



## **155Mb/s 5pin pigtailed APD/TIA**

### ***PACS961-410***

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### **Features**

- *Data rate up to 155Mb/s*
- *High performance APD with Transimpedance Amplifier(TIA)*
- *Wide dynamic range*
- *High sensitivity*
- *Optical Return Loss better than 27dB*
- *Case Operating temperature range:*
  - *-40°C ~ +85°C*
- *Wide operating wavelength range:1250~ 1620nm*
- *TO-46 5pin coaxial pigtailed package*
- *Meet RoHS and WEEE requirements*

### **Application**

- *SDH STM-1/SONET OC-3 transmission system*
- *Optical Monitoring Channel*

## Description

This pigtailed receiver is designed for optic transmission system up to 155Mb/s including SDH STM-1/SONET OC-3 transmission system, Optical Monitoring Channel etc. A low-noise transimpedance preamplifier should be mounted with a high-performance InGaAs/InP APD photodetector inside a lensed TO-can.

## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	5	95
APD Supply Voltage	VPD	V	-	VBR
TIA Supply Voltage	VCC	V	-	6
input power Power	Pin	mW	-	1
APD reverse current	Ipd	mA	-	2
Lead Solder Temperature	-	°C	-	260
Lead Soldering Time	-	s	-	10
Fiber yield strength	-	kgf	-	1
Fiber bend radius	-	mm	30	-

## Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Case Operating Temperature Range	Tc	°C	-40	25	85
Power Supply Voltage	Vcc	V	3	3.3	3.6

## Specifications (Tc=25 °C, unless otherwise noted)

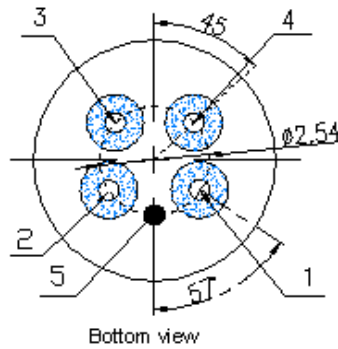
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
<b>Electrical Characteristics</b>						
Breakdown Voltage	VBR	V	35	45	55	Id =10uA Vcc =3.3V
APD dark current	Id	nA	-	20	60	Vr=0.9Vbr
Temperature Coefficient	γ	V/oC	0.07	0.11	0.16	-
Differential transimpedance	G	kΩ	-	178	-	f=10MHZ, Pin=-40dBm , RL=50Ω, single-ended
TIA supply voltage	VCC	V	3.0	3.3	3.6	-
TIA supply current	ICC	mA	22	28	36	Pin=0
-3dBmBandwith	BW	MHz	110	140	-	Pin=-40dBm
<b>Optical Characteristics</b>						
Wavelength range	λ	nm	1250	-	1620	-
APD responsivity	R	A/W	0.75	0.85	-	M=1, λ=1310nm
			0.83	0.93	-	M=1, λ=1550nm

Sensitivity	S	dBm	-	-46	-45	Note 1
Overload	Po	dBm	-7	-	-	
Optical Return Loss	ORL	dB	27	-	-	-

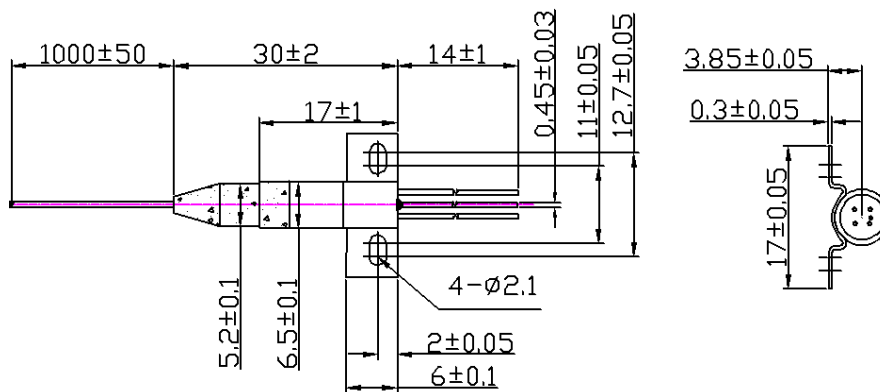
Note 1: 155Mbps, RL=50Ω, BER=10-10, NRZ, ER=10dB, PRBS=223-1, M=10, λ=1550nm

## Pin Description

Pin	Name	Description	Pin	Name	Description
1	Vcc	TIA supply	4	Vout	Data +
2	Vpd	APD supply	5	GND	Case Ground
3	VoutB	Data -			



## Package Outline



## Ordering Information

Part No.	Specifications					
	Package	Data rate	Detector	Sensitivity	Temp.	Others
PACS961-410	5pin Coaxial Pigtailed	155Mb/s	APD+TIA	<-45dBm	-40~+85°C	Ω flange

*Note1: Ω type flange, or no flange, or customized.*

*Note2: It can be produced with a variety of industry standard connector*

*Note3: Fiber length in the package outline is 1000mm, the value can be customized.*

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