



**PTIN15- Series    PTIN1.2- Series    Receivers for Fiber Optics**  
**PTIN62- Series    PTIN2.5- Series    InGaAs PIN w/TIA**

**InGaAs PIN TIA Receivers**

PD-LD Inc. offers low noise, high responsivity InGaAs photo detectors paired with a transimpedance amplifiers (TIA) in convenient fiber coupled packages. These assemblies incorporate a 75 micron diameter active area detector that responds optimally to both 1310 and 1550 nm light sources. This PIN/Preamp 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: 150 MHz, 450 MHz, 1.0 GHz and 2.5GHz. Most devices include automatic gain control (AGC), a feature that allows the circuit to operate with high optical input power 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 pigtailed or in receptacle style housings suitable for board or panel mounting. These high reliability units are operational over industrial environmental conditions.



**Applications**

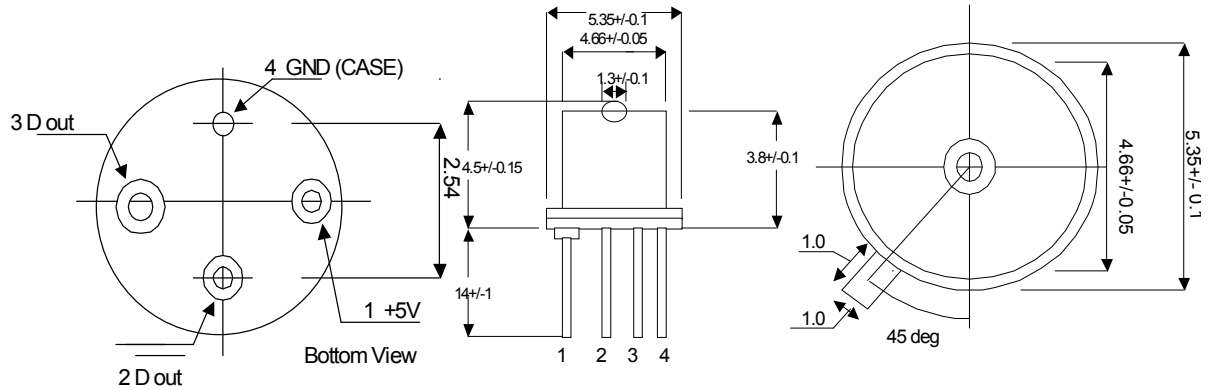
- Networking  
 10/100/1000 MB Ethernet  
 FDDI  
 ATM
- Telecommunications  
 SONET OC-3/OC-12/OC-24/  
 OC-48  
 SDH: STM1/STM3/STM6/  
 STM12

**Features**

- IEEE 802.3 Performance
- Belcore TA983 Compliant
- ITU G.957 Compliant
- -40 to 85°C Operating Range
- Differential or Single Ended Output
- Operates with 3.3V or 5V Supply
- FC, ST ,SC Receptacle Housing
- Pigtailed w/9/125 μm Fiber

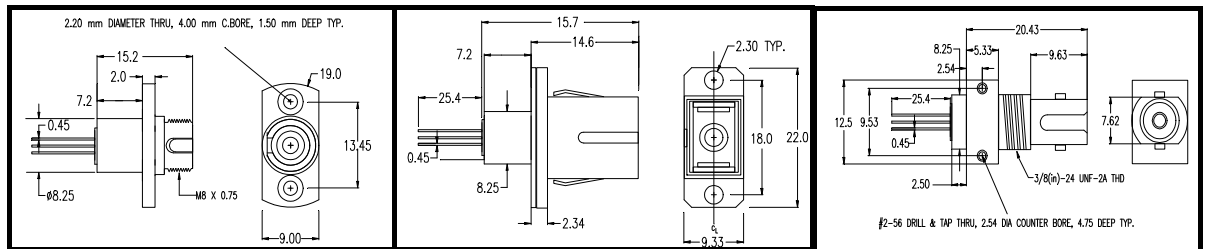
Parameter	Units	Symbol	155 MHz		450 MHz		1100 MHz		2500 MHz	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Typ.
Operating Wavelength	nm	Lambda	1100	1650	1100	1600	1100	1600	1100	1600
Differential Gain	V/mW	G	.17	220	0.2	24	0.2	24	26	
Analog Bandwidth (-3dB)	MHz	BW <sub>e</sub>	120	175	450	—	800	1100	1600	2000
Rise and Fall Times	nsec	t <sub>r,f</sub>	—	3.3	5.0	8.0	—	0.26	—	0.15
PowerSupply (3.3V available)	V	V <sub>cc</sub>	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Output offset Voltage	V	V <sub>os</sub>	V <sub>cc</sub> -3.5	V <sub>cc</sub> -1.5	V <sub>cc</sub> -3.5	V <sub>cc</sub> -1.5	V <sub>cc</sub> -3.5	V <sub>cc</sub> -1.5	V <sub>cc</sub> -3.5	V <sub>cc</sub> -1.5
Differential Output Voltage	V	V <sub>d</sub>	—	1	—	1.3	—	0.5	0.6	
Optical Sensitivity	dBm	S	—	-38 -36	—	-31.5 -29	—	-24 -22	—	-21 -18
Optical Saturation Power	dBm	P <sub>sat</sub>	—	-3	—	-3	—	-3	-3	
Output Resistance	ohm	R <sub>out</sub>	30	65	50	65	30	65	48	60 72
Operating Current	mA	I <sub>cc</sub>	—	35	—	50	—	50	— 47 57	
Operating Temperature	degree	C	-40 to 85°C							
Storage Temperature	degree	C	-50 to 85°C							

