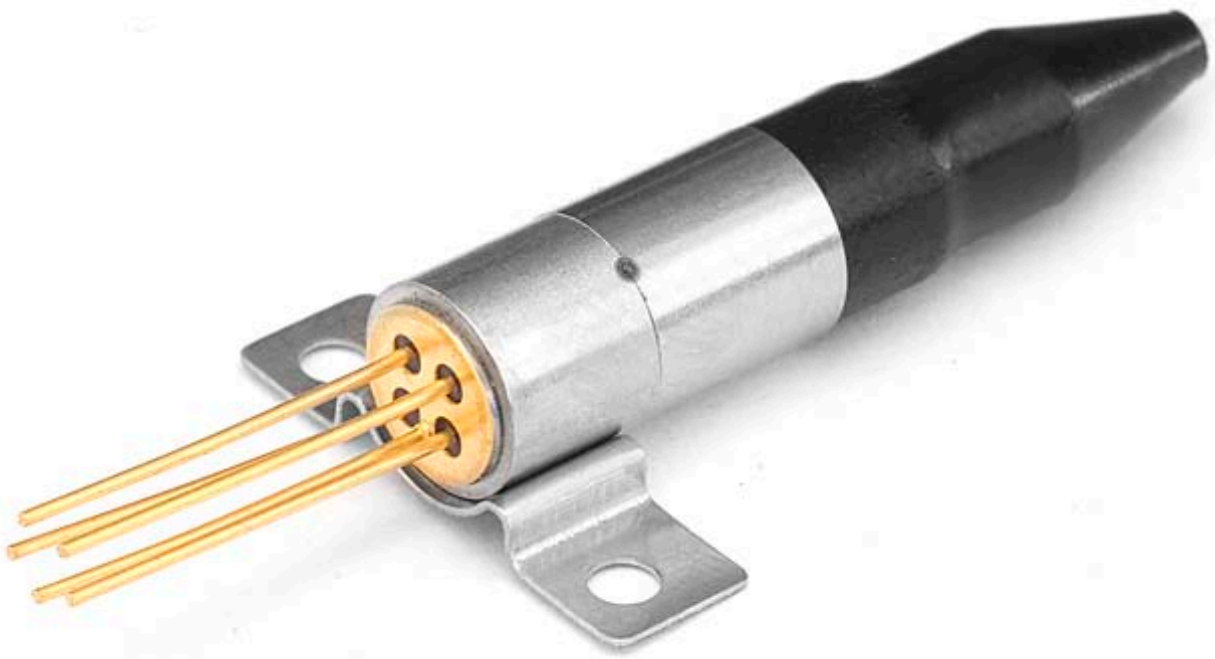


2.5Gb/s 5pin Pigtailed APD/TIA

PACS965-422

Features

- *Data rate up to 2.5Gb/s*
- *High performance APD with Transimpedance Amplifier (TIA)*
- *Optical Return Loss better than 27dB*
- *Wide dynamic range*
- *High sensitivity*
- *TO-46 5pin coaxial pigtailed package*
- *Case Operating temperature range:*
- *-40°C ~ +85°C*
- *Meet RoHS and WEEE requirements*

Application

- *SDH/SONET*
- *Gigabit Ethernet*
- *Fiber channel*
- *Other long-haul transmission system up to 2.5Gb/s*

Description

This pigtailed receiver is designed for optic transmission system up to 2.5Gb/s including SDH/SONET, Gigabit Ethernet and Fiber Channel etc. A low-noise transimpedance preamplifier die should be mounted with a high-performance InGaAs/InP APD photodetector inside a lensed TO-can receiver optical sub-assembly (ROSA).

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	+85
Relative Humidity	RH	%	5	95
APD supply voltage	Vapd	V	-	Vbr
TIA Supply Voltage	Vcc	V	VEE-0.7	VEE+5
APD reverse current	Ipd	mA	-	2
Input Optical Power	Pin	mW	-	1
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	-40	25	85
TIA Supply Voltage	Vcc	-	3.1	3.3	3.6
APD Power Supply Voltage	Vapd	V	0.9Vbr	-	0.95Vbr

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

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Breakdown Voltage	Vbr	V	35	45	55	Id=10uA, Vcc=3.3V
APD dark current	Id	nA	-	20	60	Vr=0.9Vbr
TIA supply current	Icc	mA	-	44	59	Pin=0
Trans-impedance	Zt	kΩ	2.3	3.6	4.7	RL=50Ω,single-ended
-3dB Bandwidth	BW	GHz	1.65	-	-	Pin=-30dBm
Temperature coefficient of Vbr	γ	V/oC	0.07	0.11	0.16	-
Optical Characteristics						
APD responsibility	R	A/W	0.83	0.93	-	M=1, λ=1550nm
			0.75	0.85	-	M=1, λ=1310nm
Receiver Sensitivity	S	dBm	-	-33	-32	Note 1

