



4.25Gb/s 5pin PIN/TIA Coaxial Pigtail Receiver

PTCM965-409

Features

- *Data rates up to 4.25Gb/s*
- *High performance InGaAs PIN Photodiode with Transimpedance Amplifier (TIA)*
- *Operating wavelength range: 1250~1620nm*
- *Received signal strength indication(RSSI)*
- *Single +3.3V power supply*
- *Wide dynamic range*
- *Coaxial pigtail package(5-pin)*
- *RoHS compliant*

Application

- *Fiber Channel Transceivers(1x,2x and 4x)*
- *other applications*

Description

The PTCM965-409 receiver integrates a 4.25Gb/s PIN Photodiode and a low noise trans-impedance amplifier (TIA) into a hermetic pigtail module. The PIN Photodiode transduces incident light into optical current with high efficiency. The TIA converts the current signal into a voltage signal with a very low input noise current contribution. 5-pin pigtail package of the receiver provide industry standard connection. The electrical output is differential. External AC-coupling is required.

It is optimized for 4.25Gbps fiber channel. The receiver typically shows high sensitivity of -21dBm.

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	T_s	°C	-40	85
Relative Humidity	RH	%	5	85
Power Supply Voltage	V_{cc}	V	-0.3	4.0
Input Optical Power	P_{in}	dBm	-	3
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	T_c	°C	-40	25	85
Power Supply Voltage	V_{cc}	V	2.9	3.3	3.6
Wavelength range	λ	nm	1250	1310	1620

Specifications

(tested under recommended operating conditions, unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Operating Current	I_{cc}	mA	-	19	-	Average photodiode current $I_{pd}=0mA$
RSSI output offset current(no light)	-	uA	-	15	30	-
RSSI Gain	A_{RSSI}	A/A	0.95	1	-	Resistive load toGND
Output Impedance	R_o	Ω	-	50	-	Single ended
-3dB Bandwidth	BW	GHz	2.1	2.8	-	-
Trans-impedance	Z_t	Ω	-	3200	-	Single-ended, p-p, f=100MHz
Differential Output Voltage	V_{out}	mV _{p-p}	140	200	-	-

Low Frequency Cut-off	f_{Low}	KHz	-	40	70	-
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Optical Characteristics

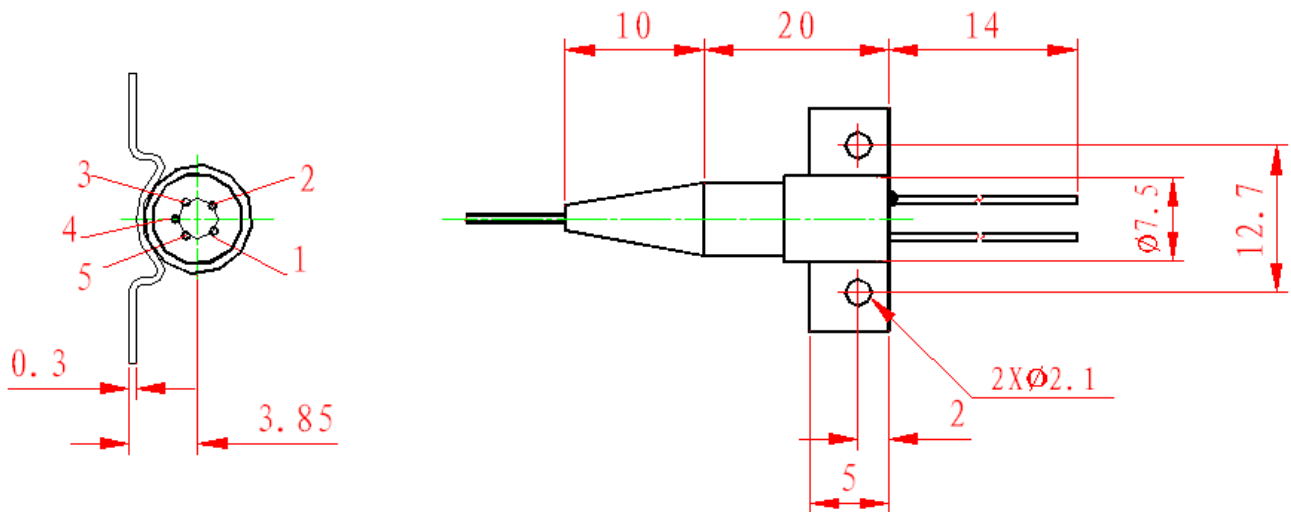
Sensitivity	S	dBm	-	-21	-19	NRZ, ER=6dB, 4.25Gb/s,1310nm, PRBS 2 ⁷ -1, BER=10 ⁻¹²
Overload	P_{in-max}	dBm	0	-	-	

Pin Description

PTCM965-409

Pin	Description	Bottom View
1	RSSI	
2	Vcc	
3	OUT+	
4	GND	
5	OUT-	

Package Outline



Regulatory Compliance

Feature	Test method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	>500 V

Ordering Information

Part No.	Specifications						
	Package	Data-rate	Detector	Sensitivity	Overload	Top	Others
PTCM965-409	5pin coaxial pigtail	4.25Gb/s	PIN+TIA	-21dBm	0dBm	-40~85 °C	Note1, RoHS

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

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