



## 2.5Gb/s APD/TIA 5pin Pigtail

### ***PACS965-403& 404***

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#### **Features**

- *Data rate up to 2.5Gb/s*
- *High performance APD with Transimpedance Amplifier(TIA)*
- *Operating wavelength range:1250~1620nm*
- *Optical Back Reflection better than -27dB*
- *Single +3.3V power supply*
- *Wide dynamic range*
- *Pigtail package (5-pin)*
- *Ω type flange, Horizontal flange, or no flange*
- *Case Operating temperature range: -20°C ~ +85°C*
- *Comply with Bellcore GR-468-CORE*
- *RoHS compliant*

#### **Application**

- *SDH STM-16/SONET OC-48 transmission system*
- *2.125Gbps fiber channel*
- *Other applications*

#### **Standard**

- *ITU-T G.957*
- *ITU-T G.695*
- *Other applications*

## Description

PACS965 Series is a  $\Phi 35\mu\text{m}$  InGaAs Avalanche Photodiodes with Transimpedance Amplifier(TIA) device. This APD with TIA features a high speed response and low noise, and is suitable for 2.5Gb/s optical communication systems.

## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	+85
Relative Humidity	RH	%		95
APD supply voltage	Vpd	V		VBR
TIA Supply Voltage	Vcc	V		6
Photo input power	Pin	mW		0.5
APD reverse current	Ipd	mA		0.5
Lead solder temperature	-	°C		260
Lead solder duration	-	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	-20	-	85
TIA Supply Voltage	Vcc		3.135	3.3	3.6
Relative Humidity	RH	%	-	-	95

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

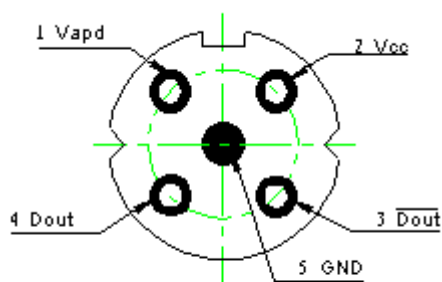
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Breakdown Voltage	Vbr	V	40	60	80	Id=100uA
APD dark current	Id	nA	-	20	60	Vr=0.9Vbr
TIA supply current	Icc	mA	-	35	70	Pin=0uW
Trans-impedance	Zt	kΩ	-	1.4	-	f=200MHz, RL=50Ω
-3dB Bandwidth	BW	GHz	1.5	2.0	-	-3dB, RL=50Ω, M=10
Optical Characteristics						
Wavelength range	λ	nm	1250	-	1620	
APD responsivity	R	A/W	7.5	8	-	M=10, λ =1550nm
Sensitivity	S	dBm	-	-33	-31	Note1
Maximum Overload	Po	dBm	-5	-	-	Note2

**Note1:** 2.48832Gbps, RL=50Ω, BER=10-10, NRZ, ER=10dB, PRBS=223-1, optimum M, λ =1550nm

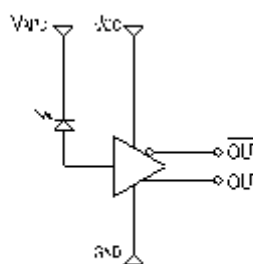
**Note2:** 2.48832Gbps, RL=50Ω, BER=10-10, NRZ, ER=10dB, PRBS=223-1, M=3,  $\lambda = 1550\text{nm}$

## Pin Description

Pin	Description	Pin	Description
1	Vapd	5	GND
2	Vcc	-	-
3	Dout-	-	-
4	Dout+	-	-

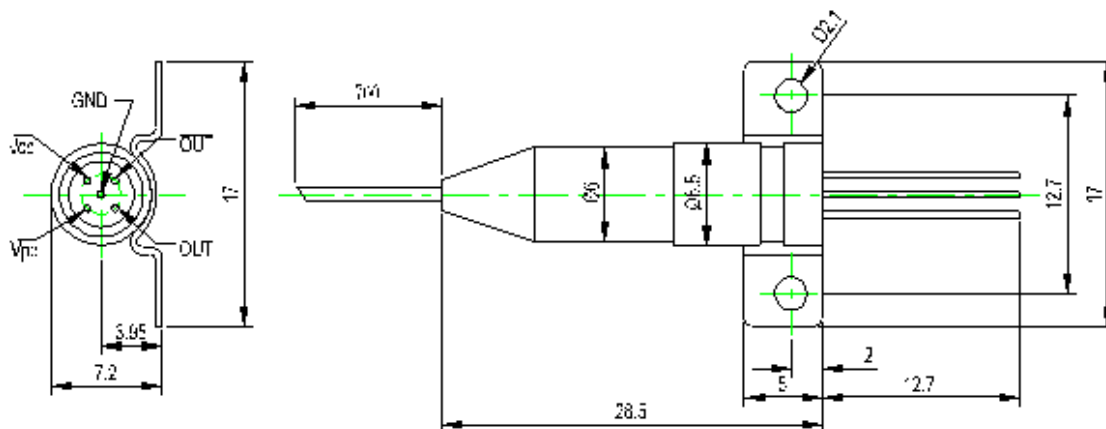


Bottom View



Block Diagram

## Package Outline



## Ordering Information

Part No	Specifications					
	Package	Datarate	Detector	Sensitivity	Temp	Others
PACS965-403	5pin coaxial pigtail	2.5G	APD+TIA	< -31dBm	-20~85 °C	SC/PC; RoHS
PACS965-404	5pin coaxial pigtail	2.5G	APD+TIA	< -31dBm	-20~85 °C	LC/PC; RoHS

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

**Note2:** Fiber length in the package outline is 700mm, the value can be customized by specifying some L±10mm.

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