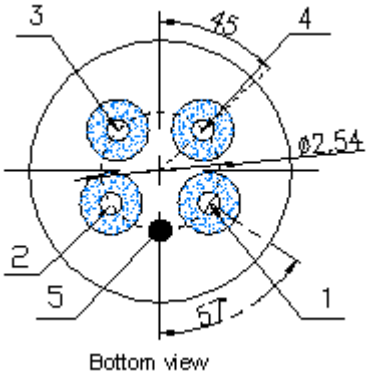
Receiver Overload	Po	dBm	-7	-	-	
Optical Return Loss	Rl	dB	27	-	-	-

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

Pin Description

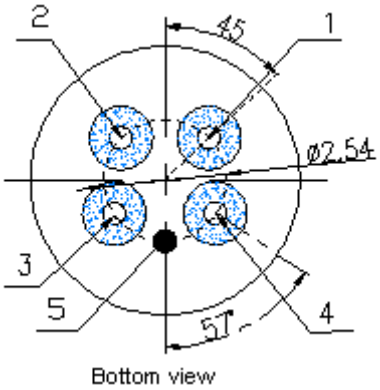
Pin	Symbol	Description
1	VoutN	Negative Output, connect 0.1uF capacitance to LA
2	VoutP	Positive Output, connect 0.1uF capacitance to LA
3	Vcc	TIA supply, Input 3.3V
4	Vapd	APD supply, best 0.93Vbr
5	GND	Case, connect to GND

Type A ：



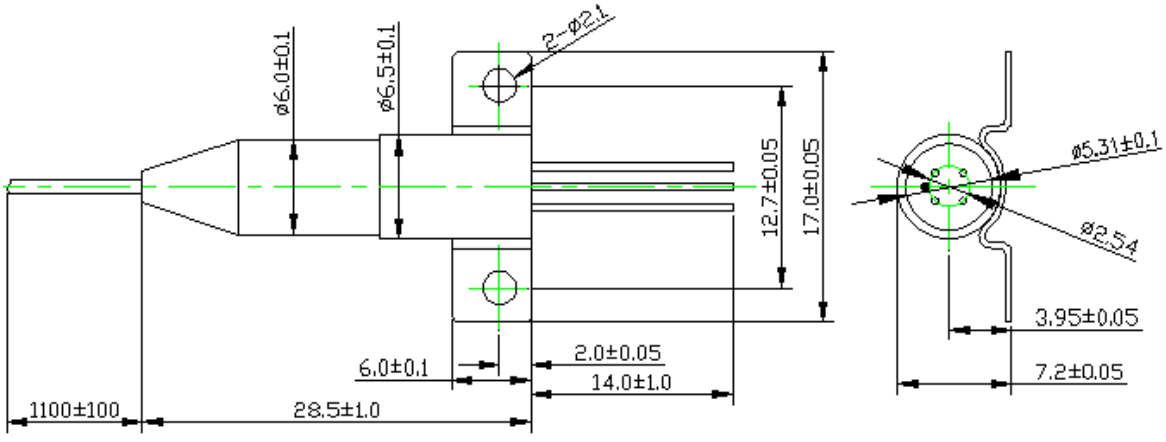
Bottom view

Type B ：



Bottom view

Package Outline



Ordering Information

Part No.	Specification						
	Package	Datarate	Detector	Sensitivity	Temp	Optic fiber length And connector	Type
PACS965-422-C00	5pin pigtail	2.5Gb/s	APD+TIA	-33dBm	-40~85	1300±100mm SC/PC	A
PACS965-422-C10	5pin pigtail	2.5 Gb/s	APD+TIA	-33dBm	-40~85	500±50mm SC/PC	A
PACS965-422-C20	5pin pigtail	2.5 Gb/s	APD+TIA	-33dBm	-40~85	1000±100mm FC/PC	A
PACS965-422-C30	5pin pigtail	2.5 Gb/s	APD+TIA	-33dBm	-40~85	1100±100mm LC/PC	B
PACS965-422-C40	5pin pigtail	2.5Gb/s	APD+TIA	-33dBm	-40~85	1300±100mm SC/PC	B
PACS965-422-C50	5pin pigtail	2.5 Gb/s	APD+TIA	-33dBm	-40~85	1000±100mm FC/PC	B
PACS965-422-C60	5pin pigtail	2.5 Gb/s	APD+TIA	-33dBm	-40~85	1000±100mm MU/PC	B

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

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

Note3: *Fiber length in the package outline is 1000mm, the value can be customized by specifying some L±100mm.*

Edition 2009-12-01

Published by Wuhan Telecommunication Devices Co.,Ltd.