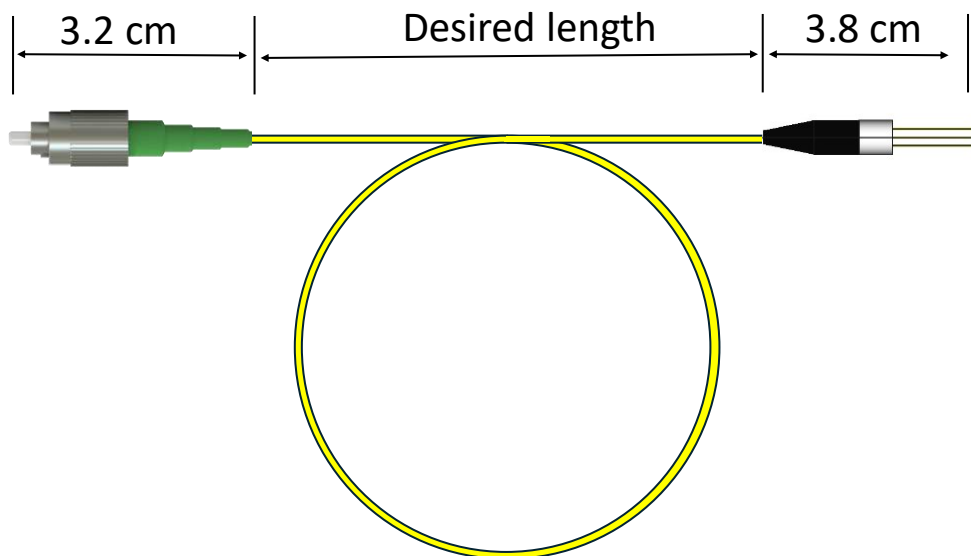
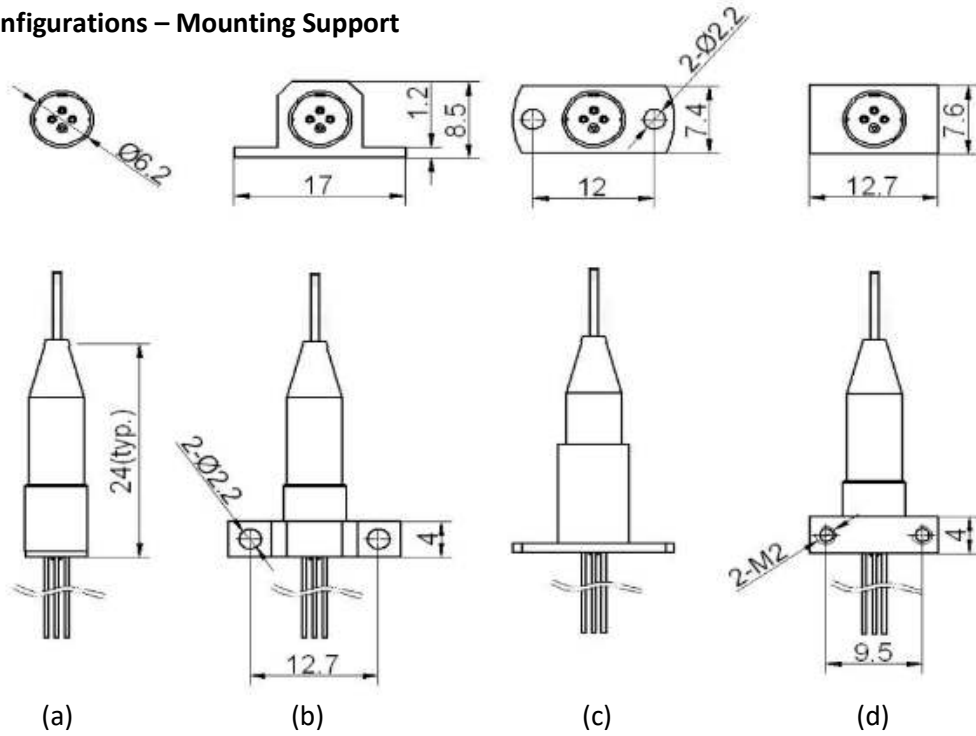


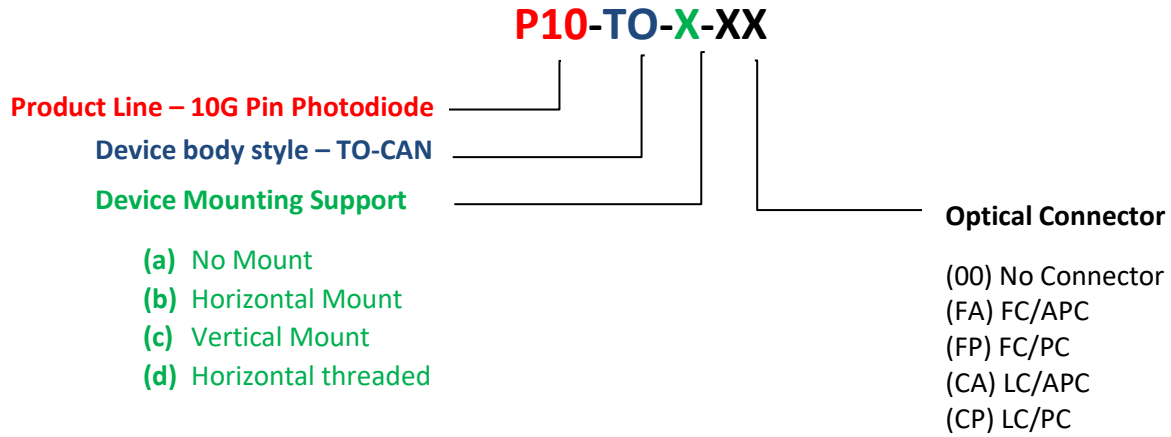
Fig 2: Device mechanical drawing. (All units in mm). Fiber and connector size differs based on build configuration.



Build Configurations – Mounting Support



Device Nomenclature



- (a) No Mount
- (b) Horizontal Mount
- (c) Vertical Mount
- (d) Horizontal threaded



Inquiry Information

Sales: All inquiries regarding sales please contact Sales@NuPhotonics.com

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