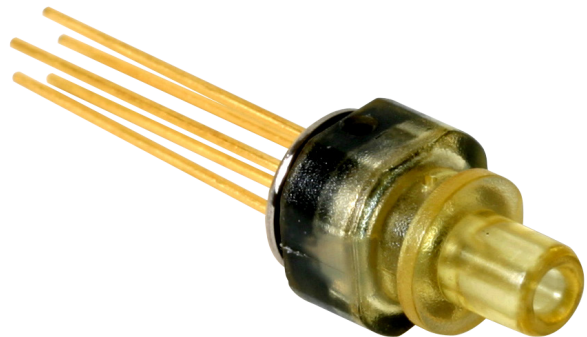


# 850 nm 4.25 G LC ROSA



The Lumentum 850 nm LC connectorized ROSA (Receiver Optical Sub-Assembly) is designed for high-speed data communication applications in 4.25 G Fibre Channel transceiver modules. The product utilizes a GaAs PIN/TIA integrated in a TO-46 package aligned to a precision plastic LC barrel. Each part is electro-optically tested to ensure the highest level of performance and sensitivity.

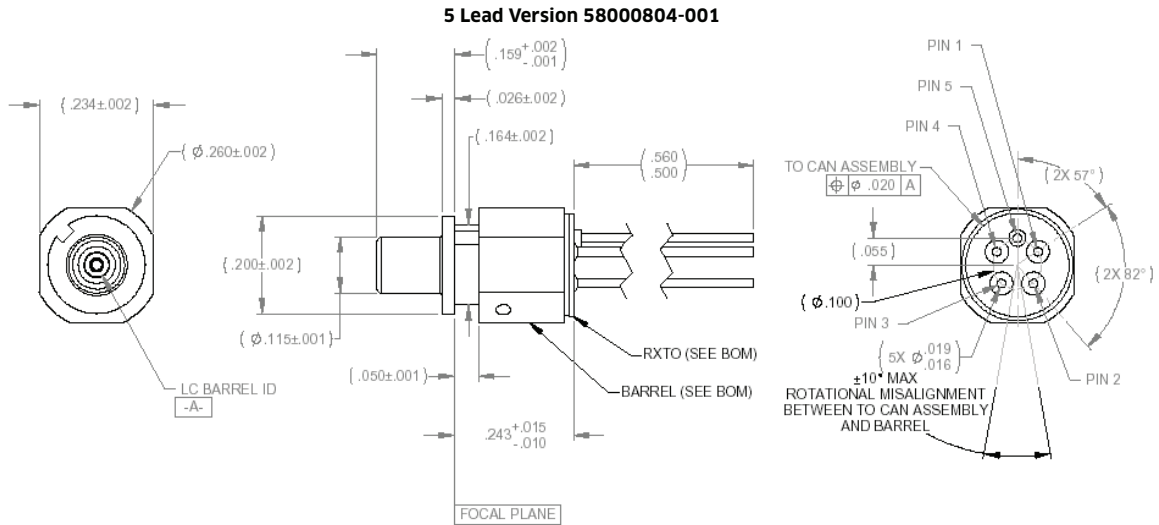
The 4.25G ROSA converts optical power into an electrical signal at data rates up to 4.25 Gbps. This ROSA is engineered for performance over extended operating temperature and power conditions with high reliability. It can be used with 50/125 mm and 62.5/125 mm multi-mode fiber.

**Key Features**

- Multi-rate capable up to 4.25 Gbps
- Low power consumption with 15 mA typical operating current at 3.3V
- Optimized for -40°C to 85°C transceiver applications
- Differential output
- Optional 5th lead for Received Signal Strength Indicator (RSSI)
- LC connectorized PIN plus preamplifier

**Benefits**

- RSSI for digital diagnostics transceiver applications
- Excellent sensitivity
- Fully tested for optimum alignment and performance
- Industrial temperature operation
- Industry standard form factor and size



\*RSSI Pin 3 Connection

-C1: Connect Pin 3 to ground with a resistor <2500 Ω

**58000804-001**

Pin	Symbol	Function
1	Vout-P	TIA Output Voltage (Non-Inverted)
2	Vdd	Positive Supply Voltage
3*	RSSI	Average Power Monitor Current
4	Vout-N	TIA Output Voltage (Inverted)
5	GND	Ground, Case

**Shipping Information**

Shipped in anti-static stackable trays. 50 pieces per tray.

**Absolute Maximum Ratings**

(Vdd=3.3 V, Tcase = 25°C unless otherwise stated)

Parameter	Symbol	Ratings	Unit
Storage temperature	T <sub>st</sub>	-40 to +125	°C
Incident optical power	P <sub>in</sub>	+6	dBm
Lead solder temperature	T <sub>s</sub>	260°C for 10 sec. 2 mm from case	
Power supply voltage	V <sub>P</sub>	3.8	V
ESD <sup>1</sup>		Class 1	

Note:

Conditions exceeding those listed may cause permanent damage to the device. Devices subjected to conditions beyond the limits specified for extended periods of time may adversely affect reliability.

1. HBM

## Electro-optical Characteristics

(V<sub>dd</sub>=3.3 V, T<sub>case</sub> = -40°C to 85°C unless otherwise stated)

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Wavelength responsivity	$\lambda$	770	850	860	nm
Case operating temperature	T <sub>op</sub>	-40		85	°C
Supply voltage	V <sub>cc</sub>	2.97	3.3	3.63	V
Supply current	I <sub>cc</sub>		15		mA
Bandwidth <sup>1</sup>	BW	3.2			GHz
Low frequency cutoff	BW <sub>LF</sub>		40		kHz
Responsivity (@50 MHz, differential) <sup>1</sup>	R		1350		V/W
Sensitivity <sup>2</sup>	S		-21		dBm
Output resistance	R <sub>o</sub>		50		$\Omega$
Optical overload <sup>2</sup>		1			dBm
Differential output voltage <sup>3</sup>	V <sub>out</sub>		200		mV
Duty cycle distortion <sup>3</sup>				5	%
Total jitter (pk-pk) <sup>3,4</sup>	TJ		25		ps
Rise/Fall time <sup>3</sup>	t <sub>r</sub> /t <sub>f</sub>		60		ps
Slope of I <sub>mon</sub> vs P <sub>in</sub> <sup>5,6</sup>	I <sub>mon</sub> Slope		1		A/W
I <sub>mon</sub> current with zero input <sup>5,6</sup>	I <sub>mon</sub> offset		20	25	$\mu$ A
I <sub>mon</sub> linearity range <sup>5,6</sup>	I <sub>mon</sub> range	5		1100	$\mu$ A

1. P<sub>in</sub> = -13 dBm, Rload = 100  $\Omega$  (differential)

2. 10<sup>-12</sup> BER with a 2<sup>7</sup>-1 PRBS @ 4.25 Gbps

3. 2<sup>7</sup>-1 PRBS @ 4.25 Gbps, P<sub>in</sub> = -3 dBm, Rload = 100  $\Omega$  (differential)

4. 6 $\sigma$  about the center eye crossing, P<sub>in</sub> = -14 dBm

5. Average current, 1 k $\Omega$  pull down resistor

6. RSSI in 5 lead version only

## Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at [customer.service@lumentum.com](mailto:customer.service@lumentum.com).

Part Number	Description
58000804-001	850 nm 4.25 G LC ROSA, low power with RSSI (5 lead)



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