

## 1310/1550nm 2.5Gbps 5-Pin Low Optical Return Loss LC-ROSA

### DI2H-9050-x series

**TYPE NAME: DI2H-9050-4AG**

#### Product Description:

The LuxNet DI2H-9050-x 5-pin low optical return loss LC-ROSA (Receiver Optical Sub-Assembly) is designed for high-speed, high-performance data communication and telecommunication applications. This ROSA provides special digital diagnostic capability for transceivers with a wide dynamic range of input optical power. This device integrates our high-speed 1310/1550 nm PIN detector with an STM16/OC48 trans-impedance amplifier (TIA) and capacitors into a TO-46 5-pin header with cap window and LC port. The product is designed for OC-48/STM-16 Intra-office and short-haul inter-office optical communication systems, where low optical return loss is required. The LC-type optical port with fiber stub transmits light into the PIN detector with high coupling efficiency and low return loss.

#### Product Specifications:

Absolute Maximum Ratings (T = 25°C):

Parameter	Symbol	Unit	Min.	Max.	Note
Operating Temperature	T <sub>op</sub>	°C	-40	85	
Storage Temperature	T <sub>stg</sub>	°C	-40	100	
Solder Reflow Temperature	T <sub>stg</sub>	°C		260	10 seconds max.
Power Supply Voltage	V <sub>p</sub>	V	-0.5	6	
Optical Power	P <sub>in</sub>	dBm		5	

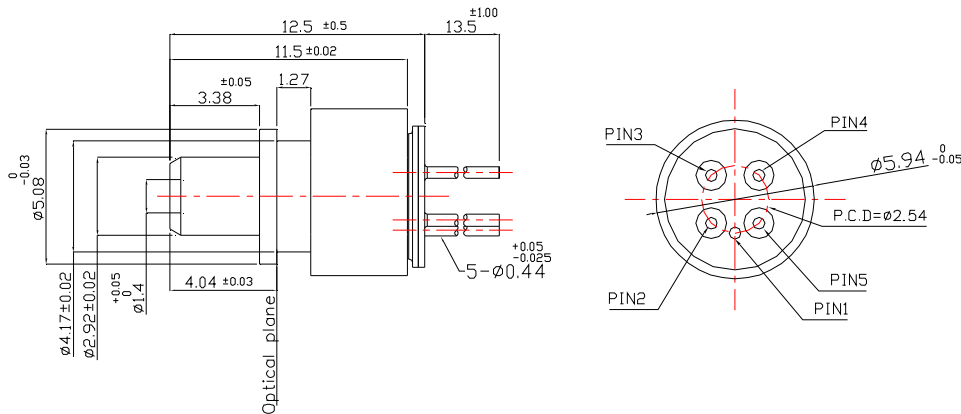
Electro-Optical Characteristics (T = 25°C, unless noted otherwise):

Parameter	Symbol	Unit	Min.	Typ.	Max.	Test Condition
Supply Voltage	V	V	3.0	3.3	3.6	
Supply Current	I <sub>cc</sub>	mA	40	48	60	P <sub>in</sub> = 0 μW, R <sub>L</sub> = 50Ω
Output Voltage (differential)	V <sub>op</sub>	mV	320	400	480	I <sub>in</sub> = 16 μA, R <sub>L</sub> = 100Ω
Responsivity	R	KV/W		48		λ = 1310nm P <sub>in</sub> = 1.5 μW, AC Coupled to R <sub>L</sub> = 50Ω
Upper -3dB Bandwidth	BW	GHz		1.87		R <sub>L</sub> = 50Ω
Sensitivity	S	dBm		-24.2	-22	λ = 1310nm @2.5G, 2 <sup>23</sup> - 1 PRBS, BER = 10 <sup>-10</sup>
Wavelength	λ	nm	1100	1310	1650	
Rise/Fall Time	τ <sub>r</sub> /τ <sub>f</sub>	ps		150/150		V <sub>cc</sub> = 3.3V (20%-80%)
Dark Current	I <sub>d</sub>	nA			10	V <sub>r</sub> = -3.3V
Optical Return Loss	ORL	dB		-40	-27	

\* Specifications are subject to change without notice.  
\* Screening per customer-specified reject limits is available.

## DI2H-9050-4AG (LC-ROSA)

**Dimensions:** (mm)  
All dimensions are nominal



### PINOUT

DI2H-9050-4AG	
Pin Number	Function
1	Gnd
2	Non-Inverted Output(D)
3	Vcc
4	Power Monitor (Vpd)
5	Inverted Output(D*)

### LuxNet Inking Rule

第一碼:	第二碼:	第三碼:	第四碼:	第五碼:	第六碼:	第七碼:	第八碼:	第九碼:	第十碼:	第十一碼:	第十二碼:	
Product	Speed	Receptacle	TIA/Fiber stub	Month	Year	LuxNet code	-	LuxNet code		流水號		
A= APD ROSA	0= No speed/<1.25G	0= LC metal port (nickle plated, lead)	TIA IC	Jan= 1	Year2002= 2	LuxNet Internal Use Only			0	0	1	
M= Mesa type ROSA	1= 1.06/1.25 Gbps	1= LC plastic port	A= Eudyna TIA	Feb= 2	Year2003= 3							
D= Diffusion type ROSA	2= 2.125/ 2.5 Gbps	2= SC metal port	B= Nanotech TIA									
	3= 3.125/3.3 Gbps	3= SC plastic port	D= Myson TIA	Oct= A	Year2010= A							
	4= 4/4.25 Gbps	4= LC metal port with fiber stub	E= GENNUM TIA	Nov= B	Year2011= B							
	5= 10 Gbps		F= Nanotech TIA	Dec= C								
	6= 155 Mbps		G= TI TIA									
	7= 622 Mbps		H= Phyworks TIA									
	8= 8 Gbps		J= Inphi TIA									
			M= Maxim TIA									
			N= Anadigics TIA/Analog Device									
			P= Phillips TIA									
			R= Icreate TIA									
			S= Mindspeed 3.3V TIA									
			T= Mindspeed 5V TIA									
			V= Vitess TIA									
			X= Without TIA									
			Y= Nortel TIA									

ForDI2H-9050-4AG, codes will be inked on ROSA body for tracking purpose. Example is as followed,

Inking code	LuxNet P/N	Item description
D24H79-L001	DI2H-9050-4AG	1310nm 2.5G 5-pin Low Optical Return Loss LC-ROSA

\* Specifications are subject to change without notice.  
\* Screening per customer-specified reject limits is available.

Version 1.1