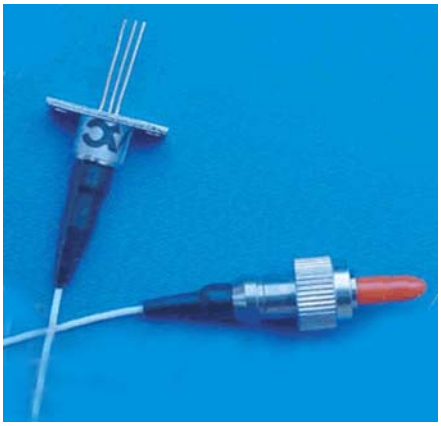
# High Linearity InGaAs PIN Photodiode

AC Photonics' PTD-HL Series InGaAs PIN Photodiode is sensitive at 1310nm and 1550nm bands. It has high linearity and very low second-order inter-modulation distortion (IMD2). Our state-of-the-art planar fabrication techniques lead to high quality and reliability. All AC Photonics products are Telcordia qualification tested



## Features

- Planar Semiconductor Design and Dielectric Passivation
- 3-Pin Coaxial Streamline Packaging with Fiber Pigtal
- Superior Noise and Photoelectric Perfomance(High Linearity
- Hermetical Packaging and 100% Purge Burn-In

## Applications

- Optical Communication System
- Optical Power Monitor
- Analog CATV Application, Such As high Frequency (860MHz) CATV Receiver
- Multi-Access Transmitter, etc.

## ELECTRO-OPTICAL CHRACTERISTICS(T=25°C)

| Parameter | Symbol | Test conditions | Min. | Typ. | Max. |
|---|---|---|---|---|---|
| OperatingWavelength (nm) | λ | | 1000 | | 1650 |
| Dark Current(nA) | $I_D$ | $V_R$=5V,$E_e$=0 | | 0.2 | 0.5 |
| Responsivity(A/W) | Re | $V_R$=5V, λ=1310nm | 0.85 | 0.90 | |
| Responsivity(A/W) | Re | $_R$=5V, • =1550nm | 0.90 | 0.95 | |
| Capacitance(pF) | C | $V_R$=5V,$E_e$=0,f=1MHz case grounded | | 0.63 | 0.75 |
| OperatingVoltage(V) | $V_{op}$ | | | -5 | -15 |
| Second order inter-modulation distortion (dBc) | IMD2 | $f_1$=400MHz, $P_1$=-3dBm $f_2$=450.25MHz, $P_2$=-3dBm MI=40%, $P_{avg}$=0dBm, RI$_{oad}$=50• IMD2:$f_1+f_2$=850.25MHz, V $_R$=12V | | | -75 |
| Back Reflection(dB) | RL | | | | -40 |
| Frequence Responsibility (GHZ) | BW | $V_R$=5V,50• load with lead length=6mm, case open | 2 | | |

## ABSOLUTE MAXIMUM RATINGS:

| Parameters | Min | Max |
|---|---|---|
| Reverse Voltage (V) | | 25 |
| Input Optical Power (dBm) | | 10 |
| Reverse Current (mA) | | 5 |
| Forward Current (mA) | | 10 |
| Operating Temperature (°C) | -40 | +85 |
| Storage Temperature (°C) | -40 | +85 |
| Lead Solder Temperature (°C) | | 260 |
| Lead Soldering Duration (S) | | 10 |

## OTHERS:

| | | |
|---|---|---|
| Fiber Yield Strength (Kgf) | | 1 |
| Fiber Bend Radius (mm) | 10 | |
| Length of Pigtail (m) | 1.0 | |

## Ordering Information

| PTD | ☐ | ☐ | ☐ | ☐ | -HL |
|---|---|---|---|---|---|
| | Package Style | Fiber Type | Fiber Length | Connector | |
| | 1=With mount flange<br>2=Without mount flange<br>C=Customer specified | 1=250um Bare fiber<br>2=900um Jacket | 1=1m<br>2=2m | 0=None<br>1=FC/APC<br>2=FC/PC<br>3=SC/APC<br>4=SC/PC<br>5=ST<br>6=LC | |

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