



Description

This 10Gbps InGaAs PIN-TIA LC ROSA is designed for SONET/SDH transceiver application. This high sensitivity coaxial module is optically aligned to optimize performance with epoxy curing finishing. Its features make it very suitable to be used in the receiving end for datacom or telecom application.

This LC ROSA integrates a stainless steel LC receptacle and a TO-can with built-in PIN and trans-impedance amplifier chip which guarantees high receiving sensitivity and connecting repeatability.

10G PIN-TIA ROSA RA-12 series

Features

- LC receptacle
- Bit rate up to 10.3125 Gbps
- Operating wavelength 1270nm~1620nm
- High sensitivity InGaAs PIN with trans-impedance amplifier
- Flex PCB with differential output
- Operating ambient temperature -40 to 85°C
- Excellent temperature dependent stabilization

Applications

- 10 Gigabit Ethernet transceivers
- 10G Fiber Channel transceivers
- IEEE 10G Base-LRM receiver systems

Standard

- Compliant with Telcordia GR-468 reliability test criterion
- Compliant with RoHS6 standard

1. Absolute Maximum Ratings

Item	Unit	Min	Max	Note
TIA Supply Voltage	V	–	5	–
PIN Forward Current	mA	–	10	–
PIN Reverse Current	mA	–	5	–
PIN Reverse Voltage	V	–	10	–
Operating Temp	°C	-40	85	–
Storage Temperature	°C	-40	85	–
Storage Relative Humidity	%	–	85	–
Solder Reflow Temperature	°C	–	260	(*1)

(*1): For soldering by iron and 10 seconds on leads

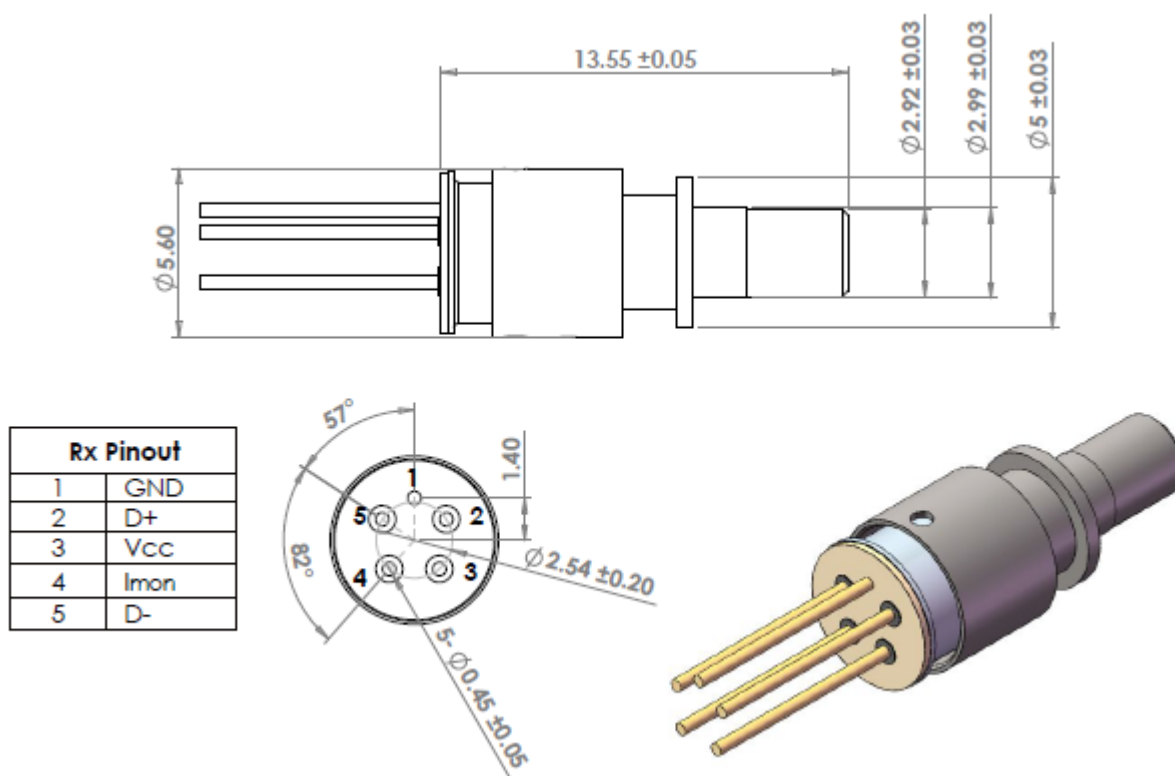
2. Electro-Optical Characteristics (T_c=25°C, CW)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Optical Wavelength	λ		1260	–	1620	nm
Supply Voltage	V _{cc}	No loads	3.0	3.3	3.6	V
Supply Current	I _{cc}	No loads	–	–	62	mA
Responsivity (*2)	R	$\lambda=1310\text{nm}$	0.80	–	–	AW
Dark Current	I _d	V _r =5V	5	–	–	nA
Bandwidth	BW	-3dB down, R _L =50Ω	7.0	–	–	GHz
Optical sensitivity (*3)	Sen	$\lambda=1310\text{nm}$, T _c =-40~85°C	–	–	-16	dBm
Overload Power	P _s		0.5	–	–	dBm
Optical Return Loss	ORL	$\lambda=1310\text{nm}$	12	–	–	dB
		$\lambda=1550\text{nm}$	13	–	–	dB
Electrical Isolation		ROSA barrel to TO-can	Fully isolated			

(*2): Launched from 9/125μm SMF

(*3): BER=1E-12, ER=5dB, 10.3125Gbps, PRBS 2²³-1, NRZ

3. Dimension Outline (Unit: mm)



4. Receptacle Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Optical Connector Insertion loss		—	—	0.2	dB	LC
Insertion and extraction force		1	—	3	N	