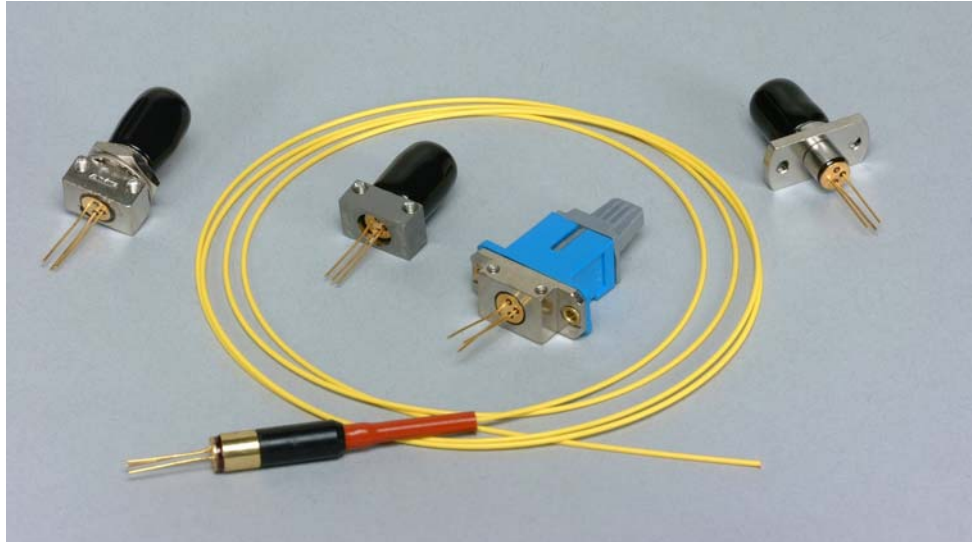


**InGaAs APD-TIA Receivers**

PD-LD Inc. offers low noise, high responsivity InGaAs avalanche photo detectors paired with a transimpedance amplifiers (TIA) in convenient fiber coupled packages. These assemblies incorporate a 70 micron diameter active area APD's that responds optimally to both 1310 and 1550 nm light sources. This APD-Preamplifier combination delivers superior characteristics making them ideal for both digital and analog systems. Each module contains a TIA whose bandwidth is ideally suited to industry standard transmission speeds of 1.25 to 2.5GBs. The 5 lead package provides direct access to the APD output. All devices include automatic gain control (AGC), a feature that allows the circuit to operate with optical input power of up to -7dBm without becoming saturated. AGC makes possible full dynamic range receivers, lessening the need to use attenuators within the cable plant. These modules are available with either bare or connectorized fiber pigtails or in receptacle style housings suitable for board or panel mounting. These high reliability units are operational over industrial environmental conditions.



Applications

- **Networking**  
Gigabit Ethernet  
Fiber Channel  
ATM
- **Telecommunications**  
SONET OC-24 & OC-48

Features

- IEEE 802.3 Performance
- 5 Leads w/APD monitor current pin
- ITU G.957 Compliant
- -40 to 85°C Operating Range
- Differential or Single Ended Output
- Operates with 3.3V power
- FC, ST ,SC Receptacle Housing
- Pigtailed w/9/125 μm Fiber

Absolute Maximum Ratings			
Supply Voltage	V <sub>cc</sub>	3.6	Volts
Operating Temperature	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +85	°C
Compensation Temperature Coefficient		65	mV/°C