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InGaAs PIN Photodiode with TIA

Pinout & Mechanical Dimensions (mm)



Ordering Information

**PIN TIA Pigtaills**

**PTINDXXXFCCB-O-V-MM**

**PIN TIA Receptacles**

**PTINDXXXRRRF-O-V**

**T= PIN TIA**

**IN= InGaAs Photodiode**

**D = Device Identification**

**Type See Table**

**XXX= Bandwidth**

**155 Mhz**

**450 MHz**

**1.2 GHz**

**2.5 GHz**

**F = Fiber Type**

**1 = 9/125/900 SMF**

**2 = 50/125 MMF**

**3 = 62.5/125 MMF**

**9 = Supplied by cust**

**RRR = Receptacle**

**FC1 = FC Panel Mount**

**FC2 = FC Board Mount**

**SC2 = SC Board/Panel Mount**

**ST7 = ST Low Profile**

**ST8 = ST High Profile**

**CC = Connector**

**FA = FC/APC**

**FC = FC PC**

**SA = SC/APC**

**SC = SC**

**ST = ST**

**OO = No Connector**

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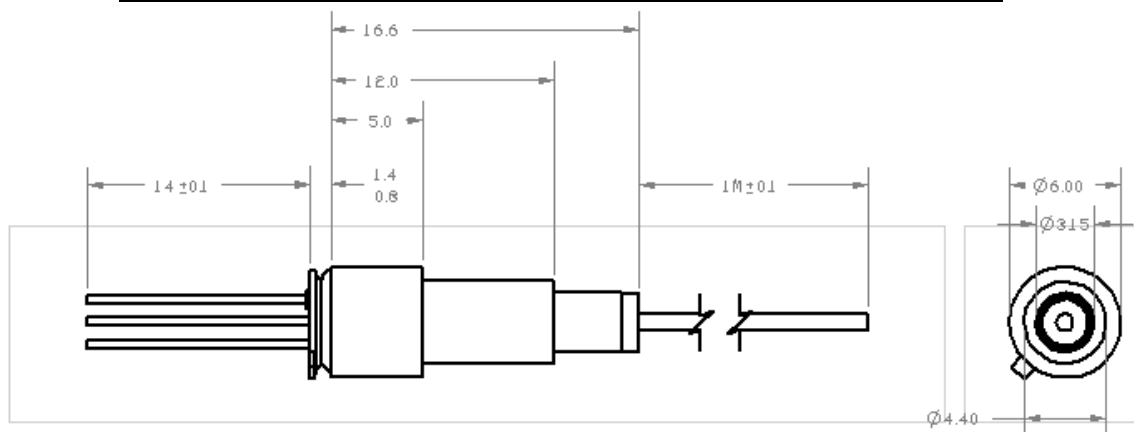
## Ordering Information

## PIN-TIA Devices

Device Code	Bandwidth	Features
<b>PTINA</b>	155 MBs	3.3V Power Supply, AGC
<b>PTINQ</b>	155 MBs	5V Power Supply, AGC
<b>PTINS</b>	155 MBs	5V Power Supply, No AGC
<b>PTINB</b>	622 MBs	3.3V or 5V Power Supply, AGC
<b>PTINE, PTINZ</b>	1250 MBs	3.3V or 5V Power Supply, AGC
<b>PTINM, PTINO</b>	2500 MBs	3.3V Power Supply, AGC
<b>PTINI</b>	2500 MBs	5V Power Supply, AGC

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Mechanical Drawing for Fiber Pigtailed PIN-TIA Assemblies

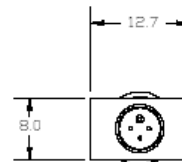
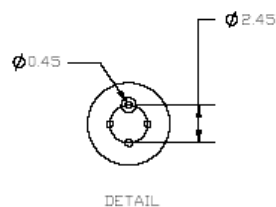
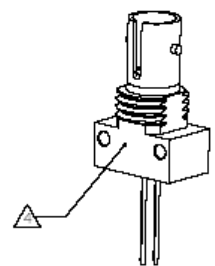
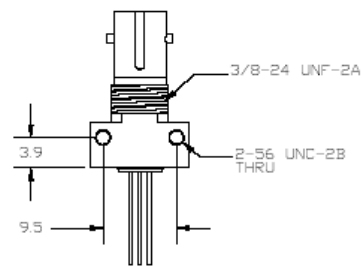


ST Low Profile Receptacle Housing

NOTES:

- 1 THESE DEVICES ARE ESD SENSITIVE. ESD PRECAUTIONS ARE ADVISED.
- 2 ALL DEVICES ARE SHIPPED WITH ESD LEAD PROTECTORS AND DUST COVERS.
- 3 ALL DEVICES WILL BE MARKED WITH A PD-LD SERIAL NUMBER.

⚠ ZINC, DIE CAST  
 NICKEL PLATED



Note:  
 High Profile ST  
 Receptacle available  
 With 10.4 mm  
 height.

