



10Gb/s PIN-TIA Coaxial Pigtail Receiver

PTCM992-402

Features

- *High data-rate up to 10.7Gb/s*
- *Coaxial pigtail package*
- *Low capacitance high reliability planar InGaAs PIN Photodiode*
- *Flex circuit for RF output*
- *Typical trans-impedance: 4k Ω*
- *Typical sensitivity: -18.5dBm*
- *Typical overload: +1.5dBm*
- *Ω type flange, Horizontal flange, or no flange*
- *Operating temperature range: -5°C ~ +75°C*
- *Typical power dissipation: 180mW*

Application

- *VSR, SR, and IR applications up to 10.7Gb/s*
- *SONET and 10Gb/s Ethernet*
- *transponders*
- *Other applications*

Description

The PTCM992-402 receiver integrates a 10Gb/s PIN Photodiode and a low noise trans-impedance amplifier (TIA) into a hermetic coaxial pigtail module. The electrical output is differential. External AC-coupling is required. Optimized for VSR, SR, and IR applications, most notably, 3.3V power supply, and low power consumption.

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	5	95
TIA Supply Voltage	Vcc	V	-0.5	4
Photodiode Bias Voltage	Vpd	V	-0.5	20
Input optical power	Pin	dBm	-	6
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
Operating Case Temperature	Tc	°C	-5	25	75
TIA Supply Voltage	Vcc	V	2.97	3.3	3.63
Photodiode Bias Voltage	Vpd	V	4.5	5.0	5.5
Wavelength range	λ	nm	1280	1310/1550	1610

Specifications (tested under recommended operating conditions , unless otherwise otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Test condition	
Electrical Characteristics							
-3dB Bandwidth	BW	GHz	7	8	-	PIN=-20dBm, from 130MHz	
Low Frequency Cut-off	fLow	kHz	-	25	55	-	
Trans-impedance	Zt	Ω	2300	4000	5700	Differential, p-p, f=100MHz	
Max. Output Swing	Voutp-Voutn	mVp-p	-	-	330	For IIN > 0.1mAp-p	
Output Impedance	Ro	Ω	-	50	-	Single-ended	
TIA Supply Current	Icc	mA	44	55	75	No loads	
Optical Characteristics							
Responsivity	R	A/W	0.80	0.85	-	λ=1310nm	
Sensitivity	S	dBm	-	-18.5	-17	25 °C	NRZ, ER=10dB, 9.95328Gb/s, PRBS 231-1, 1550nm, BER=10-12
			-	-18.0	-16	75 °C	
Overload	PO	dBm	+0.5	+1.5	-	-	
Optical Return Loss	ORL	dB	27	-	-	λ=1310nm	

Pin Description

Pin	Description
1	Signal GND
2	Vcc
3	Signal GND
4	Data plus
5	Data minus
6	Signal GND
7	Vpd
8	Signal GND

Ordering Information

Part No	Specifications						
	Package	Data-rate	Detector	Sensitivity	Overload	Temp	Others
PTCM992-402	Coaxial Pigtail	10Gb/s	PIN+TIA	< -17dBm	+1.5dBm	-5~75°C	Note1

Note1: Ω type flange, Horizontal flange, or no flange and flange type also can be customized.

WTD reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

Edition 2009-12-1

Published by Wuhan Telecommunication Devices Co.,Ltd.

Copyright © WTD

All Rights Reserved.