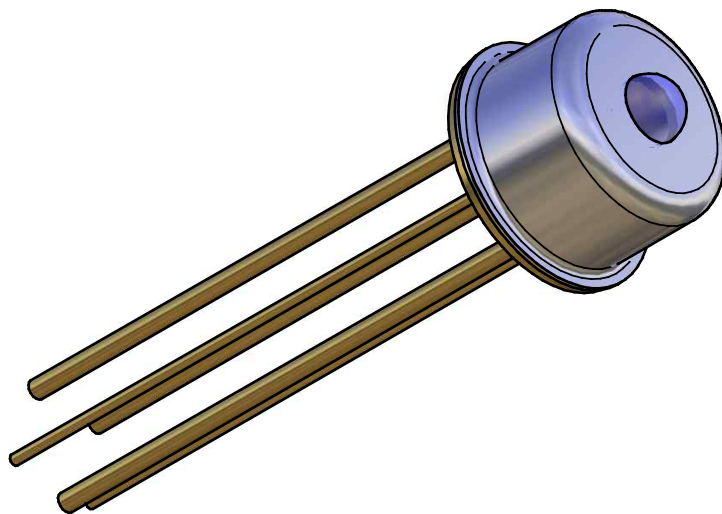


Wooriro Photo Diode

***WOORIRO 10Gbps PIN TIA TO
SPECIFICATIONS***



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General Description

The 10Gbps PIN TO is a low cost receiver module with a miniaturized size for using in the XFP/300pin MSA optical transceiver. It guarantees high sensitivity and its low deviation over an operating temperature range.

Features

- InGaAs PIN PD chip for 10Gbps
- High gain $4k\Omega$ transimpedance pre-amplifier for 10Gbps
- Operation at 1270nm and 1620nm
- Differential data output
- High sensitivity: typ. -19dBm
- Telcordia™ qualified

Applications

- Digital fiber optic receiver in short, medium and long haul optical telecommunications transmission systems and in high speed optical data networks
- SONET
- Ethernet
- Fiber Channel

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
TIA supply voltage	V_{CC}	-0.5 to +4	V
PIN reverse voltage	V_{PD}	0 to +20	V
PIN reverse current	I_{PD}	10	mA
Operating Case Temperature Range	T_C	-40 to +85	°C
Storage Temperature Range	T_{STG}	-40 to +85	°C

Table 1. Absolute Maximum Ratings

Electro-Optical Characteristics

Inspection sheet shall be appended to products when they are delivered. Test report shall be submitted in papers and in electronic media. It shall contain the major in following items.

Optical Characteristics(Tc=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Responsivity	R	$\lambda = 1550\text{nm}$	0.85			A/W
Optical wavelength range	λ	-	1270		1620	nm
Sensitivity	P_S	9.95Gbps NRZ, PRBS= $2^{31}-1$, BER= 1×10^{-12} , ER=11.3dB, $\lambda=1550\text{nm}$		-19	-18	dBm
Maximum overload	P_{MAX}	9.95Gbps NRZ, PRBS= $2^{31}-1$, BER= 1×10^{-12} , ER=11.3dB, $\lambda=1550\text{nm}$			0	dBm

Table 2. Optical Characteristics

Electrical Characteristics(Tc=25°C)