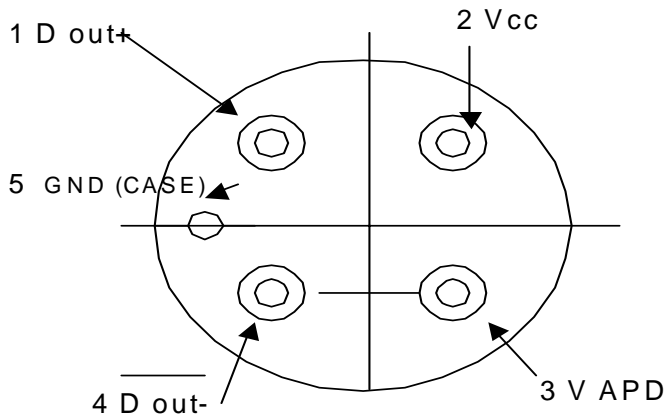
Parameter	Units	Symbol	155 MHz		
			Min.	Typ.	Max.
Operating Wavelength	nm	λ	1260	—	1620
Differential Gain with 50 Ohm Load, -26dBm input at 1310nm	mV/uW	G	0.09	—	60
Single-Ended Gain with 50 Ohm Load, -26dBm input at 1310nm	mV/uW	G	7	11	15
Small Signal Bandwidth (-3dB)	GHz	BW	1.65	2.05	—
Power Supply	V	V <sub>cc</sub>	3.0	3.3	3.6
APD Breakdown Voltage	V	VBR	33	—	46
Optical Sensitivity BER=10Exp-10 at 1.25Gbs	dBm	S	—	—	-34
Optical Sensitivity BER=10Exp-10 at 2.5Gbs	dBm	S	—	—	-31
Optical Saturation Power at 1310nm	dBm	P <sub>sat</sub>	-7	0	
Single Ended Output Impedance	ohm	R <sub>out</sub>	40	50	60
Operating Current	mA	I <sub>cc</sub>	—	45	60

Specifications are subject to change without notice. Please contact PD-LD Sales .

7-08 APDTIA.Rev.A

InGaAs PIN Photodiode with TIA

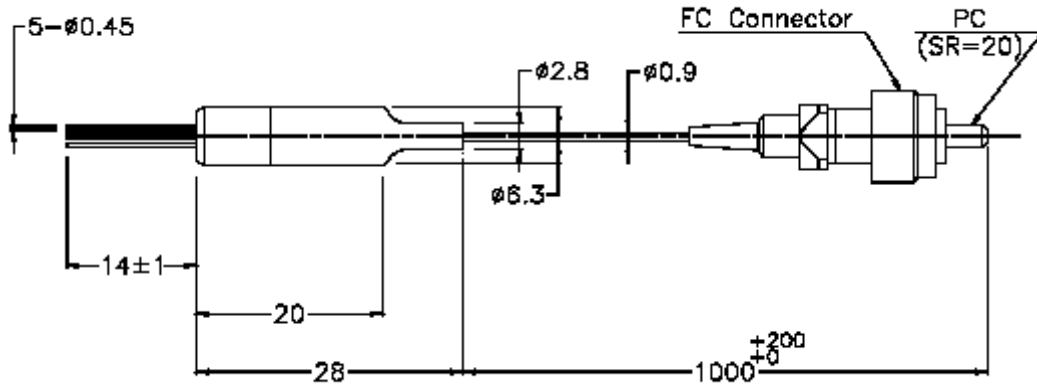
**Pinout & Mechanical Dimensions (mm)**



Bottom View

PIN Assignment

- 1 Data Out +
- 2 Vcc 3.3V
- 3 V APD
- 4 Data Out -
- 5 GND



Ordering Information

APD TIA Pigtails

PTINDXXXFCCB-O-V-MM

APD TIA Receptacles

PTINDXXXRRRF-O-V

<b>T = TIA</b>	<b>IN = InGaAs</b>	<b>D = Device Identification</b> AK=1.25~2.5 Gbs 5 lead	<b>CC = Connector Type</b>
<b>XXX = Bandwidth</b> 2.5 GHz	<b>RRR = Receptacle</b> FC1 = FC Panel Mount FC2 = FC Board Mount ST7 = ST Low Profile ST8 = ST High Profile SC2 = SC Board/Panel Mount	<b>F = Fiber Type</b> 1 = 9/125/900 SMF 2 = 50/125 MMF 3 = 62.5/125 MMF 9 = Supplied by cust	ST = ST SC = SC SA = SC/APC FC = FC PC FA = FC/APC OO = No Connector
<b>Bracket Type (pigtail only)</b> A = None B = Panel Mount D = Board Mount W = Shipped Separately with PIN TIA X = Customer Supplied	<b>M = Length in meters (pigtail only)</b> 10 = 10meter 03 = 3 meters 01 = 1 meter .1 = .1 meters .5 = 0.5 meters		