

1.25 Gbps 1310 nm 5-Pin Low Optical Return Loss LC-ROSA (Preliminary)

AK1P-9060-4A

TYPE NAME: AK1P-9060-4A

The LuxNet AK1P-9060-4A 5-pin Long Reach 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 nm APD TO ball lens with cap window and LC port. The product is designed for 1.25G Long-haul optical communication systems, where low optical return loss is required. The LC-type optical port with fiber stub transmits light into the APD 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 _{op}	°C	-40	85	
Storage Temperature	T _{stg}	°C	-40	85	
Solder Reflow Temperature	T _{stg}	°C		260	10 seconds max.
Power Supply Voltage	V _p	V	3.0	5.5	
APD Forward Current	mA			2	
APD Reverse Current	mA			3	

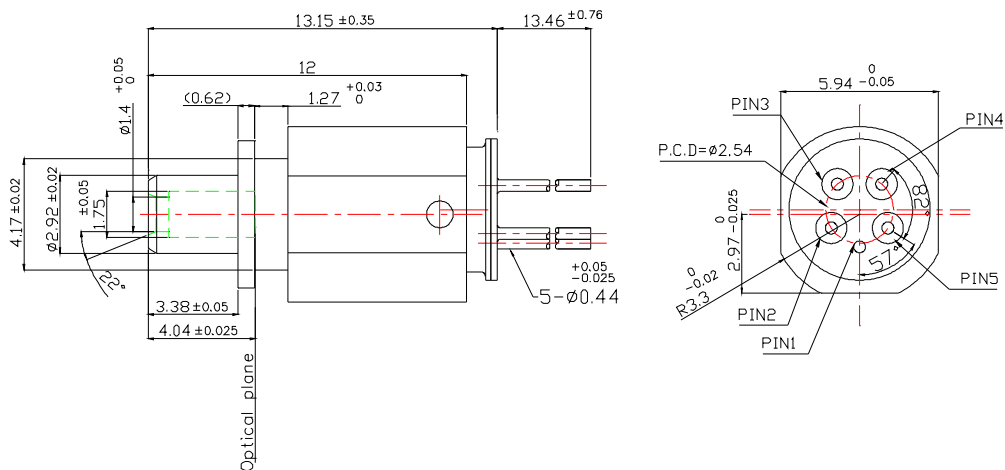
Electro-Optical Characteristics (T = 25°C, V_{cc}=3.3V, λ=1310nm unless noted otherwise):

Parameter	Symbol	Unit	Min.	Typ.	Max.	Test Condition
APD Break down voltage	V _{BR}	V	30		44	I _d =10uA
Supply Voltage	V	V	3.0	3.3	3.6	
Supply Current	I _{cc}	mA		36	70	P _{in} = 0 μW, R _L = 50Ω
Responsivity	R	KV/W		22.3		P _{in} = 7.5 μW, λ=1310nm AC Coupled, R _L = 50Ω
Upper -3dB Bandwidth	BW	GHz		2.0		R _L = 50Ω
Sensitivity	S	dBm		-31.5		λ=1310nm, 2 ²³ - 1 PRBS, BER= 10 ⁻¹⁰
Wavelength	λ	nm		1310		
Rise/Fall Time	τ _r /τ _f	ps		150/150		P _{in} =63uW, (20%-80%)
Dark Current	I _d	nA		100		V _r =37V
Optical Return Loss	ORL	dB	-27			

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

AK1P-9060-4A(LC-ROSA)

Dimensions: (mm)
 All dimensions are nominal



PINOUT

AK1P-9060-4A	
Pin Number	Function
1	GND
2	Non-Inverted output (D)
3	Vapd
4	Vcc
5	Inverted (D*)

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

4.25 Gbps 1310/1550nm 5-Pin LC ROSA

DI4S-9040-3 Series

TYPE NAME: DI4S-9040-3

Product Description:

The LuxNet DI4S-9040-3 5-pin 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 LuxNet high-speed 1310 nm PIN detector with an 4.25Gbps trans-impedance amplifier (TIA) and capacitors into a TO-46 5-pin header with cap window and LC port. The product is designed for 4.25 Gbps Fiber Channel, transceiver modules and systems. The LC-type optical port has a fiber connector that transmits light through an LC receptacle into the PIN detector with high coupling efficiency.

Product Specifications:

Absolute Maximum Ratings (T = 25°C):

Parameter	Symbol	Unit	Min.	Max.	Note
Operating Temperature	T _{op}	°C	-40	85	
Storage Temperature	T _{stg}	°C	-40	85	
Solder Reflow Temperature	T _{stg}	°C		260	10 seconds max.
Power Supply Voltage	V _p	V	-0.5	3.6	
Optical Power	P _{in}	dBm		5	

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

Parameter	Symbol	Unit	Min.	Typ.	Max.	Test Condition
Supply Voltage	V _{cc}	Volts	3	3.3	3.6	
Supply Current	I _{cc}	mA		42		P=0 μW, R _L = 50Ω
Optical Return Loss	ORL	dB	-14			
Output Voltage	V _{out}	mV		420		P=20 μW, R _L =50 Ohm
Responsivity	R	mV/uW		18		P=20 μW, R _L =50 Ohm
Data Rate	DR	Gbps			4.25	
Upper 3 dB Bandwidth	BW _{upper}	GHz	2.5			
Sensitivity DR=2.125 Gbps	S	dBm		-	-22	2 ⁷ -1 PRBS, BER=10 ⁻¹²
Sensitivity DR=4.25 Gbps	S	dBm			-20	2 ⁷ -1 PRBS, BER=10 ⁻¹²
Wavelength	λ	nm	1100	1310	1650	
Overload		dBm	-3			
Rise/Fall Time	τ _r /τ _f	ps		80	120	20-80%

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