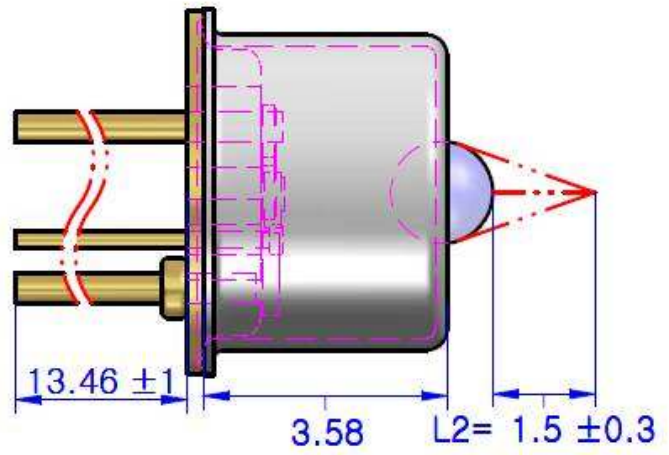
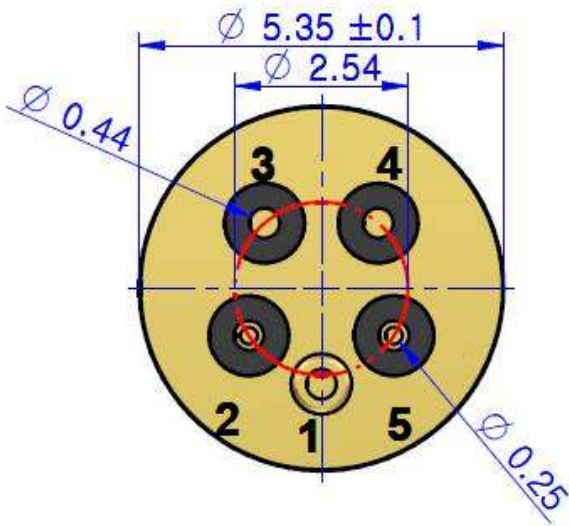
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
TIA supply voltage	V_{CC}	-	3.1	3.3	3.5	V
TIA supply current	I_{CC}	-	43	55	73	mA
Dark current	I_d	$V_R=5V$		0.1	1	nA
Transimpedance	Z_T	Differential (50 Ω on each output), f=100MHz	2.3	4	5.7	k Ω
O/E bandwidth	F_{CH}	-3dB, Pin=-20dBm		9		GHz
Low cut-off frequency	F_{CL}	-		24	52	kHz
Maximum output voltage	V_{OUT}	Single-ended	-	130	-	mV _{p-p}
Output impedance	Z_O	Single-ended		50		Ω

Table 3. Electrical Characteristics

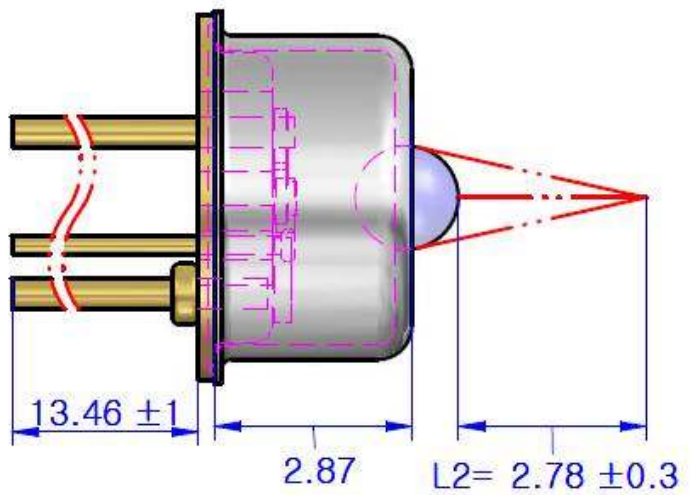
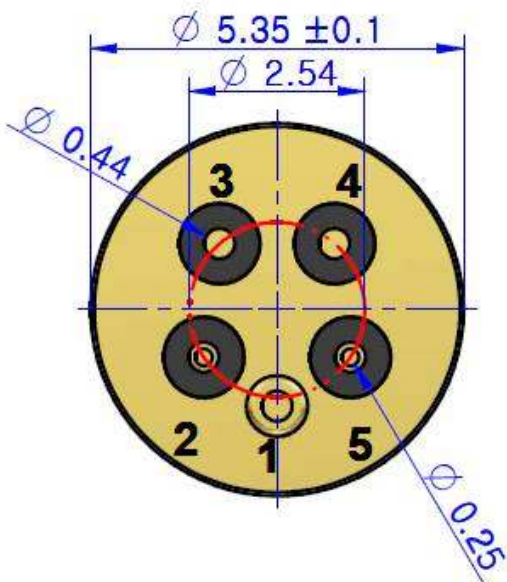
Mechanical Dimension & Pin Layout

Mechanical Dimension

(unit : mm)



Long Cap



Short Cap

Figure 1. Mechanical Dimension

Pin Configuration

No.	Symbol	I/O	Description
1	GND	I/O	Signal ground
2	Data P	O	Positive data output
3	Vcc	I	Supply voltage
4	V _{PD}	I	PD bias voltage
5	Data N	O	Negative data output

Other Requirements

Precautions for use

This device is susceptible to damage as a result of ESD(electrostatic discharge). Use of ground straps, anti static mats, and other standard ESD protective equipment is recommended when handling or testing an InGaAs PIN/APD or any other junction photodiode. Soldering temperature of the leads should not exceed 350°C for more than 10 seconds.

Ordering Information

